

# Chapter 1- Nature and Scope of Business Economics



## Unit 1: Introduction

### Definition:

- The word 'Economics' originates from the **Greek work** ''**Oikonomia**''
  - '**Oiko**', which means '**House**', and
  - '**Nomia**', which means '**Management**'.
  - Thus, Economics means '**House Management**'.
- Till 19<sup>th</sup> century, Economics was also known as '**Political Economy**'
- The book named '**An Inquiry into the Nature and Causes of the Wealth of Nations**' (1776), by **Adam Smith** is considered as the first modern work of Economics. - Also Known as Wealth of the Nation



### Wants Vs Needs

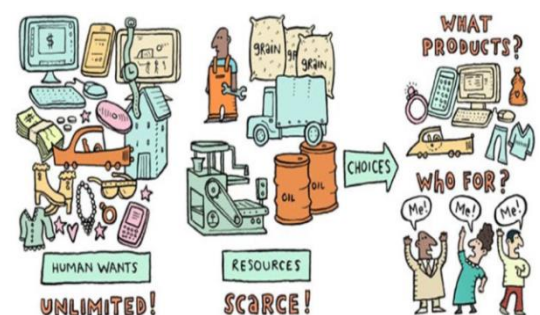
**Want-** Something that is desired. **want** is simply something that a person would like to have.

**Need-** Something that is necessary for survival (such as food and shelter)



### Fundamentals of Economics

- Fundamentals of Economics**
  - Human beings have **unlimited wants**, and
  - The means to satisfy these wants are **relatively scarce**. This Scarcity is faced by household, Business and Government/ Nation.
  - Further, how the available resources shall be allocated to their **highest valued uses**.



2. Economics also studies,
  - a) of how individual and society **transform the scarce resources** into goods and services
  - b) how we **distribute these goods and services** among ourselves.
  - c) processes by which **productive capacity of these resources is increased**.
3. The study of Economics **cannot ensure** that **all problems will be appropriately tackled**; but it would enable us to examine a problem in its right perspective and to deal with the same.

### Meaning and role of decision making in Economics

**Case study:-** Imagine you are Managing Director of a company, Aditya Limited, an existing profit making FMCG company. You want to set new product line of footwear. You want to discuss it with the other members of board. What points you will consider before acceptance or rejection of a project. (Investment amount, Competitor, other options for investment)



1. **Decision making**- refers to the process of **selecting an appropriate alternative** that will provide the most efficient means of attaining a desired end, from two or more alternative courses of action'.
2. Thus decision making arises **only if there is choice available**.
3. In other words, the **question of choice arises because** our productive resources such as land, labour, capital, and management are limited and can be employed in **alternative uses**.
4. Decision making is **not simple and straightforward** as the economic environment is highly complex and dynamic.
5. Also because decisions are to be taken under conditions of **imperfect knowledge and uncertainty**.

**Examples of business decisions-** Continue or shut down decision, New Product, Make or buy, Marketing etc.

Conclusion -

- 1) Resources having single use - No Decision making
- 2) Unlimited Resources - No Decision Making
- 3) Limited Resources + Alternatives = Decision making

## Business Economics

1. Economic theories are **hypothetical** and **simplistic** in character as they are based on economic models built on simplifying assumptions.
2. The economic world is **extremely complex** as there is a lot of interdependence among the decisions and activities of economic entities.
3. There is a **gap between** the propositions of **economic theory** and happenings in the **real economic world**.
4. Business Economics **bridge the gap** between theory and practice, Thus also known as **Applied Economics**



Expectation — Reality

5. **Economic theories provide the tools** which explain various concepts such as demand, supply, costs, price, competition etc.
6. **Business Economics applies these tools** in the process of business decision making.
7. Business Economics is also known as **Managerial Economics** because it generally refers to the integration of economic theory with business practice.
8. Business Economics is not only valuable to business decision makers, but also useful for managers of '**not-for-profit organisations**'.
9. **Business Economics** may be defined as the use of economic analysis to make business decisions involving the best use of an organization's scarce resources.- **Joel Dean**

## Micro and Macro Economics

## MICRO



### Difference between Micro and Macro Economics


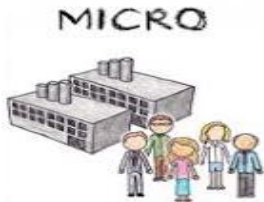



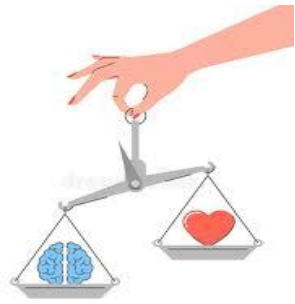
## MACRO



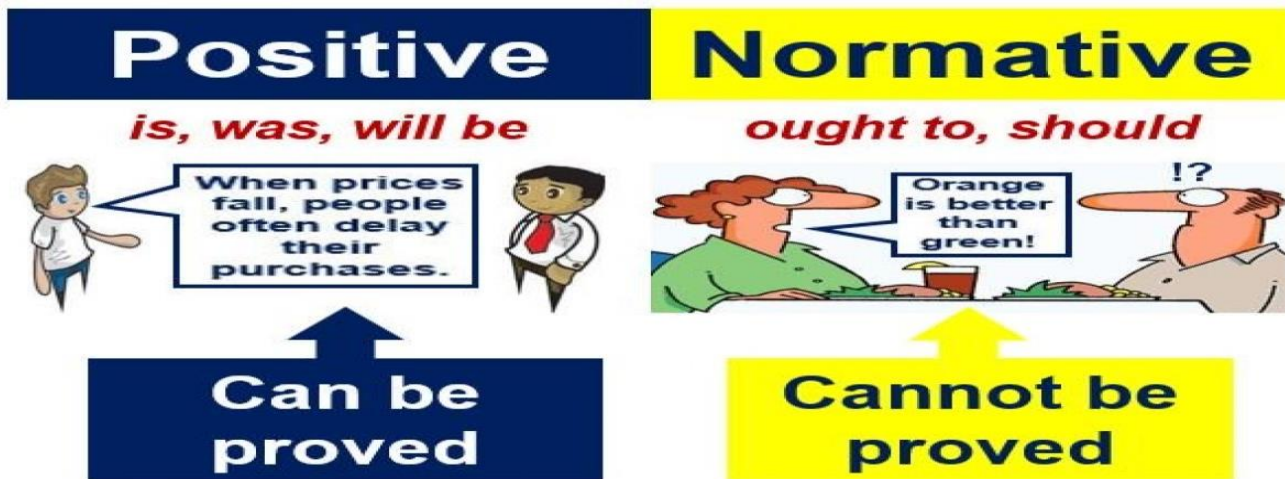
Micro Economics	Macro Economics
The term is derived from <b>Greek work 'Mikros'</b> which means ' <b>Small</b> '	The term is derived from <b>Greek work 'Makros'</b> which means ' <b>large</b> '
"Micro Economics is the study of particular firm, particular household, individual price, wages, income, individual industries, particular commodities"- <b>Prof. Boulding</b>	"Macro Economics examines the <b>Forest and not the Trees</b> . Thus, it analyses and establish the functional relationship between <b>large aggregates</b> "- <b>Prof. Mc.Connel</b>
It is the study of economic behavior of <b>individual</b> firm or industry in national economy	It is the study of <b>overall economic phenomena</b> as a whole rather than its parts
It is also called as ' <b>Price Theory</b> ' as it explains the composition of total production.	It is also called as ' <b>Income Theory</b> ' as it explains level of total production, total consumption, total savings and total investment and the rise or fall in these levels
<b>Examples:-</b> <ol style="list-style-type: none"> <li>a) Product pricing;</li> <li>b) Factor pricing,</li> <li>c) Location of industry.</li> <li>d) Consumer behavior,</li> <li>e) Behavior of firms.</li> <li>f) The economic conditions of a section of society, etc.</li> <li>g) Lock out in TELCO</li> <li>h) Finding the causes of failure of X &amp; co.</li> </ol>	<b>Examples-</b> <ol style="list-style-type: none"> <li>a) National Income and National Output</li> <li>b) The level of employment and rate of economic growth.</li> <li>c) The general price level and interest rates;</li> <li>d) Balance of trade and balance of payments,</li> <li>e) External value of currency and</li> <li>f) The overall level of savings and investment;</li> <li>g) Per capita income of India.</li> <li>h) Inflation in India.</li> <li>i) The national economy's annual rate of growth</li> <li>j) Increase in the corporate income tax rate will affect the national unemployment.</li> </ol>



## Nature of Business Economics

1. **Business Economics is a Science-** as it explains **cause and effect relationships**. It follows **scientific methods** and **empirically tests** the validity of the results. 
2. **Business Economics is an art** as it involves practical **application of rules and principles** for the attainment of set objectives. 
3. **Micro Economics based-** Since Business Economics is concerned more with the decision making **problems of individual establishments**. 
4. **Macro Analysis based-** Business unit is **affected by its external environment** such as, the general price level, income and employment level, taxation, wages and regulation etc. 
5. **Analysis from Private Enterprises Economy viewpoint-** Business Economics uses the theory of markets and private enterprise. It uses the theory of the firm and resource allocation in the backdrop of a private enterprise economy. 
6. **Inter-Disciplinary-** Business Economics is **interdisciplinary in nature** as it incorporates tools from other disciplines such as Mathematics, Operations Research, Management Theory, accounting, marketing, Finance, Statistics and Econometrics. 
7. **Pragmatic Approach-** While Micro-Economics is **abstract and purely theoretical** and analyses economic phenomena under unrealistic assumptions, Business Economics is **pragmatic in its approach** as it tackles practical problems which the firms face in the real world.

8. **Normative and positive** – Business Economics focus more on Normative compared to positive



Points	Positive Economics or Pure economics	Normative Economics
Meaning	It is based on facts and there is no point of ambiguity or second view	It tells us about how the things should be.
Tells us about-	Descriptive in nature and It states 'what is'	Prescriptive in nature and describes 'what ought to be'.
Explains	It explains cause & effect relationship and there will be no value judgments/suggestions.	It passes value judgments /suggestions and offers advice.
Based on	It is based on past data and can be checked with data	Cannot be verified because it is opinion based and not fact based
Debatable	No Matter of debate	Matter of Debate
Suggested by	According to Robbins, Economics is neutral between ends.	It is based on welfare economics - (Marshall & Pigou)  Complete neutrality between ends is, however, neither feasible nor desirable.
Nature	descriptive in nature	Prescriptive in nature
Example	<ol style="list-style-type: none"> <li>India has population of 140 crore as per latest census.</li> <li>Apple is good for health.</li> <li>Planned economies allocate resources via government departments.</li> <li>Most transitional economies have</li> </ol>	<ol style="list-style-type: none"> <li>India is a secular country.</li> <li>Eating Non-veg food is bad for health</li> <li>Reducing inequality should be major priority for mixed economy.</li> <li>Changing the level of interest</li> </ol>



	<p>experienced problems of falling output and rising prices.</p> <ol style="list-style-type: none"> <li>5. There is a greater degree of consumer sovereignty in the market.</li> <li>6. Faster economic growth should result if an economy has a higher level of investment.</li> <li>7. Higher levels of unemployment will lead to higher levels of inflation.</li> <li>8. The average level of growth in the economy was faster in the 1990s than the 1980s.</li> <li>9. Analysis of the relationship between the price and quantity demanded. (Law of demand).</li> </ol>	<p>rates is a better way of managing the economy than using taxation and government expenditure.</p> <ol style="list-style-type: none"> <li>5. Govt. ought to guarantee that farmer's income will not fall if harvest is poor.</li> </ol>
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## Scope of Business Economics

The scope of Business Economics may be discussed under the two heads

### 1. Microeconomics applied to operational or internal

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



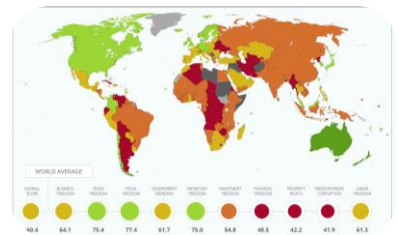
- a) **Demand Analysis-** analysing demand due to change in the determinants of demand such as, price, income, etc.
- b) **Demand Forecasting-** to forecast adequate demand to support production and sale
- c) **Cost analysis-** Cost analysis enables the firm to recognize the **behavior of costs** ,so as to maximize profits
- d) **Production analysis-** Production theory explains the **relationship between inputs and output**.
- e) **Inventory Management-** To help the firm in maintain optimum stock of inventories.
- f) **Market Structure and Pricing Policies-** Analysis of the structure of the market, *nature and extent of competition* ,degree of market power, prices are determined under different kinds of market conditions and assists the firm in framing suitable price policies.



- g) **Resource Allocation-** best course of action for optimum utilisation of available resources.
- h) **Profit analysis-** measurement and management of profits under conditions of uncertainty.
- i) **Risk & Uncertainty Analysis-** Analysis of risks & uncertainties for formulating plans on the basis of past data, current information & future prediction.
- j) **Theory of Capital and Investment Decisions-** evaluate its investment decisions and allocation of scarce capital among competing uses of funds.

2. **Macroeconomics applied to environmental or external Issues-** These factors are beyond the control of an organization

- 1) The type of economic system.
- 2) Stage of business cycle.
- 3) Working of financial sector and capital market.
- 4) The general trends in national income, employment, prices, saving and investment.
- 5) Government's economic policies like industrial policy, competition policy, monetary and fiscal policy, price policy, foreign trade policy and globalization policies.
- 6) Socio-economic organizations like trade unions, producer and consumer unions and cooperatives.
- 7) Social and political environment.

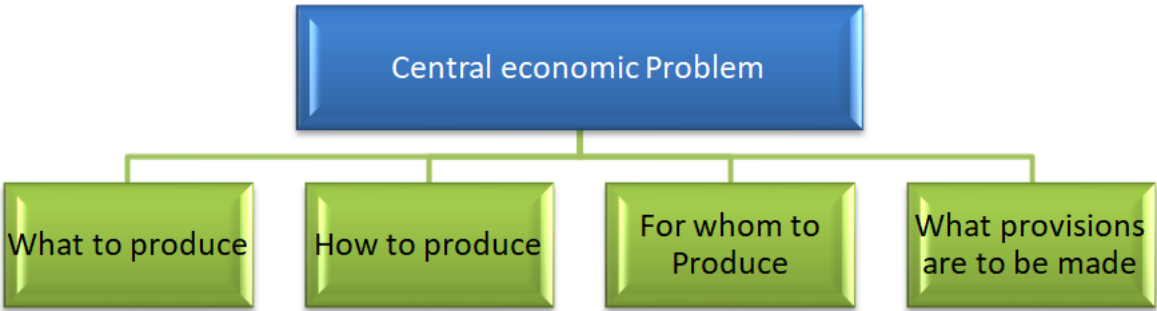




**Unit 2: BASIC PROBLEMS OF AN ECONOMY AND ROLE OF PRICE MECHANISM**

**Central Economic Problems:**

1. All countries, without exceptions, face the problem of scarcity because their resources are **limited** and these resources have **alternative uses**.
2. If the resources were unlimited, people would be able to satisfy all their wants and there would be no economic problem.
3. Alternatively, if a resource has only a single use, then also the economic problem would not arise.
4. The central economic problem is further divided into four basic economic problems.



**The 4 Central Economic Problems:**

a) **What to produce?**

- 1) Society has to decide **which goods and services** should be produced
- 2) Every Society has also to decide in **what quantities** each of these goods would be produced.



b) **How to Produce?**

- 1) The society has to decide the **method of production**, i.e. whether to use labour- intensive techniques or capital - intensive techniques.
- 2) Obviously, the choice would depend on the availability of different factors of production (i.e. labour and capital) and **their relative prices**.



c) **For whom to produce?**

- 1) Society has to decide on how the goods (and services) should be distributed among the members of the society.
- 2) In other words, it has to decide about the **shares of different people** in the national product.



d) **What provisions (if any) are to be made for economic growth?**

A society has to decide how much **saving and investment** (i.e. how much sacrifice of current consumption) should be made for future progress. Otherwise it will become **static and lead to decline in standards of living**.



### The Capitalist Economy: - Command Economy / Centrally Planned Economy

1. Capitalist economy is also known as free **market economy** or **laissez-faire economy**.
2. Here all means of production are owned and controlled by private individuals for profit.
3. In short, **private property is the mainstay of capitalism** and **profit motive is its driving force**.
4. **Decisions of consumers and businesses** determine economic activity with **limited role of government** in the management.



### Solution to central Economic problems under Capitalist Economy



Capitalist economy uses the **impersonal forces of market demand and supply or the price mechanism** to solve its central problems.

1. **What to produce? -**
  - a) **Decided by consumers** who show their preferences by spending on the goods which they want. And decides What to produce
  - b) **Consumer is the King under capitalism.**



2. **How to produce? -**
  - a) An entrepreneur will produce goods and services choosing that technique of production which **renders his cost of production minimum**.
  - b) If labour is relatively cheap, he will use labour-intensive method and if labour is relatively costlier he will use capital-intensive method.

### 3. For Whom to produce?-

- Goods and services in a capitalist economy will be produced for those **who have buying capacity**.
- Buying capacity of an individual depends upon his income and property he owns.

### 4. What provisions are to be made for economic growth?-

- Savings are done by consumers** and **investments are done by entrepreneurs**.
- Consumers' savings, are governed by the rate of interest prevailing in the market
- Investment decisions depend upon the rate of return on capital.

## Socialist Economy

- The concept of socialist economy was propounded by **Karl Marx** and **Frederic Engels** in their work '**The Communist Manifesto**' published in 1848.
- Socialist economy is characterized by collective ownership by state



## Mixed Economy

- The mixed economic system depends on both **markets** and **governments** for allocation of resources.
- In a mixed economy, the aim is to develop a system which tries to include the best features of both the controlled economy and the market economy while excluding the demerits of both.
- In mixed economy there are three sectors of industries-
  - Private Sector**-Production and distribution in this sector are managed and controlled by private individuals and groups. However, private enterprise may be regulated by the government directly and/or indirectly by a number of policy instruments.
  - Public Sector**-Industries in this sector are not primarily profit-oriented, but are set up by the State for the welfare of the community.
  - Joint Sector**- A sector in which both the government and the private enterprises have equal access, and join hands to produce commodities and services, leading to the establishment of joint sectors.





### Characteristic of All three types of economy

Capitalist economy	Socialist economy	Mixed Economy
a. Right to private property	a. Collective Ownership of means of production by state however, small farms, workshops & trading firms which may remain in private hands.	Government itself must run important and selected industries and eliminate the free play of profit motive and self-interest.
b. Freedom of enterprise	b. Profit- motive and self- interest are not the driving forces	
c. Freedom of economic choice	c. The resources are used to achieve certain socio-economic objectives.	
d. Profit Motive	d. Centrally planned economy	
e. Consumer Sovereignty	e. Absence of Consumer Choice-	
f. Competition	f. Relatively Equal Income Distribution-	
g. Absence of Government Interference	g. Minimum role of Price Mechanism or Market forces-	
	h. Absence of Competition	

### Merits of All three types of economy

Capitalist economy	Socialist economy	Mixed Economy
a) Self-regulating through price mechanism.	a) Equitable distribution of wealth and income	a) Economic freedom and existence of private property
b) Rewards efficiency and punishes inefficiency.	b) Rapid and balanced economic development	b) Price mechanism
c) Faster economic growth	c) Planned Economy-	c) Consumer sovereignty and freedom of choice.
d) Optimum allocation of resources	d) Minimum Wastage and optimum utilisation of resource-	d) Appropriate incentives
e) Operative efficiency.		e) Encourages enterprise



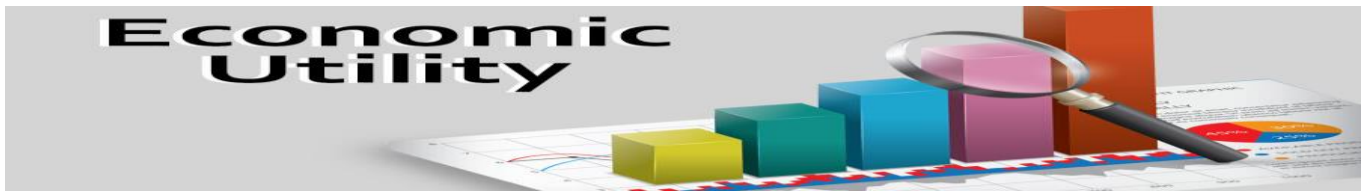


<ul style="list-style-type: none"> <li>f) Lower cost of production</li> <li>g) Better standard of living of consumers</li> <li>h) Incentive for innovation and Technological progress.</li> <li>i) Right to private Property</li> <li>j) No costs for collecting and processing of information</li> </ul>	<ul style="list-style-type: none"> <li>e) Unemployment is minimized,</li> <li>f) Absence of profit motive</li> <li>g) Right to work and minimum standard of living</li> <li>h) High Social security</li> </ul>	<ul style="list-style-type: none"> <li>and risk taking.</li> <li>f) Advantages of economic planning</li> <li>g) Comparatively greater economic and social equality and freedom</li> <li>h) No cut throat competition</li> </ul>
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### De-Merits of All three types of economy

Capitalist economy	Socialist economy	Mixed Economy
<ul style="list-style-type: none"> <li>a) Precedence of property rights over human rights.</li> <li>b) Inequality and social injustice</li> <li>c) Wide differences in economic opportunities.</li> <li>d) Does not represent the real needs of the society.</li> <li>e) Exploitation of labour</li> <li>f) Consumer sovereignty is a myth</li> <li>g) Misallocation of resources</li> <li>h) Less of merit goods</li> <li>i) Unplanned production.</li> <li>j) Waste of productive resources</li> <li>k) Formation of monopolies</li> <li>l) Environmental degradation.</li> </ul>	<ol style="list-style-type: none"> <li>1. Inefficiency and delays, corruption, red-tapism, favoritism,</li> <li>2. All material means of production are under the control and direction of state.</li> <li>3. Takes away right of private property.</li> <li>4. No incentive for hard work</li> <li>5. Administered prices</li> <li>6. State monopolies become uncontrollable</li> <li>7. Consumers have no freedom of choice.</li> <li>8. No importance to personal efficiency and productivity.</li> <li>9. The extreme form of socialism is not at all practicable</li> </ol>	<ol style="list-style-type: none"> <li>1. Excessive controls the private sector.</li> <li>2. Poor implementation</li> <li>3. Undue delays</li> </ol>

## Chapter 2A – UTILITY ANALYSIS



### 1. Utility:

1. Utility is **Power** of a commodity to **satisfy human wants**. In Other words, **want satisfying power** of a commodity is called as utility.



2. Utility is **subjective** term and differs from person to person



3. **Utility does not mean usefulness**. Therefore even the items like cigarettes, liquor, etc may be said to have utility from economic point of view



4. In Economics the concept of utility is **ethically neutral**.

5. Utility theories seek to explain how a **consumer spends his income** on different goods and services so as to attain **maximum satisfaction**.

### Lets understand something new today

#### Necessaries:



- 1) Necessaries are those which are **essential for living**.
- 2) Necessaries are further sub-divided into **necessaries for life or existence**, necessities for **efficiency and conventional necessities**.
- 3) Necessaries for life are things necessary to meet the **minimum physiological needs** for the maintenance of life such as minimum amount of food, clothing and shelter.
- 4) Man requires something more than the necessities of life to maintain longevity, energy and efficiency of work, such as nourishing food, adequate clothing, clean water, comfortable dwelling, education, recreation etc. These are necessities for efficiency.
- 5) Conventional necessities arise either due to pressure of habit or due to compelling social customs and conventions.

**Comforts:**

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



**Luxuries:**

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



**2. Difference between Cardinal and Ordinal Approach to utility**

	<b>Cardinal Approach</b>	<b>Ordinal Approach</b>
<b>Assumptions</b>	Utility is <b>measurable</b> and <b>quantifiable</b> aspect and can be expressed in numbers	Utility cannot be expressed in terms of money, i.e. Utility is <b>not quantifiable</b>
<b>Rationale</b>	Human satisfaction <b>can be expressed in monetary terms</b> , and price of a commodity in the market indicates the level of consumer satisfaction	Human Satisfaction is <b>psychological phenomenon</b> and cannot be measured quantitatively
<b>Economists</b>	<b>Alfred Marshall</b>	<b>Hicks and Allen</b>
<b>Measurement</b>	<b>Utils</b>	<b>Only ranking</b>
<b>Approach and Theories</b>	<ul style="list-style-type: none"> <li>• Marginal Utility Approach</li> <li>• Law of diminishing marginal utility.</li> <li>• Law of Equi-Marginal utility</li> </ul>	Indifference curve approach (This Approach is superior than Cardinal Approach)

### 3. Cardinal Approach

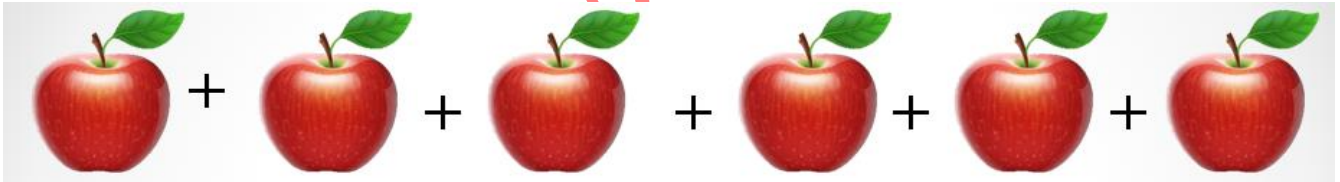
**Example:** Mr. Rasna likes to eat Oranges. The first Orange he eats gives him lots of satisfaction. The second Orange he eats gives him lesser satisfaction than the earlier one and so on. If he eats 9 Oranges in a row continuously, he may lose interest in oranges. In other words utility goes on reducing and reaches zero and further negative. **Let the price be 40**

Quantity of Oranges consumed per day	Total utility	Marginal Utility	Price	Consumer's Surplus in Rs.
0	0	0	0	0
1	60	60	40	20
2	110	50	40	10
3	150	40	40	0
4	180	30	40	-10
5	200	20	40	-20
6	210	10	40	-30
7	210	0	40	-40
8	200	-10	40	-50
9	180	-20	40	-60

#### 3.1 Total utility and Marginal utility

The Cardinal Approach to utility is given by Alfred

- Total Utility-** The **sum total** of utility derived from different units of commodity consumed by a consumer is called as total utility.



- Marginal Utility-** It is the additional utility derived from additional unit of a commodity. It is the **Slope of Total Utility**
- Marginal Utility can also be defined as *change in the total utility resulting from one-unit change ( $tu_n - tu_{(n-1)}$ )* in consumption of commodity, **per unit of time**.

#### 3.2 Assumptions under Marginal utility analysis and cardinal approach

- Cardinal Measurability of Utility-** means that the utility is **measurable** and **quantifiable**. A person can express the satisfaction derived from consumption of a commodity in quantitative terms.
- Comparability of Utility across the goods-** The Satisfaction derived by a person from different commodities can be compared.
- Independence of Utilities-** Utilities derived from different commodities are independent of one another and does not affects one another.
- Constant Marginal Utility of Money-** It is assumed that marginal utility of money is **constant**.

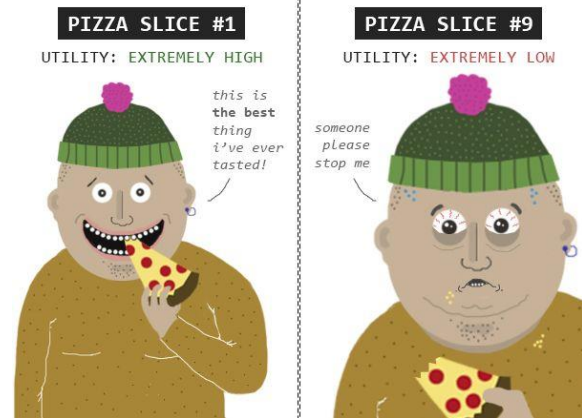
*The amount of money a person is prepared to pay for a unit of good rather than go without it, is the measure of utility which he derived from the goods.*



### 3.3 Law of diminishing Marginal utility

#### Law:

- The **Law of Diminishing Marginal Utility** states that all else equal as consumption increases the **marginal utility** derived from each additional **unit declines**.
- As a consumer consumes more of stock, the extra satisfaction that he derives from an extra unit, declines with the increase in consumption of that item.



#### Explanation:

- Human beings have virtually unlimited wants, However each single want is **satisfiable (capable of being satisfied)**
- Since each want is satiable, as a consumer consumes more and more of an item, the satisfaction derived from addition unit goes on **decreasing**. In other words the **intensity of his want goes on decreasing**, and at a particular point of time he no longer wants it.
- After a point of time after continuous consumption the consumer reaches the '**point of Satiation**' and gets no extra Satisfaction
- Beyond a particular point instead of Utility consumer faces **negative Utility or Disutility**
- Further, Goods are **imperfect substitute** of each other. If same goods have capacity to satisfy other wants then their marginal utility would not have decreased.

#### Assumptions to Law of Marginal utility:

- Standard Units-** The law will hold good when units are of **suitable size**.
- Homogeneous units-** Different units consumed should be identical in all respect
- Constant Income-** The law will hold good when income of the person is constant.
- Constant Taste/ fashion-** The Fashion, habit or taste of the consumer must remain constant. If the liking of the person increases on additional consumption the law will not hold good.
- Continuous consumption-** There should be no time gap between consumption of one unit and another unit. Therefore Consumption of one Orange per day for 9 days will not have diminishing marginal utility, but 9 Oranges in one day will be covered by this law.
- Cardinal approach-** Law applies only if cardinal approach to measurement of utility is assumed.

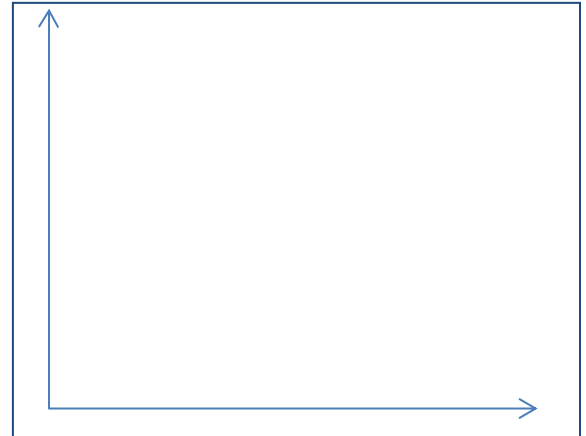
#### Exception to Law of Marginal utility

- Personal Aspects-** law of Diminishing Marginal utility does not apply to music, hobbies, etc where personal preference is dominant.
- Money is excluded-** law of Diminishing Marginal utility does not apply money and items like gold, etc. where a greater quantity may increase the lust for it.
- Other possessions-** Utility may be affected by presence or absence of articles which are substitute or complimentary. Example- utility of coffee may be affected by availability sugar.



**Conclusion: Most IMP**

1. Total Utility increases at **diminishing rate**.
2. Marginal Utility is **Downward Sloping curve**, moving from **left to right**
3. Marginal utility is **negatively sloped curve**.
4. **Where Marginal Utility is negative, Total utility decreases.**
5. Marginal utility **goes on decreasing** and **becomes negative beyond a certain point of time**.
6. Marginal utility varies **inversely with the supply**. If the supply is greater, its MU will be less.
7. MU of the goods increases as the quantity of **complementary goods** with the consumer **increases**- Example, Tea and sugar are complementary goods. If more tea is acquired MU of sugar also increases.
8. MU of the goods decreases as the quantity of **substitute goods** with the consumer increases. Example, tea and coffee are substitute goods. If Consumer purchases more coffee, MU of tea decreases.



**3.4 Law of Equi- marginal utility**



Units	MU	Units	MU	Units	MU
1	100	1	80	1	60
2	80	2	70	2	55
3	60	3	60	3	50
4	40	4	50	4	45
5	20	5	40	5	40
6	0	6	30	6	35
7	-20	7	20	7	30

**As per the law of Equi- marginal utility**, If marginal utility of money spent on commodity X is greater than marginal utility of money spent on commodity Y, then the consumer will withdraw some money from purchase of Product Y and will spent on purchase of X, till MU of money in two cases becomes equal.

And

**The consumer will attain maximum satisfaction, and will be in equilibrium when MU of money spent on various goods that he buys, are equal.**

### 3.5 Consumer surplus and Consumer Equilibrium

#### Consumer Surplus:

1. Consumer surplus means, what a consumer is ready to pay – what he actually pays.
2. The consumer continues to buy a commodity till  $MU = \text{Price of the commodity}$
3. For all the earlier units purchased,  $MU > \text{price paid}$ . This difference is called as consumer's surplus
4. **Amount which a person is ready to pay is nothing but Marginal Utility**
5. Therefore, **Consumer surplus =  $MU - \text{Price}$**

### 3.6 Application of Consumer Surplus

- a) It is a **measure of the welfare that people gain** from consuming G&S.
- b) It is **very important to a business firm to reflect** on the amount of consumer surplus enjoyed by customers
- c) Helps business managers make better decisions about **setting prices and able to pay higher prices** for the same products, then firms can profitably use price discrimination.
- d) **Large scale investment decisions** involve cost benefit analysis which takes into account the extent of consumer surplus which the projects may fetch.
- e) Consumer surplus usually acts as a **guide to finance ministers** when they decide on the products on which taxes have to be imposed and the extent to which a commodity tax has to be raised.

### 3.7 Consumer's Equilibrium:

- f) As per the law of diminishing marginal utility, the additional consumption of item leads to decreasing MU.
- g) The consumer will be willing to buy a commodity, as long as the MU( additional satisfaction) derived is equal to price of the commodity. In other words, consumer will not buy a commodity if the price he pays is more than the additional satisfaction he derives.
- h) Thus the consumer is in **equilibrium when price of the commodity = Marginal utility.**
- i) Similarly for more than two products, consumer will be in equilibrium if-
 
$$\frac{MU_x}{Price_x} = \frac{MU_y}{Price_y} = \frac{MU_z}{Price_z}$$
- j) The consumer will attain maximum satisfaction, and will be in equilibrium when **MU of money spent on various goods that he buys, are equal.**

#### Conclusions: refer schedule above

- a) Consumer is in equilibrium at 3 units, where price = MU.
- b) Consumer surplus is INR 20 and INR 10 at consumption level of 1 Orange and 2 oranges respectively.

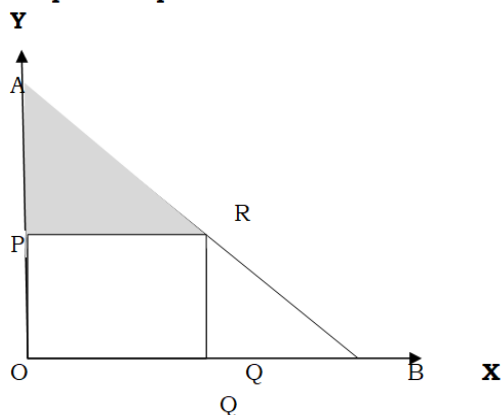
### 3.8 Limitations to Consumer surplus

1. The concept of Consumer's surplus is **relevant only if cardinal approach to measurement of utility** is assumed.
2. Consumer's surplus cannot be **measured precisely**, since it is difficult to measure the MU of different units of commodity consumed by a person.
3. Consumer's surplus derived is affected by availability of **substitutes**.
4. In case of **necessaries**, consumer's surplus is infinite since the MU of first few units are **infinitely large**.
5. Concept of consumer's surplus does not apply in case of **prestigious items** such as Diamond, gold.
6. It is assumed that MU of the **money is constant**, which is unrealistic. As more purchases are made and consumer's stock of money diminishes, MU of money also changes



### 3.9 Graphical Presentation

**Graphical representation:**



- a) Total Utility = Area under OARQ.
- b) Price paid = Area under OPRQ.
- c) Consumer surplus = Area under PAR (Area under OARQ- Area under OPRQ).
- d) If market price = OP, then consumer will be in equilibrium, when he buys OQ units of commodity



## 4. Ordinal Approach:

The Ordinal approach to utility analysis was given by Hicks and Allen and hence it is also called as **Hicks and Allen Approach**.

This Approach is called as Ordinal Approach because here we can order the Commodities

### 4.1 Indifference curve analysis- Assumptions

#### 1. Ordinal Approach to utility-

- This means that **UTILITY is not measurable in monetary terms.**
- A person can express satisfaction derived from consumption of commodity, in **relative or comparative term.**

#### 2. Consistency in ranking-

- As per ordinal approach it is assumed that the consumer has consistent consumption pattern. Thus Consumer choice are assumed to be **Transitive**
- If a consumer prefers X to Y and Y to Z , this automatically means that he must prefer X to Z.



- Rational Consumer-** It is assumed that the consumer is rational and possesses full information about all the relevant aspects of economic environment in which he lives.

#### 4. Ranking and preferences-

- The consumer is capable of ranking all combination of goods according to satisfaction they yield.
- If a consumer prefers A to B then he cannot tell quantitatively how much he prefers A over B.

#### 5. Number of Goods-

- If combination A has more quantity than combination B, then A must be preferred over B. This is because the **customer prefers more to less, and tries to maximize his satisfaction.**



### 4.2 Indifference curve analysis

Indifference Curve is also called as **Iso-Utility Curve** or **Equal Utility Curve**

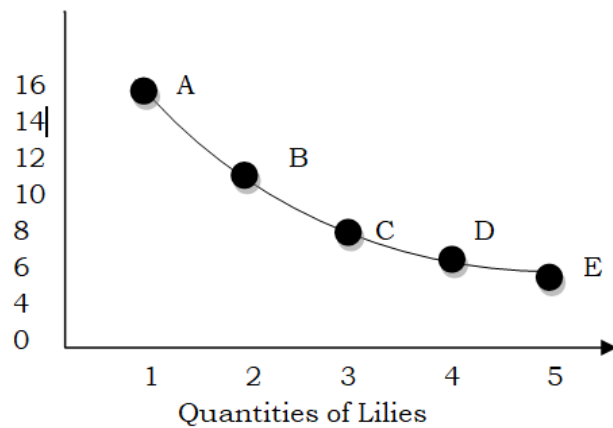
1. An Indifference curve is a curve which represents all those combination of goods which gives **same satisfaction** to the consumer.
2. In Indifference curve analysis, customer's preference is **arranged/ranked** in order of his preference, *rather than measuring them in terms of money.*
3. Since all the combinations on IC curve give him equal/ same satisfaction, he prefers them equally and does not mind which combination he gets. He remains **indifferent** among those combinations.
4. **General assumption in consumer behavior under Indifference curve analysis is that more goods are preferred to less of them.**

#### Example

Combination	Roses	Lilies	Marginal Rate of substitution ( MRS)
A	15	1	-
B	11	2	4 Roses per lily
C	8	3	3 Roses per lily
D	6	4	2 Roses per lily
E	5	5	1 Roses per lily

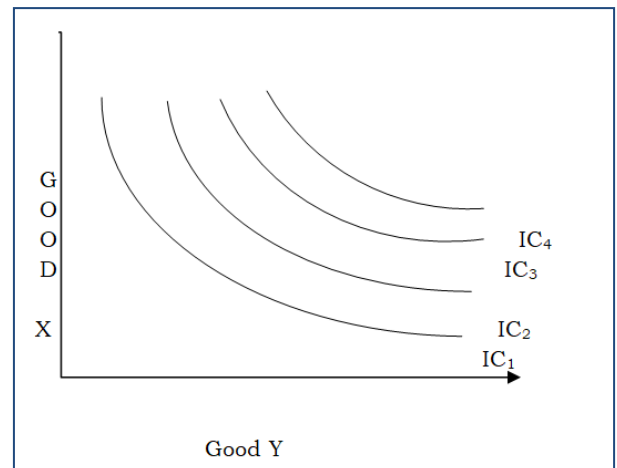
1. MRS Shows **diminishing Trend**. This is due to **Reducing Quantity** of commodity and thus reducing trend.
2. Had the goods being **perfect substitute** IC Curve will be **straight line curve**

Indifference curve



### 4.3 Indifference Map

1. A set of indifference curves is called as **Indifference Map**.
2. An indifference map depicts complete picture of customer's taste and preferences.
3. The consumer is *indifferent for any combination lying on same IC.*
4. However he prefers **combination on Higher IC to combinations on lower IC**, as the combinations of higher IC give more satisfaction. So  $IC_4 > IC_3 > IC_2 > IC_1$ .
5. **Farther the IC from the origin, higher is the satisfaction level.**



#### 4.4 Marginal rate of Substitutions

1. Marginal rate of substitutions (**MRS**) indicates how much of one commodity is substituted for how much of another commodity.
2. MRS is indicated by **Slope of IC curve** at a particular point. Thus, MRS indicates movement along an IC.
3. MRS show **decreasing trend** similar to concept of diminishing marginal utility.

#### 4.5 Property of indifference curve

##### 1. Downward sloping to right-

- a) IC curve is **negatively sloped**. This is because when the quantity of one commodity is increased, the quantity of other commodity is reduced.

##### 2. Convex to the origin-

- a) IC is L- shaped to origin, with a bent instead of right angle.
- b) This is due to **diminishing nature of MRS**.

##### 3. All point on an IC gives same satisfaction-

- a) *All the combination on an IC gives same satisfaction to the consumer.*
- b) Hence the consumer is indifferent among different point on IC.

##### 4. Higher level of satisfaction-

- a) In an indifference map, every *higher IC gives higher satisfaction to the consumer.*
- b) Combination lying on higher IC contains more of either on one or both goods and more goods are preferred to less of them.

##### 5. Non Intersecting

###### a) **No two IC will cut/ intersect/touch each other**

- b) Since every higher IC gives higher satisfaction, the same level of satisfaction cannot lie on two ICs. And if they intersect it will show that two different levels are equal, which is not possible.

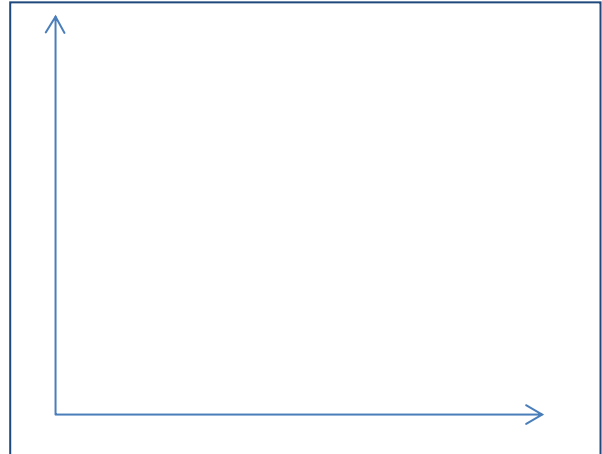
#### 4.6 Budget line

1. A Budget line shows all those combinations of two goods which a consumer **can buy spending his given money income on two goods at their given prices**.
2. Budget line is also called as **Price line, Price opportunity line, Price- income line, Budget constraint line**.
3. Every point
  - a) **on Budget line** represents full spending by the consumer.
  - b) **below budget line** represents under spending by the consumer (Point U),
  - c) **above the budget line** will be beyond the reach of consumer (Point O)



#### 4.7 Consumer Equilibrium under indifference curve approach

1. In the given diagram Pl is the Budget line and A,B,C are the point on price/budget line. Every point on budget line costs same to the consumer.
2. In order to maximize his satisfaction the consumer will try to reach to farthest IC, but will be forced to remain on price line.
3. Point B gives maximum satisfaction to the consumer since it lies on farthest IC, and also lies on budget line.
4. The point B constitutes consumer's equilibrium and at that point consumer will buy  $Q_x$  and  $Q_y$  quantities of goods X and Y.
5. Consumer will not be able to reach  $IC_3$  and  $IC_4$  with his current budget, and Point A and C will not be preferred as they lie on lower IC.



#### Assumptions:

1. The consumer has fixed money income which he has to spend wholly on goods X and goods Y.
2. Prices of goods X and Goods Y are given and are constant.
3. The consumer has given an indifference map which shows his scale of preferences for various combinations of two goods X and Y.

#### 4.8 Relationship of MRS and price at equilibrium,

1. At equilibrium, slope of price line is equal to slope of Indifference curve.
2. At equilibrium price line is **tangential** to farthest IC.
3. At equilibrium, slope of price line is equal to slope of Indifference curve  $IC_2$
4. Slope of the line is  $P_x/P_y$ .
5. Slope of indifference curve indicates Marginal rate of substitution of X for Y.  $MRS_{XY} = MU_x/MU_y$ .
6. Hence at equilibrium  $MRS_{XY} = MU_x/MU_y = P_x/P_y$ , alternatively,  $MU_x/P_x = MU_y/P_y$ .

#### 4.9 The indifference curve analysis is superior to utility analysis:

- (i) It dispenses with the assumption of measurability of utility
- (ii) It studies more than one commodity at a time
- (iii) It does not assume constancy of marginal utility of money
- (iv) It segregates income effect from substitution effect.



## Chapter 2B - Demand Analysis



### Part A. - Basics

#### 1. Meaning

1. Demand refers to the quantity of a good or service that consumers are **willing and able** to purchase at various prices during a **given period of time**.
2. Effective demand of any goods or services depends on the following factors
  - (a) **Willingness means Desire** for a specific commodity.
  - (b) **Ability means Resources or purchasing power**
  - (c) **willingness to use those means** for that purchase, and
  - (d) Availability of commodity at certain, **(i) Price (ii) place or (iii) time**.
3. Two things are to be noted about the quantity demanded.
  - (a) The quantity demanded is **always expressed at a given price**.
  - (b) The quantity demanded is a **flow**. And not a single isolated purchase. Hence we express demand as '**so much quantity per period of time**'.



#### 2. Types of Demand

##### 1. Individual Demand/ Firm Demand.-

- a) DD of a particular consumer at various prices.
- b) It is a **sub-system** of total demand.



##### 2. Market Demand/ Industry Demand.

- (a) Market demand is the **demand of whole market** at various prices of the commodity.
- (b) It is the **sum total demand of all individual demand** in the market.



**3. Price Demand** -It refers to quantity of goods or services which will be purchase by the consumer at **various prices**

#### 4. Income demand

- (a) It refers to quantity of goods or services which will be purchase by the consumer at **various income level**
- (b) Accordingly as the income level increases, **superior goods have greater demand** and as the level of income lowers, **inferior goods have higher demand.**



#### 5. Cross demand

- (a) It refers to quantity of goods or services which will be purchase by the consumer based on the change in price of related commodities.
- (b) Example Substitute goods or complementary goods.

**6. Short run demand-** changes immediately due to change in Price. If the rate of electricity are reduced, the existing users will make greater use of electrical appliances

**7. Long run demand-** change takes place after long time due to change in price. For example, if electricity rates are reduced, in the short run, the existing users will make greater use of electric appliances. In the long-run, more and more people will be induced to use electric appliances.

**8. Derived demand-** The demand for a commodity that arises because of the **demand for some other commodity called 'parent product'**, 'is called derived demand. For example, the demand for cement is derived demand, being directly related to building activity.



**9. Autonomous demand-** If the demand for a product **is independent of the demand for other goods**, then it is called autonomous demand. It arises on its own out of an innate desire of the consumer to consume or to possess the commodity.



**10. Producers goods** are used for the production of other goods - either consumer goods or producer goods themselves. Examples of such goods are machines, plant and equipment.



**11. Consumer goods** are used for final consumption. Eg readymade clothes, prepared food.

It may be subdivided into-

- a) Durable goods** are those which can be consumed more than once. Eg. cars, refrigerators and mobile phones
- b) Non durable goods** are those which cannot be consumer more than once. It meets only current demand. Eg: Bread, milk, etc.



### 3. Factors of Demand

#### 1. Price of the commodity:

- Other things being equal, the demand for a commodity is **inversely related** to its price.
- This means that a rise in the price of a commodity brings about a fall in the quantity purchased and vice-versa.
- This happens because of **income effect** and **substitution effect**.



#### 2. Price of related commodities-Related commodities are of two types: (a) complementary goods and (b) competing goods or substitutes.

##### (a) Complementary goods-

- Complementary goods are those goods which are consumed **together or simultaneously**.
- When two commodities are complements, **a fall in the price of one** (other things being equal) **will cause the demand for the other to rise**.
- For example; tea and sugar, automobile and petrol and pen and ink.



##### (b) Substitute goods-

- Two commodities are called competing goods or substitutes when they satisfy the same want and can be used with **ease in place of one another**.
- When goods are substitutes, a fall in the price of one (ceteris paribus) leads to a fall in the quantity demanded of its substitutes.
- Demand of a commodity is **directly** related with price of substitute goods.
- For example, tea and coffee, ink pen and ball pen, are substitutes for each other and can be used in place of one another easily.



#### 3. Income of the consumer

- In most cases, the **larger the income, larger is the quantity demanded**.
- But, the change in quantity demanded and the change in income need **not be of same proportion**.
- As the level of income rises, increase in **demand of necessities** is **proportionally less** than increase in income.



- (d) As the income level increase and people become richer, there is a relative decline in the importance of food and other non durable goods in the overall consumption basket and a rise in the importance of durable goods such as a TV, car, house etc.
- (e) However, there are some commodities for which the quantity demanded decreases with an increase in money income beyond this level. These goods are called **inferior goods**. [ Also called as **Giffen goods** ]

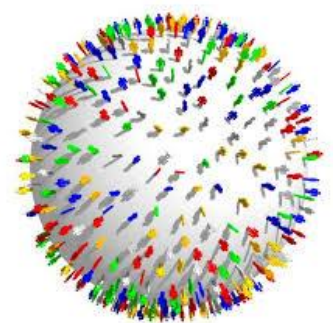
#### 4. Tastes and preferences of consumers-

- (a) Goods which are in fashion are demanded more than goods which are of out of fashion.
- (b) Tastes and preferences of consumers are also influence by '**Demonstration effect**' or '**bandwagon effect**', i.e. by seeing another person use a particular product/ commodity.
- (c) Also sometimes, when a product becomes common among all, some people decrease or altogether stop its consumption.
- (d) On the other hand, if the goods which are common among the rich, though high priced is consumed as a symbol of status. E.g. Some people develop habit of drinking wine as they believe its attachment with status. This is called '**snob effect**'. Highly priced goods are consumed by status seeking rich people to satisfy their need for conspicuous consumption. This is called '**Veblen effect**'



#### 5. Population aspect-

- (a) **Size of the population**-directly related to Demand
- (b) **Composition of population**: If the population consists of more of children, demand for toys, baby foods, toffees, etc. will be more
- (c) **The level of National Income and its Distribution**:
- i. If the national income is **unevenly distributed, less income, and less demand**
  - ii. If the national income is **evenly distributed, more income, and more demand**
- (d) **Consumer-credit facility and interest rates**: Availability of credit facilities induces people to purchase more than what their current incomes permit them. Also, Low rates of interest encourage people to borrow and therefore demand will be more.



#### 6. There are many other factors which influences the demand



## Part B- Theory of Demand

### 1. Law of Demand:

- (a) Other things being equal, if the price of a commodity falls, the quantity demanded of it will rise and if the price of a commodity rises, its quantity demanded will decline.
- (b) There is an **inverse relationship between price and quantity demanded**, other things being equal.

### Other Factors remaining constant-

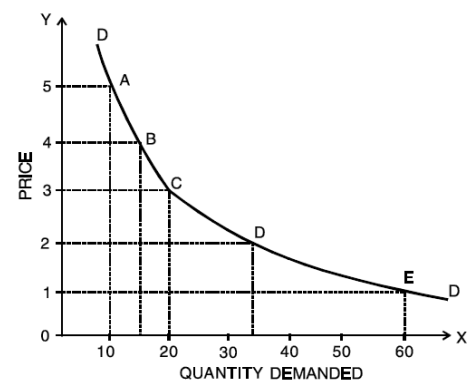
The other things which are assumed to be equal or constant are:-

- (a) Prices of related commodities (complementary goods or substitute goods)
- (b) Income of consumers
- (c) Tastes and preferences of consumers, and
- (d) Such other factors which influence demand.

*If these factors which determine demand also undergo a change, then the inverse price-demand relationship may not hold good. Thus, the constancy of these other factors is an important assumption of the law of demand.*

### 1. Illustration:

Price	Quantity demanded
5	10
4	15
3	20
2	35
1	60



### 2. Features of the Demand Curve

1. Demand curve **slopes downwards from left to right**
2. Demand curve is **negatively sloped**
3. Demand curve may sometimes be a **straight-line** or sometimes a **free hand curve**
4. Demand curve is also called **Average Revenue curve (ARC)**. Since the price paid for each unit by the consumer is revenue per unit for the seller. [ CH 4 ]
5. The Market Demand curve is a **lateral summation** of individual Demand curve, and also slopes downwards from left to right. [ CH 4 ]

## 2. Rationale of the Law of Demand - reasons why law of Demand exhibits inverse relationship

### 1. Law of diminishing marginal utility

- (a) Consumer will buy more quantity at lower price because they want to equalise the marginal utility of the commodity and price.
- (b) The **Diminishing Marginal utility and equalising price** is the cause of downward sloping of demand curve

### 2. Substitution effect: Given by Hicks and Allen

- (a) When the price of a commodity falls, it becomes **relatively cheaper** than other commodities.
- (b) So, consumers now substitute the commodity whose price has fallen for other commodities which have now become relatively expensive.
- (c) Therefore total demand for the commodity whose price has fallen increases

### 3. Income effect:

- (a) When the price of a commodity falls, the consumer can buy the same quantity of the commodity with lesser money.
- (b) In other words, as a result of fall in the price of the commodity, consumer's **real income or purchasing power** increases.
- (c) This increase in the real income induces him to buy more of that commodity.

*Note: Income Effect and Substitution effect is together called as Price effect*

### 4. Arrival of new consumer:

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



### 5. Different uses:

- (a) Certain commodities have multiple uses. If their prices fall, they will be used for varied purposes and therefore their demand for such commodities will increase
- (b) On the other hand, when the price of such commodities are high (or rises) they will be put to limited uses only.

### 3. Exceptions to the Law of Demand

#### 1. Conspicuous goods:

- Articles of **prestige value** or **snob appeal** or articles of **conspicuous consumption** are demanded only by the rich people and these articles become **more attractive** if their **prices go up**.
- This was found out by **Veblen** in his doctrine of "**Conspicuous Consumption**" and hence this effect is called **Veblen effect** or **prestige goods effect**.
- Example- Higher the price of diamonds, higher is the prestige value attached to them and hence higher is the demand for them.



#### 2. Giffen goods:

- Those goods which are **inferior**, with **no close substitutes** easily available and which occupy a substantial place in consumer's budget are called '**Giffen goods**'
- Such goods exhibit **direct price-demand relationship**.
- Examples of Giffen goods are- Bajra, low quality rice and wheat etc



#### 3. Conspicuous necessities:

- The demand for certain goods is affected by the **demonstration effect** of the consumption pattern of a social group to which an individual belongs.
- Due to their constant usage these goods have become necessities of life.
- For example, **TVs**, refrigerators, coolers, cooking gas etc.



#### 4. Future expectations about prices:

- When the **prices show increasing trend**, consumers tend to buy larger quantities of such commodities, expecting that the prices in the future will be still higher
- For example, when there is wide-spread drought, people expect that prices of food grains would rise in future. They demand greater quantities of food grains even at the higher price.



- Irrational consumer-** It is assumed that consumers are rational and knowledgeable about market-conditions. However, at times, consumers tend to be irrational and make impulsive purchases without any rational calculations about the price and usefulness of the product.



### 6. Demand for necessities

(a) Irrespective of price changes, people have to consume the minimum quantities of necessary commodities. Example- cooking gas, Petrol.



7. **Ignorant consumer:** A household may demand larger quantity of a commodity even at a higher price because it may be ignorant of the ruling price of the commodity.

8. **Speculative goods:** In the speculative market, more will be demanded when the prices are rising and less will be demanded when prices decline. Example stocks and shares showing increasing trend.



## 4. Demand and Quantity demanded

- Change in demand means change in demand due to the factors of demand other than price whereas
- Change in quantity demanded means change in the quantity purchased due to change in the price of a product

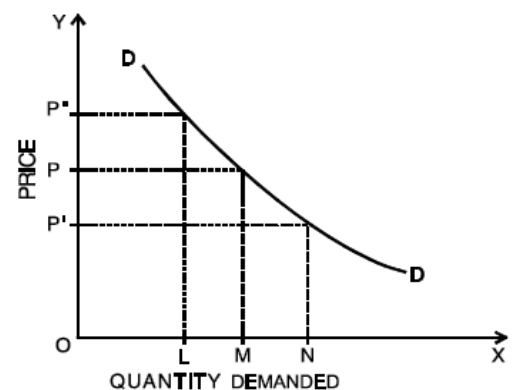
## 5. Expansion/Extension and contraction in Demand

**Meaning-** Expansion and contraction in demand takes place as a result of **change in price**, while the other factors influencing demand remains constant.

**Movement along the curve-** The position of Demand curve remains the same. The consumer merely moves upwards or downwards on the **Same Demand Curve**

### Example-

- The present price is P and the quantity demanded at Price P is M.
- Expansion- Downward movement** along the same Demand curve is called as **Expansion of demand**. (P to P')
- Contraction- Upward movement** along the same Demand curve is called as **Contraction of demand**. (P to P'')



. 3 : Expansion and Contraction of Demand

Term	Meaning	Effect
<b>Expansion/ Extension of Demand</b>	Quantity demanded <b>Increases</b> , due to decrease in price	<b>Downward</b> movement along same Demand curve
<b>Contraction of Demand</b>	Quantity demanded <b>decreases</b> , due to increase in price	<b>Upward</b> movement along same Demand curve



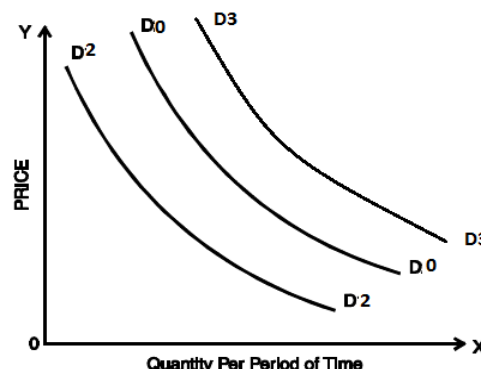
## 6. Increase in Demand

**Meaning-** Increase or decrease in demand as a result of changes in factors **other than price**, while price remains constant.

**Shift of Demand Curve-** Increase or decrease in demand indicate rightward/leftward shift of the Demand curve respectively.

### Example

- ✓ **Current level** of demand is depicted by demand curve  $D_0$
- ✓ **Increase in Demand**-When the curve shifts rightward from  $D_0$  to  $D_3$ , it is called as increase in demand.
- ✓ **Decrease in Demand**- When the curve shifts leftward from  $D_0$  to  $D_2$ , it is called as decrease in demand.



## 7. "Movement along" vs "shift of" Demand

	Movement along Demand curve	Shift of Demand curve
1	Demand curve remains the same	There is shift in Demand curve itself
2	This happens due to <b>price change</b> while the other factors remains constant	This happens due to changes in factors <b>other than price</b> , price remaining constant
3	It may be Expansion or contraction	It may be Increase or Decrease in Demand
4	Expansion=Downward movement Contraction= Upward movement	Increase= Rightward shift Decrease= Leftward shift

## Part C-Elasticity of Demand

### 1. Elasticity of Demand

#### Meaning

- (a) Elasticity of demand is defined as the *responsiveness of the quantity demanded of a good to changes in one of the variables on which demand depends.*
- (b) the percentage change in quantity demanded divided by the percentage change in one of the variables on which demand depends

#### Factors affecting demand and name of their elasticity

Factors	Name of Elasticity	Denoted by
<div style="border: 1px solid black; padding: 5px; background-color: #4a7ebb; color: white; margin-bottom: 10px;"> <b>Measuring Price elasticity of demand</b> </div> <div style="display: flex; justify-content: space-around; text-align: center;"> <div style="border: 1px solid black; padding: 5px; background-color: #c00000; color: white;">Percentage change or proportional Method</div> <div style="border: 1px solid black; padding: 5px; background-color: #c00000; color: white;">Point Elasticity-Method of derivative</div> <div style="border: 1px solid black; padding: 5px; background-color: #c00000; color: white;">Point Elasticity – Method of Graph</div> <div style="border: 1px solid black; padding: 5px; background-color: #c00000; color: white;">Arc Elasticity Method</div> <div style="border: 1px solid black; padding: 5px; background-color: #c00000; color: white;">Total Outlay Method</div> </div>		
Price of the commodity	Price Elasticity	$E_P$
Income of the consumer	Income Elasticity	$E_I$
Price of the related product	Cross Elasticity	$E_C$

### 2. Price Elasticity of Demand

#### Meaning:

- (a) Price Elasticity of Demand ( $E_P$ ) measure the *responsiveness of quantity demanded of a commodity, to a change in Price*, assuming all the other factors as constant.
- (b) In other words, it is measured as the percentage change in quantity demanded divided by the percentage change in price, other things remaining equal.

#### A. Percentage/ proportionate Method

#### Formula:

$$\begin{aligned} \text{Price Elasticity of Demand} &= (E_P) = \frac{\% \text{ change in quantity demanded}}{\% \text{ change in Price}} \\ &= \frac{(\text{Change in quantity}/\text{Original quantity}) \times 100}{(\text{Change in price}/ \text{Original Price}) \times 100} \\ &= (\Delta q/ q) \times (p/ \Delta p) \\ &= (\Delta q / \Delta p) \times (p/ q) \end{aligned}$$

Here  $q$  = quantity,  $p$  = price,  $\Delta q$  = change in quantity,  $\Delta p$  = change in price

**Negative sign** -since price and quantity are **inversely related** (with a few exceptions), price elasticity is negative. But, for the sake of convenience, we ignore the negative sign and consider only the numerical value of the elasticity.

**Example**

<b>Quantity</b>	<b>Price</b>	% change in quantity demanded = $(3500-5000) \div 5000 = 30\%$
5000	100	% change in price = $(150-100) \div 100$
3500	150	Therefore $E_p = 30\% \div 50\% = 0.6$

**B. Point Elasticity - method of Derivative**

**Meaning**

- a) In point elasticity, we measure elasticity at a **given point on a demand curve**.
- b) The concept of point elasticity is used for measuring price elasticity where the **change in price is infinitesimal (very small)**
- c) Point elasticity makes use of **derivative** rather than finite changes in price and quantity.

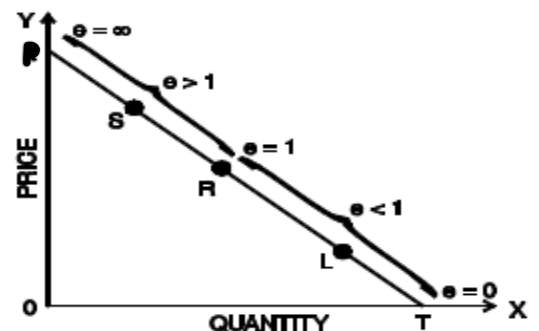
**Formula** :  $E_p = -dq/p \div dp/q$

**C. Point Elasticity - Geometric method**

- a) This method is applicable only for **Straight- line Demand curve touching both the axes**.

- b) Under Graphical method Elasticity is calculate using the following formula-

$E_p$  - **Lower segment**  
**Upper segment**

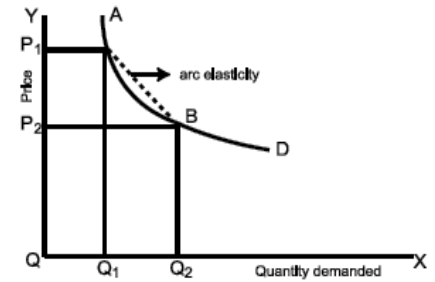


**Example:** Consider the following graph and find the Elasticity using Graphical method and state the reason for the same.

Point	$E_p$	Reason
Y	$PT/PP = \infty$	tT is a line while tt is appoint, hence tt =0
S	$ST/PS > 1$	Length of $ST > tS$
R	$RT/PR = 1$	Length of $tR = RT$
L	$LT/LP < 1$	Length $LT < Lt$
X	$TT/PT = 0$	TT is a point while tT is a line

### D. Arc Elasticity of Demand

1. Arc Elasticity is a measure of **average responsiveness** to Price change exhibited by a Demand curve over some defined arc of Demand curve
2. Arc Elasticity measures elasticity in case of **large change in prices and quantities** (i.e. over an arc) on the Demand curve rather than a point
3. Since point elasticity differs at various points on Demand curve, Arc elasticity takes **average of two prices and quantities** to measure Elasticity



$$E_p = \frac{q_1 - q_2}{q_1 + q_2} \times \frac{p_1 + p_2}{p_1 - p_2}$$

### E. Total Outlay Method

#### Meaning:

- a. In Total Outlay method, Elasticity is calculated by analysing the **change in Total expenditure** or Outlay of the household.
- b. we can only say whether the demand for a good is elastic or inelastic; we cannot find out the exact coefficient of price elasticity.

Elasticity	Situation	Effect	Example
$E_p < 1$	<ul style="list-style-type: none"> <li>• Price and Expenditure moves in <b>same</b> direction.</li> <li>• As the price of a commodity <b>decreases</b>, total expenditure on that commodity <b>decreases</b>.</li> <li>• As the price of a commodity <b>increases</b>, total expenditure on that commodity <b>increases</b>.</li> <li>• In both the above cases, % change in quantity demanded is <b>less than % change in price</b>.</li> </ul>	Demand is said to be less elastic, or inelastic	Situation E, F, G (Refer example below)
$E_p = 1$	<ul style="list-style-type: none"> <li>• Total Expenditure remains Unchanged.</li> <li>• Due to change in price, Total expenditure on that commodity remains unchanged.</li> <li>• Increase in price is <b>exactly balanced</b> by a proportional reduction in quantity purchased.</li> </ul>	Demand is said to be unit elastic	Situation C, D, E (Refer example below)
$E_p > 1$	<ul style="list-style-type: none"> <li>• Price &amp; Expenditure moves in <b>opposite</b> direction.</li> <li>• As the price of a commodity <b>decreases</b>, total expenditure on that commodity <b>increases</b>.</li> <li>• As the price of a commodity <b>increases</b>, total expenditure on that commodity <b>decreases</b>.</li> <li>• In both the above cases, % change in quantity demanded is <b>more than % change in price</b>.</li> </ul>	Demand is said to be elastic	Situation A, B, C (Refer example below)



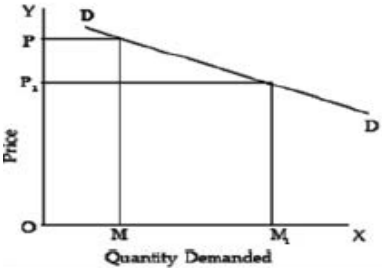
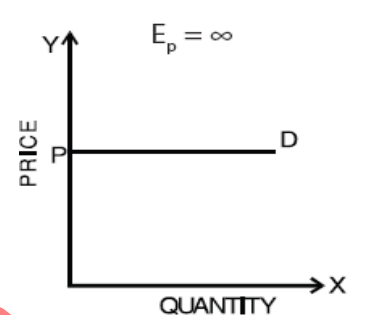
### The Relationship between Price elasticity and Total Revenue (TR)

	Elastic	Unitary Elastic	Inelastic
Price Increase	TR Decreases	TR remains same	TR Increases
Price decrease	TR Increases	TR remains same	TR Decreases
	Moves in opposite direction	Remains same	Moves in same direction

Situation	Quantity Demanded (In units)	Price	Total Outlay
A	1000	50	50000
B	1500	40	60000
C	2000	37.5	75000
D	2500	30	75000
E	3000	25	75000
F	3500	20	70000
G	4000	15	60000

### 3. Interpretation of the numerical values of elasticity of demand

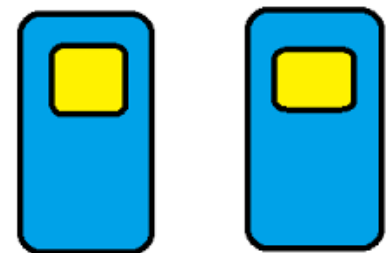
Description	Numerical value	Interpretation	Nature of Curve	
Perfectly inelastic	$E_p = 0$	Qty. demanded does not change as price changes	Vertical line Parallel to Y axis	
Inelastic or less elastic	$0 < E_p < 1$	Qty demanded changes by smaller percentage than price	Relatively steeper Demand curve	
Unit Elastic	$E_p = 1$	Qty demanded changes exactly by same % as price	45 degree straight line Or rectangular hyperbola	

<p><b>Elastic</b></p>	<p><math>1 &lt; E_p &lt; \infty</math></p>	<p>Quantity demanded changes by larger percentage than price</p>	<p>Relatively flatter demand curve</p>	
<p><b>Perfectly elastic</b></p>	<p><math>E_p = \infty</math></p>	<p>Small change in price will bring infinite change in quantity demanded</p>	<p>Parallel to X axis</p>	

**4. Determinants of price Elasticity**

**1. Availability of substitutes:**

- Goods having **close or perfect substitutes** have **highly elastic demand curves**.
- Goods which do not have close substitute or **few substitutes** have **less elastic demand curve**.



**CNG Vs Petrol**

**2. Position of a commodity in a consumer's budget:**

- Goods having **higher proportion of consumers' spending** are **more elastic** to demand. Eg. Clothing, provisions and groceries, milk etc.
- Goods having **lower proportion of consumers' spending** are **less elastic** to demand. Eg. Matches, button, salt.



**3. Number of uses to which a commodity can be put:**

- Commodity having possible **multiple uses**, have **more elasticity to demand**. Eg. Milk.
- Goods which have **specified or particular use** have **inelasticity** to demand, since they can and should be used only for that purpose.



#### 4. Time period:

- The **long run** demand for a commodity is **more elastic**. This is because consumer has a longer run to adjust his consumption pattern accordingly.
- The **short run** demand for a commodity is **less elastic** to change in price.

#### 5. Consumer habits:

- If the consumer is **not habitual to a commodity**, demand for that particular commodity is **more elastic** and vice-versa.

#### 6. Tied demand:

- Goods which have **autonomous demand** on their own are more elastic
- Goods having **tied or joint demand** are **less elastic**. Eg. Modular kitchen and oven.

#### 7. Nature of the need that a commodity satisfies:

- **Luxury goods** are **price elastic** while
- **necessities** are **price inelastic or less elastic** to price change.

#### 8. Price range:

- Goods which are in **medium range** of price level are **more elastic** to price change.
- Goods which are in **very high price** range or in **very low** price range have **inelastic** demand.

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### 5. Income Elasticity of Demand

**Meaning:** Income elasticity of demand is the degree of **responsiveness of quantity demanded of a good to changes in the income of consumers**, while the other factors are constant. It is denoted by  $E_i$ .

It refers to amount of change in demand for a commodity due to change in income. It is the degree of responsiveness of demand to a change in income

$$E_y = \frac{\text{Percentage or proportionate change in Demand}}{\text{Percentage or proportionate change in Income}} = \frac{\% \Delta Q}{\% \Delta Y}$$

Note-Income effect is positive, so Income Elasticity of demand is also **positive**. However there may be negative Income Elasticity in case of inferior goods

Type of Income Elastic	Relation between income & demand	Example	Formula	Curve
<b>Positive Income Elasticity</b>	Positive	Normal and Luxury goods	$E_y = 1$ $E_y > 1$ $E_y < 1$	
<b>Negative Income Elasticity</b>	Inverse	Inferior goods	$E_y < 0$	
<b>Zero Income Elasticity</b>	Constant (No change in demand though there is change in income)	Necessaries goods	$E = 0$	

### 5. Cross Elasticity of Demand

- It refers to amount of change in demand for one good due to change in price of other good.
- Thus cross elasticity of demand is degree of responsiveness of demand for one good to a change in price of other good.
- It is defined as a ratio between percentage or proportionate change in demand for one commodity and % or proportionate change in price of other commodity i.e.

Where x & y = Substitute/complimentary goods

Type of Cross Elasticity	Relation between price of one product & demand for other product	Example	Formula	Curve
<b>Positive Cross Elasticity</b>	Direct or Positive relation (Goods must be substitute)	<b>Tea &amp; Coffee,</b>	$CED = 1$ $CED > 1$ $CED < 1$	
<b>Negative Cross Elasticity</b>	Inverse relation (Goods must be complementary goods)	<b>Car &amp; Petrol</b>	$CED < 0$	
<b>Zero Cross Elasticity</b>	Constant (No change in demand of one product though there is change in price of other product) goods must be unrelated	<b>Cloth &amp; salt</b>	$CED = 0$	



**Examples for Practice**

- Factors affecting Elasticity of Demand or Determinants of Elasticity of Demand:**



Factors	Explanation	Type of Elasticity of demand
<b>Nature of the commodity</b>	Necessities.	Inelastic
	Luxurious goods.	Elastic
<b>Level of income</b>	Goods demanded by high income group.	Inelastic
	Goods demanded by low income group.	Elastic
<b>Custom and habit</b>	Goods purchase under influence of Custom and habit.	Inelastic
<b>Proportion of expenditure</b>	Commodity on which Proportion of expenditure is low.	Inelastic
	Commodity on which Proportion of expenditure is large.	Elastic
<b>Level of price and change in price</b>	When price level of a commodity is too high and change in price is smaller.	Inelastic
	If price level is low and change in price is large.	Elastic
<b>Number of uses</b>	Commodity which has limited uses.	Inelastic
	Commodity which used to satisfy several wants.	Elastic
<b>Substitutes</b>	Commodity which have less substitutes.	Inelastic
	Commodity having several substitutes.	Elastic
<b>Urgency</b>	Commodity which is required urgently.	Inelastic
	Commodity which is not required urgently.	Elastic
<b>The Period</b>	Demand for commodity is inelastic in long run.	Elastic
	Demand for commodity is elastic in short period.	Inelastic
<b>Tied demand or Joint demand</b>	Demand for those goods, which are tied to others.	Inelastic
	Demand for those goods, which are demanded independently.	Elastic
<b>Consumer habits</b>	Demand for commodity used by habitual consumer.	Inelastic

## 6. Advertisement Elasticity

1. **Advertisement elasticity of sales or promotional elasticity** of demand is the responsiveness of a good's demand to changes in the firm's spending on advertising.
2. The advertising elasticity of demand measures the percentage change in demand that occurs given a one percent change in advertising expenditure.
3. Advertising elasticity measures the effectiveness of an advertisement campaign in bringing about new sales.
4. **Advertising elasticity of demand is typically positive**. Higher the value of advertising elasticity greater will be the responsiveness of demand to change in advertisement. Advertisement elasticity varies between zero and infinity.
5. It is measured by using the formula;  

$$E_a = \% \text{ Change in Demanded} / \% \text{ Change in Spending on advertisement}$$

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

## Part D

### Methods of demand Forecasting

- Demand Forecasting is Science and Arts.
- It is Important for Planning and decision making
- Demand forecasting is not fool-proof and correct
- It can be done at National as well as International Level

#### 1. Survey of Buyers' Intentions:

This method **involves direct interview of potential customers** by asking them what they are planning to buy during the forthcoming time period, usually a year.

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

- a) **Complete enumeration method** where nearly all potential customers are interviewed.
- b) **Sample survey method** under which only a scientifically chosen sample of potential customers are interviewed
- c) **End-use method**, especially used in forecasting **demand for inputs**, involves identification of all final users, fixing suitable technical norms of consumption of the product under study.



## Merits/Demerits

- Burden of forecasting is put on the customers.
- A number of biases may creep into the surveys.
- The customers may themselves misjudge their requirements.
- Their plans may alter due to various factors which are not identified at the time of the survey.

## 2. Collective opinion method/ sales force opinion method/ grass roots approach.

- Firms having a wide network of **sales personnel** to forecast future demand in their respective territories.
- These estimates of salesmen are **consolidated** to find out the total estimated sales.
- These estimates are **reviewed** to eliminate the bias of optimism on the part of some salesmen and further examined **with proposed changes**
- Although this method is simple, it is **subjective as personal opinions** can possibly influence the forecast.
- Moreover salesmen may be **unaware of the broader economic changes**.



## 3. Expert Opinion method: Delphi Technique

- The **Delphi technique** was developed by **Olaf Helmer** at the **Rand Corporation of the USA**.
- Under this method, firms solicit the **opinion of experts through series questionnaires**.
- Experts are asked to **provide forecasts and reasons**. Experts are provided with information and opinion feedbacks of others at different rounds without revealing the identity of the opinion provider.
- These **opinions are then exchanged among the various experts** and the process goes on until convergence of opinions is arrived at. This method is best suited in circumstances where intractable changes are occurring and the relevant knowledge is distributed among experts.
- It also has the **advantages of speed and cheapness**.



## 4. Statistical methods:

It is considered superior methods because it is more scientific, reliable & free from subjectivity.

- Trend Projection method:** This method is also known **classical method**. Past data pertaining to long period, when arranged chronologically, yield a '**time series**' which represent graph.





- i. **Graphical method**
- ii. **Fitting trend equation or least square method.** (sum of the squared differences between the calculated and observed value is minimized.)

**b. Regression analysis:** Under this method, a relationship is established between the quantity demanded (dependent variable) and the independent variables (explanatory variables) such as income, price of the good, prices of related goods etc. Once the relationship is established, we derive regression equation assuming the relationship to be linear. The equation will be of the form  $Y = a + bX$ .

### 5. Controlled Experiments:

- a) Under this method, future demand is estimated by conducting market studies and experiments on consumer behaviour under actual, though controlled market conditions.
- b) This method is also known as **market experiment method**.
- c) 'controlled laboratory experiments' or 'consumer clinics' under which consumers are given a specified sum of money and asked to spend in a store on goods with varying prices, packages, displays etc. The responses of the consumers are studied and used for demand forecasting.



### 6. Barometric method of forecasting:

- a) For this purpose, an **index of relevant economic indicators** is constructed.
- b) Movements in these indicators are used as basis for forecasting the likely economic environment in the near future. There are **leading indicators**, **coincidental indicators** and **lagging indicators**. The leading indicators move up or down ahead of some other series.
- c) For example, impact of Corona Virus indicated fall in demand of Luxurious goods





# Chapter 2C- Supply Analysis



## 1. Meaning of supply

- Supply refers to amount of a commodity seller is **able to sell and willing to sell** in the market at a certain price per unit of time.
- Ability to sell** of a seller depends upon stock of a commodity;
- willingness to sell** depends upon price of a commodity.



Factors affecting individual supply	Explanation
<b>Cost of Production</b>	<i>This factor primarily affects the ability to supply</i> High cost of production- Less supply Low cost of production -More supply
<b>Price</b>	Higher Price - More supply Less price - Less Supply
<b>Stock</b>	Higher stock - More supply Less stock - Less Supply
<b>Time</b>	Short time period - Less Supply Long time period - More supply.
<b>Other Factors</b>	<ul style="list-style-type: none"> <li>✓ Improved Techniques of Production</li> <li>✓ Infrastructure</li> <li>✓ Weather conditions</li> <li>✓ Taxation policy</li> <li>✓ Monetary Policy</li> <li>✓ Trade policy</li> <li>✓ Natural Resources</li> </ul> <p>If the above factors are favorable, supply will increase. But if the factors are not favorable, supply will decrease</p>
<b>Nature of Competition</b>	<ul style="list-style-type: none"> <li>✓ More Under Competitive Market</li> <li>✓ Less under Monopoly</li> </ul>
<b>Prices of related goods</b>	If the prices of other goods rise, they become relatively more profitable to the firm to produce and sell than the good in question. When a seller can get a higher price for a good, producing and selling it becomes more profitable. Producers will allocate more resources towards its production even by drawing resources from other goods they produce.

## 2. Law of Supply

- The law of supply is explained by Dr. Alfred Marshall.
- under given conditions supply rises with the rise in price and falls with the fall in price.
- Law of supply states that "other things being equal" **there is a direct relationship between price and supply.**
- Stock is **Prospective Supply.**

Law of supply is explained by following Table & Curve

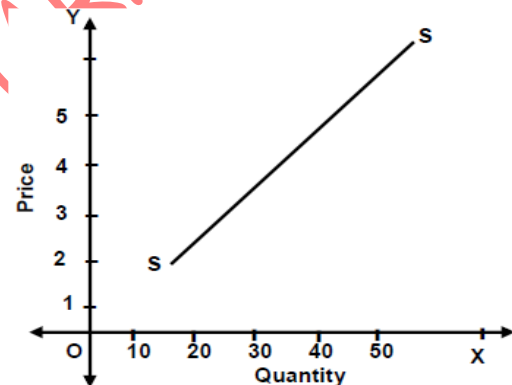
### Explanation of schedule

- When the price is low at Rs. 5. 10 units supplied by seller
- When price starts increasing, a seller supplies more units.
- It shows direct relationship between price of commodity and quantity supplied.

Price	Supply
1	10
2	20
3	30
4	40
5	50

### Features of Supply curve

- The sloping of the Supply Curve **explains the Law of Supply**, which describes a **direct** Price—Demand relationship.
- Supply Curve **slopes upwards** from left to the right.
- Supply Curve is **positively sloped.**
- Supply Curve may be sometimes a **straight—line** or sometimes a free hand **curve.**
- The Market Supply Curve is a **lateral summation** (totaling) of **Individual Supply Curves** of all Producing Firms, and also slopes upwards from left to the right.



## 3. Assumptions of Law of Supply

- ✓ No change in cost of production
- ✓ No change in technology
- ✓ No change in infrastructural facilities
- ✓ No change in amount of Natural Resources
- ✓ No change in Taxation policy
- ✓ No change in monetary and trade policy
- ✓ Normal weather conditions



4. Exceptions to law of Supply

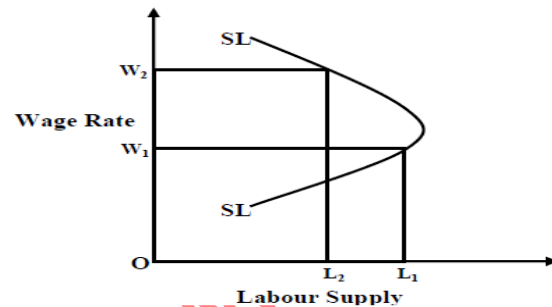
1. Labour supply

- a) We notice that initially with the increase in wage rate labour supply increases but when wages increase beyond a certain limit labour supply will decrease.
- b) This is represented by backward bending labour supply curve.



Labour Supply Schedule

Wage rate	Labour supply	Total income
Rs.100/hr	12 hr.	1200/day
Rs.250/hr.	15 hr.	3750/day
Rs.700/hr.	10 hr.	7000/day



- 2. **Need for cash** - If a seller is going to supply his product because he needs certain amount of cash, then at a lower price he will supply more and at a higher price he will supply less.



- 3. **Savings** -If a person wants a fixed amount of income in the form of interest then, he will save more at a lower rate of interest and save less at a higher rate of interest.

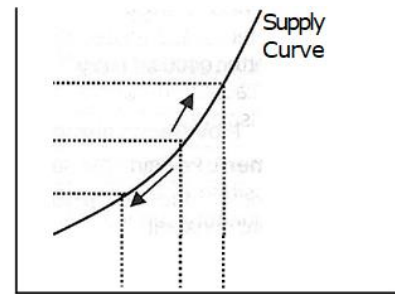


- 4. **Future Expectations** - With a small rise in price, if seller expects a further rise in future he will decrease the supply. Similarly, with little fall in price if seller expects a further fall in future he will increase the supply.



## 5. Expansion and Contraction in Quantity supplied

1. **Meaning:** Expansion and Contraction in the quantity supplied takes place **as a result of changes in price**, while all other factors influencing Supply remain constant.



2. **Movement on the Supply Curve:** Change in quantity supplied refers to downward or upward movement by the Producer Firm, on same Supply Curve. The position of the Supply Curve remains the same.

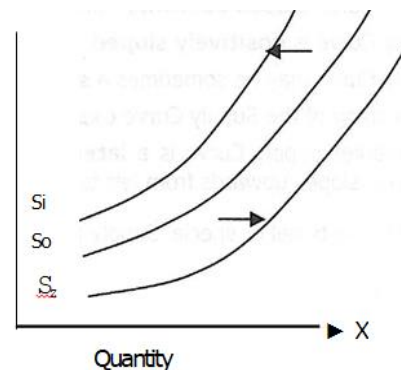
3. **Example:**

- Present price is  $P$  and quantity supplied is  $Q$  units.
- When price falls, the quantity supplied \_\_\_\_\_, on the same supply curve.
- Similarly, when price rises from  $P$  to  $P_i$ , the quantity supplied \_\_\_\_\_, on the same supply curve.
- Upward Movement along the same SS curve is \_\_\_\_\_
- Downward Movement along the same SS curve is \_\_\_\_\_

## 6. Increase and Decrease in Supply

1. **Meaning:** Increase & Decrease in Supply take place as a result of changes in **factors other than price**, while price remains constant.

2. **Shift of Supply Curve:** Increase / Decrease in Supply indicates rightward / leftward shift of the Supply curve respectively.



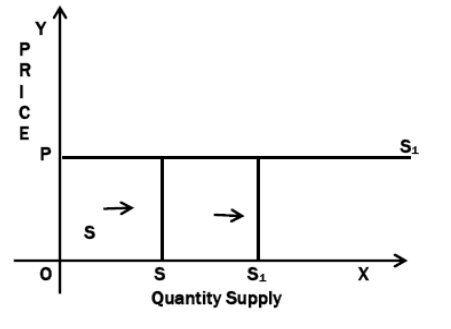
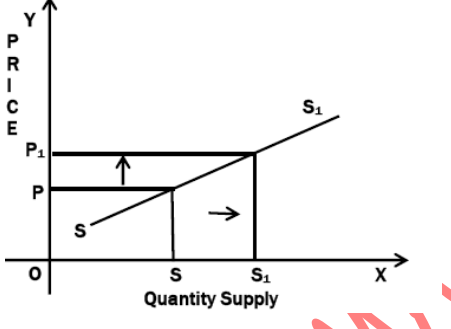
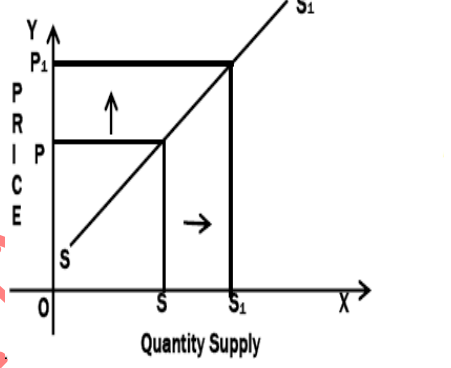
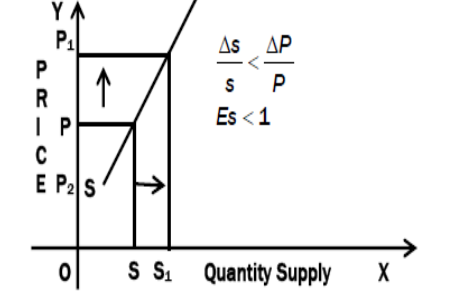
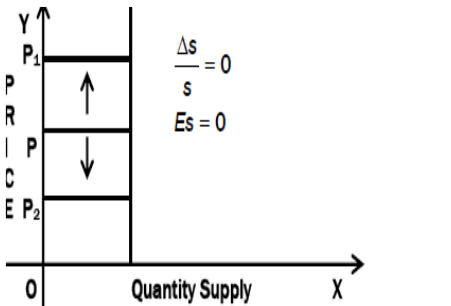
A. **Increase in Supply:** When Supply Curve shifts \_\_\_\_\_ from  $S_0$  to  $S_2$ , it is called \_\_\_\_\_ in Supply.

B. **Decrease in Supply:** When Supply Curve shifts \_\_\_\_\_ from  $S_0$  to  $S_1$ , it is called \_\_\_\_\_ in Supply.

## 7. Price elasticity of supply

- Elasticity of Supply **refers to amount of change in supply due to change in price of a commodity.**
- Elasticity of Supply refers to degree of **responsiveness of supply to change in its price.**
- Elasticity of Supply refers to the ratio between percentage or proportionate change in supply and percentage or proportionate change in price



Types	Curve	Equations
<p><b>Perfectly Elastic Supply</b></p> <p>Supply of a commodity <u>continuously changes</u> with very minute change in price.</p> <p>supply curve will be <b>horizontal</b></p>		<p><math>E_s = \infty</math></p>
<p><b>More Elastic Supply</b></p> <p>Percentage change in supply of a commodity is <u>higher than</u> percentage change in price.</p> <p>Supply Curve will be <b>Flatter</b></p>		<p><math>E_s &gt; 1</math></p>
<p><b>Unitary Elastic Supply</b></p> <p>Percentage change in demand of a commodity is <u>equal to</u> percentage change in price.</p> <p>Supply curve will be <b>45° Line</b></p>		<p><math>E_s = 1</math></p>
<p><b>Inelastic Supply</b></p> <p>When percentage change in supply of a commodity is <u>less than</u> percentage change in price.</p> <p>Supply curve will be <b>Steeper</b></p>		<p><math>E_s &lt; 1</math></p>
<p><b>Perfectly Inelastic Supply</b></p> <p>When demand for a commodity is fixed and it <u>does not change</u> for any change in price it is described as perfectly inelastic supply.</p> <p>In Perfectly Inelastic supply, the demand curve will be <b>Vertical</b></p>		<p><math>E_s = 0</math></p>

### 8. Methods of measurement of Elasticity of supply

**1. Percentage / Proportionate Method:** According to this method elasticity of supply is calculated by dividing a % or proportionate change in supply with the % or proportionate change in price. As explained above

$$\frac{\% \text{ Change in supply}}{\% \text{ Change in Price}} = \frac{\frac{S_1 - S_2}{S_1} \times 100}{\frac{P_1 - P_2}{P_1} \times 100}$$

**2. Point Method:** This method is used to find out elasticity at a point on supply curve. The elasticity at a point on the supply curve can be measured with the help of following formula.

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

**3 Arc Elasticity:** when the price change is somewhat larger and we have to measure elasticity over an arc rather than at a specific point on it, in such cases, the concept of arc elasticity is used. In arc elasticity we use the average of the two prices and quantities (Original & new)

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

Where P1 and Q1 are original price and quantity respectively and P2 and Q2 are new price and quantity respectively.

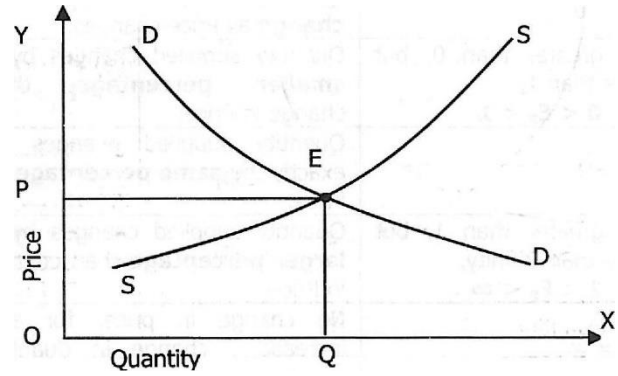
### 9. Determinants of Elasticity of Supply

More Elastic	Less Elastic
<ul style="list-style-type: none"> <li>✚ The longer the period of time</li> <li>✚ large number of producers</li> <li>✚ there is high degree of competition</li> <li>✚ fewer barriers of entry</li> <li>✚ Supply will be elastic if firms are not working to full capacity / Spare capacity</li> <li>✚ If key raw materials and inputs are easily and cheaply available</li> <li>✚ If firms have adequate stocks</li> <li>✚ The ease with which factor substitution can be made.</li> <li>✚ If both capital and labour are occupationally mobile</li> </ul>	<ul style="list-style-type: none"> <li>✚ Increase in production causes substantial increase in costs</li> <li>✚ Products that involve more complex production processes</li> <li>✚ Require relatively longer time to produce</li> <li>✚ shorter time period</li> <li>✚ If a production process involves use of materials which are in short supply</li> <li>✚ those that take longer delivery period</li> <li>✚ which are highly specialized</li> </ul>

## 10. EQUILIBRIUM PRICE AND EFFECT OF INCREASE / DECREASE IN DEMAND & SUPPLY

### Price Determination

The interaction between Demand and Supply leads to the determination of **Price and Quantity**. It is the level at which both Buyers and Sellers are ready to buy / sell the product.



It is also Known as Market Clearance point

Determination of Market Price is the central theme of Micro economics hence it is also called as Price theory

## 11. You are required to determine the impact of following changes & draw new Graph

Original Demand denoted by 'D' and Original Supply denoted by 'S'; P= Price and Q= Quantity at current level

- 1) Original Demand Increased from D to D1 while Supply remains constant
- 2) Original Demand decreased from D to D2 while Supply remains constant
- 3) Original Demand Remains constant while Supply increased from S to S1
- 4) Original Demand Remains constant while Supply decreased from S to S2
- 5) Both DD and SS increases but increase in DD is greater than SS
- 6) Both DD and SS increases but increase in DD is less than SS
- 7) Both DD and SS decreases but decrease in DD is more than SS
- 8) Both DD and SS decreases but decrease in DD is less than SS
- 9) DD increased and SS decreases
- 10) SS increased and DD decreases

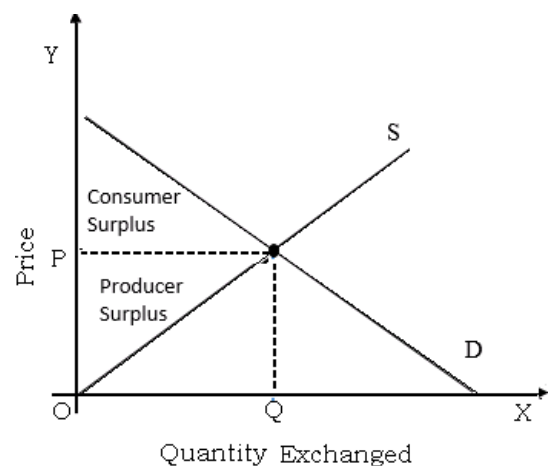
## 12. Concept of Producer Surplus

### Market Equilibrium and Social Efficiency

Social efficiency represents the net gains to society from all exchanges that are made in a particular market.

It consists of two components:

- i. consumer surplus and
- ii. producer surplus.





- a. We have already learned that consumer surplus is a **measure of consumer welfare**.
- b. There is welfare gain to producers as well when they participate in the market, namely producer surplus. Producer surplus is the benefit derived by producers from the sale of a unit above and beyond their cost of producing that unit.
- c. This occurs when the price they receive in the market is more than the minimum price at which they would be prepared to supply.
- d. It is represented by the area above the supply curve and below the price line. For all quantities below  $OQ$ , we find that there is a difference between the price that producers are willing to accept for supplying the good and the price that prevails in the market ( $P$ ). Producer surplus disappears when market price is at equilibrium i.e. the price at which sellers are willing to offer for sale is equal to the price that they receive.
- e. From figure 35, we find that at price  $P$ , when the market is in equilibrium, social efficiency is achieved with both producers and consumers enjoying maximum possible surplus.

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# PART A- Production Concept







## 1. Meaning:

1. According to **James Bates and J.R. Parkinson** "Production is the organized activity of **transforming resources in to finished products** in the form of goods and services and the objective of production is to **satisfy the demand** of such Transformed Resources".
2. Man Cannot Create Matter
3. Production = Creation of Utility and it also includes Addition of Utility.



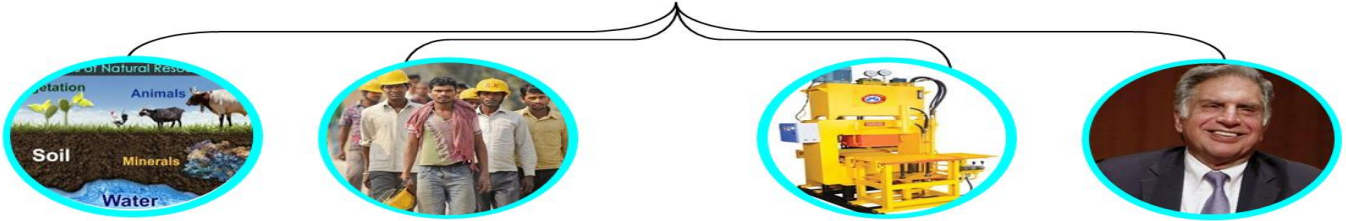
## 2. Methods of Creation of Utility

Form Utility-	Place Utility -	Time Utility-	Personal Utility-
Conversion of Raw material into Finished goods.	Changing place of resources this can be obtained from extraction & transferring goods from one place to another	Making available material at times when they are not normally available.	Making use of personal skills in the form of services.
			
Conversion of wooden into furniture	Removal of gold, coal from earth & sand from sea.	Frozen eatable products.	Skill as organizer, dancer, painter

Take example of woolen cloths - Wool made into woolen cloth is Form utility. Transported from Manufacturer to Retailer is Place utility. Stored throughout the year and made available in winter is time utility. The salesman show cast his skill to sell the product is Personal Utility



### 3. Factors of Production



#### A. LAND

1. Every free gift of nature on Surface of the earth + below the surface of the earth+ above the surface of the earth
2. **No Social Cost:** Since no sacrifice is made in creation of land.
3. **Permanent factor and Indestructible (Ricardo)**
4. **Passive factor:**
5. **Heterogeneous factor and site value differs from place to place**
6. **Mobility:** Geographically land is \_\_\_\_\_ but occupationally it is \_\_\_\_\_.
7. **Subject to diminishing returns:**
8. **Supply:** Supply of land is perfectly \_\_\_\_\_.



#### B. Labour -

1. **Mental or physical exertion** to produce G&S, for **economic reward**.
2. **Perishable Nature-** Labourer **cannot store** his Labour
3. Labour is Active factor of Production
4. Labour is said to have no **reserve price**
5. **Weak bargaining power.**
6. **Self- Source-** Labour is **inseparable** from the Labourer himself.
7. **Variations** in skill and productivity
8. **Productivity** differs from person to person
9. **Supply of labour cannot be Changed rapidly**
10. **Peculiar relationship between labour supply and Wage rate-** Backward bending Supply curve
  - a) **Direct Relationship: Generally**
  - b) **Reverse Relationship at Higher Prices**
  - c) **Reverse Relationship at Lower Prices**



Labour	Not a Labour
Services of Maid Servant.	Services of Housewife.
Singing against payment of a fee.	Singing in the company of friends for the sake of

## C. Capital-

1. **Part of wealth** which is used for further production of wealth, or which **yields an income**.
2. Capital is a **stock concept**
3. Capital refers to only that part of wealth, that is used for further production.
4. **Not all wealth is capital but all capital is wealth**
5. **Produced means** of Production
6. Man—made means / factor
7. Capital is Mobile
8. Perishable factor- that's why we charge depreciation
9. It is **Secondary Factor of production**



### 1. Types of Capital:

- a) **Fixed Capital:** Those types of capital goods that are used again and again for production such as machinery.
- b) **Working Capital/ circulating capital:** They refer to those types of capital that are used up at once. Such as raw materials
- c) **Sunk Capital:** Those types of capital that have specific use hence no occupational mobility e.g. sewing machine.
- d) **Floating Capital:** Capital goods which have various alternative uses and occupational mobility. E.g. A computer.
- e) **Money Capital:** Money funds used in production is known as money capital.
- f) **Real Capital:** It refers to real productive asset, like Plant & Machinery.
- g) **Human Capital-** Refers to ability and skills of Individual
- h) **Tangible Capital** - Can be perceived by sense.
- i) **Individual Capital** - is personal property owned by individual
- j) **Social Capital** - Belongs to society as whole

Note: Land and labour are primary or original factors of production, but capital is not a primary or original factor; it is a produced factor of production.

### 2. Stages in capital Formation -

**Capital Formation is also Known as Investment**

- a) **Savings:** Ability to save depends upon the income capacity of individual.
- b) **Mobilization of Savings:** network of banking and other financial institutions
- c) **Investments:** It is done by business sector

## D. Entrepreneur

### i. Meaning:

- a. A Person, who combines the various factors of production in the right proportions, initiates the process of production and bears the risk involved in it.
- b. Also Called as **Organizer, Manager** or the **Risk—Taker**.
- c. Without the Entrepreneur, the other factors of production would remain unutilized or idle.
- d. Holds final responsibility of the business.
- e. Entrepreneurship gets its reward (i.e. Profit), only after all other factors of production have been rewarded, i.e. after Rent, Wages and Interest.



### ii. Functions of an Entrepreneur

1. Initiating and Running the business:
2. Risk—Bearing: **important function of an entrepreneur**
3. Innovations:

### iii. Enterprise Objective

1. **Organic Objectives** - Survival then Growth and Expansion
2. **Economic Objectives**- Profit Maximizing Objective
3. **Social Objectives:** Avoid anti—social practices, opportunities for gainful employment , continuous and sufficient supply of unadulterated goods ,does not cause any type of pollution.
4. **Human Objectives:** All the objectives towards its employees
5. **National Objectives:**

### iv. Constrains in achieving the objectives

- a) Lack of Information
- b) Infrastructure
- c) Factors of Production
- d) Economic Aspects

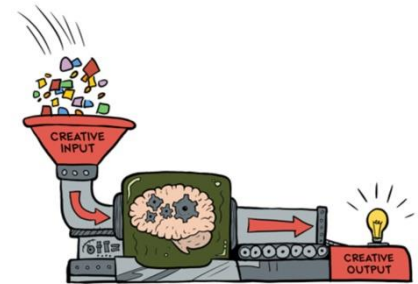
### v. Enterprise's Problems

- a) Objective
- b) Location of Plant
- c) Size of Plant:
- d) Physical Facilities
- e) Finance:
- f) Organisation Structure:
- g) Legal Compliance:
- h) Industrial Relations:

# PART B - PRODUCTION FUNCTION

## A. Meaning:

1. Production Function is the **technological relationship** between **physical inputs and physical outputs**
2. It States **maximum amount of output** that can be produced with **given quantities of inputs**, in the existing state of technology.
3. Production Function gives the **minimum quantities of various inputs that are required to yield a given quantity of output.**



## B. Cobb-Douglas Production Function

1. **Paul H. Douglas and C.W. Cobb** of U.S.A studied production function of American Manufacturing Industries.
2. **Output is manufacturing production and inputs used are Labour and Capital.**
3. Cobb-Douglas Production Function is  $Q = K^a L^c C^{1-a}$ .

Where, **Q** is output, **L** is Quantity of Labour and **C** the quantity of Capital. **K** and **a** are Positive Constants.

4. Labour contributed about 3/4w and Capital about 1/4th of the increase in the Manufacturing Production.

## C. Short run and long run production function

	Short Run	Long Run
<b>Meaning</b>	It is the period of time which is <b>too short for a Firm</b> to install New Machineries / Capital Equipments to increase production.	It is the period of time in which <b>all the factors production are variable</b> . So, the Firm will be able to install new machineries / Equipments, apart from increasing the units of Labour, Materials, etc.
<b>Fixed Factor</b>	<b>Only one Factor of Production is kept constant or fixed.</b>	There is <b>no Fixed Factor</b> of Production in the long—run.
<b>Proportion between Factors</b>	<b>Proportion between factors changes</b> , i.e. more use of the Variable Factor, keeping Fixed Factor as constant.	Quantity of Factors changes, i.e. more use Factors, keeping the <b>proportion as constant</b> .
<b>Theory</b>	<b>Law of Variable Proportions</b> is applicable in the short—run.	<b>Law of Returns to Scale</b> is applicable in the long—run.



**D. Assumptions:**

- It is related to a **particular unit of time**.
- The **technical knowledge** during that period of time **remains constant**.
- The factors of production are **divisible into most viable units**.
- The producer is using the **best technique available**.

*Refer schedule below and consider the example-*

**Terms Involved:**

<b>Total Production</b>	TP is the <b>total output resulting from the efforts of all the factors of production</b> combined together at any time.				
<b>Average Production</b>	Average product or average physical product (APP) may be defined as <b>total product per unit employment of the variable input</b> . Thus $AP = TP/Units\ of\ variable\ input\ (labour)$				
<b>Marginal Production (MP)</b>	<b>MP is the change in TP due to change in the quantity of variable factor</b> i.e. labour. In other words, it is the <b>additional TP due to an additional unit of input</b> . $MP = \frac{\text{Change TP}}{\text{Change in Labors}}$ OR $Mp = MP = TP_n - TP_{n-1}$ or <b>Change in Output/ Change in Input</b>				
<b>Schedule</b>	<b>Labour</b>	<b>TP</b>	<b>AP</b>	<b>MP</b>	<b>Analysis</b>
	1	2	2	2	MP & AP both increases; $MP > AP$ ; TP also increases
	2	5	2.5	3	
	3	9	3	4	
	4	12	3	3	MP=AP, AP = maximum
	5	14	2.8	2	MP & AP both decreases, $MP < AP$ ; TP increases MP = 0,
	6	15	2.5	1	
	7	15	2.1	0	TP=maximum
	8	14	1.7	-1	AP > MP both decreases TP decreases
	9	12	1.3	-2	

**Relationship between Total Product and Marginal Product I**

Rule	Relationship between TP and MP
1	When TP increases at an <b>increasing rate</b> , MP shows an increase.
2	When TP increases at a <b>decreasing rate</b> , MP shows a decrease.
3	When TP is <b>maximum</b> , MP is <b>zero</b> .
4	When TP <b>decreases</b> , MP becomes <b>negative</b> .

**Note:** The point on the TP Curve when MP is maximum, is called **Point of Inflexion**





## Relationship between Average Product and Marginal Product

- When AP rises,  $MP > AP$ .
- When AP is maximum,  $MP = AP$ .
- MP declines slightly earlier than AP
- MP Curve cuts AP Curve from above when AP is maximum.
- When AP decreases,  $MP < AP$ .
- MP Curve declines steeply than AP.
- MP may become zero and negative later, but AP continues to remain positive

## LAW OF VARIABLE PROPORTION

- The Law of Variable Proportions analyses the production function with **one factor as variable**, keeping quantities of other factors fixed.
- So, the Law refers to **input—output relationship**, when the output is increased by varying the quantity of one input.
- This Law **operates only in the short—run**, i.e. when all factors of production can not be increased or decreased simultaneously.
- This Law is **also called** — (i) Law of Proportionality, (ii) Law of Diminishing Returns, (iii) Law of Diminishing Marginal Physical Productivity.

## Explanations to Various Stages

### 1. Explanation to Stage 1

- Full Use of Fixed Indivisible Factors-** Fixed Factors are more intensively and effectively utilized. This causes the production to increase at a rapid rate.
- Efficiency of Variable Factors-** Through Specialization
- No Scarcity of Variable factor**
- Reaching the right combination**

### 2. Explanation to Stage 2-

- Inadequacy of Fixed Factor**
- Less efficiency of Variable Factor**
- Imperfect Substitutes**
- Wrong combinations**

**Note: Stage II is called Law of Diminishing Returns since MP and AP both show decreasing trend. However, both MP and AP remain positive**

### 3. Explanation to Stage 3

- Variable Factor becomes too excessive, Due to this, the total output falls instead of rising.**

**Note: Stage III is called Law of Negative Marginal Returns**

Since the second stage is the most important, So stage II will be stage of operation and because of that in practice we normally refer to the law of variable proportion as the law of diminishing returns.

Stage 1 and stage 3 are called as stage of Economics Nonsense or Economic Absurdity

## Law of Return to scales - Long Run

LAW OF RETURNS TO SCALE		
Law	In the <b>long run</b> , all factor inputs in the production function can be changed. <b>The behavior of output consequent to change in the quantities of all factor inputs in the same proportion</b> (i.e. keeping, the factor proportions unaltered) is known as 'returns to scale'.	
Types of returns to scale	<ul style="list-style-type: none"> <li>Increasing Returns to Scale:</li> <li>Constant Returns to Scale:</li> <li>Diminishing Returns to scale:</li> </ul>	
Increasing Returns to Scale	<ol style="list-style-type: none"> <li>1. Increasing returns to scale occur when a <b>simultaneous increase in <u>all</u> the inputs in the same given proportion result in a more than proportionate increase in the output.</b></li> <li>2. For example, if input is increased by 100% but the output increases by 125%</li> </ol>	
Constant Returns to Scale:	<ol style="list-style-type: none"> <li>1. Returns to scale are said to be constant when a <b>proportionate increase in <u>all</u> the inputs results in proportionate increase in output.</b> For example if input is increased by 100% but the output also increases by 100%.</li> <li>2. Constant return to scale is also called '<b>Linear Homogeneous Production Function</b>'.</li> </ol>	
Diminishing Returns to scale:	<ol style="list-style-type: none"> <li>1. Diminishing returns to scale occur when a <b>simultaneous increase in <u>all</u> inputs in the same given proportion result in a less than proportionate increase in the output.</b></li> <li>2. For example, if Input is increased by 100% but the output increases only by 75%</li> </ol>	

**Cobb-Douglas Production Function exhibits returns to scale in production:**

$a+b > 1$	Increasing returns to scale. Output increased more than proportionate to use of factors (labour and capital)
$a+b = 1$	Constant returns to scale. Output increased in same proportion with all factors.
$a+b < 1$	Decreasing returns to scale. Output decreased more than proportionate to use of factors (labour and capital)

Original equation =  $1X+1Y = 1Z$

After simultaneous Increase in all inputs by 2 times	Nature
$2X + 2Y = 2Z$	Constant Return
$2X + 2Y = 3Z$	Increasing Return
$2X + 2Y = 1.5Z$	Decreasing Return
$2X + 2Y = 0.5Z$	Negative Return

**Causes of the application of the law returns to scale**

- Internal and external economics of scale.
- Internal and external diseconomies of scale.

**1. Internal Economics and Diseconomies to Scale**

Use of greater degree of division of Labour and specialised machinery at higher levels of output are generally termed as **Internal Economics**.

Technical	Managerial	Commercial	Risk— bearing	Financial
All these factors are within the control of an organization and thus are internal Factors. These factors initially acts Economies but after a pint becomes diseconomies				

**2. External Economies are explained below —**

Cheaper Raw Materials Capital for entire industry	Raw and Equipment	Technological development for entire industry	Development of Skilled Labour	Growth of ancillary industries	Better transportation and marketing
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**3. External Diseconomies:**

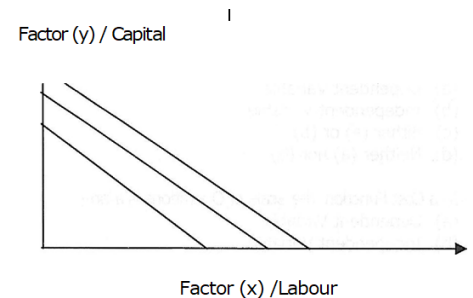
Rise in Factor Prices:	Higher Costs:	Government Restrictions:
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# Production Optimisation

## Isoquant Curve/ Equal—Product Curves/ Production Indifference Curves/ Isoproduct Curves

### 1. Isoquant Curve:

- "Iso" means equal and "quant" means quantity. Hence, an Isoquant represents a *constant quantity of output*.
- An Isoquant is a Curve that shows all the combinations of inputs that yield the **same** level of output.
- So, the Producer is indifferent as to which combination he chooses.
- Thus, Isoquants are similar to Indifference Curves in the Theory of Consumer Behaviour.



**2. Illustration:** Consider two Factor Inputs (Labour and Capital) required for producing 100 units of a Product. Different combinations in which the same output of 100 units of Product can be achieved are given below.

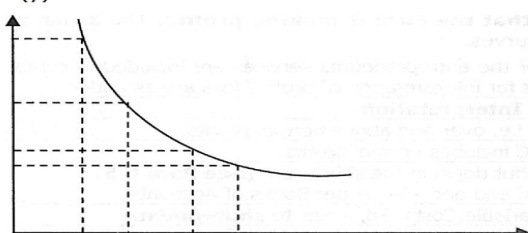
Combination	Units of Labour	Units of Capital	Product Output	MRTS (See Note)
A	5	9	100 units	
B	10	6	100 units	$(9 - 6)/(10 - 5) = 0.6$
C	15	4	100 units	$(6 - 4)/(15 - 10) = 0.4$
D	20	3	100 units	$(4 - 3)/(20 - 15) = 0.2$

- MRTS always shows diminishing trend.
- MRTS = Marginal Rate of Technical Substitution
- MRTS = Change in units of capital / change in units of labour

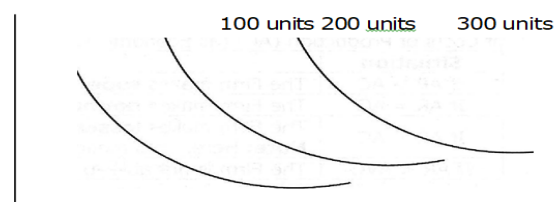
### Features of Isoquants:

- Isoquants are **convex** to the origin, due to diminishing trend of MRTS
- Isoquants are **negatively sloped**, i.e. downwards from left to right.
- Isoquant **do not touch either axis**, since it indicates that Output can be producing by using only one factor, which is not considered under the study of Isoquants.
- An Isoquant lying **above** and to the **right** of another Isoquant represents a **higher level of output**.
- Two Isoquants cannot cut each other, i.e. Isoquants are **non—intersecting**.
- Isoquants **need not be parallel**.

**Diagram:** The Isoquant Curve is drawn as below — Capita (y)



**Isoquant Map**  
When many Isoquants are drawn for different levels of output, it is called Isoquant Map, as given below.



## ISOCOST LINES/ Equal—Cost Lines or Budget Line or the Budget Constraint Line

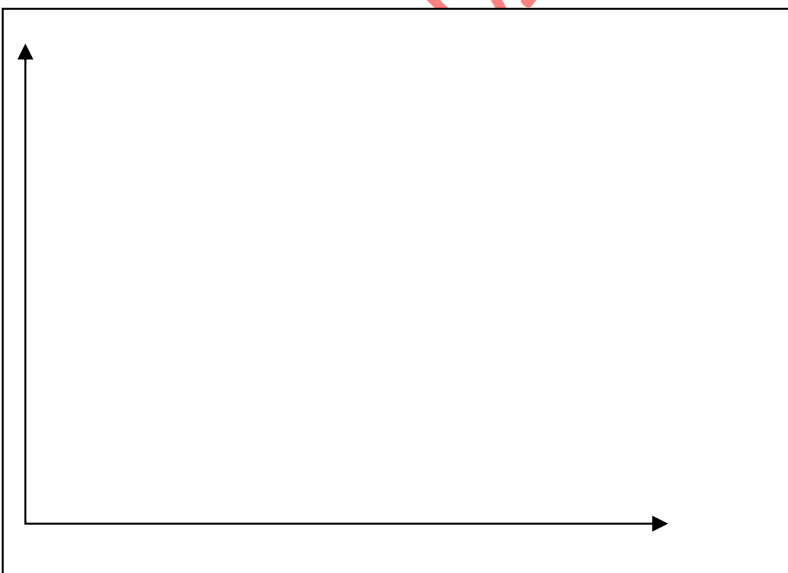
### Isocost Lines:

1. Isocost Line shows the various alternative combinations of two Factor Inputs, which a Firm can buy with given amount of money.
2. All points on a Budget Line would cost the Firm the same amount. Whatever the combination of Factor Inputs the Firm chooses; the Total Cost to the Firm remains the same.
3. Whenever there is a parallel shifting of the Isocost Line due to a change in Total Expenditure, then the slope of the Isocost Line would remain the same.

### Production Optimisation

#### Meaning:

1. A Firm may try to **minimise its cost** for producing a given level of output, or it may try to **maximise the output** for a given cost or outlay.
2. A Profit Maximising Firm is **interested to know what combination of factors of production** (or inputs) would minimise its Cost of Production for a given output, and also the optimum level of output.
3. *This is obtained by combining the Firm's Production and Cost Functions, namely Isoquants and Isocost Lines respectively.*
4. Isoquants represent the technical conditions of production for a product, and Isocost Lines represent various **"levels of cost"** (given the prices of two factors). Together, these can help the Firm to optimize its production.



### Difference Between ISO Quant and Indifference Curve

- a. ISO Quant Curve - Level of Production and thus Quantifiable
- b. Indifference Curve - Level of Satisfaction which cannot be Quantified

**Definitions of this chapter on page no 22.1 and 22.2**



# Chapter 3 – Part B – Unit A- Cost Concepts








## Meaning

1. Business decisions are generally based on **cost of production** i.e. the money value of inputs and output is considered.
2. In other words, **cost analysis is concerned with the financial aspects of production.**



## Types of cost

Name	Explanation
<ul style="list-style-type: none"> <li>• Explicit cost</li> <li>• Out-of-Pocket Costs</li> <li>• Outlay Costs.</li> <li>• Accounting Costs</li> </ul>	<ol style="list-style-type: none"> <li>1. Costs which <b>involve cash payment</b> towards factors of production.</li> <li>2. <b>Recorded in books</b> of accounts.</li> <li>3. Rent, Wages &amp; Salaries, Interest on Loans borrowed for business, etc.</li> </ol> 
<ul style="list-style-type: none"> <li>• Implicit cost</li> <li>• Notional cost</li> <li>• Imputed cost</li> <li>• Opportunity Costs.</li> </ul>	<ol style="list-style-type: none"> <li>1. Costs <b>do not involve any cash payment</b> to outsiders. It is used for <b>Decision Making</b></li> <li>2. It is the monetary reward for all factor of production <u>owned by entrepreneur himself</u></li> <li>3. <b>Not recorded in books</b> of account.</li> <li>4. Interest on own Capital, Rent of own premises, Salary to Entrepreneur, etc.</li> </ol> 
Economic Costs	Explicit Costs + Implicit Costs.
 Opportunity Cost	<ol style="list-style-type: none"> <li>1. It refers to the value of <b>sacrifice made</b>, or benefit of <b>opportunity foregone</b> in accepting a <b>next best alternative</b> course of action.</li> <li>2. Opportunity Cost arises only when alternatives are available. If a resource can be put only to a particular use, there are no Opportunity Costs.</li> <li>3. Opportunity Costs <b>do not involve any cash payment</b> as such.</li> <li>4. It is considered <b>only for decision-making</b> and analytical purposes.</li> <li>5. Examples: A person quits his job and enters into business. Here, the Salary foregone from employment constitutes Opportunity Cost.</li> </ol>

<ul style="list-style-type: none"> <li>• Direct cost</li> <li>• Traceable cost</li> </ul>	<ol style="list-style-type: none"> <li>1. Direct costs are those which have <b>direct relationship with a component of operation</b> like manufacturing a product, organizing a process or an activity etc.</li> <li>2. They are <b>charged directly</b> to product</li> <li>3. They can be generally <b>quantified and expressed per unit of output</b>, e.g. 5 kg of Raw Materials per unit of product, etc.</li> </ol> 
<ul style="list-style-type: none"> <li>• Indirect cost</li> <li>• Non-traceable cost</li> </ul> 	<ol style="list-style-type: none"> <li>1. Indirect costs are those which are <b>not easily and definitely identifiable</b> in relation to a plant, product, process or department.</li> <li>2. Therefore, such costs are <b>not visibly traceable</b> to specific goods, services, operations, etc.; but are nevertheless charged to different jobs or products in <b>standard accounting</b> practice and <b>Apportioned on suitable basis</b>.</li> <li>3. Factory Rent, Electric Power, and other Common Costs incurred for general operation of business benefiting all products jointly.</li> </ol>
<p>Committed Fixed Costs</p>	<p>Also known as "<b>Unavoidable</b>" Fixed Costs. These costs cannot be controlled. Unavoidable even in shut down</p>
<p>Discretionary Fixed Costs</p>	<p>Also known as "<b>Avoidable</b>" Fixed Costs. These costs can be controlled. Avoidable in shut down</p>
<p>Historical cost / Sunk Cost</p>	<p>Historical cost refers to the cost <b>incurred in the past</b> on the acquisition of a productive asset such as machinery, building etc.</p>
<p>Replacement cost</p>	<p>Replacement cost is the money expenditure that has to be incurred <b>for replacing an old asset</b>.</p>
<p>Incremental cost</p>	<p>Incremental cost refers to the <b>additional cost</b> incurred by a firm. Results from VC and FC both. In short run affected by VC only.</p>
<p>Marginal Cost</p>	<p>Only VC. Subset of Incremental cost</p>
<p>Private cost</p>	<p><b>Private costs</b> are costs actually incurred or provided for by firms and are either <b>explicit or implicit</b>.</p>
<p>Social Cost</p>	<ol style="list-style-type: none"> <li>1. <b>Social cost = private cost + external cost.</b></li> <li>2. It includes the cost of resources for which the firm is not required to pay price such as atmosphere, rivers, roadways etc. and the cost in terms of dis-utility created such as air, water and environment pollution.</li> </ol>

1. Revenue - Accounting cost = Accounting profit

2. Accounting profit - opportunity cost = economic profit

**Strike the incorrect**



- Rent is paid to the Landlord, Salary/ wages paid to employee/ workers, Interest on Capital is borrowed and used in business is **Explicit / Implicit** cost.
- Land is owned by the Entrepreneur, Own people are employed in the firm, Entrepreneur employs his own funds as Capital is **Explicit / Implicit** cost.
- Entrepreneur himself manages the business is **Explicit / Implicit** cost.

**Difference Between Normal profit, Supernormal Profit and Economics Loss**

Explicit Cost + Implicit cost = Revenue	Normal profit
Explicit Cost + Implicit cost < Revenue	Super Normal profit
Explicit Cost + Implicit cost > Revenue	Economics Loss

**Important types of cost**

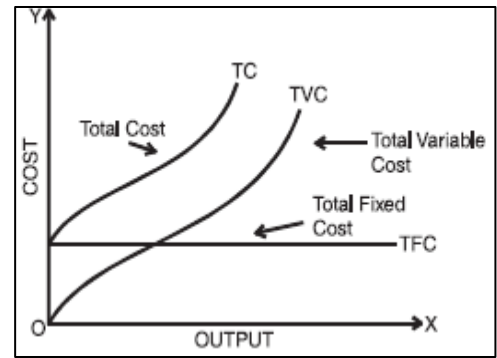
Output (Unit)	Total fixed cost TFC	Total variable TVC	Total cost TC	Average fixed cost AFC	Average variables AVC	Average Total Cost AC	Marginal Cost Rs. MC
0	10	-	10	-	-	-	-
1	10	10	20	10	10	20	10
2	10	18	28	5	9	14	8
3	10	24	34	3.33	8	11.3	6
4	10	28	38	2.5	7	9.5	4
5	10	32	42	2	6.4	8.4	4
6	10	38	48	1.67	6.33	8	6
7	10	46	56	1.43	6.57	8	8
8	10	56	66	1.25	7	8.25	10
9	10	68	78	1.11	7.55	8.67	12

Type	Nature
<b>Fixed Costs</b>	<ol style="list-style-type: none"> <li>Fixed Costs are costs that do not vary with output.</li> <li>They are period—related.</li> <li>They are taken as a function of time and not of output.</li> <li>They are incurred even at zero level of output.</li> <li>Fixed Cost per unit of output decreases with increase in output, and vice—versa.</li> <li>Rent, Insurance, Interest on Loans, Depreciation, etc. are Fixed Costs.</li> </ol> 
<b>Variable Costs</b>	<ol style="list-style-type: none"> <li>Variable Costs are costs that vary, based on the level of output.</li> <li>They are product—related.</li> <li>They are taken as a function of output and not of time.</li> <li>They are incurred only when production commences.</li> <li>Variable Costs are avoidable costs.</li> <li>Variable Cost per unit of output generally remains constant, if Total Variable Costs vary proportionately with output.</li> <li>Cost of Raw Materials and Wages are Variable Costs.</li> </ol> 

<p><b>Marginal Costs</b></p>	<ol style="list-style-type: none"> <li>1. Marginal Cost is the addition made to the total cost by production of an additional unit of output.</li> <li>2. Marginal Costs per unit = <math>\frac{\text{Difference in Total Cost (TC) between two output levels}}{\text{Difference in Output Quantity at those levels}}</math></li> <li>3. <math>TC_n - TC_{n-1}</math></li> <li>4. Marginal Cost (MC) Curve of a Firm declines first, reaches its minimum and then rises. Hence, Marginal Cost Curve of a Firm is U-shaped.</li> </ol>	
<p><b>Cost Function</b></p>	<ol style="list-style-type: none"> <li>1. Mathematical relationship between cost of a product and the various determinants of cost.</li> <li>2. In cost function Total cost and Cost per unit are dependent cost</li> </ol>	
<p><b>Short Run</b></p>	<ol style="list-style-type: none"> <li>1. Period in which <b>some factors are fixed and some factors are variable</b>. Fixed factor have <i>fixed cost</i> and variable factor have <i>variable cost</i>.</li> <li>2. <i>So, law of variable proportion applies</i> here. In short-run, output can be increased or decreased by changing variable factors only but fixed factors cannot be varied</li> </ol>	
<p><b>Total Fixed cost (Short run)</b></p>	<p>TFC is parallel to X-axis. In the figure given below, even at zero output-fixed cost remain the same in the short run. e.g. rent and insurance</p>	
<p><b>Total Variable cost (TVC)</b></p>	<p>Variable Costs are those costs that change with changes in level of output. It has inverse's' shape and start from origin. Figure given below shows that as output is zero cost is also zero and as output increases cost increases. e.g. raw material, power etc.</p>	
<p><b>Semi-variable And Semi Fixed Cost</b></p>	<p>There are some costs which are neither perfectly variable, nor absolutely fixed in relation to the changes in the size of output.</p> <p><b>Example: Elasticity charges include both a fixed charge and a charge based on consumption.</b></p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="272 1720 805 2145"> </div> <div data-bbox="991 1720 1498 2145"> </div> </div>	

**Short run  
Total cost  
behaviour**

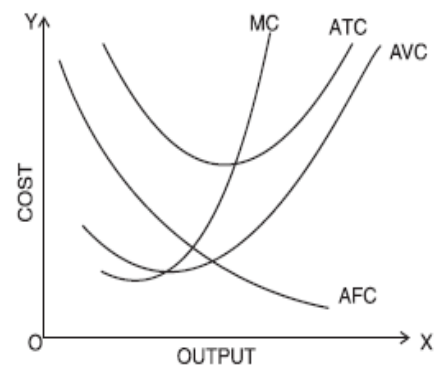
1. It can be noticed that TFC is constant at all levels of output.
2. TVC increases with the increase in output but rate of increase is changing.
3. Initially TVC increases at decreasing rate but after some time it increases at increasing rate.
4. Behaviour of TVC is determined by law of variable proportion.
5. TC increases with increase in output. Changes in TC are determined by TVC.
6. TFC curve is a horizontal line starting from y-axis.
7. TVC curve is upward sloping. Initially it is flatter and later on steeper.
8. TC curve is upward sloping starting from y-axis.



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Short Run Average Cost	
<b>Average Fixed Cost (AFC)</b>	<ol style="list-style-type: none"> <li>1. Average fixed cost is the <u>total fixed cost divided by the output</u>.</li> <li>2. <math>TFC/Q</math>.</li> <li>3. The general shape of the <b>AFC curve is downward sloping</b> it does not touch the X-axis as <b>AFC cannot be zero</b>.</li> <li>4. It is <b>not 'U' shape</b>. This curve is also called <b>Rectangular Hyperbola</b>.</li> </ol>
<b>Average Variable Cost (AVC)</b>	<ol style="list-style-type: none"> <li>1. Average variable cost is the <u>total variable cost divided by the output</u>.</li> <li>2. <math>TVC/Q</math>.</li> <li>3. The average cost curve will <b>first fall</b>, then <b>reach a minimum</b> and then <b>rise again</b>.</li> <li>4. It has <b>'U' shape</b>.</li> </ol>
<b>Average Total Cost (ATC)</b>	<ol style="list-style-type: none"> <li>1. Average total cost is <u>total cost divided by the output</u>.</li> <li>2. <math>TC/Q</math> or <math>AFC+AVC</math>.</li> <li>3. The ATC curve <b>first falls, reaches it's minimum and then rises</b>.</li> <li>4. The ATC curve is <b>'U' shape</b> due to law of variable proportions.</li> </ol>
<b>Marginal Cost (MC)</b>	<ol style="list-style-type: none"> <li>1. Marginal cost is the <u>change in total cost due to change in the output</u>.</li> <li>2. <math>MC = \text{Change in Total Cost} / \text{Change in Qty. produced}</math></li> <li>3. <math>MC = \text{Change Total Variable Cost} / \text{Change Qty. produced}</math>.</li> <li>4. The MC curve is also <b>'U' shape</b></li> </ol>
<b>Behavior of Average costs in Short - Run</b>	<ul style="list-style-type: none"> <li>• AFC goes on diminishing with the increase in output but it never becomes zero.</li> <li>• AVC initially declines but later on goes on increasing.</li> <li>• ATC initially decreases, constant for a while &amp; finally goes on increasing.</li> <li>• MC initially decreases &amp; finally increases.</li> <li>• The point at which ATC is minimum. It is equal to MC.</li> <li>• AFC curve is a 'rectangular hyperbola' because <math>AFC \times Q</math> is always constant.</li> </ul>



### Relationship between Average Cost and Marginal Cost Curves

1. **When AC falls** as a result of an increase in output, **MC is less than AC**.
2. **When AC is minimum, MC = AC**. So, **MC Curve cuts the AC Curve at its minimum**.
3. **When AC increases due to increase in output, MC is greater than AC**.

### Relationship between ATC and MC

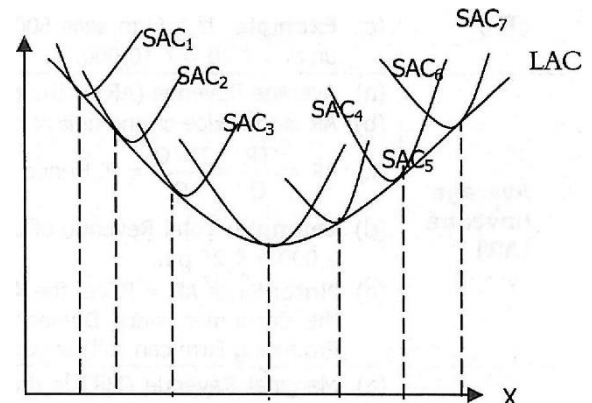
- ✓ Initially ATC & MC both decline with increase in output. In this situation  $ATC > MC$ .
- ✓ When ATC is minimum  $ATC = MC$ .
- ✓ When ATC & MC both are increasing  $MC > ATC$ .
- ✓ When AC is decreasing, MC may be decreasing or increasing.
- ✓ When AC is increasing MC must be increasing.

Long run average cost curve

1. **LAC Curve:** A Long Run Average Cost Curve (denoted as **LAC Curve**) depicts the functional relationship between output and the long-run cost of production.

2. **No distinction of Fixed - Variable:** All factors of production are variable in long-run.

3. AC **cannot** be higher in the long-run, than in the short-run. Thus, LAC is the **least-cost** combination, for any particular output level.



4. **Planning Curve:** LAC Curve is called Planning Curve.

5. **SAC (Short-Term Average Cost) Curves are called Plant Curves.**

6. **LAC derived from SAC:** LAC Curve is derived as an envelop / tangent of all SAC Curves. Further, the

7. LAC Curve is a **U-Shaped Curve**, due to the operation of Law of Returns to Scale.

8. **Selecting the suitable SAC Curve at different output levels:**

9. **Note:** The Firm should select the SAC, not the lowest point of that SAC.

10. **Deriving LAC Curve in case of numerous / infinite SAC Curves:**

11. In the diagram, the LAC Curve is drawn as a smooth curve, so as to be **tangent** to each of the SAC Curves.

12. **Note:** LAC Curve is tangent to each of the SAC Curves, not the minimum points of the SAC Curves. So

When LAC Curve is –	LAC will be tangent to	Principle
Declining	The <b>falling portions</b> of the SAC Curves.	Returns to Scale will first increase, due to internal and external economies. So, LAC
Rising	The <b>rising portions</b> of the SAC Curves.	Returns to Scale will decrease later, due to internal and external diseconomies. So, LAC

Thus, as a result of initial fall and subsequent increase in LAC, it will be a **U-shaped Curve**.

**Note that The Modern LAC Curves are 'L shaped'**

REVENUE CONCEPT

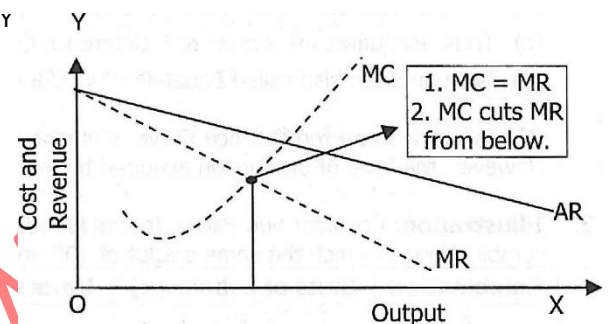
Qty (Q)	Price pu (AR=P)	TR = P×Q	MR	Space for Diagram
1	22	22	22	
2	20	40	18	
3	18	54	14	
4	16	64	10	
5	14	70	6	
6	12	72	2	
7	10	70	-2	
8	8	64	-6	
9	6	54	-10	
10	4	40	-14	
<b>Meaning</b>	<ol style="list-style-type: none"> <li>Revenue refers to money received by a seller by selling his product in the market.</li> <li>Hence, revenue is sales receipts or sales proceeds.</li> </ol>			
<b>Total Revenue</b>	<ol style="list-style-type: none"> <li>It is the total money received from the sale of all units of the product.</li> <li><b>Total Revenue = Price × Quantity (P × Q)</b></li> </ol>			
<b>Average Revenue (AR)</b>	<ol style="list-style-type: none"> <li><b>Average Revenue = Total Revenue/Quantity (TR/Q)</b></li> <li>Average Revenue is always equal to Price</li> </ol>			
<b>Marginal Revenue (MR)</b>	<ol style="list-style-type: none"> <li>MR is the <u>change in TR resulting from the sale of an additional unit of a commodity.</u></li> <li><b>Marginal Revenue = Change in TR/ Change in Qty.</b></li> <li><b>Marginal Revenue = TR<sub>n</sub> - TR<sub>n-1</sub></b></li> </ol>			
<b>MR, AR, TR and Elasticity of Demand</b>	<p>Marginal Revenue = Average Revenue (E - 1/E) Where E = Price elasticity of demand</p> <ol style="list-style-type: none"> <li>If E = 1, Then MR = 0</li> <li>If E &gt; 1, Then MR will be Positive</li> <li>If E &lt; 1, Then MR will be Negative</li> </ol>			
<b>Behaviour of TR, AR &amp; MR</b>	<ol style="list-style-type: none"> <li>A firm should produce at all if Total Revenue(TR) from its product is equal to or exceeds its Total Variable Cost (TVC) or say <math>TR \geq TVC</math> (Price <math>\geq AVC</math>).</li> <li>If <math>TR = TVC</math>, firm's maximum loss will be equal to its Fixed Cost. As we know <math>P \times Q = TR</math> and <math>AVC \times Q = TVC</math></li> <li>It will be profitable for the firm to increase output whenever <math>MR &gt; MC</math> and decrease output whenever <math>MR &lt; MC</math> and the firm should continue production till</li> <li><b>MR = MC and MC curve should cut to MR from below.</b></li> </ol>			

**Summary of Relationships:**

TR and MR	<ul style="list-style-type: none"> <li>▪ If TR increases, MR will be positive.</li> <li>▪ When TR is maximum, MR = 0.</li> <li>▪ If TR decreases, MR will be negative.</li> </ul>
MR and AR	<ul style="list-style-type: none"> <li>▪ MR and AR both decline, but MR falls rapidly than AR</li> <li>▪ AR Curve is flatter than MR.</li> <li>▪ MR can be zero and even negative, while AR will never cross below the X axis.</li> <li>▪ At the point where MR = 0, Elasticity of Demand on AR Curve will be 1.</li> </ul>

**Equilibrium Point of the Firm**

1. It will be profitable for the Firm to expand its output, whenever Marginal Revenue (MR) is greater than Marginal Cost (MC), and to keep on increasing output until **MR = MC**.
2. If any unit of production adds more to Revenue than to Cost, production and sale of that unit will **increase** profits. Similarly, if it adds more to Cost than to Revenue, it will decrease profits.
3. Profits will be **maximum** at the point where Additional Revenue (MR) from a unit equals its Additional Cost (MC). So, **MC = MR**.
4. Further, the **MC Curve should cut the MR Curve from below** (and not from above). This is so because, upto this point  $MR > MC$ , hence there is an incentive for further production. Beyond this point,  $MC > MR$ .
5. This position (i.e. where  $MC = MR$ , and MC cuts MR from below) is called **Equilibrium position** for the Firm.
6. Thus, Note: For achieving Equilibrium Position, the conditions to be satisfied are — **MC = MR, and MC Curve should cut MR Curve from below**, i.e. MC should have +ve slope.
7. Merely being in Equilibrium position does not mean that the Firm is making profits. The actual position of profits can be known only on the basis of AR and AC Curves



Situation	Interpretation
If $AR > AC$	The Firm makes <b>super—normal profits</b> , i.e. over and above normal profits.
If $AR = AC$	The Firm makes <b>normal profits</b> , since AC includes normal profits.
If $AR < AC$	The Firm makes <b>losses</b> , but it need not shut down in the short—run. (See Para C.5) Note: Here, Loss means <b>Economic Loss</b> , and not Loss as per Books of Accounts.



# Chapter 4 - Meaning and Types of Market



## A. Market basics

### Meaning:

- 1) Market is a **place where Buyers and Sellers meet and bargain** over a commodity for a price.
- 2) Also, market can be defined simply as all those **buyers and sellers** of a good or **service who influence price**.

**Elements of a Market:** The elements of a Market are-

- 1) Buyers and Sellers,
- 2) Product or Service,
- 3) Bargaining for a Price,
- 4) Knowledge about market conditions, and
- 5) One Price for a Product or Service at a given time.



## B. Types of Market

The Market Structures analysed in Economics are --

Perfect Competition	Monopoly:	Monopolistic Competition	Oligopoly	Monopsony-
Many Sellers selling identical products to many Buyers.	Single Seller producing differentiated products for many Buyers.	Many Sellers offering differentiated products to many Buyers.	A Few Sellers selling competing products to many Buyers.	Single Buyer of a product or service.
				

### Other forms of the market are

1. **Duopoly-** Duopoly is a market situation in which there are only two Firms in the market. It is a sub-set of Oligopoly.
2. **Oligopsony-** Oligopsony is a market characterized by a small number of large buyers.
3. **Bilateral Monopoly-** It is a market structure in which there is only a Single Buyer and a Single Seller. Thus, it is a combination of Monopoly Market and a Monopsony Market



**Classification of Market:**

Markets are generally classified into-

- a. **Product markets**- markets for goods and services in which households buy the goods and services they want from firms. Product markets allocate goods to consumers,
- b. **Factor markets**- those in which firms buy the resources they need - land, labour, capital and entrepreneurship- to produce goods and services. Factor markets allocate productive resources to producers. The prices in factor markets are known as factor prices.

Area	Time	Nature of Transaction	Regulation	Volume of Business	Types of Competition
Local market	Very Short period- Also Known as <b>MARKET PERIOD</b>	Spot Market	Regulated Market	Wholesale market	Perfectly competitive
Perishable and Bulky Goods	Market for Flower, fish etc. Supply is Fixed				
Regional Market	Short period	Future Market	Unregulated Market	Retail Market	Imperfectly Competitive
Kolhapuri Chappal					
National Market	Long Period				
Hindi books					
International Market	Very long/ <b>Secular Period</b>				
High Value Small Bulk					

*Alfred Marshall conceived the 'Time' element in markets and on the basis of this, markets are classified into*

**Do You Know??**

- Difference between 'value in use' and 'value in exchange'.
  - Value in use refers to usefulness or utility i.e the attribute which a thing may have to satisfy human needs.
  - Value in exchange or economic value is the amount of goods and services which we may obtained in the market in exchange of a particular thing. It is measured by the amount someone is willing to give up in other goods and services in order to obtain a good or service.
- In Economics, we are only concerned with exchange value. Considerations such as sentimental value mean little in a market economy

### C. Perfect Competition

#### Features of Perfect Competition

1. Large number of Buyers & Sellers
2. Sellers offer Homogeneous/ identical Products
3. No individual Buyer or Seller will be in a position to influence the demand or supply in the market.
4. Firm is free to enter the market or to go out of market.
5. There is a perfect knowledge, on the part of Buyers and Sellers.
6. There are adequate facilities for the movement of goods from one center to another
7. All Firms individually are Price Takers. Because-

If he lowers the price

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and if he increases the price

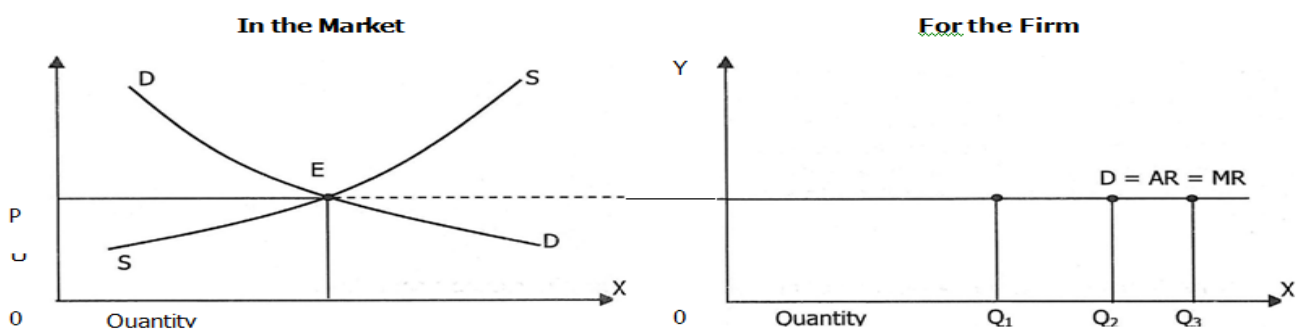
8. The goods are dealt on at a uniform price throughout the market
9. Buyers have no preference as between different Sellers
10. Sellers are indifferent as to whom they sell
11. There is perfect mobility of factors of production.

Why? \_\_\_\_\_

12. Perfect Competition is a MYTH

#### How Demand Curve is determined

1. In Perfect competition there is Uniform Market Price
2. All the firms are Price Taker and same price prevails in the market.
3. Price Elasticity of Demand is infinity.
4. Hence, the Equilibrium Price determined by Market Demand and Supply forces, constitutes the Demand Curve for the Firm. This Price is also the Average Revenue (AR).
5. and Marginal Revenue (MR) for the Firm, since the price is uniform in the market. So, in Perfect Competition,  $D = AR = MR = Price$



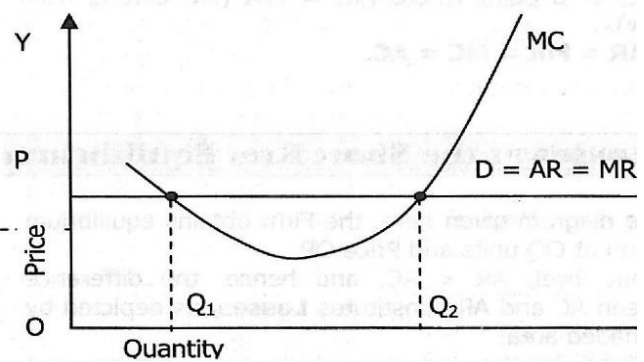
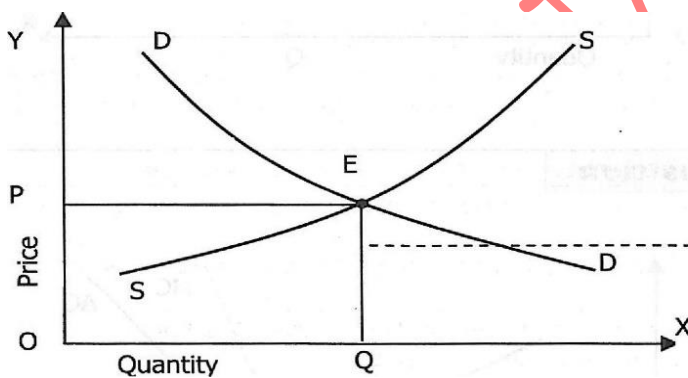
**Quick Recap**

Draw MC curve		Draw demand/Average Revenue/Marginal revenue curve	
Draw Average cost curve		Draw short run equilibrium price curve in Market	

**Short Run price determination, Optimum output/Equilibrium and profit Determination**

For achieving **Equilibrium**, the conditions to be satisfied are –

1.  $MC = MR$ , and
2. MC Curve should cut MR Curve from below, i.e. MC should have positive slope.

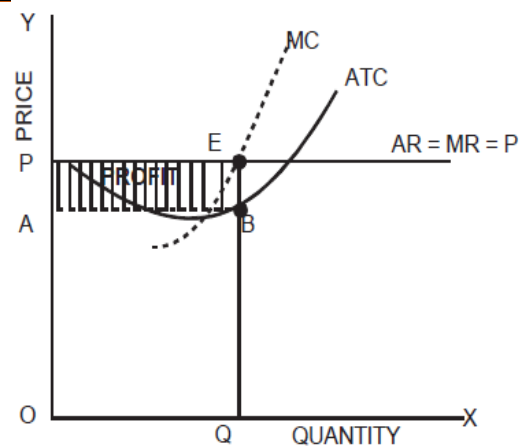


**For Profit determination**

1. Merely being in **Equilibrium position** does not mean that the Firm is making **profits**. The actual position of profits can be known only on the basis of **AR and AC** Curves.
2. In the short run, a firm may earn supernormal profits, normal profits or losses depending upon its cost conditions.

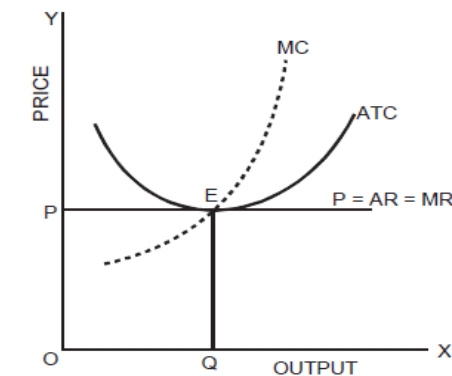
**Super profits/ Economic Profits/ abnormal profits and super normal profits:**

- When a firm earn super normal profits its **Average revenue are more than average total cost** or,
- $AR > ATC$ .



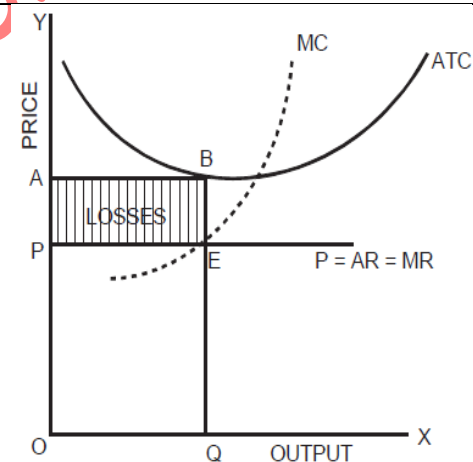
**Normal profits:**

- When the firm **just meets its average total cost**, it earns normal profits
- Normal profit is normal rate of return on capital and the remuneration for the risk bearing function of the entrepreneur.
- Here  $AR = ATC$ .
- It is also called **B.E.P (Break-even-Point)** means No Loss No Profit.
- It is called **Marginal Firm**.



**Losses:**

- A firm may incur losses if  $AR < ATC$ .
- At losses the firm shall cover at least its variable cost. IF variable cost is covered Max loss will be = FC or part of it
- If firm is unable to meet its variable cost, it will be better for it to shut down.



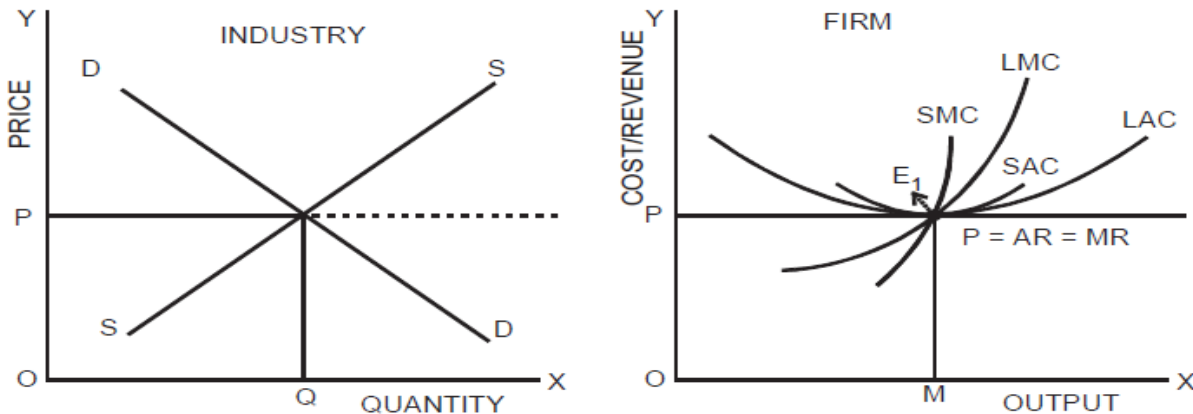
**Shut Down point:**

- A Firm will shut down, if  $AR < AVC$ , at a point where  $MC = MR$  (MC cutting from below).

In perfect competition firm, MC curve above AVC is considered the supply curve

## Long - run Equilibrium of a firm under Perfect Competition.

In the Long run the firms will be earning just **NORMAL PROFITS**.



In the above figure industry has decided the price 'P' and firm has taken over the same price at the same time firm is earning just normal profits.

In the long run, following conditions are satisfied: **The Firm is called as Optimal Firm**

- The output is produced at the **minimum feasible cost or minimum LAC**
- Consumers pay the **minimum possible price** which just covers Marginal cost =  $MC = AR = P$
- Full utilization of plants is possible,  $MC = AC$
- There is no wastage of resources. **optimal allocation**
- Firms earn **only normal profits i.e.  $AC = AR$** .
- Firms maximize profits i.e.  $MC = MR$ , but level of profits will be normal.
- There are Optimum Number of firm in Industry
- In the long run  **$LMC = LMR = P = LAR = LAC = SMC = SAC$**
- When LAC falls  $LAC > LMC$  and when LAC raises  $LMC > LAC$ .

### Long Run Equilibrium in the Industry

The **Industry** is said to have attained **long-run equilibrium** when —

1. All the Firms are earning normal profits only, i.e. all the Firms are in long-run equilibrium, and
2. There is **no further entry or exit of Firms** to / from the market.



**Question 1: What can be the profit/ loss condition in long run in Perfect competition?**

Answer: \_\_\_\_\_  
 \_\_\_\_\_

**Question 2: Why not Super- Normal profit?**

Answer- Super profit will attract new firms>>>> Supply will increase>>>>>>>>>> Market Price will fall>>>>>>> upward shift of Cost Curves>>>>>>>> super profit will be wiped out

**Question 3: Why Not Losses?**

Answer- Existing Firms will leave the industry >>>>>reduction in supply>>>>>>>> increase in Market Price>>>>>>>Cost Curves may fall>>>>>>>>>>loss will be recovered

**Relationship between AR, MR, TR and Price Elasticity of Demand**

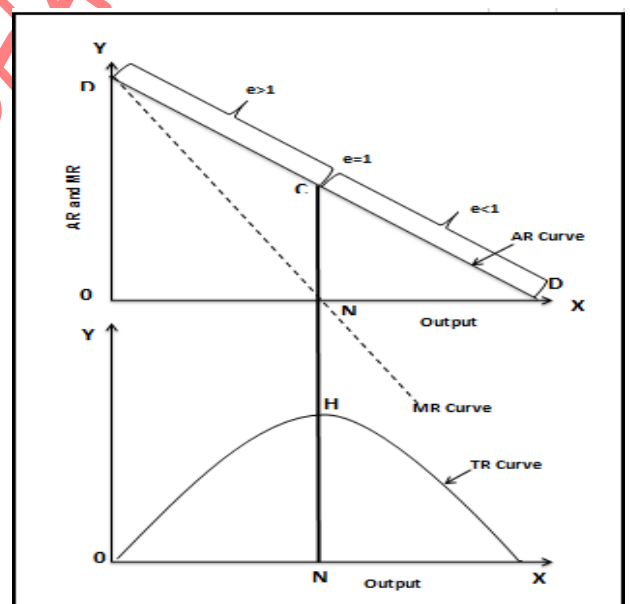
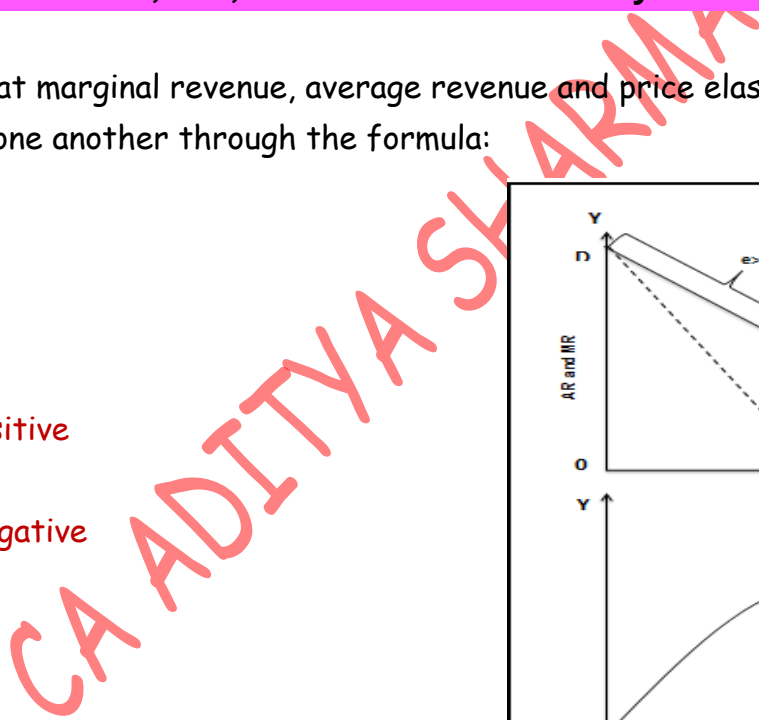
It is to be noted that marginal revenue, average revenue and price elasticity of demand are uniquely related to one another through the formula:

$MR = AR (e - 1) / e$

e = elasticity

Thus when

- i.  $e > 1$ , MR is positive
- ii.  $e = 1$ , MR = 0
- iii.  $e < 1$ , MR is Negative



**Behavioral Principal**

1. Principle 1- A firm should not produce at all if its total variable costs are not met.
2. Principle 2 - The firm will be making maximum profits by expanding output to the level where marginal revenue is equal to marginal cost.



## D. Monopoly

### i. Features of Monopoly

- a) Single Seller
- b) Firm = Industry
- c) Entry Restrictions- (i) economic, (ii) institutional, (iii) legal, or (iv) artificial.
- d) No substitutes. - Cross Elasticity of Demand for the Monopolist's Product and any other product is \_\_\_\_\_
- e) Elasticity of demand- Price Elasticity of Demand for Monopolist's Product is less than one.
- f) Monopolist is a Price—Maker, not a Price—Taker.
- g) Imperfect Mobility due to fewer substitutes.
- h) May or May not be optimal Firm



### ii. Why Monopoly exists?

Monopoly is caused by "barrier to entry". Some reasons for occurrence of Monopoly are -

1. **Strategic Control** over scarce resources
2. **Control over a unique product**.
3. **Patents and Copyrights**
4. Governments granting **exclusive rights**
5. **Substantial Goodwill**
6. **Natural Monopoly** e.g. Natural Gas Supply, Electrical Power Distribution, etc.
7. **Stringent Legal and Regulatory Requirements**
8. Very **high initial start—up costs**
9. Use of **Anti—Competitive Practices** or Predatory Tactics.
10. Business Combinations or **Cartels**

### iii. Note:

*In the practical world, Monopolies are either regulated or fully prohibited. Hence, Pure Monopolies are not common. However, a single Producer may dominate the supply of a good or group of goods. In Public Utilities, e.g. Transport, Water, Electricity Generation, etc. Monopolistic Markets existed earlier in India, so as to reap the benefits of large scale production. But these markets have now been deregulated and opened to competition. In India, Indian Railways has monopoly in Rail Transportation. Government has monopoly in Nuclear Power production.*

**iv. Negative Effects of Monopoly-**

1. **Higher Prices** for Consumers,
2. Loss of Consumer Surplus,
3. **Inability of Consumers to substitute** the goods or services, with a more reasonably priced alternative,
4. Transfer of Income from Consumers to Monopolists,
5. **Restriction of Consumer Sovereignty** and reduction in opportunities for Consumers to consume goods they desire,
6. **Payment of lower prices by Monopolies to their Suppliers** (of goods and services), i.e. lower Factor Payments,
7. **Lower levels of Output**, that what would be produced in a competitive environment,
8. Ability of Monopolist to **influence political process** and thereby obtain a favourable legislation,
9. **Lack of Innovation**,
10. **Higher Costs of Output**, the burden of which will be shifted to Consumers
11. **Lack of Productive and Allocative Efficiency**,
12. **Possibility of misuse of scarce resources**,
13. Earning of Economic Profits (**above Normal Profits**) in the long run, which is unjustifiable,
14. Use of Monopoly Power to create barriers to entry by undue means,
15. Scope for **X—Inefficiency**, i.e. the difference between efficient behaviour of businesses assumed or implied by economic theory and their observed behavior in practice caused by a lack of competitive pressure, etc.

**v. Determination of Demand/ Revenue curve**

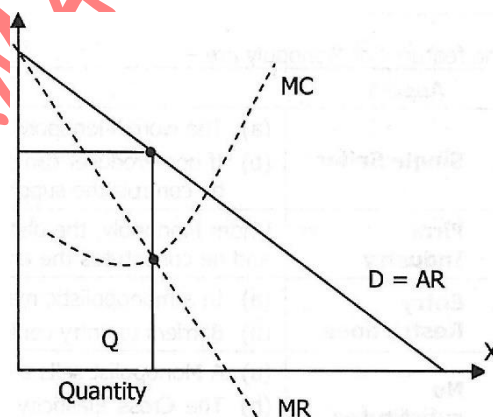
Qty (Q)	Price	TR = P×Q	AR = TR/Q	MR	Diagram
1	22	22	22	22	
2	20	40	20	18	
3	18	54	18	14	
4	16	64	16	10	
5	14	70	14	6	
6	12	72	12	2	
7	10	70	10	-2	
8	8	64	8	-6	
9	6	54	6	-10	
10	4	40	4	-14	

1. It shall be noted that **price elasticity of DD was infinite in Perfect competition** thus the DD curve was **parallel to Quantity axis**.
2. **In Monopoly**, the monopolist in order to increase his sale may lower the price. Thus the elasticity exists. However since there is no Close substitute, the **DD curve is Flatter as compared** to that in Monopolistic competition
3. Firm's Demand Curve = Average Revenue (AR).
4. **Relationship between AR & MR under Monopoly:**
  - a) Both AR and MR are **negatively sloped** (downward sloping) curves.
  - b) MR Curve **lies half-way between the AR Curve and the Y-axis**, i.e. it cuts the horizontal line between Y axis and AR into **two equal parts**.
  - c) In other words, Slope of MR is twice of AR
  - d) **AR cannot be zero, but MR can be zero or even negative**.

**vi. Short Run price determination, Optimum output and profit Determination**

a. **For achieving Equilibrium**, the conditions to be satisfied are-

1.  $MC = MR$ , and
2. MC Curve should cut MR Curve from below, i.e. MC should have positive slope.



b. **For Profit determination**

1. Merely being in **Equilibrium position does not mean** that the Firm is making **profits**. The actual position of profits can be known only on the basis of **AR and AC** Curves.
2. In the short run, a firm may earn supernormal profits, normal profits or losses depending upon its cost conditions.

Short Run Positions		Long Run Positions
<p><b>Super profits:</b></p> <ul style="list-style-type: none"> <li>• Here, <math>AR &gt; ATC</math>.</li> <li>• Here area PABC denotes super profit.</li> </ul>	<p><b>Losses:</b></p> <ul style="list-style-type: none"> <li>• Here, <math>AR &lt; ATC</math>.</li> <li>• The Shaded area PBAC denotes Loss</li> </ul>	<p><b>Only Super profit (<math>LAR &gt; LAC</math>):</b></p> <ul style="list-style-type: none"> <li>• Monopoly firm in the long run gets <b>abnormal profits</b> because, the new firms are not <b>allowed to enter the market</b>.</li> <li>• Under long-run a monopoly firm can produce at <b>optimal or sub-optimal level</b>.</li> <li>• In other words it can</li> </ul>



		produce at minimum LAC curve and also he can produce before or after the minimum LAC curve.

## Price Discrimination

### 1. Meaning:

- a) Price Discrimination occurs when a Producer sells a commodity to different Buyers, at different prices, for reasons not related to differences in cost.

### 2. Objectives:

- To earn Maximum Profit
- To Dispose of Surplus stock
- To enjoy Economies of Scale
- To capture foreign markets
- To secure equity thorough pricing.

### 3. Examples:

- Doctors** may charge more from a rich patient than from a poor patient, for the same treatment.
- Electricity Rates** for home consumption are less than that for industrial use.
- Export Prices** of Products are cheaper than the domestic market selling price.
- Railways charge** different rates from different type of passengers e.g. AC, Non-AC, Tatkal, etc.

### 4. Conditions for Price discrimination

- Full control over supply of commodity**
- Division of market into two or more sub-markets:** A seller can practice price discrimination only when he is able to divide the markets into two or more sub-markets.
- Different price elasticity under different markets:** Monopolist charge higher price from that market whose price elasticity is less than one and can charge lower price from that market whose price elasticity is greater than one.
- No possibility to resale:** It should not be possible for the buyers of low-priced market to resell the product to the buyers of the high priced market



## Degrees of price Discrimination

Prof. Pigou classified three degrees of price discrimination.

- a. **First degree price discrimination**, the monopolist separates the market into each individual consumer and charges them the price they are willing and able to pay and thereby extract the entire consumer surplus.

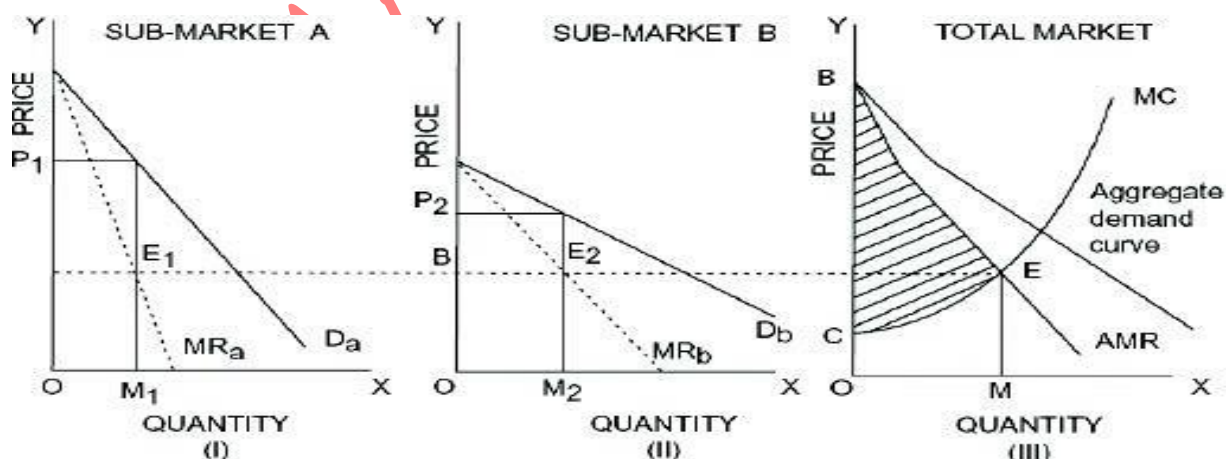
Eg. Doctors, lawyers, consultants etc., charging different fees, prices decided under 'bid and offer' system, auctions, and through negotiations are examples of first degree price discrimination.

- b. **Second degree price discrimination**- different prices are charged for different quantities of sold. The monopolist will take away only a part of the consumers' surplus. The two possibilities are: a) Different consumers pay different price if they buy different quantity. b) Each consumer pays different price for consecutive purchases.

- c. **Third degree price discrimination** - price varies by attributes such as location or by customer segment. Here the monopolist will divide the consumers into separate sub-markets and charge different prices in different sub-markets. Examples: Dumping, charging different prices for domestic and commercial uses, lower prices in railways for senior citizens, etc.

## Equilibrium under price discrimination

- a. Under simple monopoly, a single price is charged for the whole output; but under price discrimination the monopolist will charge different prices in different sub-markets.
- b. First of all, the monopolist has to divide his total market into various sub-markets on the basis of differences in elasticity of demand.



In order to reach the equilibrium position, the discriminating monopolist has to make three decisions:

- How much total output should he produce?
- How the total output should be distributed between the two sub-markets? And
- What prices he should charge in the two sub-markets?

### E. Monopolistic Competition

1. Imperfect competition is found in the industry where there are a large numbers of small sellers, selling differentiated but close substitutes products. E.g. LUX, HAMAM, LIRIL etc.

This market contains features of both competitive and monopoly markets.



2. Large number of sellers and buyers
3. Free entry and exit of firms.
4. Product differentiation:
5. Non price competition:
6. Every firm is price maker and price taker of his own product
7. Imperfect mobility:
8. **AR and MR:** In monopolistic competition AR/MR will be more elastic than monopoly market.

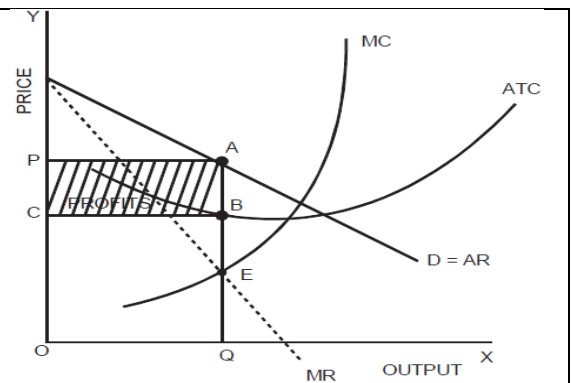
Determine Condition for Equilibrium

1. \_\_\_\_\_
2. \_\_\_\_\_

#### Short Run Equilibrium

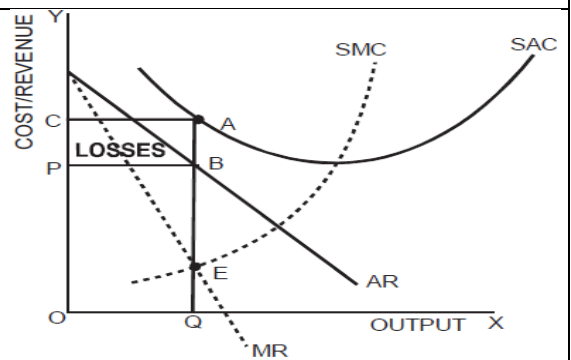
##### Super profits-

- To earn super profits  $AR > ATC$ .
- Normal profit is equal to the area PABC.



##### Losses:

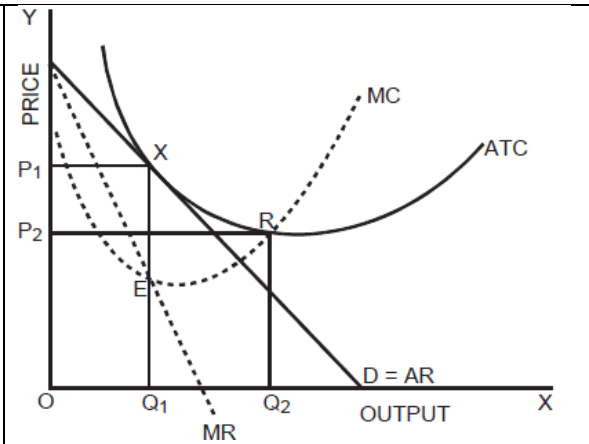
- But if the  $AR < AC$  then firm will incur losses.
- In the figure given Shaded area PABC denotes loss.



## Long Run Equilibrium

## Normal profit (LAR = LAC/ TAC)

1. In long Run the firm will earn **normal profits**, because there is free entry and exit of firms.
2. The AR curve in the long-run is not tangent to the ATC curve at the lowest point.
3. This shows each firm produces at before the lowest TAC/LAC or **produces less than the optimum output** and Charges from the customers a price higher than the competitive price.
4. A firm under monopolistic petition has **always excess capacity** and thus is never an optimum firm, but perfect competition never has excess capacity and monopoly mayor may not be



## F. OLIGOPOLY MARKET

**Meaning-** An oligopoly is a market in which there are **few producers (two to ten)** of a product.

- ✓ Oligopoly is an important form of imperfect competition.
- ✓ Sellers sell homogeneous or differentiated but close substitutes products
- ✓ Example- cold drinks industry or automobile industry.
- ✓ It shows the concept of group behaviour
- ✓ There is large entry barrier



## Types of Oligopoly

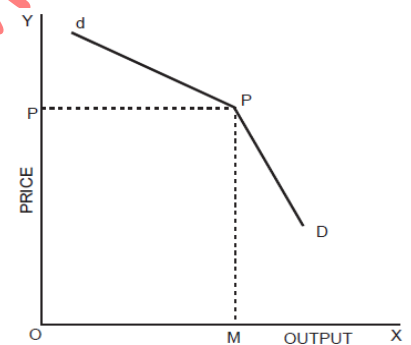
1. **Pure / Perfect oligopoly** - deals in homogeneous products- Aluminum industry
2. **Differentiated / imperfect oligopoly** - deals in product differentiated.
3. **Open oligopoly** - New firms can enter the market and compete with existing firms
4. **Closed oligopoly** - new entry is restricted.
5. **Collusive oligopoly** - common understanding or collusion in fixing price and output
6. **Competitive oligopoly** - Lack of understanding and compete with each other.
7. **Partial oligopoly** - when industry is dominated by one large firm i.e. price leader
8. **Full oligopoly** - absences of price leadership.
9. **Syndicated oligopoly**- Firms sells their products through centralized syndicate/ channel
10. **Organized oligopoly**: Firms organize into a central association for fixing price, output etc.

## Features

- **Few sellers**
- **Interdependence:** In oligopoly, firm must consider the market demand and the reactions of the firms in the industry to any major decision it takes.
- **Advertising and selling costs (Non price competition):** There is a great importance advertising and selling costs in an oligopoly market. They avoid price cutting and try to compete on non-price basis
- **There is no generally accepted theory of group behaviour.** In oligopoly, the members of a group agree to pull together in promotion of common interest or they fight to promote their individual interests.
- **Substantial barriers to entry:** In oligopoly there is no free entry and no blocked entry, we can say that there is substantial barriers to the entry.

## Kinked demand curve / Indeterminateness of demand curve-

1. Because interdependence of the firms in oligopoly and because of inability of a particular firm to pre the behaviour, the demand curve facing an oligopolist may have a 'kink' at the level of the prevailing suggesting stickiness in the price level.
2. The kink is formed at the prevailing price level at because the segment of the demand curve above the 'K' is highly elastic and the below the 'K' is inelastic.



### 3. Price rigidity:

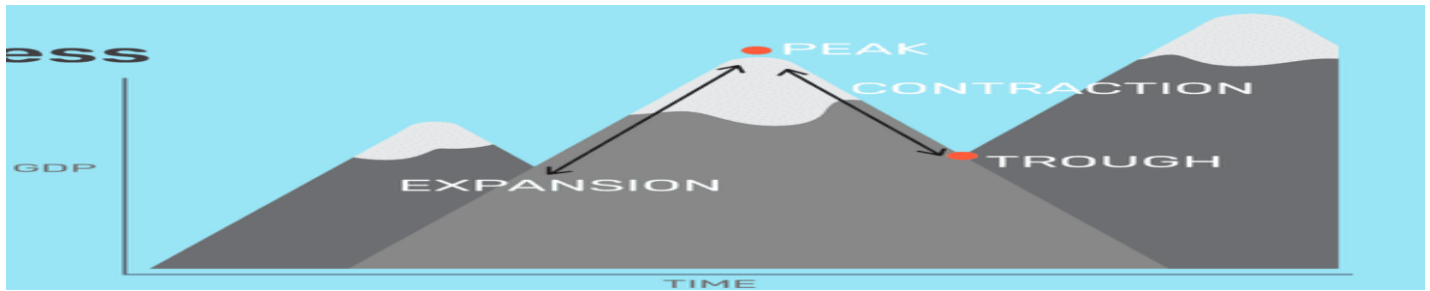
- a) **When an oligopolist lowers the price-** its competitors will feel that, if they do not follow the price cut their customers will run away and buy from the firm, which has lowered the price. Thus in order to maintain their customers they will also lower their prices. **Thus the upper portion of the demand curve is price elastic.**
- b) **When firm increases the price-** there will be a substantial reduction in its sales because as a result of the rise in its price, its customers will withdraw from it and go to its competitors, which will welcome the customers and will gain in sales. These happy competitors will have, therefore, no motivation to match the price rise.

## Summary of Different Market

Aspect	Perfect Competition	Monopoly	Monopolistic Competition	Oligopoly
Number of Sellers	Very large	Only One	Large	A Few
Nature of Product	Homogeneous / Identical Product. No differentiation.	Highly differentiated / specialized product.	Slightly differentiated / specialized product.	Nature of Differentiation varies.
Product differentiation	None	Extreme	Slight	None to substantial
Ease of Entry / Exit	Free Entry / Exit.	Only One Seller.	Free Entry / Exit.	Only Few Sellers.
Control over Price	Nil	Total	Each Firm is a Price-Maker for its own product.	Reasonable.
Elasticity of Demand	Infinity.	Less Elastic.	More Elastic.	Kink
Demand Curve	Horizontal Line.	Negatively Sloped	Negatively Sloped.	Kinked Curve.
Examples	Foodgrains, Vegetables, etc.	Railways, Electricity Supply.	Cars, Soaps, Toothpaste, etc.	Pharma, Cold Drinks, etc.
Profit in Long-Run	Normal Profits Only.	Super-Normal Profits	Normal Profits Only.	—
Optimality in Long-Run	Each Firm is an Optimal Firm.	Can operate at sub-optimal level also.	Idle Capacity. Not an Optimal Firm.	—



# Chapter 5 - Business Cycle



## A. Meaning, Phases of Business cycle

- ✿ **Fluctuations in aggregate economic activity** that an economy experiences over a period of time, i.e. periods of prosperity alternating with periods of economic downturns, are called **Business Cycles** or **Trade Cycles**.
- ✿ Business Cycles refer to **alternate expansion and contraction of overall business activity** as reflected in fluctuations in measures of aggregate economic activity, like Gross National Product, Employment and Income.
- ✿ **Phases:** The four distinct phases of the Business Cycle are-
  - a) **Expansion** / Boom / Upswing),
  - b) **Peak** / Prosperity,
  - c) **Contraction** / Downtswing / Recession), and
  - d) **Trough** / Depression).
- ✿ A Trade Cycle is composed of periods of
  - a) **Good trade** characterized by rising prices and low unemployment levels.
  - b) **Bad trade** characterized by falling prices and high unemployment levels.



## B. Features of Business cycle

- a) Business cycles **occur periodically**
- b) **Do not exhibit the same regularity.**
- c) The **duration** of these cycles **vary**.
- d) The **intensity** of fluctuations also **varies**.
- e) The **length of each phase is also not definite**.
- f) Business cycles are **exceedingly complex phenomena**;
- g) Business cycles generally originate in free market economies\*\*\*\*.
- h) They are **pervasive** as well. Disturbances in one or more sectors get easily **transmitted to all other sectors**.
- i) Although all sectors are adversely affected by business cycles, some sectors such as



- capital goods industries, durable consumer goods industry** etc, are disproportionately affected.
- j) Moreover, compared to agricultural sector, **the industrials sector is more prone to the adverse effects of trade cycles.**
- k) It is **difficult to make an accurate prediction** of trade cycles before their occurrence.
- l) Repercussions of business cycles get simultaneously felt on nearly all economic variables
- m) Business cycles have **serious consequences on the well-being of the society.**
- n) Business cycles are **contagious and are international in character.**

## C. Phases of Business cycle

### 1. Expansion: Features

- a) Increase in **national output, employment, aggregate demand, capital and consumer expenditure, sales, profits, rising stock prices and bank credit.**
- b) This state **continues till there is full employment of resources and production is at its maximum** possible level using the available productive resources.
- c) Involuntary unemployment is almost zero and whatever unemployment is there is either frictional or structural. Prices and costs also tend to rise faster. Good amounts of net investment occur.
- d) Increasing prosperity and people enjoy high standard of living due to high levels of consumer spending, business confidence, production, factor incomes, profits and investment.
- e) The growth rate **eventually slows down and reaches its peak.**



### 2. Peak:

- a) Peak refers to the **top or the highest point** of the business cycle.
- b) Output prices also rise rapidly leading to increased cost of living and greater strain on fixed income earners.
- c) **Actual demand stagnates.**



### 3. Contraction:

- a) During contraction, there is **fall in the levels of investment and employment.**
- b) **Supply far exceeds demand.** Initially, this happens only in few sectors and at a slow pace, but rapidly spreads to all sectors.
- c) **Producers holds back future investment** plans, cancellation and stoppage of orders for equipment and all types of inputs including labour.
- d) **Decrease in input demand** pulls input prices down; incomes of wage and interest earners

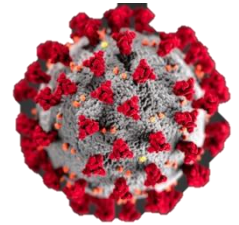


gradually decline resulting in decreased demand for goods and services.

e) The process of recession is complete and **economy into the phase of depression.**

#### 4. Trough and Depression:

- Depression is the **severe form of recession** and is characterized by **extremely sluggish economic activities.**
- During this phase of the business cycle, **growth rate becomes negative**
- National income and expenditure declines rapidly.
- Demand for products and services decreases, prices are at their lowest and decline rapidly forcing firms to **shutdown several production facilities.**
- A typical feature of depression is the **fall in the interest rate.**
- Large number of bankruptcies and liquidation** significantly reduce the magnitude of trade and commerce.
- Greatest depression occurred in 1929- 1933 - Reason lower aggregate Expenditure**



#### D. Question: How does the economy recover?

The economy cannot continue to contract endlessly. Economic activity reaches Trough and then starts **recovering** >>>> marks the end of pessimism and the beginning of optimism >>>> Reversal is first felt in the **Labour Market** >>>> workers accepts wages lower than the prevailing rates. >>>> **Business Confidence** slowly increases, >>>> spurring of investment causes **recovery** of the economy. >>>> **Banking System** now slowly starts expanding credit, matching with the business confidence. >>>> Employment, Factor Payments, Disposable Incomes, Consumer Spending, Aggregate Demand, etc. all rises



#### E. Indicators- 3 Indicators ( Leading, Lagging, concurrent)

##### 🌿 Leading Indicators:

- ⚡ It is a measurable economic factor that changes before the economy starts to follow a particular pattern or trend. **Variables that change before the Real Output changes**
- ⚡ However, Indicators are not always accurate and Experts disagree on the timing of these Leading Indicators.
- ⚡ Eg. -Change in stock price, profit Margin, Indices, housing interest rate, prices, value of new orders of plant and machinery/ consumer goods, building permits of private house



### 🌿 Lagging Indicators:

- ⚡ Changes in these indicators are observable **only after** an economic trend or pattern has already occurred. **variables that change after the Real Output changes**
- ⚡ E.g. - Unemployment, corporate profit, labour cost per unit, interest rate, Consumer price index, Commercial Lending



### 🌿 Coincident or Concurrent Indicators:

- ⚡ It **coincides or occurs simultaneously** with the business—cycle movements.
- ⚡ It gives information about the rate of change of the expansion or contraction of an economy more or less at the **same point of time** it happens.
- ⚡ It describes current state of Economy
- ⚡ E.g. - GDP, Industrial productions, Inflation, personal Income, Retail Sales, Stock Market prices

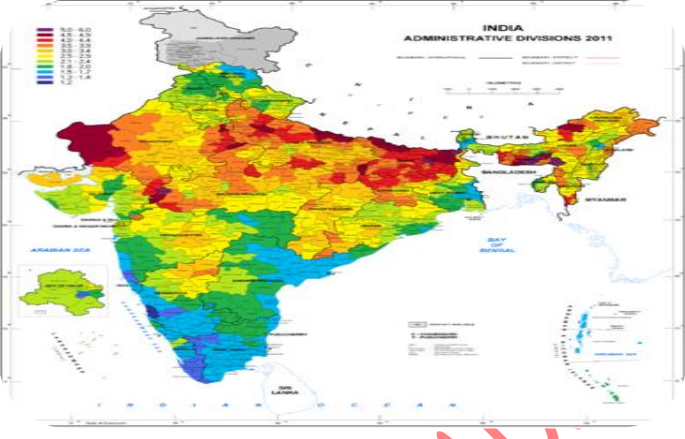
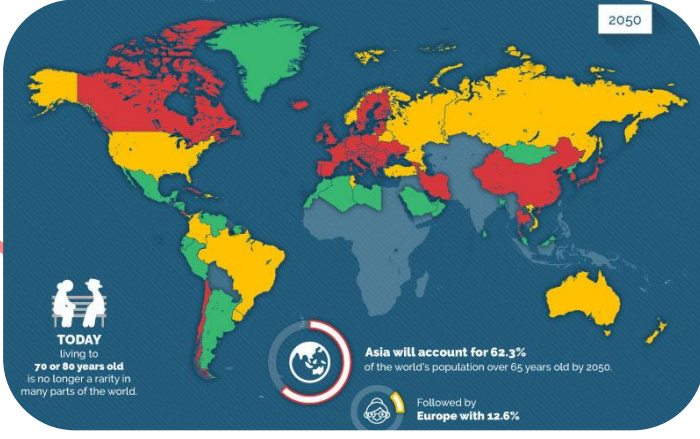


## F. Role/ Importance of Business cycle in Business Decision making

1. **Demand Impact:** Business Cycles affect demand of the products.
  2. **Decision** regarding Expansion of business.
  3. **Policies:** Knowledge of Business Cycles and their inherent characteristics is important for a Business Firm to frame appropriate policies.
  4. **Production Aspects:** Businesses have to properly respond to the need to alter production levels relative to demand.
  5. **Market Entry / Product Launch:** The phase of the Business Cycle is important for a new business to decide on entry into the market.
- 6. Cyclical Businesses:**
- ❖ Some businesses are more vulnerable to changes in the Business Cycle than others.
  - ❖ Businesses whose fortunes are closely linked to the rate of economic growth are called "Cyclical" Businesses. Examples: House—Builders, Construction, Infrastructure, Restaurants, Advertising, Overseas Tour Operators, Fashion Retailers, etc.
  - ❖ During a boom, such businesses see a strong demand for their products but during a slump, they usually suffer a sharp drop in demand.
  - ❖ Some Businesses may actually benefit from an economic downturn, e.g. when their products are perceived by Customers as representing good value for money, or a cheaper alternative compared to more expensive products.



**G. Causes of Business Cycle**

H. Internal causes- Endogenous factor	I. External Causes- Exogenous factor
Internal causes of Business Cycle are those cause which are generated <u>within the NATION</u> itself and are <u>not international in character</u>	External causes of Business Cycle are those cause which are generated <u>out of the NATION</u> and are <u>international in character</u>
⌘ Fluctuations in Effective Demand	⌘ Wars
⌘ Fluctuations in Investment- According to some economists this the primary cause of Business Cycle	⌘ Post War Reconstruction
⌘ Variations in government spending	⌘ Technology shocks
⌘ Macroeconomic policies	⌘ Natural Factors
⌘ Money Supply	⌘ Population Growth
⌘ Psychological factors	
	

**5. Some important Points for MCQ**

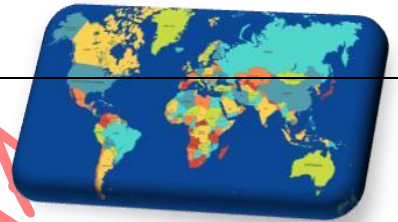
- a) **According to Pigou**, modern business activities are based on the anticipations of business community and are affected by waves of optimism or pessimism.
- b) **According to Schumpeter's innovation theory**, trade cycles occur as a result of innovations which take place in the system from time to time.
- c) **The cobweb theory propounded by Nicholas Kaldor** holds that business cycles result from the fact that present prices substantially influence the production at some future date.
- d) **According to Hawtrey, trade cycle is purely Monetary Phenomenon**



# Chapter -6 NATIONAL INCOME



Macro-Economics is concerned with **aggregates and averages of the entire economy**, such as *National Income, Aggregate Output, Total Employment, Total Consumption, Savings and Investment, Aggregate Demand, Aggregate Supply, General Level of Prices, etc*



## National Income: Basics

- Just as accounting techniques measure the performance of business National Income measure economic performance of nation.
- National income gives us an idea of the working of an economy .
- National income accounts provide a **comprehensive, conceptual and accounting framework** for analyzing and evaluating the **short-run performance of an economy**.
- National Accounts help us to understand **how the various transactions from the stage of production of goods and services to the stage of their final disposal are interrelated**.
- It helps to meet the needs of **Government, private analysts, policy makers and decision takers**.
- National Income Accounting was pioneered by the Nobel prize-winning economists **Simon Kuznets and Richard Stone**
- The task to measure National Income is undertaken by **Central Statistical Organization (CSO)**, a department of The **Ministry of Statistics and Programme Implementation (MoSPI)**
- At the State level, **State Directorates of Economics and Statistics (DESs)** have the responsibility of compiling their State Domestic Product and other aggregates.



### Distinguish between Non-economic activities and economic activities

1. Economic Activities- Goods and services that **can be purchased / exchanged with money.**  
It can be measured by measuring increase in National income and per capita income.
2. Non-economic activities are those which **produce goods and services but are not exchanged** in a market transaction so that do not command any market value.

CA ADITYA SHARMA

## What is National Income?

National Income is defined as money value<sup>1</sup> of final goods and services<sup>2</sup> produced by the normal residents<sup>3</sup> of a country, whether operating within the domestic territory<sup>4</sup> of the country or outside produced within in an accounting year<sup>5</sup>.

### a. Expressed in Money Value-

- \* In any Economy there are large number of diverse goods and services produced.
- \* Thus, it becomes necessary to measure their value against some commonly accepted denominator.
- \* Thus, money being the measuring rod, National income is expressed in monetary terms.

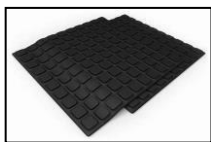


### b. Final Value of Goods and services-

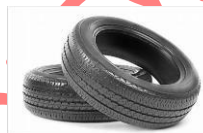
1. Value final goods and services are included in and not value of intermediate products\*.
2. In order to calculate National income, all goods and services produced during a year must be counted only once.
3. Since most of the products undergo different stages of production, if included again, will result in double counting and national income will be overstated.



*\*Intermediate goods are those goods and services which are used by producers as input into further stage of production*



Rs.1000



Rs.1500



Rs.100000

E.g. Rubber (Rs. 1000) is used in manufacturing of tyres (Rs. 1500) and ultimately tyres are the used in cars (Rs. 1,00,000), since the value of tyres, and rubber are already included in value of car, its inclusion will lead to double counting.

If we add the value of all the intermediary products the national income in this case will be  $1000+1500+100000=102500$ . However, the correct NI will should be 100000 only.

### The final products are of two types- Consumer Goods and Services and Producer Goods-

1. **Consumer Goods-** Where the goods and services are used for final consumption by the consumer, it is called as Consumer Goods and services.  
E.g. - TV, Food, Home appliances.



2. **Producers Goods-** Where the final product is used in production of other goods/ service in future, it is called as Producers goods.  
E.g. Computer used for developing programs or software, Plant and Machinery used in manufacturing of goods



### c. Normal resident-

1. **Normal resident** of a country refers to an individual or an institution who ordinarily resides in the country and whose center of **economic interest** also lies in that country.
2. **Normal residents** include both, **individuals and institutions**. Therefore, a foreigner's Income who is working in India will be a normal resident but a tourist whose purpose to visit is not of contribute in economic activity of Country will not be called as normal resident of Country.
3. Here the word '**Resident**' is used and not the word 'Citizen'. Hence, they may or may not be citizen of that country



### d. Domestic territory:

1. Domestic territory refers to **geographical or political boundary** of country.
2. It however does not include- **international institutional** (United nations, WHO, WTO) and **foreign embassies** located within geographical territory but includes embassies of this country located outside its geographical territory
3. **Indian Ship and Indian aircrafts** performing operations outside country is also included in domestic territory.



### e. Current output:

While calculating National income value of only current production is included, this is because the value of previous year's production is included in Previous year's National Income.

#### Question: what is domestic product?

Answer: The money value of final goods and services produced within a year within its domestic territory of a country is called domestic product.

### National income does not include the following transactions:

1. **Pure purchase transaction** such as **sale and purchase of used goods/ second- hand goods**, this is because nothing new is produced in the current year.  
However, where the goods are refurbished the added value must be taken in calculation of National Income.
2. **Sale, purchase of securities** is also excluded because it is just a change of ownership.
3. **Transfer payments** are included as there is no economic activity involved. E.g Pocket money by Parents, Gift to Son in law.

Question 1- Suppose Mr. Nawaz sells his Rolce Royce to Mr. Dutt for Rs. 1,00,000 and to arrange this sale transaction Miss Alia charged commission of 10,000. Will the sale value of car be included in calculation of national income? What treatment will be given to commission charged by Miss. Alia for arranging sale of second- hand car?



Answer:

The sale transaction: -	The Brokerage component: -
The Sale of Second-hand car by Mr. Nawaz to Mr. Dutt <b>does not reflect current year's production</b> and thus shall not be included in calculation of National Income.	The brokerage charged by Miss .Alia <b>are the service rendered by him in current year</b> and thus shall be included in calculation of National income.

Question 2: Will the sale and purchase of shares on NSE qualify for Calculation of National Income? What will be the treatment of commission charged?

### Transfer Payment-

- 1) Transfer payments are unilateral payments for which no productive services are rendered in return in the current year.
- 2) The recipient of this transfer payment **does not make any contribution to current production** in return for these payments
- 3) E.g Pension is given to a person in C.Y for rendering services in past, Unemployment allowance.



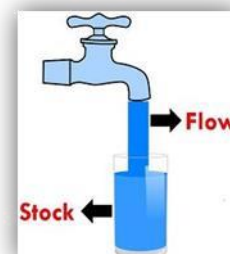
**There are two types of transfer payments Viz. Current transfer and Capital transfer**

- 4) **Current transfer** refers to the transfer made out of current income of payer and is added to current income of payee.
- 5) **Capital transfer** refers to transfer made out of the wealth of the payer and added to wealth of the receiver. (not in our syllabus).

### Flow concept vs stock concept

**Flow concept:** - National income is a flow concept because it is measured **over a period of time**. It expresses the flow of money value of goods and services over a period of time.

**Stock variable:** - The variable which is expressed **at a point of time**. For example, stock of finished goods on 31<sup>st</sup> March 2018.



### USEFULNESS OF NATIONAL INCOME ESTIMATES

➤ **It is helpful in many ways such as**

- a) **Helps business Businesses to forecast the future demand** for their products.
- b) shows the **composition and structure** of different sectors (**primary sector, secondary sector and tertiary sector**) of the economy, the periodical variations in them and the broad **sectoral shifts in an economy over time**.
- a) **Shows income distribution and the possible inequity in the distribution among different income categories** . ( income of salaried person, business owner and mixed income)
- b) **Helps government to make various sector-specific development policies, make macroeconomic modeling, comparisons of structural statistics and analysis to increase growth rates.**
- c) **Combined with financial and monetary data**, national income data provides a guide to make policies for growth and inflation.
- c) **International comparisons** in respect of incomes and living standards assist .





## Limitation of National Income

- Income Distribution is not clearly reflected:** Increase in National income and per capita income is sign of Economic welfare. However, the distribution of income also plays an important role in this regard. The relatively inequality in distribution of income **implies that the gap between rich and poor is widening** while the increase in per capita income has not benefitted the society as a whole.
- If the increase in GDP is on account of **long working hours, Employment of child labour, and polluted working environment, exclusion of leisure** such increase in GDP is not the real sign of welfare.
- '**How much is produced**' determines GDP. It does not reflect '**what is produced**'.  
Thus if the government is producing more weapons, guns and spending more on National and state security GDP will rise but the welfare is ignored.
- If more of capital goods are produced the GDP will rise but the welfare may not increase in same manner.
- Avoids importance of Non-Market Transaction-** Some of the non-market transaction increases welfare but does not contribute to GDP. Example, Such as providing music class to society children for fun and other similar activity.



## Explain the conceptual difficulties or challenges in measurement of national Income

**The conceptual difficulties or challenges in measurement of national Income are:**

- Lack of an agreed definition of National Income.** (like GDP, GNP, NDP, NNP etc)
- Non-availability of accurate distinction between final and intermediate goods.** (Milk brought from dairy for self-consumption & milk brought for making sweets cannot be distinguished)
- Issue of transfer payments.** Some payments seem like income but are by nature transfer payment and gets wrongly counted
- Service of durable goods.** Capital goods are counted in year of production and not on the basis of their useful life
- Valuation of New goods at constant price**
- Valuation of Government services** - Since such services are available at very subsidized cost leading to understatement of National income
- Data available** are either **inadequacy** or **unreliable** for calculation of national Income
- Presence of non-monetize sector** - Services might be rendered for free or production might occur without consideration. This increases production but not counted in National Income.  
**Production for self-consumption** does not include money value and hence excluded from NI calculation



## 6: GDP AND WELFARE

Can the GDP of a country be taken as an index of the welfare of people in that country?

Answer:

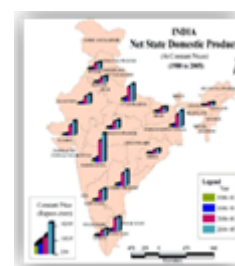
GDP is the sign of welfare increase in GDP Increases welfare yet. There are many reasons to dispute the validity of GDP as a perfect measure of well-being.



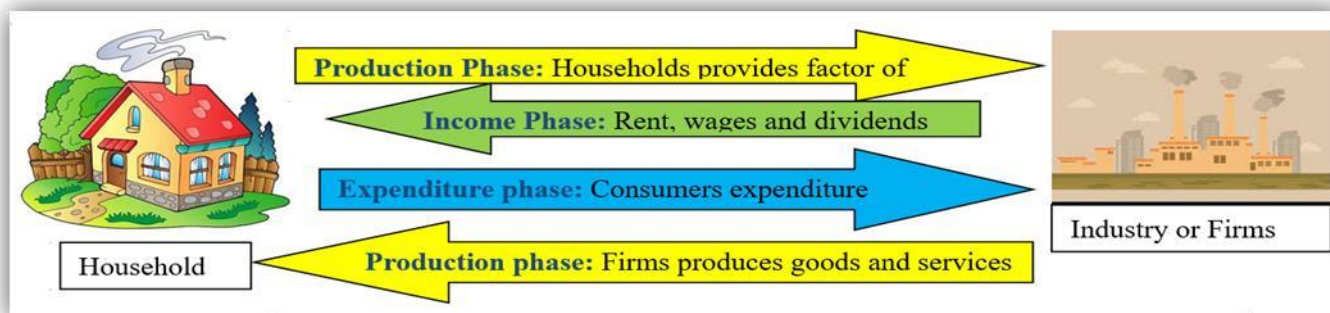
- \* **Countries may have Some national income and per capital income** but their welfare may vary significantly .
- \* **Welfare may increase many times but not GDP**. Example, Leisure time, Quality improvements in systems and processes, education levels, religious participation, the volunteer work and services rendered without remuneration undertaken in the economy, nonmarket production.
- \* **GDP may increase many times but not Welfare** - defense expenditures such as on police protection. Increased expenditure on police due to increase in crimes may increase GDP but not welfare. So, there is distinction between production that makes us better off and production that only prevents us from becoming worse off.

## THE SYSTEM OF REGIONAL ACCOUNTS IN INDIA

1. At present, practically all the **states and union territories** of India compute **state income estimates and district level estimates**.
2. Regional accounts **provide an integrated database** on the many transactions taking place at state level.
3. State Income or **Net State Domestic Product (NSDP)**- volume of all goods and services produced in the state.
4. The state level estimates are prepared by respective **State Directorates of Economics and Statistics (DESS)** with assistance of **The Central Statistical Organization assists the States**.
5. **Per Capita State Income** = NSDP (State Income) / midyear projected population of the state
6. Certain activities such as are **railways, communications, banking and insurance and central government administration**, gives services to many states and their economic contribution cannot be assigned to any one state directly are known as the '**Supra-regional sectors**' of the economy. The estimated value in these cases calculated and distributed to the states on the basis of relevant indicators



## CIRCULAR FLOW OF INCOME



^ Circular flow of income refers to the **continuous circulation of production, income generation and expenditure** involving different sectors of the economy.

^ There are three different interlinked phases in a circular flow of income, namely: production, distribution and disposition.

1. **In Production phase-** firms produce goods and services with the help of factor services.
  2. **In Income or distribution phase,** the flow of factor incomes in the form of rent, wages, interest and profits from firms to the households occurs
  3. **In Expenditure or disposition phase,** the income received by different factors of production is spent on consumption of goods and services and investment goods. This expenditure leads to further production of goods and services and sustains the circular flow.
- o This flow is called circular because it has no specific beginning or end and continues indefinitely.

*Circular flow of income can be viewed from two different angles-*

1. **What is Real Flow?** Real flow consists of flow of factor service and flow of goods and services among different sector of economy- **Yellow Arrows**
2. **What is Money flow?** Money flow consists of flow of money for factor services in form of wages, rent, dividend (Green arrow) and money expenditure incurred on purchase of goods and services (Blue arrow/green)

## ECONOMIC SECTORS OF AN ECONOMY

## 1. Household Sector:

1. Household sector owns factors of production. (**land, Labour and capital**)
2. They provide their service to producer for **return in form of income**.
3. The income earned is then **expended to purchase goods and services** from producers.
4. Household **pays taxes to government** and also saves part of their income



## 2. Business Sectors/ Firm/ Producer:

1. They **hire factors of productions** to produce goods and services and then sell them to household, government and other countries.
2. They **pay income to household** for factors of productions
3. Business sectors comprise of both private and govt. enterprises.

### 3. Government Sector:

1. Government earns **income in form of taxes** levied on households, Business sectors and also on import and export. (Direct tax and indirect tax)
2. It **buys factor services** from households and goods and services from producers.
3. It **uses this income for providing essential services** to community and for governance.



### 4. Foreign Sector/ Rest of the World

1. In this modern era countries **exports goods and also imports goods** from other countries.
2. The **factor services move across the border** of one country and also firm may hire factor service from other country too.



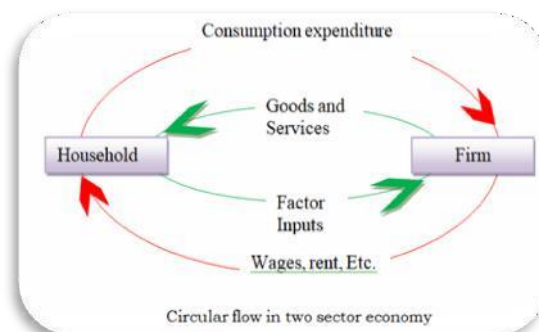
### Models of circular flow of Economy

2 Sector	3 Sector	4 Sector
Household Sector Firm Sector	Household Sector Firm Sector Government	Household Sector Firm Sector Government Rest of the world
	Closed Economy	Open economy

### Two Sector Model without savings- Refer Diagram below

#### Assumptions:

1. There are **only two sectors** in an economy. **Households and the firms.**
2. **No savings** is made by either by Household or by Firm.
3. Households **spend entire income** on goods and services and **firm distributes entire proceeds** in the form of factor payments.



#### Explanation:

1. The household sector supplies factor service to the firms and firm hires factor services from households.
2. The firm produces Goods and services and sells entire output to households.
3. A household receives Factor income from Firms and Spend entire income on consumption of goods and services.
4. The Factor inputs flows from Households to firm which represents **Real flow**. In return money flows from firms to households representing **Money flow**. These two flows are in opposite direction.
5. The Goods and services produced by firm flows to households which is **Real flow**. While the consumption expenditure which flows from household to firm represent **Money flow**. Again, these two flows are in opposite direction.



In this two-sector model without investment it is assumed that all the income earned by the Household is spent on buying Consumer Goods from the firm, while all the proceed are distributed as factor payments to households. Thus, the equilibrium will be achieved.

In other words, there is **no leakage in income** and the below mentioned equations hold good-

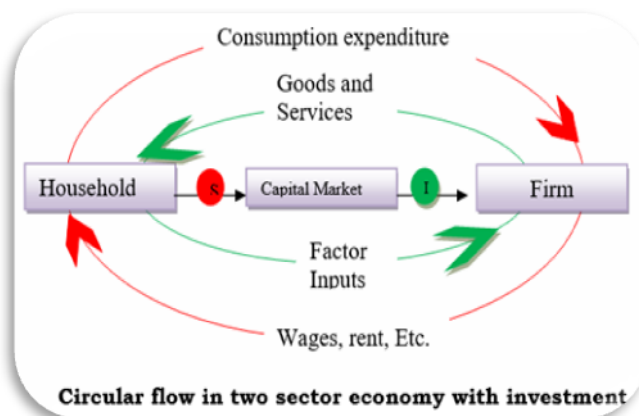
1. Total production of Goods and services by firm= Total consumption of goods and services by households.
2. Factor Income of household= Total factor payments.
3. Income of the firm= Expenditure of the households.
4. Real flow = Money flow

## Two Sector Model with Savings and Investment

### Assumptions

1. We have assumed that **savings is done only by Households and not firms.**
2. All the **savings** made by the households are **invested in capital Market.**

### Savings, Leakage, reduction in flow of income and investment



1. Now, as some part of income is saved by the household and only remaining part of the income is expended by the household, the flow of money in this circular flow reduces.
2. This represents a sort of **withdrawal or leakage of expenditure** from the circular flow of income. Thus, the money which is withdrawn from flow of income is called as Leakage or withdrawal.
3. This withdrawal reduces the flow of income from the economy and forces the **firm to reduce the production** and produce only consumer goods and not capital goods.
4. This **savings is then invested in Capital Market** (example bank, financial institutions).
5. Now the firms borrow from the capital market to compensate the deficit caused by the savings. This is called as **injection**.
6. This encourages the economy and firms **produces capital goods in addition to consumer goods.** This income does not arise from the expenditure of the household, rather is over and above the income arising from household expenditure. This additional income increases level of income in an economy.
7. Now the part of income (expenditure) flows from household to the firm in form of consumption expenditure and balance part flows in the form of investment with the help of intermediaries.
8. Savings by household is indicated by S while the investment is indicated by I. At equilibrium Savings of the household = investment of the firm i.e.

$$S=I$$

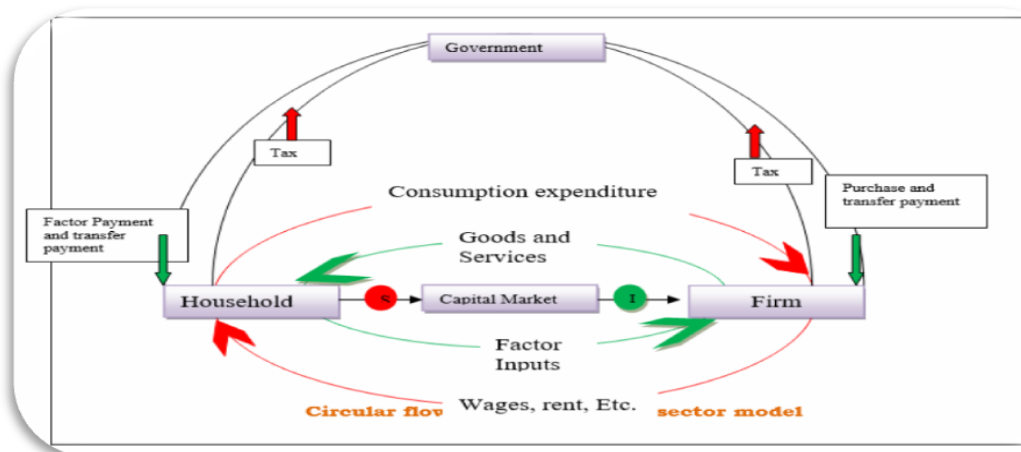
Savings made by the households and the investments may not be equal in all the time. There are three possible situations mentioned below-

- i. If Savings= Investment, equilibrium is achieved
- ii. Is Savings > Investment, the flow of income declines
- iii. Is Savings < Investment, the flow of income rises



### Three Sector Model of circular flow of income

The three-sector model consists of Households, Firms and Government.



#### Household sectors:

1. Household sectors provide factor services to **Firm and Government**. For the factor service provided the households receives **Factor income** from the firm and Government.
2. Part of the income is spent by the households in **consumption of Goods and services** and some part is **saved** and some part is **paid to government in the form of taxes**.
3. As mentioned earlier, the **saving** acts as leakage of money form circular flow of income **taxes paid to government** also acts as **leakage to the circular flow**.
4. The Household also receives **transfer payments** from the government which acts as an **injection** to circular flow of money.

#### Government sector:

1. Government **collects taxes (Direct and indirect)** from Households and Firms. Taxes collected from the households and the firm acts as **leakage to circular flow of income** as it reduces the flow of money form the economy.
2. Government makes **transfer payments to households** (injection) and provided subsidies to them which acts as an injection to an economy
3. Government makes **payment for Goods and services for purchased** by them, which acts as an injection to an economy.
4. Government also **pays to the households for the factor services** received by them

#### Firms:

1. Business sectors **hire the factor of production** for the purpose of production and make factor payments for the factor services received by them.
2. The Business **receives income form the consumption of Households and Government**
3. Also, the **taxes are paid by business sector** to the government. This acts as leakage to circular flow of income.
4. The business sector receives subsidies and transfer payment form the Government which is an injection to circular flow of income.
5. Also, the **savings of the households are channelized by financial institutions** to meet the investment needs of the firms. This is an injection to circular flow of income.

**In-short taxes constitutes as leakage of income from circular flow of income. On the other hand, government expenditures and transfer payments are an injection in the flow**

1. The equilibrium condition of circular flow of income in 3 sector economy model is:  $S+T = I+G$ .
2. If  $(S+T) > (I+G)$ - Decline in flow of income
3. If  $(S+T) < (I+G)$ - Increase in flow of income

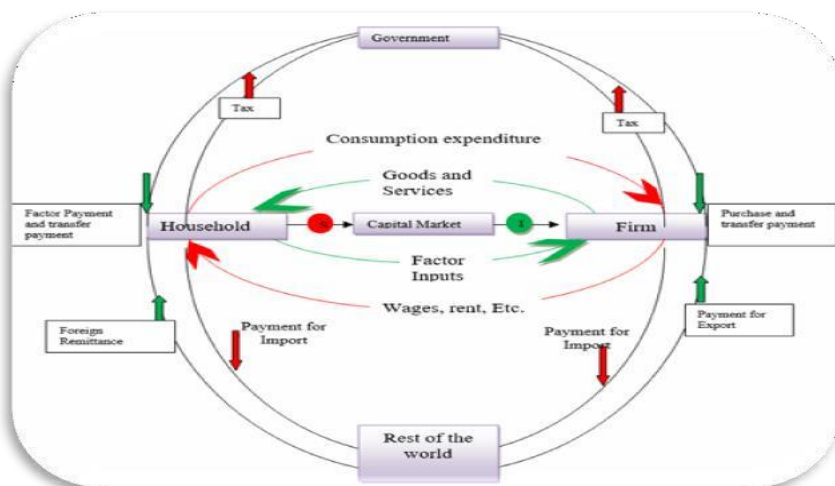
### Four Sector Model of circular flow of income

It is also called as open economy model as it is engaged in international operations too.

#### Explanation:

- \* The households imports goods and services and make payment to foreign sector.
- \* Whereas, if the household sector provides factor service to the foreign sector they receives foreign remittance. (Example: Indian people working abroad and remitting income to their families in India).
- \* Similarly, the business sectors exports goods and services to foreign sector and receives remittance and vice versa.

\* **Export is denoted by X while Import is denoted by M.**

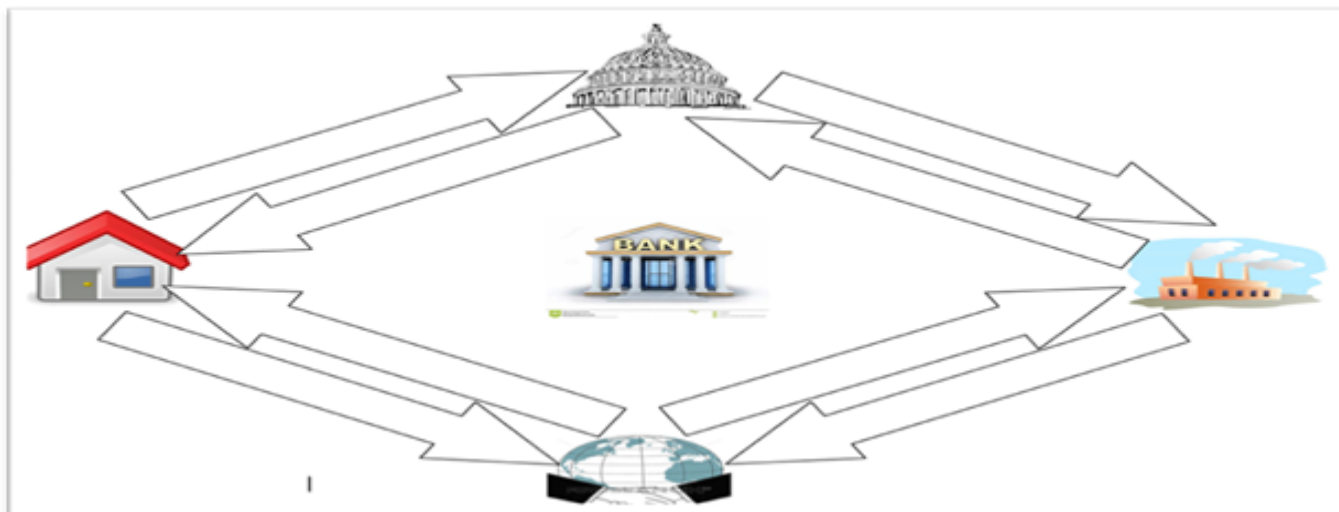


Thus, it can be said that X constitutes injection while M creates leakage into circular flow of income.

1. At equilibrium =  $S+T+M = I+G+X$
2. If  $S+T+M > I+G+X$ , there is decline in flow of income.
3. If  $S+T+M < I+G+X$ , there is increase in flow of income

#### Distinction between three and four sector Economy model:

Components	Household consumption (C) Business investment demand (I) Govt. Demand of Goods and services (G)	Household consumption (C) Business investment demand (I) Govt. Demand of Goods and services (G) Foreign sector (x-m)
Equation	$C+I+G$	$C+I+G+(x-m)$
Effect of GDP and NI	GDP at factor cost= National Income, provided for depreciation	GDP at factor cost= National Income, provided for depreciation and NFIA
New addition	Government sector	Govt. and Foreign sector
Effect	Presence of Govt. Adds injection to economy by spending and leakage in form of taxes.	Apart from Govt. sector. Import acts as leakage while exports act as injection.



**Importance of Circular Flow of Income**

1. **Easy to view** the entire system as circular flow of income.
2. Circular flow of income pinpoints the condition of **macroeconomics equilibrium**.
3. It gives an idea as to **how different sectors of economy interacts**
4. It shows how different sectors of economy (Household sector, Business sector, Government and Rest of the world) are **interdependent and are interrelated**.
5. It helps in determining **size of income**. We can estimate national income with the help of output, income and expenditure phases of circular flow of income

Thus,

National Income refers to -


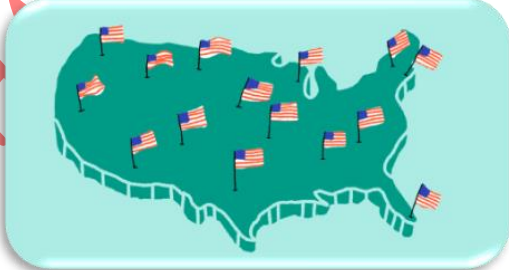
1. Money Value of all the **final goods and services produced** by a country during a year. (Production Phase)
2. **Total Flow of Earnings** of the Factor Owners, in the form of Wages, Salaries, Rent, Interest and Profits, which they receive through the production of goods and services. (Income Generation Phase)

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## Unit 2- National Income Aggregates

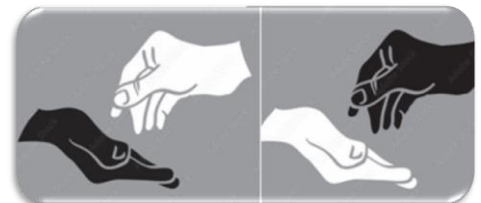
### Domestic Product and National Product (Domestic income and National Income)



Particulars	Domestic Products	National Products
<b>Meaning</b>	Money value of Final Goods and service produced by <b>both, nationals of the country as well as foreign national</b> located <b>within domestic territory</b> of a country during a year	Money value of Final Goods and service produced by <b>Normal Resident of a country</b> whether operating within <b>domestic territory of a country or outside.</b>
<b>Basis of differentiation</b>	<ul style="list-style-type: none"> <li>⤴ Addressed with the question of <b>where</b> the income is generated.</li> <li>⤴ It is geography or territory oriented</li> </ul> 	<ul style="list-style-type: none"> <li>⤴ It can be addressed with the question of <b>who</b> generates the income.</li> <li>⤴ It is Nationality Oriented.</li> <li>⤴ It excludes foreign national</li> </ul> 

#### Net factor Income Earned from Abroad

Net factor Income Earned from Abroad or **NFIA** is the difference between the factor income received by normal resident of the country from rest of the world for rendering factor services abroad (implies that transfer payments are not to be included) and the factor income accruing to rest of the world for the factor services rendered by them in this country.



#### National Product at Market Price and National Product at Factor Cost

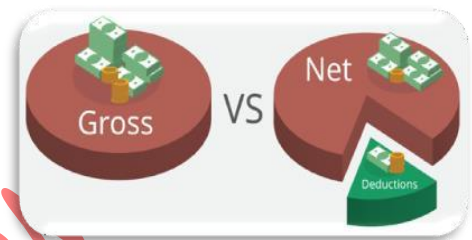
- 1) Factor cost refers to **factor payment made by the business to the owners of factor of production in the form of rent, wages, interest and profit**
- 2) **National product at Market price = National Product at factor cost + Indirect tax\* - Subsidies, or**
- 3) **National product at Market price = National Product at factor cost + Net Indirect tax\*\***
- 4) **Example-** Let us say that the cost of cooking gas Cylinder at the factor cost is 550 Rs. Now the taxes applied on this is 20% on factor cost. Also, to grant relief to poor subsidy is granted which amounts to 300 Rs. What will be the National Product at Market Price?

## Factor Cost vs Basic Price vs Market Price

- 1) **Factor cost = Sum total of factor income in form of rent, wages, interest and profit**
- 2) **Base Price: = Factor cost + Production tax (License, Stamp duty, municipal tax, property tax) - Production subsidies**
- 3) **Market price = base price + Product tax (Indirect tax/ GST) - product subsidy**
- 4) **Market Price: Basic Price + Product tax - Product Subsidy = Market Price.**
- 5) **MP = FC + Net Indirect tax (when production tax and production subsidies are not given)**
- 6) Note: Thus, market price includes both product tax as well as production tax while excluding both product and production subsidies.

## Gross Vs Net

1. The difference between Gross and Net arises on account of depreciation.
2. **Depreciation is charge for using fixed assets.**
3. In any production process where plant and machinery is used for production it is prone to wear and tear and with the passage of time the fixed assets gets consumed this is known as depreciation. It is prudent to provide depreciation to incorporate the cost of fixed asset.



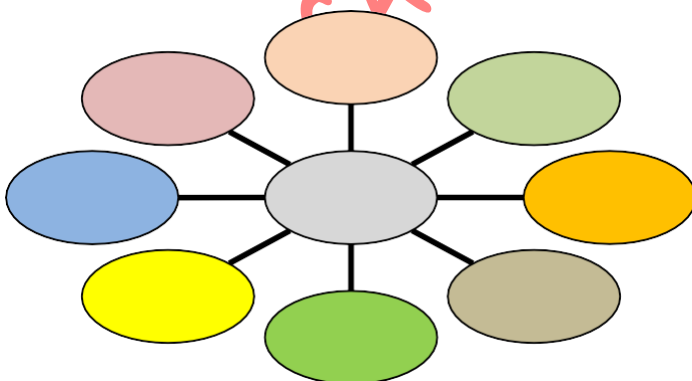
Thus,

**Net domestic Product = Gross domestic Product - Depreciation**

**Net national Product = Gross national Product - Depreciation**

## Summary of above three points

1. *National Income = Domestic Income + NFIA*
2. *Gross Product - depreciation = Net product*
3. *National product at Market price = National Product at factor cost + Net Indirect tax*





**1- Gross Domestic Product at Market Price - GDP<sup>MP</sup>**

GDP at Market price is the value of all final goods and services at **their market price** produced within the **domestic territory** of a country by normal residents, whether nationals or non-nationals, **inclusive of depreciation** during a year

**2- Gross National Product at Market Price - GNPMP**

GNP at Market price is defined as money value of all final goods and services at **their market price** produced by normal resident of a country, **inclusive of depreciation** during a year.

**3- Net Domestic Product at Market Price - NDPMP**

NDP at Market price is the value of all final goods and services at **their market price** produced within the **domestic territory** of a country by normal residents, whether nationals or non-nationals, **net of depreciation** during a year

**4- Net National Product at Market Price - NNPMMP**

NNP at Market price is defined as money value of all final goods and services at **their market price** produced by normal resident of a country, **net of depreciation** during a year

**5- Gross Domestic product at Factor cost - GDPFC**

Gross Domestic Product at factor cost is **the sum total of earnings** received by factors of **productions** in terms of wages, rent, interest and profits, **within the domestic territory** of the country, **inclusive of depreciation**.

**6- Gross National product at Factor cost - GNPFC**

Gross National Product at factor cost is **the sum total of earnings** received by factors of **productions** in terms of wages, rent, interest and profits by the normal residents of the country, **inclusive of depreciation**.

**7- Net Domestic product at Factor cost - NDPFC**

Net Domestic Product at factor cost is **the sum total of earnings** received by factors of **productions** in terms of wages, rent, interest and profits, **within the domestic territory** of the country, **net of depreciation**.

**8- Net National product at Factor cost - NNPFCC**

NNP at Factor cost is also called as National Income

Net National Product at factor cost is **the sum total of earnings** received by factors of **productions** in terms of wages, rent, interest and profits by the normal residents of the country, **net of depreciation**.

**Why NNP at factor cost is better measure of National Income than NNP at Market Price?**

**Answer:** NNP at Market price is affected by factor called as Net indirect tax. If there is change in tax rate and subsidy then NNP at market price figure will change accordingly **without actual increase in Factor cost**. Also, different countries have different tax rate and thus for **international comparison of relative income level**.

## Types of Income:

<p>Disposable income</p>	<p>Income available for disposable and it <b>includes transfer payments</b>.</p> <p><i>Example, Income may be 10,000 but one may also receive transfer payment which will increase the money received by him to the extent of transfer payment say 2000. Therefore, Income is 10000 while Disposable income is 12000</i></p> <p>Thus,</p> <p><b>Disposable income= Income + Net Transfer payment**</b></p> <p>Disposable income may be more or less depending upon whether Net transfer payment is positive or negative</p>
<p>National Disposable Income</p>	<p><b>National Disposable income is the sum total of National Income at Market price and net of Current transfer received from rest of the world</b></p> <p><b>Explanation</b></p> <ul style="list-style-type: none"> <li>• It is the income which is available for <b>disposable for a nation as a whole</b></li> <li>• Apart from the national income, it includes transfer payment made to rest of the world by nation or received by rest of the world.</li> <li>• It includes gifts, donations, grants, relief funds, etc.</li> <li>• The transfer received and transfer made is collectively known as <b>net transfer</b>, which may be positive or negative.</li> <li>• While the transfer from rest of the world is included, it does not take into account intra transfer between households, government and business sectors. This is because income of one sector will increase on such transfer, but same amount will be deducted from income of payer, leaving zero impact.</li> </ul> <p><b>Calculation and Formula</b></p> <ul style="list-style-type: none"> <li>• There are two aggregates to National Disposable income             <ol style="list-style-type: none"> <li>1. Gross National Disposable Income (GNDI)</li> <li>2. Gross National Disposable Income (NNDI)</li> </ol> </li> <li>• GNDI and NNDI differ to the extent of Depreciation.</li> </ul> <p><b>Formula</b></p> <p><b>GNDI = <math>GNP_{MP}</math> + Net transfer Payments received from rest of the world</b></p> <p><b>NNDI = <math>NNP_{MP}</math> + Net transfer Payments received from rest of the world</b></p> <p><b>NNDI = <math>GNP_{MP}</math> + Net transfer Payments received from rest of the world- depreciation</b></p>
<p>Disposable income of Private sectors</p>	<p>There are three disposable income aggregates, namely-</p> <ol style="list-style-type: none"> <li>1. Private Income</li> <li>2. Personal Income</li> <li>3. Personal Disposable income</li> </ol>
<p>Private Income</p>	<ol style="list-style-type: none"> <li>1. Private income is the income earned by both, <b>household and Business sectors</b> including the <b>current transfer payment</b> received from <b>Government and rest of the world</b>.</li> <li>2. It is the sum of factor income from all sources+ transfer payment from Govt. and rest of the world.</li> <li>3. It seeks to explain the portion of national income held by government and private sector.</li> </ol>

**Private income is the pre-tax income of private sector.**

To arrive at the Personal Income following adjustments need to be made.

	NNP <sub>FC</sub>	10000
Less	Income from property and entrepreneurship accruing to govt. commercial enterprises and admin department. Ex. Air India, Indian railway, BHEL, SAIL	(350)
Less	Savings of non- Departmental enterprises of govt.	(30)
Add	Interest on national debt *	20
Add	Net Current Transfer payment received from Govt. dept.**	120
Add	Net transfer payment received from rest of the world**	70
	Private Income	830

\*\* social security benefits, unemployment compensation, welfare payments etc.

\*\* Households receive interest payments from the firms and governments; they also make interest payments to firms and governments. As such, the net interest paid by households to firms and government is also deducted from national income.

Personal incomes

a) It is the **sum total of all current income actually received by household** from all sources. It includes the sum earned by the household in the form of factor income including transfer payments.

	Private Income	830
Less	Undistributed profits	30
Less	Corporate taxation / indirect business taxes, corporate income taxes and contributions towards social security	70
	Personal Income	730

**Usefulness of Personal Income.**

- It gives estimate of purchasing power in hands of public.
- It helps in understanding distribution of income and tax burden
- Helps govt. in designing tax policies

Personal disposable incomes

a) Disposable personal income is a measure of the **amount of the money in the hands** of the individuals that is available for their **consumption or savings**.  
b) Disposable personal income is derived from personal income by subtracting the direct taxes paid by individuals and other compulsory payments made to the government.

	Personal Income	730
Less	Miscellaneous receipts of Govt. department. Fines, fees etc.	30
Less	Personal taxation	60
	Personal Income	640

Per Capital Income

a) It is the average income of normal resident of a country in a particular year.  
b) The GDP per capita is a measure of a country's economic output per person.  
c) It serves as an indicator of the standard of living of a country.  
d) Per capita income =  $\frac{NNP_{FC}}{\text{Population}}$



## Summary

**GNDI** =  $GDP_{MP}$  + Net transfer payment received from rest of the world

**NNDI** =  $NDP_{MP}$  + Net transfer payment received from rest of the world

**Private Income** =  $NNP_{FC}$  - Income from property and entrepreneurship accruing to govt. commercial enterprises and admin department- Savings of non- Departmental enterprises of government + Interest on national debt + Net Current Transfer payment received from Govt. dept + Net transfer payment received from rest of the world

**Personal Income** = Private Income - Undistributed profits- Corporate taxes

**Personal disposable income** = Personal income- Personal taxes- Miscellaneous receipts of Govt. department.

**\*Interest that Govt. pays on National debt:** Sometimes govt. borrows fund from private institution and pays the interest on the same. The interest shall be included in factor payment by it is argued that the monies are utilized for welfare purpose and thus shall be treated as Transfer payment.

**\*\*The private sector receives transfer payment both from Govt. and rest of the world. Reverse is also true in many cases.**

## Real GDP vs Nominal GDP



	Nominal GDP	Real GDP
Also known as	GDP at Current price	GDP at Constant price
Meaning	GDP at Current price is the value of all final goods and services produced within the domestic territory of a country by normal residents, whether nationals or non- nationals, inclusive of depreciation during a year at <b>market price prevailing in that year</b>	GDP at Constant price is the value of all final goods and services produced within the domestic territory of a country by normal residents, whether nationals or non- nationals, inclusive of depreciation during a year at <b>market price prevailing in base year</b>
		$\text{GDP at constant price} = \frac{\text{GDP at Current price} \times 100}{\text{Price index of current year}}$

**Question:** Why GDP expressed at constant price is known as real GDP?

**Answer:** The GDP is the value derived by multiplying the price of product x number of units produced. The GDP may change on account of change in either of the factor. Thus, **GDP at current prices may not reflect REAL Domestic Output** This is because the GDP may rise because of rise in price of goods and service without the actual increase in production. This may lead to misleading figures. On the other hand, GDP at Constant price is affected only by change in quantities of final goods and services. Therefore, if GDP is expressed at constant price it takes price of base year and thus the change is only on account of change in production.

The price index of base year is taken as 100

**GDP Deflator:** It is the ratio of Nominal GDP (at Current Prices) to Real GDP (at Constant price)

$$\text{GDP Deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}}$$

- GDP Deflator takes out the Inflation out of Nominal GDP. It deflates the GDP.
- It converts Nominal GDP to Real GDP

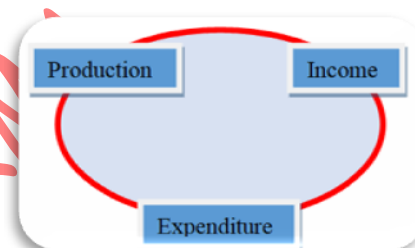
**Inflation:**

- Using the GDP deflator, the inflation rate between two consecutive years can be compute using the following procedure:
- Inflation rate in year 2 =  $\frac{\text{GDP deflator in year 2} - \text{GDP deflator in year 1}}{\text{GDP deflator in year 1}} \times 100$

### Methods of Measuring National Income

There are three ways to measure National Income

- Product method or Value-added method**- Flow of Goods and services
- Income Method**- Flow of income generated
- Expenditure Method**- Flow of Expenditure on Goods and services



All the methods mentioned above give same result. Different methods are used to calculate National income depending upon data available and sector into consideration.

**Explanation:** The factor of production gives factor services to the firms and in return to services rendered they receive factor payment "**Income**". This income is then "**Expended**" by the factor of production to buy goods and Services. This in turns leads to "**production**".


### Net product or Value-Added Method

<p><b>Meaning</b></p>	<p>National income by value added method is the sum total of net value added at factor cost across all producing units of the economy less intermediate purchases from all other industries.</p>	
<p><b>Steps 1</b></p>	<p>Identifying the producing enterprises and classifying them into different sectors according to the nature of their activities</p> <ol style="list-style-type: none"> <li><b>Primary sector</b>- production units which produces goods and commodities by exploiting natural resources. Examples- farming, Mining, Fishing, etc.</li> <li><b>Secondary sector</b>- This sector transforms one for of commodity into other form such as manufacturing</li> <li><b>Tertiary sector or service sector</b>- Provides services which are intangible in nature.</li> </ol>	



<b>Step 2</b>	Estimating the gross value added (GVA MP) by each producing enterprise. Gross value added (GVA MP) = Gross Value of production - value of Purchase = Value of output - Intermediate consumption = (Sales + change in stock) - Intermediate consumption. This will Give us GDPMP
<b>Step 3</b>	<b>Conversion:</b> <ul style="list-style-type: none"> <li>• <math>GDP_{MP} - \text{depreciation} = NDP_{MP}</math></li> <li>• <math>NDP_{MP} - \text{Net indirect tax} = NDP_{FC}</math></li> <li>• <math>NDP_{FC} + NFIA = NNP_{FC}</math></li> </ul>
<b>Inclusion and exclusions</b>	<b>Precaution in Estimation of National Income by Value-added Method-</b> <ol style="list-style-type: none"> <li>1. <b>Production for self- consumption-</b> For example the vegetation grown in backyard of house shall also be included in computation of production at <i>imputed cost</i>.</li> <li>2. <b>Own account production of fixed assets</b> by government, enterprises and households- Such as building built by business firm for own use.</li> <li>3. <b>Imputed rent of owner-occupied houses-</b> Thus, value of Owner-occupied houses shall also be calculated on Suitable basis.</li> <li>4. <b>Service of House wives</b> shall not be included in computation of National Income.</li> <li>5. <b>Sale and purchase of existing commodities or second-hand goods shall not be included. However, the brokerage services</b> relation to the same shall be included.</li> <li>6. <b>Sale and purchase of Share and Bonds</b> are excluded as they represent transfer of purchasing power only.</li> </ol>
<b>Difficulties or problem</b>	<ol style="list-style-type: none"> <li>1. While calculation NI, it is difficult to ascertain whether the product is <b>final product or intermediate product</b>. Example is Milk.</li> <li>2. In the country with vast landmass, unincorporated sectors, etc. it becomes difficult to rely data. <b>The problem is about reliability and completeness of data.</b></li> <li>3. Measurement of <b>depreciation</b> is also a difficult task.</li> <li>4. The change in inventory (Closing- Opening) is added for calculation if National Income. <b>The difficulty is in valuation of inventory.</b></li> </ol>

### Income Method/ Factor Payment Method/ Distributed Share Method

<b>Meaning</b>	National income is calculated by summation of factor incomes paid out by all production units within the domestic territory of a country as wages and salaries, rent, interest, and profit.	
<b>Steps 1</b>	Classify the income into appropriate income categories namely, <ol style="list-style-type: none"> <li>1. Labour Income or Compensation to employees</li> <li>2. Capital or Property income or Operating surplus</li> <li>3. Mixed Income of self employed</li> </ol> This will give $NDP^{FC}$	
<b>Step 2</b>	All the three above mentioned incomes are added to arrive at Net Domestic factor income	
<b>Step 3</b>	The above exercise will give $NDP_{FC}$ . The adjustment of NFIA will give National Income	

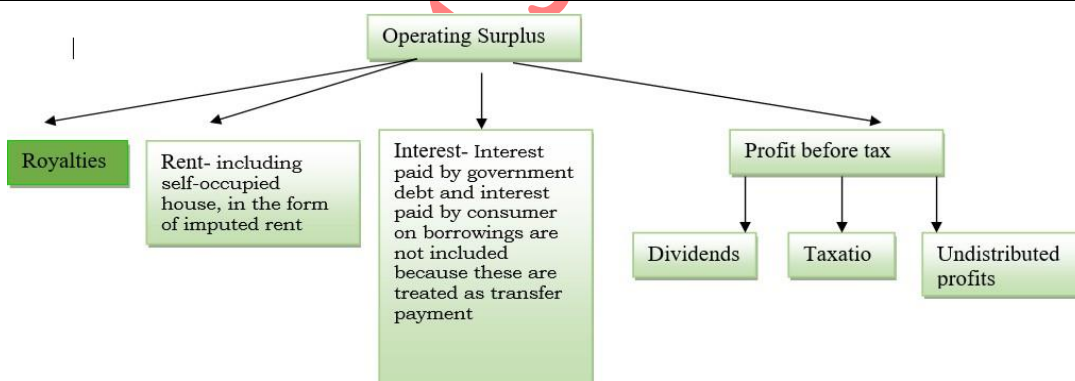
### Labour Income



- This is the **compensation paid to the labour/ employee** for the service rendered by them.
- It is the payment made by the producer to employees or labour, for the services rendered by them, in cash, kind and social security benefits.

Included	Excluded
Salaries and wages in cash including Bonus, DA, HRA	
Current year pension provision shall be considered.	Old age pension shall not be considered while calculating Labour income as it is a transfer payment
Travelling allowance shall be included if it is for travel from office to home and home to work	TA shall be excluded if it is for business work or on reimbursement basis.
Contribution of employer to social security fund shall be added. E.g. Provident fund	Contribution of employee to social security fund shall not be added as it is already part of salary.
Commission paid to sales staff	Interest free loan given to employee
Payment in kind- Rent free accommodation, Free Meal coupon	Old age pension
LIC premium paid by employer	Income tax of employee

### Operating Surplus



It is the income earned from **ownership and control of Capital**. Therefore, it is also known as income from **property** and **entrepreneurship**.

It includes

- Rent- including self-occupied house, in the form of imputed rent
- Interest
- Royalties for
- Profit before tax

#### Note:

- ✓ If the question mentions about Profit before tax than Undistributed profit, dividend and corporate taxes shall be ignore.
- ✓ If the question does not mention about the profit before tax- add all three
- ✓ If nothing is prefixed to profit, assume it to be PBT
- ✓ Interest paid by government debt and interest paid by consumer on borrowings are not included because these are treated as transfer payment

**Mixed Income**

- ∅ Mixed income is the income generated by **own account workers** and income of **unincorporated enterprises**.
- ∅ Example of such mixed income are legal service, agriculture, trading, proprietorship, Plumber, carpenter etc.
- ∅ Mixed income contains both components of income namely **capital income and labour income** of those who provides capital and labour service in production process.
- ∅ It is the **composite of both labor income and capital income** and arises in case where it is difficult to differentiate between labour element and capital element I factor of production.


Example of such incomes are own account workers like CA, Lawyer, Shopkeeper etc.

**Inclusion and exclusion**

Include	Exclude
Imputed rent of self-occupied house by owner of this house	Transfer payment- Refer earlier part of the chapter
Value of production for self-consumption	Illegal Income like, smuggling, drug dealing etc.
Imputed value of service provided by owner of production unit	Interest on loan taken for meeting consumption expenditure- eg. Loan to buy house, loan to buy car, etc.
Interest on loan taken for meeting business needs	Interest on national debt- refer earlier discussion
Brokerage service in facilitating the transaction of second-hand goods	Income in respect of second-hand commodities
Income tax and TDS to show gross income	Income arising from transfer of shares and other securities.

**Difficulties**

1. It is very difficult to estimate Mixed income in vast country with unincorporated sectors and un-organized sector.
2. Many economists criticize the non-inclusion of interest on national debt in calculation of national Income.
3. The data collected for calculation of NI is highly unreliable and understated.

Expenditure Method/ Income disposal Method	
<p><b>Meaning</b></p>	<p>In the expenditure approach, national income is the aggregate final expenditure in an economy during an accounting year.</p> <p>This approach gives GDP at market price.</p> 
<p><b>Explanation:</b></p>	<p>Expenditure on final goods and services in the economy is divided into four broad categories, namely</p> <ol style="list-style-type: none"> <li>1. <b>Private final consumption expenditure</b>- Consumption expenditure done by households.</li> <li>2. <b>Investment Expenditure</b>- Investment expenditure done by producers and Government in an economy.</li> <li>3. <b>Government final consumption expenditure</b>- Consumption expenditure done by government.</li> <li>4. <b>Net exports</b>- foreign component of expenditure in the form of net exports.</li> </ol>
<p><b>Private Final consumption expenditure</b></p>	<p><b>The volume of final sales of goods and services to consumer households and nonprofit institutions serving households acquired for consumption (not for use in production) are multiplied by market prices and then summation is done.</b></p>
<p><b>Denoted By C</b></p>	<p>It also includes the value of primary products which are produced for own consumption by the households, payments for domestic services which one household renders to another.</p>
<p><b>Government final consumption expenditure</b></p>	<p><b>Government means general government and not the government enterprises</b></p> <p>Since the collective services provided by the governments such as defense, education, healthcare etc. are not sold in the market, the only way they can be valued in money terms is by adding up the money spent by the government in the production of these services. This total expenditure is treated as consumption expenditure of the government.</p>
<p><b>Denoted By G</b></p>	<p>Government expenditure on pensions, scholarships, unemployment allowance etc. should be excluded because these are transfer payments.</p>
<p><b>Investment Expenditure</b></p>	<p>Gross domestic fixed capital formation includes final expenditure on machinery and equipment <b>and own account production of machinery and equipment</b>, expenditure on construction, expenditure on <b>changes in inventories</b>, and expenditure on the acquisition of valuables such as, jewelry and works of art.</p>
<p><b>Denoted By I</b></p>	<p>It comprises of-</p> <ol style="list-style-type: none"> <li>1. <b>Gross fixed investment</b>- Expenditure on machinery and equipment, expenditure on construction, and expenditure on the acquisition of valuables such as, jewelry and works of art.</li> <li>2. <b>Inventory Investment</b>- This means change in inventory.</li> <li>3. <b>Expenditure on residential investment</b>- Expenditure on purchase or construction of new houses. Own account production</li> </ol>

	of houses, expenditure on major repairs and renovation are to be included in expenditure on residential houses
<b>Net Export Denoted by X-M</b>	Net exports are the difference between exports and imports of a country during the accounting year. It can be positive or negative.
<b>Formula</b>	$GDP_{MP} = C+I+G+(X-M)$ Therefor National Income $Y = C + I +G + (X-M) +NFIA- Depreciation- NIT$
<b>Precautions</b>	<ol style="list-style-type: none"> <li>1. Goods meant for self-consumption shall be added and proper value shall be assigned in that case.</li> <li>2. Own account production of machinery and equipment shall be added to calculate final expenditure on machinery and equipment.</li> <li>3. Transfer payments shall be excluded.</li> <li>4. Expenditure on second-hand goods should be excluded.</li> <li>5. Expenditure on intermediate products should be excluded.</li> </ol>

**Question: Why are net exports added when computing national income by expenditure Method?**

**Answer:** There are two main reason why net exports added when computing national income by expenditure Method

- 1) Export represents foreign spending on domestic goods, Goods and services exported to other countries are produced by producer operating within domestic territory of the country. **Thus, export of good is part of domestic produce.** And therefore, it should be added to measure of production.
- 2) Expenditure on import is part of aggregate spending by resident of a country, though it a part of domestic product of other country. Hence Import must be subtracted.

Thus net export (Export - import is considered in calculation of National Income by Expenditure method.

### Choice of Different method

In many economies, it **may not be possible** to estimate National Income using any **one method exclusively**.

- a) **Income Method** is more suitable in cases where details relating to Factor Incomes are readily available. So, Income Method may be used in **Developed Economies** where Individuals and Business Entities properly file their Income Tax Returns, etc.
- b) **If Commodity Flow and Expenditure** -related details are available, then Expenditure Method can be used.
- c) An effective procedure is to arrive at National Income using all these three approaches / methods, which serves the following purposes -
  - i. to permit cross-checking of different methods, ensuring greater accuracy of data,.
  - ii. to provide more details and insights - e.g. Sectoral Contribution to Production, Income Group Distribution, Consumption and Investment Patterns, etc .
- d) In India, a **combination of the three methods** is used, e.g. *Production Method is used for Agricultural Sector, Income Method is used for Small Scale Sector and Expenditure Method is used for Construction Sector*, to determine Net Value Added in that Sector.



### Keynesian Theory of Income determination

#### Background:

- ✦ The Great Depression of the 1930's, was the greatest economic crisis the western world had experienced.
- ✦ Many economists then recommended **government spending** as a way of reducing unemployment, but they had no macroeconomic theory by which to justify their recommendations.
- ✦ A comprehensive theory to explain Income determination was first put forward by the British economist John **Maynard Keynes** in his masterpiece '**The General Theory of Employment Interest and Money**' published in 1936.

- ✦ The Keynesian theory of income determination is presented in two sector model, three sector model and four sector mode.
- ✦ *Equilibrium output occur when the desired amount of output demanded by all the agents in the economy exactly equals the amount produced in a given time period. In other words, an economy is said to be in equilibrium when the production plans of the firms and the expenditure plans of the households match.*

#### Key Words:

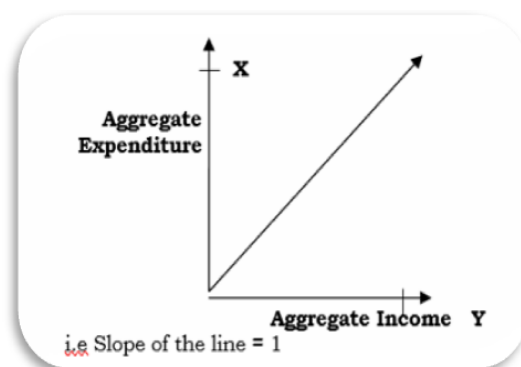
<b>Consumption Function</b>	<ol style="list-style-type: none"> <li>1. Functional relationship between aggregate consumption expenditure and aggregate disposable income, expressed as <math>C = f(Y)</math>. shows the level of consumption (C) corresponding to each level of disposable income (Y).</li> <li>2. The consumption function describes the functional relationship between <b>consumption spending and disposable income</b>.</li> <li>3. When income is low, consumption expenditures of households will exceed their disposable income and households dissave i.e. they either borrow money or draw from their past savings to purchase consumption goods.</li> <li>4. If the disposable income increases, consumers will increase their planned expenditures and current consumption expenditures rise, but only by less than the increase in income.</li> </ol>
<b>Saving Function</b>	Income not spent on consumption is saved. Thus, saving function denotes the balance after impact of consumption
<b>Marginal Propensity to consume</b>	<p>The concept of MPC describes the relationship between change in consumption (<math>\Delta C</math>) and the change in income (<math>\Delta Y</math>). The value of the increment to consumer expenditure per unit of increment to income is termed the Marginal Propensity to Consume (MPC).</p> $MPC = \frac{\Delta \text{Consumption}}{\Delta \text{Income}}$
<b>Marginal propensity to Save (MPS)</b>	<p>(1 - b) is called (Marginal Propensity to Save) MPS.</p> $MPS = \frac{\Delta S}{\Delta Y}$
<b>Average propensity to consume</b>	<p>The average propensity to consume is a ratio of consumption defining income consumption relationship. The ratio of total consumption to total income is known as the average propensity to consume (APC)</p> $APC = \frac{\text{Total consumption}}{\text{Total income}}$

	Income (Y)	Consumption (C)	APC (C/Y)	MPC ( $\Delta C / \Delta Y$ )	MPS ( $\Delta S / \Delta Y$ ) = (1 - MPC)
	0	500	$500/0 = \infty$	-	-
	1000	1250	$1250/1000 = 1.25$	$750/1000 = 0.75$	0.25
	2000	2000	$2000/2000 = 1.00$	$750/1000 = 0.75$	0.25
	3000	2750	$2750/3000 = 0.92$	$750/1000 = 0.75$	0.25
	6000	5000	$5000/6000 = 0.83$	$1500/2000 = 0.75$	0.25
	10,000	8000	$8000/10,000 = 0.80$	$3000/4000 = 0.75$	0.25

**Autonomous Expenditure** Autonomous consumption expenditure is the minimum expenditure to sustain life irrespective of size of income, thus it is income inelastic. The expenditure which do not vary with the level of income. They are determined by factors other than income such as business expectations and economic policy. They are generally made by ----- in the public sector with a view to provide public utilities & to make maximum social benefit.

### Keynesian theory of determination of National Income in two Sector Model.

- i. According to Keynes equilibrium output will occur when amount of quantity demanded will be equal to quantity produced. i.e.  $AD=AS$  \_\_\_\_\_ (1)
- ii. Quantity demanded is also known as Aggregate Demand which consists of two Components:
  - a. Aggregate demand for consumer goods (C)
  - b. Aggregate demand for Investment goods (I) (it is assumed to be constant) $AD = C + I$  \_\_\_\_\_ (2)
- iii. Aggregate Supply refers to Total Money Value of goods & Services produced and supplied in an economy per unit of time.
- iv. Value of Aggregate Supply in terms of Money = Quantity Produced x Price.
- v. **Value of Aggregate Supply = National Income.** \_\_\_\_\_ (3)
- vi.  $Income (Y) = C + S$  \_\_\_\_\_ (4)
- vii. Therefore from (1), (2), (3) & (4)
 
$$C + S = C + I$$
- viii.  $S = I$
- ix. The Keynesian Aggregate Supply Schedule or Aggregate Supply curve is drawn on the assumption that Total Income is always spent. Due to this assumption Aggregate Supply Curve is a  $45^\circ$  line in a graph.
- x. **Consumption is a function of Income.** Consumption depends upon income of consumer.
 
$$C = a + by$$



Where,

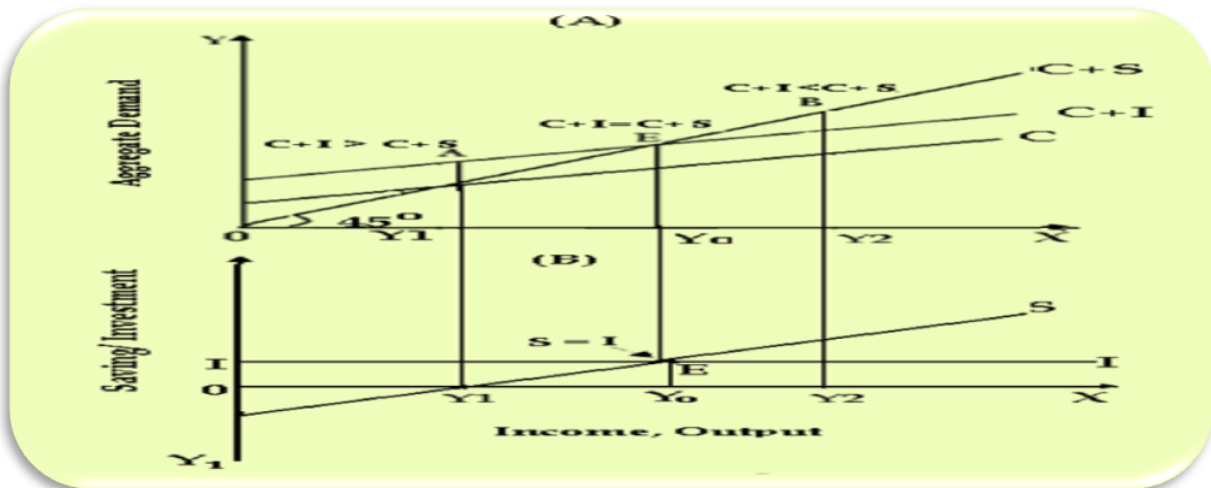
$C$  = Consumption expenditure

$a$  = +ve constant

$b$  = marginal propensity to consume (MPC)

$Y$  = national income

- ✚  **$a$  is consumption expenditure** when income is Zero &  $a$  will remain constant. Even if Income is Zero, still there is some consumption.  
i.e.  $C = a$ , when  $y = 0$  ( $y$  is income)
- ✚  **$b$  is that part of income which is spent on consumer goods.** 'b' is a constant ratio, it is also called a marginal propensity to consume (MPC)



xi. E.g.  $C = 50 + 0.5y$  and  $I = 50$

Determine the equilibrium-  
AD Schedule:

Income, Output (Y)	Consumption (C)	Investment (I)	Aggregate Demand (C+I)
0	50	50	100
50	75	50	125
100	100	50	150
150	125	50	175
200	150	50	200
250	175	50	225
300	200	50	250

- Note: Aggregate Supply is always equal to National Income, in the above table @ 200,  $AS = AD$ . This is the Equilibrium Point. This is the Equilibrium National.
- This is how National Income is calculated in two sector model.

❖ Why any other point cannot be Equilibrium NI?

❖ **Case 1:**  $AS > AD$  i.e.  $C+S > C+I$

Ans: The firm will not be able to sell its stock & firm will reduce the production and cut down on expenditure, as a result demand for factor of production will decrease, in case of Factor will reduce and thus spending will fall. This process will continue till equilibrium is reached.

❖ **Case 2:**  $AS < AD$  i.e.  $C+S < C+I$

Ans: Here Demand is greater than supply and hence producer will increase the production leading to higher National income. This will cause upward movement along the line to achieve the equilibrium.

### Keynesian theory of determination of National Income in three Sector Model.

- i. This model includes **Government** also.
- ii. Inclusion of Government brings two more variables-
  - a. **Government Expenditure** -is an **injection** to the economy and demands more income in the economy.
  - b. **Taxes** are **leakage** to the economy. Due to taxes income of the individual & firms reduces. Individuals and firms are able to spend less.
- iii. **Assumption under this model is that the Government follows a balanced budget.**  
 $\therefore$  **Government Expenditure = Government Revenue.**

There is no fiscal deficit.  $\therefore$  All taxes are spent on infra, welfare, admin etc.

- iv. **In three sector model equilibrium occurs when-**

$$AS = AD \quad \text{_____} \quad (1)$$

Aggregate demand of consumer goods = C

Aggregate demand of Investment goods = I

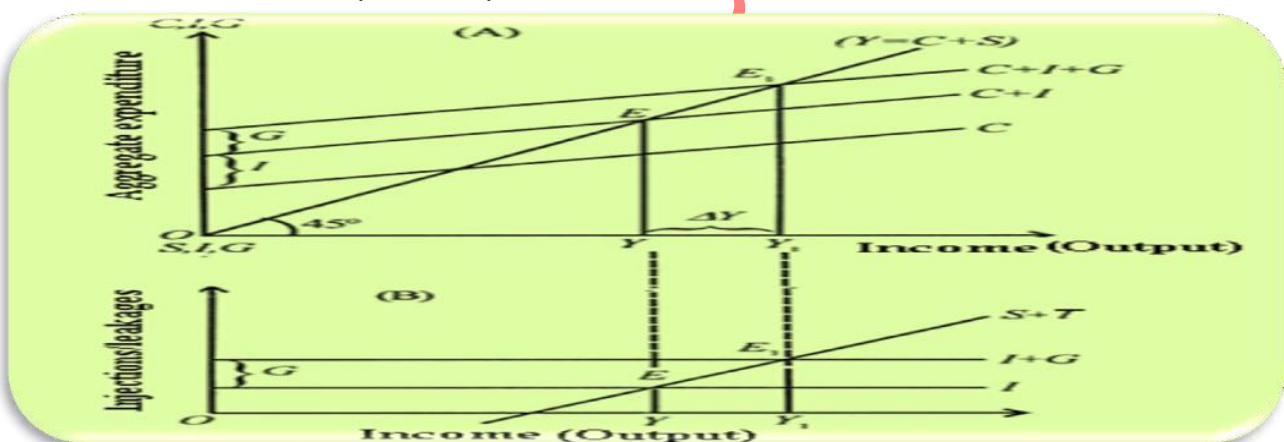
Aggregate demand of Government = G

$$\therefore Y = C + S + T \quad \text{_____} \quad (2)$$

$$= C + I + G \quad \text{_____} \quad (3)$$

- v. Therefore  $S+T=I+G$  \_\_\_\_\_ (From 1,2 & 3)

#### Graphical Representation of three sector model -



- vi. In a sector model those are effect of taxes, consumption will depend on disposable income of consumer.

$$\text{Disposable Income} = y - t$$

$$\text{Disposable Income} = Yd$$

$$\therefore \text{Consumption will be- } C = a + b(Yd) \quad \text{--- (4)}$$

- vii. Put the value of C in equation (4)

$$\therefore Y = \frac{1}{(1-b)} \times (a - bt + I + G)$$

$$Y = a + b(yd) + I + G$$

$$Y = a + b(y - t) + I + G$$

$$Y = a + by - bt + I + G$$

$$Y - by = a - bt + I + G$$

$$Y(1 - b) = a - bt + I + G$$

Let us assume-

$$C = 100 + 0.75y, I = 100, G = 50 \text{ and } t = 50\%$$

$$Y = \frac{1}{(1 - 0.75)} \times [100 - (0.75 \times 50) + 100 + 50]$$

$$Y = \frac{1}{0.25} \times (212.5)$$

$$Y = 850$$

850 is the equilibrium National Income.

Find National income when  $C = 100 + 0.5y$ ,  $I = 700$ ,  
 $G = 150$ ,  $t = 50\%$ -

### Keynesian theory of determination of NI in Four Sector Model.

1. It relates to income determination in an open economy.
2. Foreign Sector gives rise to two variables.  
**Export - acts as injection to National Income.**  
**Imports - acts as leakage to National Income**
3. The difference between Export & Imports ( $x - m$ ) is called **Net Exports**.
4. We will incorporate net exports in our Model.
5. If  $x > m$  it is net injection into economy. & If  $x < m$  it is leakage into economy & NI will decrease.
6. **Export is treated as autonomous variable** as it is beyond the control of an economy.
7. **In 4 Sector Model, X, I and G are autonomous variables.**
8. Equilibrium output is determined when Aggregate demand = Aggregate supply

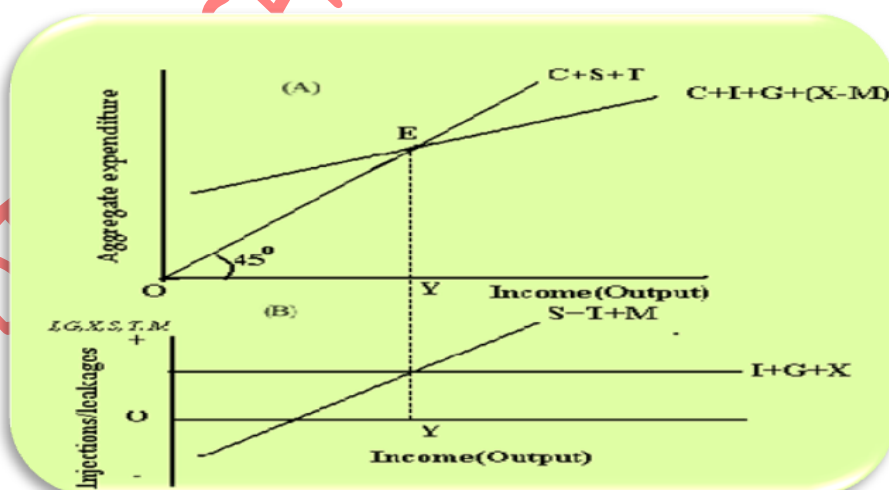
$$AS = AD$$

$$C + S + T = C + I + G + (x - m)$$

$$\therefore S + T = I + G + (x - m)$$

$$\text{OR } S + I + m = I + G + x$$

Graphical Representation of Model -



### Investment Multiplier:



1. The multiplier refers to the **phenomenon whereby a change in an injection of expenditure will lead to a proportionately larger change** (or multiple change) in the level of national income.
2. The process of increase in national income due to increase in investment depicts the investment multiplier.
3. Multiplier explains how many times the aggregate income increases as a result of an increase in



investment.

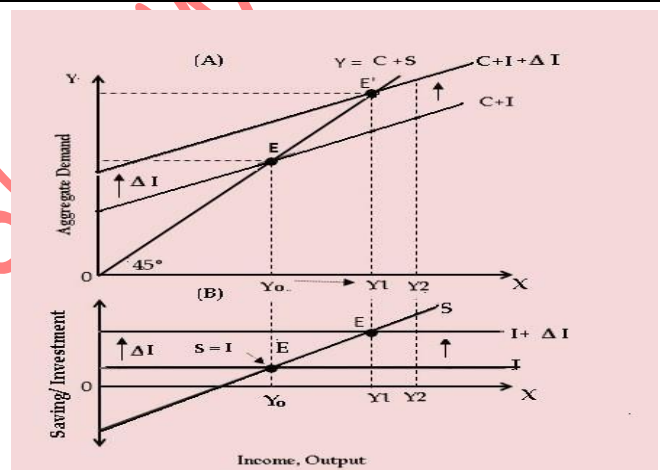
4. When the level of investment increases by an amount say  $\Delta I$ , the equilibrium level of income will increase by some multiple amounts,  $\Delta Y$ .
5. The ratio of  $\Delta Y$  to  $\Delta I$  is called the investment multiplier,  $k$ .
6.  $\Delta Y = k \Delta I$ .
7. The value of the multiplier is found from the equation  $k = 1 / (1 - MPC)$ . Or  $K = 1 / MPS$
8. The multiplier shows how shocks to one sector are transmitted throughout the economy.

### How does Multiplier work?

1. For example, if a change in investment of Rs. 2000 million causes a change in national income of Rs. 6000 million, then the multiplier is  $6000/2000 = 3$ . Thus, multiplier indicates the change in national income for each rupee change in the desired investment.
2. The value 3 in the above example tells us that for every Rs. 1 increase in desired investment expenditure, there will be Rs. 3 increase in equilibrium national income. Multiplier, therefore, expresses the relationship between an initial increment in investment and the resulting increase in aggregate income

### Effect of Changes in Autonomous Investment

1. an increase in autonomous investment by  $\Delta I$  shifts the aggregate demand schedule from  $C+I$  to  $C+I+\Delta I$ .
2. Correspondingly, the equilibrium shifts from  $E$  to  $E'$  and the equilibrium income increases more than proportionately from  $Y_0$  to  $Y_1$ .



### Till how long these processes go?

1. Increase in income due to increase in initial investment, does not go on endlessly.
2. The process of income propagation slows down and ultimately comes to a halt.
3. Causes responsible for the decline in income are called leakages. Income that is not spent on currently produced consumption goods and services may be regarded as having leaked out of the income stream.
4. If the increased income goes out of the cycle of consumption expenditure, there is a leakage from the income stream which reduces the effect of multiplier.
5. The more powerful these leakages are, the smaller the value of the multiplier. The leakages are caused due to:
  - a) Progressive rates of taxation
  - b) High liquidity preference and idle saving or holding of cash balances
  - c) Demand met out of the existing stocks or through imports.
  - d) Additional income spent on purchasing existing wealth or purchase of government securities and shares from shareholders or bondholders, income used for payment of debts
  - e) case of full employment additional investment will only lead to inflation, and scarcity of goods and services despite having high MPC

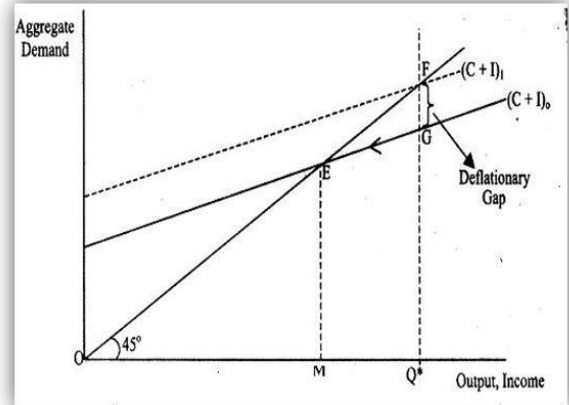
In underdeveloped countries value of multiplier is low, due to structural inadequacies, increase in consumption expenditure is not generally accompanied by increase in production.

### Relationship between Investment Multiplier and Marginal Propensity to consume

The Marginal Propensity to consume is the determinant of Value of multiplier and that there exists direct relationship between MPC and value of multiplier. Higher the MPC, Higher will be the Value of Multiplier, and Vice versa. Maximum Value of Multiple will be Infinite when MPC is 1. We conclude that value of Multiplier is reciprocal of MPS ( $1-MPC$ )

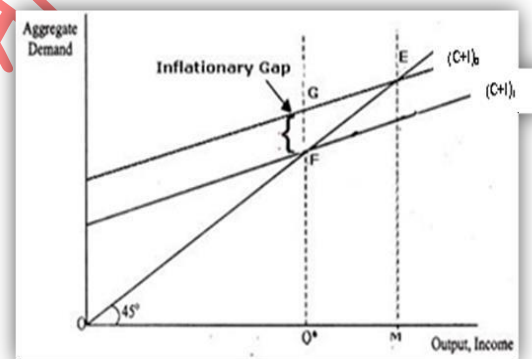
#### Deflationary Gap

1. If the aggregate demand is for an amount of output less than the full employment level of output, then we say there is deficient demand.
2. Deficient demand gives rise to a 'deflationary gap' or 'recessionary gap'.
3. Recessionary gap also known as 'contractionary gap' arises in the Keynesian model of the macro economy when the equilibrium level of aggregate production achieved in the short-run falls short of what could be produced at full employment.
4. Recessionary gap occurs when the economy is in a business-cycle contraction or recession.



#### Inflationary Gap

1. If the aggregate demand is for an amount of output greater than the full employment level of output, then we say there is excess demand.
2. Excess demand gives rise to 'inflationary gap' which is the amount by which actual aggregate demand exceeds the level of aggregate demand required to establish the full employment equilibrium.
3. This is the sort of gap that tends to occur during a business-cycle expansion and sets in motion forces that will cause demand pull inflation.



## Problem on GDP Deflator and Inflation

**Illustrations - 1**

Find out GDP Deflator? Interpret It

Years	Nominal GDP	(In Billion Rs.)	
		Real GDP	GDP Deflator
2014	500	500	100
2015	800	650	123.08
2016	1150	800	143.75
2017	1300	950	136.84
2018	1550	1190	130.25
2019	1700	1240	137.10

**Solution :**

A deflator above 100 is an indication of price levels being higher as compared to the base year. From years 2015 through 2019, we find that price levels are higher than that of the base year, the highest being in the year 2016. If the GDP deflator is greater than 100, then nominal

GDP is greater than real GDP. If the GDP deflator next year is less than the GDP deflator this year, then the price level has fallen; if it is greater, price levels have increased.

**Illustrations - 2**

The nominal and real GDP respectively of a country in a particular year are ₹ 3000 Crores and ₹ 4700 Crores respectively. Calculate GDP deflator and comment on the level of prices of the year in comparison with the base year.

**Solution :**

Nominal GDP = ₹ 3000 Crores  
Real GDP = ₹ 4700 Crores

$$\text{GDP Deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$

$$= \frac{3000}{4700} \times 100 = 63.83$$

The price level has fallen since GDP deflator is less than 100 at 63.83.

**Illustrations - 3**

Find nominal GDP if real GDP = 450 and price index = 120

**Solution:**

$$\text{Nominal GDP} = \text{Real GDP} \times \frac{\text{Price index}}{100}$$

$$\text{Nominal GDP} = 450 \times \frac{120}{100} = 540$$

**Illustrations - 4**

Suppose nominal GNP of a country in 2010 is given at ₹ 600 Crores and price index is given as base year 2010 is 100. Now let the nominal GDP increase to ₹ 1200 Crores in 2018 and the price index rises to 110, find out real GDP?

**Solution:**

$$\text{Real GDP} = \frac{\text{Nominal GDP}}{\text{Price index}} \times 100$$

$$\text{Real GDP} = \frac{1200}{110} \times 100 = 1090.9 \text{ Crores}$$

### Problem on Value added Method

5. Consider the following transactions in an economy-

- Industry A sells Wood to Industry B for Rs. 60.
- Industry B which is a Manufacturer of chairs to Industry C for Rs. 90.
- Industry C which is a dealer in furniture sells chairs to consumers for Rs. 100.
- Would you agree that the National income in this case is the total of all sale values, i.e. Rs. 60 + Rs. 90 + Rs. 100 = Rs. 250? Explain.

**Solution:**

1. Value of Intermediate Consumption should not be included in National Income, since it will lead to double counting.
2. Hence, the Value added at every stage should be considered, and not merely the Gross sales value.

Stage	Industry	Selling price	Cost price	Value added
First	A	60	0	60
Second	B	90	60	30
Third	C	100	90	10
Total		250	150	100

3. In reality, the economy is getting chairs worth Rs. 100 (the final value of product).

6 : Estimation of National Income by Value addition Suppose only the following transactions take place in an economy:

- Industry A imports goods worth Rs. 100. It sells goods worth Rs. 400 to Industry B, goods worth Rs. 200 to Industry C, and goods worth Rs. 1000 for private consumption.
- Industry B sells goods worth Rs. 500 to Industry C and goods worth Rs. 800 for Private Consumption.
- Industry C sells goods worth Rs. 600 to Private Consumption and Exports goods valued at Rs.500.

Calculate GNP(MP) with the help of Net Value Added Method:

**Solution:**

Sale price of output	400+200+1000 =1600	500+800= 1300	600+500 =1100
Less: Cost of Intermediate Consumption	100	400	200+500=700
Value added by Industry	1500	900	400

7. From the following Information, Calculate the National Income using Net output method.

1	Gross value of Output at Market price	16000
2	Consumption of Fixed asset	1300
3	Net Factor income from Abroad	300
4	Net Indirect taxes	750
5	Value of Intermediate consumption	6000

**Solution :**

Sr. No.	Particulars	Rs. in crore
	Gross value of Output at Market price	16,000
Less	Value of Intermediate consumption	6,000
	Value added at Market price (GDPMP)	10,000
Less	Consumption of Fixed asset	1,300
	NDP MP	8,700
Less	Net Indirect taxes	750
	NDP FC	7,950
Add	NFIA	300
	NNP FC	8,250

8. From the following Information, Calculate the National Income using Net output method.

Sr. No.	Particulars	Rs. In Crore
1	Value of Output of Primary sector	2000
2	Value of Intermediate consumption in primary sector	600
3	Value of Output of Secondary sector	2500
4	Value of Intermediate consumption in Secondary sector	900
5	Value of Output of Tertiary sector	3000
6	Value of Intermediate consumption in Tertiary sector	800
7	NFIA	-150
8	Net indirect taxes	450
9	Depreciation	200
10	Interest	1300

**Ans:**

Value added by Primary sector	= (2000- 600) = 1,400
Value added by Secondary sector	= (2500- 900) = 1,600
Value added by Tertiary sector	= (3000- 800) = 2,200
Total of three sectors will Give GDP MP	= 5200
Add NFIA	= -150
Less depreciation	= 200
Less Net indirect tax	= 450
NNP <sub>FC</sub>	= 4,400

9. From the following Information, Calculate the National Income using value added method.

Sr. No.	Particulars	Rs. In Crore
1	Value of Output of Primary sector	2400
2	Value of Intermediate consumption in primary sector	1200
3	Value of Output of Secondary sector	600
4	Value of Intermediate consumption in Secondary sector	300
5	Value of Output of Tertiary sector	900
6	Value of Intermediate consumption in Tertiary sector	150
7	Factor Income received from abroad	30
8	Factor Income paid abroad	60
9	Indirect taxes	150
10	Consumption of fixed capital	240
11	Subsidies received from Government	60

**Solution**

Value added by Primary sector	= (2400- 1200) = 1,200
Value added by Secondary sector	= (600- 300) = 300
Value added by Tertiary sector	= (900- 150) = 750
Total of three sectors will Give GDP MP	= 2,250
Add NFIA (30-60) =	= -30
Less depreciation	= 240
Less Net indirect tax	= (150-60) = 90
NNP <sub>FC</sub>	= 1,890

10. From the following Information, Calculate the National Income using Product method.

1	Value of Output of Primary sector	900
2	Value of Intermediate consumption in primary sector	800
3	Value of Output of Secondary sector	400
4	Value of Intermediate consumption in Secondary sector	350
5	Value of Output of Tertiary sector	320
6	Value of Intermediate consumption in Tertiary sector	100
7	NFIA	-15
8	Net indirect taxes	85
9	Depreciation	80

**Solution**

Value added by Primary sector	= (900-350) = 550
Value added by Secondary sector	= (800-320) = 480
Value added by Tertiary sector	= (400-100) = 300
Total of three sectors will Give GDP MP	= 1,330
Add NFIA	= -15
Less depreciation	= 80
Less Net indirect tax	= 85
NNP <sub>FC</sub>	= 1,150



11. Suppose there are three producing units in an economy A, B and C. With the help of details given below calculate the  $GPP_{MP}$  and National Income.

Sr. No.	Particulars	Rs. In Crore
1	Sales by A	1000
2	Sales by B	1200
3	Sales By C	1300
4	Closing stock of A	300
5	Opening stock of A	200
6	Change in stock of B	-100
7	Change in stock of C	-200
8	Depreciation	300
9	Purchase of A	600
10	Purchase of B	400
11	Purchase of C	200
12	Exports of A	400
13	Imports of B	200
14	NFIA	170

**Solution :**

Gross value added (GVA MP) = (Sales + change in stock) - Intermediate consumption.

Gross value added ( $GVA_{MP} A$ ) =  $(1000+300-200-600+400) = 900$

Gross value added ( $GVA_{MP} B$ ) =  $(1200-100-400-200) = 500$

Gross value added ( $GVA_{MP} C$ ) =  $(1300-200-200) = 900$

GDP MP = 2,300

Add NFIA = 170

Less Depreciation = 300

NNP FC = 2170

12. Calculate National Income and NDP at Market price using Product method

Sr. No	Particulars	Rs. In crore
1	Gross Value of output at market price	900
2	Value of Intermediate consumption	275
3	Depreciation	75
4	Indirect tax	40
5	Subsidies	5
6	NFIA	-12.5

**Solution :**

$GDP_{MP} = (900-275) = 625$

$NDP_{MP} = GDP_{MP} - \text{Depreciation} = 625-75 = 550$

National Income =  $NNP_{FC} = NDP_{MP} - \text{Indirect taxes} + \text{subsidies} + \text{NFIA} = 550-40+5+(12.5) = 502.5$

13. Calculate NI from the data given below

Sr no.	Particulars	Amount
1	Domestic sales	10800
2	Change in stock	1200
3	Import of RM	600
4	Exports	1100
5	Indigenous purchase	3600
6	Depreciation	450
7	NIT	300
8	NFIA	-20

**Solution :**

NI = 8130

### Problem on Income Method- labour Income

14. From the following calculate the compensation to the employee

1	Operating surplus	100
2	Mixed income of self-employee	60
3	Net indirect tax	30
4	Gross value added at Market price	250
5	Consumption of Fixed capital	20

**Solution :**

We know that  $NDP_{FC} = \text{Employee compensation} + \text{operating surplus} + \text{Mixed income}$   
 $GDP_{MP} = NDP_{FC} + \text{depreciation} + \text{NIT}$   
 $250 = NDP_{FC} + 20 + 30$   
 $NDP_{FC} = 200$   
 Putting it in equation 1  
 $200 = \text{Employee compensation} + 100 + 60$   
 Therefore, Employee compensation will be 40

15. From the following calculate the compensation to the employee

1	GDP at factor cost	2000
2	Consumption of fixed asset	400
3	Mixed income of self-employee	400
4	Profit	120
5	Rent	160
6	Interest	280

**Solution :**

We know that  $NDP_{FC} = \text{Employee compensation} + \text{operating surplus} + \text{Mixed income}$   
 $GDP_{FC} = NDP_{FC} + \text{depreciation}$   
 $2000 = NDP_{FC} + 400$   
 $NDP_{FC} = 1600$   
 Putting it in equation 1  
 $1600 = \text{Employee compensation} + (120 + 160 + 280) + 400$   
 Therefore, Employee compensation will be 640

16. From the following calculate the compensation to the employee

1	Rent and profit	657
2	Consumption of fixed assets	400
3	Intermediate consumption	1240
4	Value of Output	3450
5	NIT	70
6	Interest	450

**Solution :**

$GDP_{MP} = 3450 - 1240 = 2,210$   
 $NDP_{FC} = GDP_{MP} - \text{depreciation} - \text{NIT}$   
 $= 2,210 - 400 - 70$   
 $= 1,740$   
 $NDP_{FC} = \text{Compensation to employee} + \text{Mixed income} + \text{operating surplus}$   
 $1,740 = \text{compensation to employee} + 0 + (657 + 450)$   
 Therefore, compensation to employee = 633

17. From the following calculate the compensation to the employee

1	Rent	200
2	Profit	650
3	GDP at factor cost	3500
4	Depreciation	100
5	Mixed income of self-employed	1000
6	Interest	350

**Solution :**

$NDP_{FC} = GDP_{FC} - \text{depreciation}$   
 $NDP_{FC} = 3500 - 100 = 3400$   
 $NDP_{FC} = \text{Compensation to employee} + \text{Mixed income} + \text{operating surplus (Rent + interest + profit)}$   
 $3400 = \text{Compensation to employees} + 1000 + 200 + 650 + 350$   
 Compensation to employees = 1200

18. From the following calculate the compensation to the employee

1	Rent	140
2	Intermediate consumption	480
3	Profit	100
4	Value of output	2280
5	Consumption of fixed capital	200
6	NIT	240
7	Interest	80
8	Mixed income of self-employed	400

**Solution :**

$NDP_{FC} = GDP_{MP} - \text{depreciation} - \text{NIT}$

$NDP_{FC} = (2280-480)-200-240 = 1,360$

$NDP_{FC} = \text{Compensation to employee} + \text{Mixed income} + \text{operating surplus (Rent + interest+ profit)}$

$1,360 = \text{Compensation to employees} + 400 + 140 + 100 + 80$

Compensation to employees = 640

19. From the following calculate the Operating surplus

1	Compensation to employees	3
2	Depreciation	1
3	NIT	2
4	Gross value added at market price	12
5	Mixed income	1.5

**Solution :**

$NDP_{FC} = GDP_{MP} - \text{depreciation} - \text{NIT}$

$NDP_{FC} = \text{Operating surplus} + \text{Mixed income} + \text{Compensation to employees}$

From 1 and 2 we get Operating surplus = 4.5

20. From the following calculate the Operating surplus

1	Compensation to employees	232
2	Depreciation	25
3	Indirect taxes	80
4	Gross value added at market price	845
5	Subsidies	10
6	Intermediate consumption	418

**Solution :**

$NDP_{FC} = GDP_{MP} - \text{depreciation} - \text{NIT (Indirect tax- subsidies)}$

$NDP_{FC} = (845-418) - 25 - (80-10)$

$NDP_{FC} = \text{Operating surplus} + \text{Mixed income} + \text{Compensation to employees}$

$332 = \text{Operating surplus} + 0 + 232$

Operating surplus = 100

21. Calculate the compensation to the employee from the data given below

1	Wages and Salaries	9000
2	Bonus	750
3	Employer's contribution to gratuity	700
4	Value of free education	300
5	Value of free accommodation	200

**Solution :**

Compensation to the employee = Summation of all the above

22. Calculate the compensation to the employee from the data given below

1	Wages and Salaries	9000
2	Bonus	750
3	Employee's contribution to gratuity	700
4	Value of free education	300
5	Value of free accommodation	200

**Solution :**

Compensation to the employee = Summation of all the above except 3  
= 10250

Note: since the Employee's contribution to gratuity is already included in the salary and bonus. It shall be ignored.

23. Calculate the compensation to the employee from the data given below.

Sr no.	Particulars	Rs. In lakh
1	Wages and Salaries in cash	12350
2	LTA	2435
3	Free food to the employee during lunch	456
4	Commission paid to sales staff	570
5	Interest free loan to staff	1500
6	Travel expense on business tour, reimbursed by employee	350

**Solution :**

$$= 1+2+3+4= 15811$$

Note Interest free loan is repayable by employee and hence not treated as compensation

Also, reimbursement of travel expense is not a part of salary.

24. Calculate the compensation to the employee from the data given below.

1	Wages and Salaries in cash	520
2	LTA	300
3	Free food to the employee during lunch	200
4	Commission paid to sales staff	159
5	Compensation paid to injured worker by insurance company	176
6	Travel allowance paid to staff from home to office	250
7	Employees contribution to social security fund	155

**Solution:**

$$\text{Add } 1+2+3+4+6= 1429$$

Compensation paid to injured worker by insurance company is not paid by employer to the employee for the service rendered by him and Employees contribution to social security fund is already accounted in salaries. Hence both shall be ignored.

25. Calculate the compensation to the employee from the data given below.

1	Salaries and Wages	7000
2	Commission paid to sales staff	1200
3	Travelling allowance paid towards actual expense	300
4	Employer's contribution to Social security	540
5	Employee's contribution to Social security	320
6	Interest free loan given to employee	330
7	Old age pension	120
8	Rent free accommodation	110
9	LIC premium paid by employer	600
10	Income tax of employee	400
11	Employer's contribution to PF	250
12	Free meal coupons to employee	450

**Solution :**

Items included	Items excluded	Reason to exclude
Salaries and Wages	Travelling allowance paid towards actual expense	Not a part of salary. Just reimbursement
Commission paid to sales staff	Employee's contribution to Social security	Already included in salary
Employer's contribution to Social security	Interest free loan given to employee	Not a compensation, payable by employee
Rent free accommodation	Old age pension	Transfer payment
LIC premium paid by employer	Income tax of employee	
Employer's contribution to PF		
Free meal coupons to employee		

**Problem on Income Method- Operating Surplus**

26 Calculate the operating surplus from the data given below

1	Interest	3500
2	Rent	500
3	Undistributed Profits	1000
4	Subsidies	200
5	Dividend	800

**Solution :**

$$\text{Operating surplus} = \text{Interest} + \text{rent} + \text{undistributed profits} + \text{Dividends} = 3500+500+1000+800=5800.$$

Subsidies shall be ignored

27. Calculate the operating surplus from the data given below

Sr. no.	Particulars	Rs in lakhs
1	Interest	625
2	Rent	50
3	Undistributed Profits	375
4	Mixed income	250
5	Dividend	225
6	Corporate taxation	75
7	Royalty	50

**Solution :**

Operating surplus = Interest + rent + undistributed profits + Dividends + corporate taxation + royalty =  
 $625 + 50 + 375 + 225 + 75 + 50 = 1,400$

28. Calculate the operating surplus from the data given below

Sr. no.	Particulars	Rs in lakhs
1	Rent	170
2	Interest	180
3	Undistributed profits	220
4	Mixed income	400
5	Dividends	200
6	NIT	210
7	Corporate tax	80

**Solution :**

Operating surplus = 850: {exclude 4 and 6}

29. Calculate NDP<sub>FC</sub> and National Income from the data given below

Sr. no	Particulars	Amount in crore
1	Undistributed profits	200
2	Rent	1000
3	Wages and Salaries	10000
4	Net factor income from abroad	220
5	Interest paid by production units	1300
6	Royalty	700
7	National debt interest	300
8	Contribution to PF by employee	2000
9	Contribution to PF by employer	2000
10	Dividends	1000
11	Corporate taxation	200

**Solution :**

Calculation of NDP<sub>FC</sub> by Income method

NDP<sub>FC</sub> = Compensation to employees + Mixed income + Operating surplus  
 $= 12000 + 0 + 4400 = 16400$

National Income = NNPF<sub>C</sub> = NDP<sub>FC</sub> + NFIA =  $16400 + 220 = 16620$

WN 1 calculation of Compensation to employees

Compensation to employees = Wages and salaries + contribution to PF by employer =  $10000 + 2000 = 12000$

\* contribution to PF by employee shall not be considered as it is already included in salaries and wages

WN 2 Calculation of operating surplus

Calculation of operating surplus = Undistributed profits + Rent + Interest paid by production units + Royalty + Dividends + Corporate taxation

$= 200 + 1000 + 1300 + 700 + 1000 + 200 = 4400$

\* interest on national debt is treated as transfer payment and hence shall be ignored.



30. Calculate GDP at Market price, NDP at factor cost and National Income using income approach.

Sr. No	Particulars	Amount
1	Compensation to employees	925
2	Consumption of fixed assets	50
3	Rent	200
4	Interest	250
5	Dividend	100
6	Profits	550
7	NFIA	-25
8	Net indirect taxes	125

**Solution :**

Calculation of NDPFC by Income method

$$\begin{aligned} \text{NDPFC} &= \text{Compensation to employees} + \text{Mixed income} + \text{Operating surplus} \\ &= 925+0+1000=1925 \end{aligned}$$

$$\text{National Income} = \text{NDPFC} + \text{NFIA} = 1925-25=1900$$

$$\text{GDPMP} = \text{NDPFC} + \text{Depreciation} + \text{NIT} = 1925+50+125= 2100$$

WN 1 calculation of operating surplus:

$$\text{calculation of operating surplus} = \text{Rent} + \text{Interest} + \text{Profit} = 200+250+550=1000$$

Profit is assumed to be PBT

31. From the following data, calculate GDP at market price and National income by Income Method.

Sr. No.	Particulars	Amount in Crore
1	Interest	150
2	Rent	250
3	Dividends	240
4	Undistributed profits	290
5	Compensation to employees	1000
6	NFIA	30
7	Corporate tax	110
8	NIT	60
9	Depreciation	50

**Solution :**

Calculation of NDPFC by Income method

$$\begin{aligned} \text{NDPFC} &= \text{Compensation to employees} + \text{Mixed income} + \text{Operating surplus} \\ &= 1000+0+1040 = 2040 \end{aligned}$$

$$\begin{aligned} \text{National Income} &= \text{NDPFC} + \text{NFIA} \\ &= 2040+30 \\ &= 2070 \end{aligned}$$

$$\begin{aligned} \text{GDPMP} &= \text{National income} + \text{Depreciation} + \text{NIT} - \text{NFIA} \\ &= 2070+50+60-30 = 2150 \end{aligned}$$

WN 1 calculation of operating surplus:

$$\begin{aligned} \text{calculation of operating surplus} &= \text{Rent} + \text{Interest} + \text{dividends} + \text{undistributed profit} + \text{corporate taxation} \\ &= 150+250+240+290+110=1040 \end{aligned}$$

32. Calculate the national income and net domestic product at factor cost from the following data:

Particulars	Amount in crore
Wages and Salaries	1200
Rent	600
Interest	250
Dividend	150
Undistributed profits	500
Corporate taxation	300
Mixed income	200
Net factor income from abroad	100
Depreciation	50

**Solution :**

Calculation of NDPFC by Income method

$$\begin{aligned} \text{NDPFC} &= \text{Compensation to employees} + \text{Mixed income} + \text{Operating surplus} \\ &= 1200+200+1800= 3200 \end{aligned}$$

$$\begin{aligned} \text{National Income} &= \text{NDPFC} + \text{NFIA} \\ &= 3200+100 \\ &= 3,300 \end{aligned}$$

WN 1 calculation of operating surplus:

$$\begin{aligned} \text{calculation of operating surplus} &= \text{Rent} + \text{Interest} + \text{dividends} + \text{undistributed profit} + \text{corporate taxation} \\ &= 600+250+150+500+300=1800 \end{aligned}$$

33. Calculate the national Income and net domestic product at factor cost from the following data and GDP<sub>MP</sub>

Sr no.	Particulars	Amount
1	Employee contribution to social security scheme	160
2	Compensation to employees	3800
3	Rent	400
4	Interest	300
5	Profit	740
6	Depreciation	200
7	NFIA	-40
8	Indirect taxes	1000
9	Subsidies	200

**Solution :**

Calculation of NDPFC by Income method

$$\begin{aligned} \text{NDPFC} &= \text{Compensation to employees} + \text{Mixed income} + \text{Operating surplus} \\ &= 3,800 + 1,440 = 5,240 \end{aligned}$$

$$\begin{aligned} \text{National Income} &= \text{NDPFC} + \text{NFIA} \\ &= 5,240 - 40 \\ &= 5,200 \end{aligned}$$

$$\begin{aligned} \text{GDPMP} &= \text{National income} - \text{NFIA} + \text{Depreciation} + \text{Indirect taxes} - \text{subsidies} \\ &= 5,200 + 40 + 200 + 1,000 - 200 \\ &= 6,240 \end{aligned}$$

WN 1 calculation of operating surplus:

$$\text{calculation of operating surplus} = \text{Rent} + \text{Interest} + \text{profit} = 400 + 300 + 740 = 1,440$$

Note 1) Employee contribution to social security scheme is already included in compensation to employees and thus need not be considered again

34. Calculate the national Income and net domestic product at factor cost from the following data

Sr no.	Particulars	Amount
1	NFIA	-30
2	Depreciation	40
3	Net Indirect taxes	300
4	Wages and salaries	3800
5	Dividend	500
6	Rent	200
7	Interest	150
8	Profits	800
9	Employers contribution to social security scheme	200

**Solution :** Calculation of NDPFC by Income method

$$\begin{aligned} \text{NDPFC} &= \text{Compensation to employees} + \text{Mixed income} + \text{Operating surplus} \\ &= (3800 + 200) + 0 + 1150 = 5,150 \end{aligned}$$

$$\begin{aligned} \text{National Income} &= \text{NDPFC} + \text{NFIA} \\ &= 5,150 + (-30) \\ &= 5,120 \end{aligned}$$

WN 1 calculation of operating surplus:

$$\begin{aligned} \text{calculation of operating surplus} &= \text{Rent} + \text{Interest} + \text{profit} \\ &= 200 + 150 + 800 = 1,150 \end{aligned}$$

Since profit is considered there is no need to consider dividend again

### Problem on Expenditure Method

35. Calculate the national Income using the following data.

1	Private Final consumption expenditure	90
2	Profits	10
3	Government Final consumption expenditure	40
4	NIT	10
5	Gross domestic capital formation	25
6	Change in stock	5
7	NFIA	-4
8	Consumption of Fixed capital	2
9	Net Imports	3

**Solution :**

As per Expenditure method

$$\text{National income} = C + I + G + (X-M) - \text{depreciation} + \text{NFIA} - \text{NIT}$$

$$= 90 + 40 + (5 + 25) - 3 - 2 - 4 - 10 = 141.$$

36. From the following data, calculate-  $\text{GDP}_{\text{MP}}$ ,  $\text{NNP}_{\text{FC}}$  by expenditure method

1	Private Final consumption expenditure	200
2	Net domestic capital formation	40
3	Government final consumption expenditure	100
4	Consumption of fixed assets	12
5	NFIA	-2
6	Indirect taxes	20
7	Net exports	-4
8	Subsidies	4
9	Interest	12

**Solution :**

As per Expenditure method

$$\text{National income} = C + I_g + G + (X-M) - \text{depreciation} + \text{NFIA} - \text{NIT}$$

$$= 200 + 52_{(40+12)} + 100 + (4) - 12 + (2) - (20 - 4) = 318$$

$$\text{GDP}_{\text{MP}} = \text{NNP}_{\text{FC}} + \text{depreciation} - \text{NFIA} + \text{NIT}$$

$$= 318 + 12 - (2) = 328$$

37. From the following data, calculate-  $\text{GNP}_{\text{MP}}$ ,  $\text{NNP}_{\text{FC}}$  by expenditure method

1	Net capital formation	200
2	Private final consumption expenditure	1000
3	Government final consumption expenditure	300
4	Depreciation	50
5	Net indirect taxes	200
6	Net factor income from abroad	-10
7	Net exports	10

**Solution :**

As per Expenditure method

$$\text{National income} = C + I_g + G + (X-M) - \text{depreciation} + \text{NFIA} - \text{NIT}$$

$$= 1000 + 250 + 300 + 10 - 50 - 10 - 200 = 1300$$

$$\text{GNP}_{\text{MP}} = \text{NNP}_{\text{FC}} + \text{depreciation} + \text{NIT}$$

$$= 1300 + 50 + 200 = 1550$$

38. From the following data National income by expenditure method

1	Consumption	150
2	Net Investment	50
3	Government purchases	20
4	Exports	20
5	Imports	40

**Solution :**

As per Expenditure method

$$\text{National income} = C + I_g + G + (X-M) - \text{depreciation} + \text{NFIA} - \text{NIT}$$

$$= 150 + 50 + 20 + (20 - 40) = 200$$

39. From the following data, calculate-  $\text{GDP}_{\text{MP}}$ ,  $\text{NNP}_{\text{FC}}$  / national income by expenditure method

1	Gross residential construction investment	3000
2	Consumption of Fixed assets	500
3	Imports	1000
4	Government purchases of goods and services	10000
5	Inventory Investment	1000
6	Exports	2000
7	Indirect taxes	1000
8	NFIA	-500
9	Personal consumption expenditure	35000
10	Gross public investment	2000
11	Gross business fixed investment	3000

**Solution :**

As per Expenditure method

$$\begin{aligned} \text{National income} &= C + I_g + G + (X-M) - \text{depreciation} + \text{NFIA} - \text{NIT} \\ &= 35000 + (1000 + 2000 + 3000 + 3000) + 10000 + (2000 - 1000) - 500 - 500 - 1000 \\ &= 53000 \end{aligned}$$

$$\begin{aligned} \text{GDP}_{\text{MP}} &= \text{NNP}_{\text{FC}} + \text{depreciation} + \text{NIT} - \text{NFIA} \\ &= 53000 + 500 + 1000 + 500 \\ &= 55000 \end{aligned}$$

40. From the following data, calculate-  $\text{GDP}_{\text{MP}}$ ,  $\text{NNP}_{\text{FC}}$  / national income by expenditure method

1	Corporate profits	682
2	Exports	1346
3	NFIA	40
4	Mixed income	806
5	Personal Consumption expenditure	7314
6	Depreciation	800
7	Wages	6508
8	Interest	1000
9	Domestic investment	1442
10	Government expenditure	2196
11	Rental Income	34
12	Imports	1408

**Solution :**As per Income method  $\text{GDP}_{\text{MP}} =$  Employee compensation (wages and salaries+ employer's contribution to social security scheme) + Profit+ rent+ interest+ Mixed income+ depreciation+ NIT

$$\text{GDP}_{\text{MP}} = 6508 + 34 + 1060 + 806 + 682 + 1000 + 800 = 10,890$$

$$\text{GNP}_{\text{MP}} = \text{GDP}_{\text{MP}} + \text{NFIA} = 10,890 + 40 = 10,930$$

Expenditure method

$$\begin{aligned} \text{GDP}_{\text{MP}} &= C + I + G + (X-M) \\ &= 7314 + 1442 + 2196 + (1346 - 1408) \\ &= 10,890 \end{aligned}$$

$$\text{GNP}_{\text{MP}} = \text{GDP}_{\text{MP}} + \text{NFIA} = 10,890 + 40 = 10,930$$

41. From the following data, calculate-  $\text{GDP}_{\text{MP}}$ ,  $\text{NNP}_{\text{FC}}$  / national income by expenditure method

1	NFIA	25
2	Net Exports	-75
3	Change in stock	-15
4	Net Indirect tax	400
5	Net domestic fixed capital formation	250
6	Consumption of fixed capital	50
7	Private final consumption expenditure	2500
8	Government final consumption expenditure	1000

**Solution :**

$$\begin{aligned} \text{GDP}_{\text{MP}} &= C + I_g + G + (X-M) \\ &= 2500 + (250 + 50 - 15) + 1000 - 75 = 3,710 \end{aligned}$$

$$\begin{aligned} \text{National Income} &= \text{GDP}_{\text{MP}} + \text{NFIA} - \text{NIT} - \text{depreciation} \\ &= 3710 + 25 - 400 - 50 = 3,285 \end{aligned}$$

From the following data, calculate-  $\text{NDP}_{\text{MP}}$ ,  $\text{NNP}_{\text{FC}}$  / national income by expenditure method

	Private final consumption expenditure	1800
	Net exports	-60
	Government final consumption expenditure	300
	NIT	90
	Net domestic capital formation	210
	NFIA	30

**Solution :**

$$\begin{aligned} \text{NDP}_{\text{MP}} &= C + I_n + G + (X-m) \\ &= 1800 + 210 + 300 - 60 \\ &= 2,250 \end{aligned}$$

$$\begin{aligned} \text{National Income} &= \text{NDP}_{\text{MP}} - \text{NIT} + \text{NFIA} \\ &= 2,250 - 90 + 30 \\ &= 2,190 \end{aligned}$$

43. From the following data, calculate-  $GNP_{MP}$ ,  $NNP_{FC}$  / national income by expenditure method

Sr. No	Particulars	Rs. In 000`crore
1	Indirect tax	650
2	Subsidies	50
3	NFIA	-100
4	Net domestic capital Formation	1200
5	Personal Consumption expenditure	4000
7	Government final Consumption expenditure	1000
8	Imports	400
9	Exports	300
10	Consumption of fixed capital	200

**Solution :**

$$\begin{aligned}
 GNP_{MP} &= C + I_g + G + (X-m) + NFIA \\
 &= 4000 + (1200 + 200) + 1000 + (300 - 400) - 100 \\
 &= 6200 \\
 \text{National Income} &= GNP_{MP} - \text{NIT} - \text{depreciation} \\
 &= 6200 - 600 - 200 \\
 &= 5400
 \end{aligned}$$

### Two approach - Income and expenditure

44. From the following data calculate National Income using (a) income approach (b) Expenditure approach

1	Compensation to employees	800
2	Private final consumption expenditure	1200
3	Profit	500
4	Rent	200
5	Government final consumption expenditure	800
6	Interest	150
7	NFIA	20
8	NIT	190
9	Mixed income of self- employed	630
10	Net exports	-30
11	Net domestic capital formation	500
12	depreciation	150

**Solution :**

Income Method-

$$\begin{aligned}
 \text{National Income} &= \text{Compensation to employee} + \text{Mixed income of self- employed} + \text{Operating surplus} + \text{NFIA} \\
 &= 800 + (\text{Profit} + \text{rent} + \text{interest}) 500 + 200 + 150 + 630 + 20 = 2,300
 \end{aligned}$$

Expenditure Method

$$\begin{aligned}
 \text{National Income} &= C + I_n + G + (X-M) - \text{NIT} + \text{NFIA} \\
 &= 1200 + 500 + 800 - 30 - 190 + 20 = 2,300
 \end{aligned}$$

45. From the following data calculate National Income using (a) income approach (b) Expenditure approach

1	Compensation to employees	2400
2	Private final consumption expenditure	3000
3	Profit	1400
4	Rent	400
5	Government final consumption expenditure	2000
6	Interest	540
7	NFIA	60
8	NIT	220
9	Mixed income of self- employed	1200
10	Net exports	-40
11	Net domestic capital formation	1200
12	Gross domestic capital formation	1400

**Solution :**

Income Method-

$$\begin{aligned}
 \text{National Income} &= \text{Compensation to employee} + \text{Mixed income of self- employed} + \text{Operating surplus} + \text{NFIA} \\
 &= 2400 + (\text{Profit} + \text{rent} + \text{interest}) 1,400 + 400 + 540 + 1200 + 60 = 6,000
 \end{aligned}$$

Expenditure Method

$$\begin{aligned}
 \text{National Income} &= C + I_n + G + (X-M) - \text{NIT} + \text{NFIA} \\
 &= 3,000 + 1200 + 2,000 - 40 - 220 + 60 = 6000
 \end{aligned}$$



46. From the following data calculate National Income using (a) income approach (b) Expenditure approach

1	Compensation to employees	600
2	Private final consumption expenditure	1000
3	Profit	400
4	Rent	200
5	Government final consumption expenditure	550
6	Interest	310
7	NFIA	-10
8	NIT	60
9	Mixed income of self- employed	350
10	Net exports	-15
11	Net domestic capital formation	385
12	Gross domestic capital formation	450

**Solution :**

Income Method-

$$\text{National Income} = \text{Compensation to employee} + \text{Mixed income of self- employed} + \text{Operating surplus} + \text{NFIA}$$

$$= 600 + (\text{Profit} + \text{rent} + \text{interest}) (400 + 200 + 310) + 350 - 10 = 1,850$$

Expenditure Method

$$\text{National Income} = C + In + G + (X-M) - \text{NIT} + \text{NFIA}$$

$$= 1,000 + 385 + 550 - 15 - 60 - 10 = 1,850$$

47. From the following data calculate National Income using (a) income approach (b) Expenditure approach

1	Compensation to employees	250
2	Private final consumption expenditure	450
3	Profit	110
4	Rent	45
5	Government final consumption expenditure	200
6	Interest	50
7	NFIA	-5
8	NIT	82.5
9	Mixed income of self- employed	200
10	Net exports	-12.5
11	Net domestic capital formation	100

**Solution :**

Income Method-

$$\text{National Income} = \text{Compensation to employee} + \text{Mixed income of self- employed} + \text{Operating surplus} + \text{NFIA}$$

$$= 250 + (\text{Profit} + \text{rent} + \text{interest}) (110 + 45 + 50) + 200 - 5 = 650$$

Expenditure Method

$$\text{National Income} = C + In + G + (X-M) - \text{NIT} + \text{NFIA}$$

$$= 450 + 100 + 200 - 12.5 - 82.5 - 5 = 650$$

48.. Relationship between National income measures

Calculate Gross national disposable income from the following data (in Rs. Crores)

NDP at Factor cost	6000	Net current transfers from rest of the world	500
Net factor income to abroad	-300	Indirect taxes	700
Consumption of fixed capital	400	Subsidies	600
Current transfers from Government	200		

**Solutions:**

Net domestic product at factor cost	Given 6000
Add: Depreciation (i.e. Consumption of fixed capital)	Given 400
Gross domestic product at factor cost	6400
Add: Net factor income from abroad	Given (300)
Gross national product at factor cost	6100
Add: Indirect taxes	Given 700
Less: Subsidies	Given (600)
Gross national product at market prices	6200
Add: Net current transfers from rest of the world	Given 500
Gross national disposable income	6700

Note: current transfers from Government are not included as they are simply transfers within the economy.

49 . Relationship between National income measures

You are given the following data on an economy (amounts in millions):

Consumer expenditure (inclusive of indirect taxes)	110 m	Net property income from abroad	10 m
Investment	20 m	Transfer payments	20 m
Government expenditure (inclusive of transfer payments)	70 m	Indirect taxes	30 m
Exports	20 m	Population	0.5 m
Imports	50 m		

Compute: (a) GDP at market prices, (b) Gross national income at market prices, (c) GDP at factor cost, and (d) Per capita gross national income at factor cost.

**Solution:**

(amounts in Rs. Millions)

- In a 4-sector economy (households, business, government and foreign sectors), we have the equation,  $Y = C + I + G + (X - M)$ , where C = Consumption, I = Investment, G = Govt. spending, X = Exports, M = Imports.

Substituting, we have,  $Y = \text{GDP at MP} = 110 + 20 + (70 - 20)$  i.e. net of transfer payments +  $(20 - 50) = 150$ .

- GNP at market prices = GDP at MP + Net factor income from abroad =  $150 + 10 = 160$ .

- GDP at factor cost = GDP at MP (-) Indirect taxes + Subsidies =  $150 (-) 30 + \text{Nil} = 120$

Per capita income at factor cost =  $\frac{\text{GNP at factor cost}}{\text{Population}} = \frac{\text{GDP at MP } 160 (-) \text{ Indirect taxes } 30}{\text{Population } 0.5} = 260$

50. In a single day, Ram collects Rs. 500 as Revenue. Over this day, his equipment depreciates in value by Rs. 50. Of the remaining Rs. 450, Ram pays GST worth Rs. 30, takes home Rs. 200 and retains Rs. 220 for improvement and buying of new equipment. He further pays Rs. 20 as Income Tax from his income. From this data, compute Ram's contribution to the following measures of income- (a) Gross Domestic Product (b) NNP at MP (c) NNP at FC (d) Personal income (e) Personal disposable income.

**Solution:**

GDP at market prices= GNP at Market Prices (since there is no Net factor income from abroad)	500
Less: Depreciation	(50)
Net National Product at Market prices	450
Less: Net Indirect Taxes= Indirect taxes less subsidies	30-0=(30)
Net National Product at factor cost	420
Add: Incomes received but not "earned", i.e. Transfer payments	Nil
Less: Incomes earned, but not received, e.g. contributions to social insurance, etc.	Nil
Private Income	420
Less Undistributed profits	(220)
Less Corporate tax	0
Personal Income	200
Less: Personal Income Taxes	(20)
Personal Disposal Income	400

Note: Personal Disposable Income comprises Net consumption  $(200 - 20) = 180 +$

51 . From the following data, calculate Personal Income and Personal Disposable Income. Rs. Crores

(a) Net Domestic Product at factor cost	8000
(b) Net Factor Income from Abroad	200
(c) Undisbursed profit	1000
(d) Corporate tax	500
(e) Interest received by households	1500
(f) Interest paid by households	1500
(g) Transfer income	300
(h) Personal tax	500

**Solution:**

Relationship between NDP at FC, NNP at FC, Personal Disposable Income is given in the following table. Since interest received and paid by households is the same, its net effect is ignored.

Net domestic product at Factor cost	8000
Add: Net Factor income from Abroad	200
National Income= Net National Product at factor cost	8200
Add: Incomes received but not "earned", i.e. Transfer payments	300
Less: Incomes earned but not received, e.g. Contributions to social insurance, corporate income taxes, retained corporate earnings, etc.	1000+500= (1500)
Personal Income	7000
Less: Personal income taxes	(500)
Personal Disposable Income	6500

## ICAI

**Illustration - 52**

From the following data, calculate NNPFC, NNPMP, GNPMP and GDPMP.

Items	₹ in Crores
Operating surplus	2000
Mixed income of self-employed	1100
Rent	550
Profit	800
Net indirect tax	450
Consumption of fixed capital	400
Net factor income from abroad	-50
Compensation of employees	1000

**Solution:**

$$\begin{aligned} \text{GDPMP} &= \text{Compensation of employees} + \text{mixed income of self-employed} \\ &\quad + \text{operating surplus} + \text{depreciation} + \text{net indirect taxes} \\ &\quad (\text{Note: operating surplus} = \text{rent} + \text{profit} + \text{interest}) \\ &= 1000 + 1100 + 2000 + 400 + 450 = 4950 \\ \text{GNPMP} &= \text{GDPMP} + \text{NFIA} = 4950 + (-50) = 4900 \\ \text{NNPMP} &= \text{GNPMP} - \text{consumption of fixed capital} = 4900 - 400 = 4500 \\ \text{NNPFC or NI} &= \text{NNPMP} - \text{NIT} = 4500 - 450 = 4050 \text{ Crores} \end{aligned}$$

**Illustration - 53**

From the following data, estimate National Income and Personal Income.

Net national product at market price	1,891
Income from property and entrepreneurship accruing to government administrative departments	45
Indirect taxes	175
Subsidies	30
Saving of non-departmental enterprises	10
Interest on National debt	15
Current transfers from government	35
Current transfers from rest of the world	20
Saving of private corporate sector	25
Corporate profit tax	25

**Solution :**

$$\begin{aligned} \text{National Income} &= \text{Net national product at market price} - \text{Indirect taxes} + \text{Subsidies} \\ &= 1,891 - 175 + 30 = 1746 \text{ crores} \end{aligned}$$

$$\begin{aligned} \text{Personal National income} &= \text{Income from property and entrepreneurship accruing to government administrative departments} \\ &\quad - \text{Saving of non-departmental enterprises} + \text{National debt interest} + \text{Current transfers from government} \\ &\quad + \text{Current transfers from rest of the world} - \text{Saving of private corporate sector} - \text{Corporate profit tax} \\ &= 1746 - 45 - 10 + 15 + 35 + 20 - 25 - 25 \\ &= 1711 \text{ Crores} \end{aligned}$$

**Illustration : 54**

Calculate the aggregate value of depreciation when the GDP at market price of a country in a particular year was ₹ 1,100 Crores. Net Factor Income from Abroad was ₹ 100 Crores. The value of Indirect taxes - Subsidies was ₹ = 150 Crores and National Income was ₹ 850 Crores.

**Solution :**

Given

GDPMP = 1100 Crores, NFIA = 100 Crores, NIT = 150 Crores, NNPFC = 850 Crores

∴ GDPFC = GDPMP - NIT = 1100 - 150 = 950

GNPFC = GDPFC + NFIA = 950 + 100 = 1050

NNPFC = GNPFC - Depreciation

850 = 1050 - Depreciation

Depreciation = 1050 - 850 = 200 Crores.

**Illustration : 55**

On basis of following information, calculate NNP at market price and Disposable personal income

Items	₹ in Crores
NDP at factor cost	14900
Income from domestic product accruing to government	150
Interest on National debt	170
Transfer payment by government	60
Net private donation from abroad	30
Net factor income from abroad	80
Indirect taxes	335
Direct taxes	100
Subsidies	262
Taxes on corporate profits	222
Undistributed profits of corporations	105

**Solution :**

NNP at Market price = NNP at factor cost + indirect tax - subsidies  
Where NNP at factor cost = NDPFC + NFIA

= 14900 + 80 = 14980

Therefore, NNP MP = Therefore, NNP MP = 14980 + 335 - 262  
= 15053

Disposable personal income (DI) = PI - Personal income tax

PI = NI + income received but not earned - income earned but not received  
= 14980 + 170 + 60 + 30 - 150 - 222 - 105 = 14763

Therefore, DI = 14763 - 100 = 14663 Crores

**Illustration -56**

Calculate National Income by Value Added Method with the help of following data-

Particulars	₹ (in Crores)
Sales	700
Opening stock	500
Intermediate Consumption	350
Closing Stock	400
Net Factor Income from Abroad	30
Depreciation	150
Excise Tax	110
Subsidies	50

**Solution :**

NVA(FC) = GDP (MP) - Depreciation + NFIA - Net Indirect Tax

Where GVA(MP) = Value of output - intermediate consumption

Value of Output = Sales + change in stock  
= 700 + (400 - 500) = 600

GVA(MP) = 600 - 350 = 250

Therefore NI = 250 - 150 + 30 - (110 - 50)  
= 70 Crores

**Illustration - 57**

Calculate the Operating Surplus with the help of following data-

Particulars	₹ in Crores
Sales	4000
Compensation of employees	800
Intermediate consumption	600
Rent	400
Interest	300
Net indirect tax	500
Consumption of Fixed Capital	200
Mixed Income	400

₹

**Solution :**

GVAMP = Gross Value OutputMP - Intermediate consumption  
 = (Sales + change in stock) - Intermediate consumption  
 = 4000 - 600 = 3400  
 GDPMP = GVAMP = 3400 Crores  
 NDPMP = GDPMP - consumption of fixed capital  
 = 3400 - 200  
 = 3200 Crores  
 NDPFC = NDPMP - NIT  
 = 3200 - 500 = 2700 Crores  
 NDPFC = Compensation of employees + Operating surplus + Mixed income  
 2700 = 800 + Operating Surplus + 400  
 Operating surplus = 1500 Crores

**Illustration - 58**

Calculate national income by value added method.

Particulars	(₹ in crores)
Value of output in primary sector	2000
Intermediate consumption of primary sector	200
Value of output of secondary sector	2800
Intermediate consumption of secondary sector	800
Value of output of tertiary sector	1600
Intermediate consumption of tertiary sector	600
Net factor income from abroad	-30
Net indirect taxes	300
Depreciation	470

**Solution:**

GDPMP = (Value of output in primary sector - intermediate consumption of primary sector) + (value of output in secondary sector - intermediate consumption of secondary sector) + (value of output in tertiary sector - intermediate consumption of tertiary sector)

Value of output in primary sector	2000
- Intermediate consumption of primary sector	200
+ Value of output in secondary sector	2800
- Intermediate consumption in secondary sector	800
+ Value of output in tertiary sector	1600
- Intermediate consumption of tertiary sector	600
GDP MP	₹ 4800 Crores
NNPFC	GDPMP + NFIA - NIT - Depreciation
NNPFC = National income	4800 + (-30) - 300 - 470 = 4000 Crores



**Illustration : 59**

Calculate Net Value Added by Factor Cost from the following data

Items	in Crores
Purchase of materials	85
Sales	450
Depreciation	30
Opening stock	40
Closing stock	30
Excise tax	45
Intermediate consumption	200
Subsidies	15

**Solution :**

$$\begin{aligned}
 \text{GVA MP} &= \text{Sales} + \text{change in stock} - \text{Intermediate consumption} \\
 &= 450 + (30 - 40) - 200 \\
 &= 240 \text{ Crores} \\
 \text{NVAMP} &= \text{GVAMP} - \text{Depreciation} \\
 \text{NVAMP} &= 240 - 30 = 210 \text{ Crores} \\
 \text{NVAFC} &= \text{NVAMP} - (\text{indirect tax} - \text{subsidies}) \\
 &= 210 - (45 - 15) = 180 \text{ Crores}
 \end{aligned}$$

**Illustration - 60**

Calculate NI with the help of Expenditure method and income method with the help of following data :

Items	in Crores
Compensation of employees	1,200
Net factor income from Abroad	20
Net indirect taxes	120
Profit	800
Private final consumption expenditure	2,000
Net domestic capital formation	770
Consumption of fixed capital	130
Rent	400
Interest	620
Mixed income of self-employed	700
Net export	30
Govt. final consumption expenditure	1100
Operating surplus	1820
Employer's contribution to social security scheme	300

**Solution:**

By Expenditure method

$$\begin{aligned}
 \text{GDPMP} &= \text{Private final consumption expenditure} + \text{Government final consumption expenditure} + \text{Gross} \\
 &\quad \text{domestic capital formation (Net domestic capital formation} + \text{depreciation)} + \text{Net export} \\
 &= 2000 + 1100 + (770 + 130) + 30 = 4030 \text{ Crores}
 \end{aligned}$$

$$\begin{aligned}
 \text{NNPFC or NI} &= \text{GDPMP} - \text{depreciation} + \text{NFIA} - \text{NIT} \\
 &= 4030 - 130 + 20 - 120 = 3800 \text{ Crores}
 \end{aligned}$$

By Income method

$$\begin{aligned}
 \text{NNPFC or NI} &= \text{compensation of employees} + \text{operating surplus} + \text{Mixed income of self-employed} + \text{NFIA} \\
 &= 1200 + 1820 + 700 + 20 = 3740 \text{ Crores}
 \end{aligned}$$

**Illustration : 61**

From the following data calculate (a) Gross Domestic Product at Factor Cost, and (b) Gross Domestic Product at Market price

Items	₹ in Crores
Gross national product at factor cost	61,500
Net exports	(-) 50
Compensation of employees	3000
Rent	800
Interest	900
Profit	1,300
Net indirect taxes	300
Net domestic capital formation	800
Gross domestic capital formation	900
Factor income to abroad	80

**Solution:**

$$\begin{aligned}
 \text{a) GDP at factor cost} &= \text{NDP at factor cost} + \text{Depreciation} \\
 &= \text{Compensation of employees} + \text{Rent} + \text{Interest} + \text{Profit} + \text{Mixed income} + \\
 &\quad (\text{Gross domestic capital formation} - \text{Net domestic capital formation}) \\
 &= ₹3,000 + ₹800 + ₹900 + ₹1,300 + (₹900 - ₹800) \\
 &= ₹6,100 \text{ Crores}
 \end{aligned}$$

b) Gross Domestic Product at Market Price

$$\begin{aligned}
 &= \text{GDP at factor cost} + \text{Net Indirect taxes} \\
 &= ₹6,100 + ₹300 \\
 &= ₹6,400 \text{ Crores}
 \end{aligned}$$

**Illustration - 62**

Calculate NNPF. By expenditure method with the help of following information-

Items	₹ in Crores
Private final consumption expenditure	10
Net Import	20
Public final consumption expenditure	05
Gross domestic fixed capital formation	350
Depreciation	30
Subsidy	100
Income paid to abroad	20
Change in stock	30
Net acquisition of valuables	10

**Solution :****Calculation of national income by expenditure method:**

GDPMP = Government final consumption expenditure (Public final consumption expenditure) + Private final consumption expenditure + Gross domestic capital formation (Gross domestic fixed capital formation + change stock + Net acquisition of valuables) + Net export (Note: As net import is 20, hence, net export is -20)

$$= 5 + 10 + [350 + 30 + 10] + (-20) = 5 + 10 + 390 - 20 = 385 \text{ Crores}$$

NNPFC = GDPMP - Depreciation + Net factor income from abroad

(Income from abroad - Income paid to abroad) - Net Indirect tax (Indirect tax - subsidies)

$$= 385 - 30 + [0 - 20] - [0 - 100] = 385 - 30 - 20 + 100 = 435 \text{ Crores.}$$

**Application Oriented Questions:**

63. In a two-sector economy, the business sector produces 7000 units at an average price of Rs. 5
- What is the money value of output?
  - What is the money income of households?
  - If household spends 80% of their income, what is the total consumer expenditure?
  - What is the total money revenue received by the business sector?
  - What should happen to the level of output?

**Solution :**

- The money value of output equals total output times the average price per unit. The money value of output is  $(7,000 * 5) = \text{Rs. } 35,000$ .
- In a two-sector economy, households receive an amount equal to the money value of output. Therefore, money income of households is the same as the money value of output. i.e. Rs. 35,000.
- Total spending by households  $(\text{Rs. } 35,000 * 0.8)$  i.e. Rs. 28,000
- The total money revenues received by the business sector is equal to aggregate spending by households i.e. Rs. 28,000

The business sector makes payments of Rs. 35,000 to produce output, whereas the households purchase only output worth Rs. 28,000 of what is produced. Therefore, the business sector has unsold inventories valued at Rs. 7,000. They should be expected to decrease output

64. Assume that an economy's consumption function is specified by the equation

$$C = 500 + 0.80Y.$$

- What will be the consumption when disposable income (Y) is Rs. 4,000, Rs. 5,000 and Rs. 6,000?
- Find saving when disposable income is Rs. 4,000, Rs. 5,000 and Rs. 6,000.
- What amount of consumption for consumption function C is autonomous?
- What amount is induced when disposable income is Rs. 4,000, Rs. 5,000 and Rs. 6,000.

**Solution :**

- Consumption for each level of disposable income is found by substituting the specified disposable income level into the consumption equation. Thus, for  $Y = \text{Rs. } 4,000$ ,  $C = \text{Rs. } 500 + 0.80(\text{Rs. } 4,000) = \text{Rs. } 500 + \text{Rs. } 3,200 = \text{Rs. } 3,700$   
Likewise, C is Rs. 4,500 when  $Y = \text{Rs. } 5,000$  and Rs. 5,300 when  $Y = \text{Rs. } 6,000$
- Saving is the difference between disposable income and consumption. It is the difference between consumption line and the 45 line at each level of disposable income. Using the calculation from part a) above, we find that saving Rs. 300 when Y is Rs. 4,000; Rs. 500 when Y is Rs. 5,000 and Rs. 700 when Y is Rs. 6,000
- Autonomous consumption is the amount consumed when disposable income is zero; autonomous consumption is Rs. 500 i.e the consumption expenditure when the consumption line C intersects the vertical axis and disposable income is 0. Since autonomous consumption is unrelated to income, autonomous consumption is Rs. 500 for all levels of income.  
Induced consumption is the amount of consumption that depends upon the level of income. Consumption is Rs. 3,700 when disposable income is Rs. 4,000. Since, Rs. 500 is autonomous (i.e consumed regardless of the income level) Rs. 3,200 out of the Rs. 3,700 level of consumption is induced by disposable income. Similarly, induced consumption is Rs. 4,000 when disposable income is Rs. 5,000 and Rs. 4,800 when disposable income is Rs. 6,000`.

65. Find the value of multiplier when a) MPC is 0.2 b) MPC is 0.5 c) MPC is 0.8

**Solution :**

The value of multiplier (k) is found by relating the change in output ( $\Delta Y$ ) to the initial change in aggregate spending. The value of the multiplier is directly related to the level of MPC i.e the greater the MPC, the larger the value of the multiplier. The value of the multiplier is found from the equation  $k = 1 / (1 - \text{MPC})$ .

**Ans:**

$$k = 1 / (1 - \text{MPC}).$$

- Thus, when MPC is 0.2, the multiplier is 1.25
- When MPC is 0.5, the multiplier is 2
- When  $\text{MPC} = 0.80$ , the multiplier is 5

66. For the linear consumption function is  $C = 700 + 0.80Y$ ; I is Rs. 1,200 and Net Exports  $X - M = 100$ . Find equilibrium output?

**Solution :**

The equilibrium level of output can be found by equating output and aggregate spending i.e by solving

$$Y = C + I + X - M \text{ for } Y$$

$$Y = C + I + X - M$$

$$Y = 700 + 0.8Y + 1200 + 100$$

$$Y - 0.8Y = 700 + 1200 + 100$$

$$0.2Y = 2000$$

$$Y = 2000 / 0.2$$

$$= 10,000$$

67. Given, the consumption function  $C = 150 + 0.6Y$ , Where C = Consumption Expenditure, Y = Income and Investment Expenditure = Rs. 2,000. Calculate:

1. Equilibrium level of national income
2. Consumption at equilibrium level of national income.
3. Saving at equilibrium level of national income.

**Solution :**

$$C = 150 + 0.6Y$$

$$C = 150 + 0.6 ( 2000)$$

$$= 150 + 1200$$

$$= 1350$$

68. Complete the following table:

Income	Saving	Marginal Propensity to consume	Average Propensity to consume
0	(20)		
50	(10)		
100	0		
150	30		
200	60		

69. In an economy income increases by Rs. 10,000 as a result of a rise in Investment Expenditure by Rs. 1,000. Calculate a) Investment Multiplier b) Marginal Propensity to consume.

70. Assume that an Economy's consumption function is specified by the equation  $C = 6000 + 0.75Y$ . Answer the following-

- (a) What will be the Consumption when disposable income (Y) is Rs. 20000, Rs. 25000 and Rs. 30000?
- (b) Find the saving when disposable income is Rs. 20000, Rs. 25000 and Rs. 30000.
- (c) What amount of consumption for Consumption function C is autonomous?
- (d) What amount is induced when disposable income is Rs. 20000, Rs. 25000 and Rs. 30000?

**Solution:**

If disposable income (Y) is	Rs. 20000	Rs. 25000	Rs. 30000
(a) Consumption (C) = $6000 + 0.75Y$	$6000 + (0.75 \times 20000) =$ Rs. 21000	$6000 + (0.75 \times 25000)$ = Rs. 24750	$6000 + (0.75 \times 30000)$ = Rs. 28500
(b) Saving (S) = $Y - C$ [Note 1]	$2000 - 21000 =$ Dissaving (Rs. 1000)	$25000 - 24750 =$ Rs. 250	$30000 - 28500$ = Rs. 1500
(c) Autonomous Consumption (a)	[Note 2] Rs. 6000	Rs. 6000	Rs. 6000
(d) Induced Consumption = $C - a$	Rs. 15000	Rs. 18750	Rs. 22500

Note:

1. Saving is the difference between Disposable income and consumption. It is the difference between the Consumption line and the 45 degree line at each level of disposable income.
2. For the consumption function  $C = a + bY$ , where "a" = a constant which represents the positive value of consumption at zero level of disposal income. Hence, in this case,  $a = \text{Rs. } 6000$ . This is also the point at which the consumption line intersects the vertical axis (Y-axis). This is called Autonomous consumption, i.e. unconnected with income.
3. Induced consumption is determined by the level of income, i.e. it is income-induced consumption and is computed as Total consumption (-) Autonomous consumption.

71. In an economy income increases by Rs. 10,000 as a result of a rise in Investment Expenditure by Rs. 1,000. Calculate a) Investment Multiplier b) Marginal Propensity to consume.

72. Consider the following information.

- Autonomous consumption even at zero level of disposable income = Rs. 9000
- For every rupee increase in income, the additional consumption is 40 paise.

You are required to –

1. Frame the consumption function
2. Compute Income (Y), when the amount of consumption is Rs. 36000
3. Compute the induced consumption when income is Rs. 75000

**Solution:**

1. Consumption function (C) =  $a + bY$ . In this case,  $a = 9000$  (given),  $b = \text{MPC} = 0.4$  (given).  
Hence, consumption function (C) =  $9000 + 0.4Y$
2. If the consumption is Rs. 36000, then (C)  $36000 = 9000 + 0.4Y$ . Solving, we have, Income (Y) = 67500

3. If Income (Y) is 75000, Consumption =  $9000 + 0.4Y = 9000 + (0.4 \times 75000) = \text{Rs. } 39000$ . Out of the Total Consumption, since Autonomous consumption is Rs. 9000, balance Induced consumption is Rs. 30000.

### 73. Equilibrium level of National Income in Two Sector economy

If Consumption function is  $C = 500 + 0.75Y$ , and  $I = 3000$ , compute Equilibrium level of National income. Also compute Consumption expenditure and savings at that level.

#### Solution:

- In Two sector economy, at equilibrium level,  $Y = C + I$ . So  $Y = 500 + 0.75Y + 3000$ .
- On solving,  $Y - 0.75Y = 3500$ . So,  $Y = \frac{3500}{0.25} = 14000$ .
- At this equilibrium level, since Investment (I) = 3000 (given), Consumption (C) =  $Y - I = 11000$ .
- Also, at Equilibrium level, Saving (S) = Investment (I) = 3000.

### 74. Effect of Investment multiplier in Two Sector Economy

If the present Equilibrium level of National Income is 14000, compute the revised equilibrium level of National income if  $MPS = 0.75$ , and autonomous investment increases by 1000.

#### Solution:

- Investment Multiplier =  $\frac{\Delta Y}{\Delta I} = \frac{1}{MPS} = \frac{1}{0.75} = 1.33$  times. Since,  $\Delta I = 1000$ ,  $\Delta Y = 1.33 \text{ times} \times 1000 = 1333$ .
- Hence, revised equilibrium level of income =  $Y + \Delta Y = 14000 + 1333 = 15333$ .

### 75. Effect of investment multiplier in Two Sector Economy

In an economy, it is observed that any increase in investment causes a three-fold increase in National income. From this data, compute the following – (1) Marginal Propensity to Save (MPS) (2) Marginal Propensity to consume (MPC).

#### Solution:

1. Investment Multiplier =  $\frac{\Delta Y}{\Delta I} = \frac{1}{MPS} = 3$  times. So,  $MPS = \frac{1}{3} = 0.33$
2. MPC (Marginal Propensity to Consume) =  $1 - MPS = 1 - 0.33 = 0.67$

### 76. Effect of Investment multiplier in Two Sector Economy

Assume a Two sector economy with Consumption function  $C = 1000 + 0.6Y$ , and  $S = 6000$ . You are required to compute the following-

1. Equilibrium level of national income.
2. Consumption expenditure at the above Expenditure level of national income.
3. Additional investment, if Autonomous investment increases by 10% of the existing investment.
4. Revised amount of national income after the above autonomous investment.

#### Solution:

1. In a two sector economy, at equilibrium level,  $Y = C + I$ .  
Also, saving (S) = Investment (I) = 6000.  
So  $Y = 1000 + 0.6Y + 6000$ .  
On solving,  $Y - 0.6Y = 7000$ . So,  $Y = \frac{7000}{0.40} = 17500$ .
2. At this equilibrium level, since investment (I) = 6000 (same as savings), Consumption (C) =  $Y - I = 11500$ .
3. Also, at Equilibrium level, Saving (S) = Investment (I) = 6000.  
Hence,  $\Delta I = 10\% \text{ of } 6000 = 600$ .
4. Investment Multiplier =  $\frac{1}{1 - MPC} = \frac{1}{1 - 0.60} = 2.5$  times. Since,  $\Delta I = 600$ ,  $\Delta Y = 2.5 \text{ times} \times 600 = 1500$ . So, revised equilibrium level of national income =  $17500 + 1500 = 19000$ .

### 77. Suppose in an Economy:

Consumption Function :  $C = 150 + 0.75 Y_d$

Investment Spending :  $I = 100$

Government Spending  $G = 115$

Tax :  $T_x = 20 + 0.20 Y$

Transfer Payments :  $Tr = 40$

Exports :  $X = 35$

Imports :  $M = 15 + 0.1 Y$

Where, Y and  $Y_d$  are National Income and Personal Disposable Income respectively. All figures are in Rupees. Find (a) Equilibrium Level of National Income, (b) Consumption at Equilibrium Level, (c) Net Exports at Equilibrium Level.

#### Solution:

1. Income (Y) (-) Taxes (+) Transfer Incomes = Disposable Income ( $Y_d$ ).



So,  $Y - (20 + 0.2Y) + 40 = Y_d$

On simplification, we have  $0.8Y + 20 = Y_d$ ..... Equation 1

2. Substituting the Value of  $Y_d$  in Consumption Equation,  $C = (150 + 0.75 Y_d) = 150 + 0.75 (0.8Y + 20)$

Hence, we get,  $C = 165 + 0.6Y$

3. For a 4-Sector Economy, Equilibrium Level of National Income is the point at which –

$Y = \text{Aggregate Demand [i.e. } C + I + G + (X - M)\text{]}. \text{ Thus, } Y = C + I + G + (X - M).$

$C = \text{Consumption, } I = \text{Investment, } G = \text{Govt Payments, } X = \text{Exports, } M = \text{Imports, and } (X - M) = \text{Net Exports}$

Substituting the values, we have

$$Y = [(165 + 0.6Y) + 100 + 115 + 35 - (15 + 0.1Y)]$$

$$Y = [165 + 0.6Y + 100 + 115 + 35 - 15 - 0.1Y]$$

78. Find the marginal propensity to consume (MPC) and marginal propensity to save (MPS) from the following data:

Income (Y)	Consumption (C)	Level
Rs. 8000	Rs. 6000	Initial level
Rs. 12000	Rs. 9000	Changed level

Ans: 0.75 and 0.25

79. MPS and MPC – Using multiplier effect

An increase of investment by Rs. 600 crores resulted in an increase in National Income by Rs. 2400 crores. Find MPC and MPS.

**Solution:**

$$\text{Investment multiplier} = \frac{\Delta Y}{\Delta I} = \frac{1}{1 - MPC} = \frac{1}{MPS}. \text{ Here, Invt. Multiplier} = \frac{\Delta Y}{\Delta I} = \frac{2400}{600} = 4 \text{ times.}$$

$$\text{Thus, } \frac{1}{MPS} = 4 \text{ times. So, } MPS = \frac{1}{4} = 0.25 \quad MPC = 1 - MPS = 1 - 0.25 = 0.75$$

79. Three sector and four sector economy- Autonomous taxes, Opening up of economy, etc.

For an economy with the following specifications (Rs. Crores) –

Investment (I) = 100

Transfer payments (R) = 110

Consumption (C) =  $50 + 0.75Y_d$

Government expenditure (G) = 200

Income tax =  $0.2Y$

1. Find out the equilibrium level of income and the value of expenditure multiplier.

2. If the economy is opened up with exports (X) = 25 and Imports (M) =  $5 + 0.25Y$ , calculate the new level of income and balance of trade (Assume that there are no autonomous taxes).

**Solution:**

(amounts in Rs. Crores)

Answer to Q. 1

1. Disposal income  $Y_d = \text{Income}(Y) - \text{Taxes} + \text{Transfer payments} = Y - 0.2Y + 110 = 0.8Y + 110$ .

2. Given that consumption (C) =  $50 + 0.75 (0.8Y + 110) = 50 + 0.6Y + 82.5 = 0.6Y + 132.5$

3. In a three sector economy,  $Y = C + I + G$ . So, we have,  $Y = (0.6Y + 132.5) + 100 + 200$

Simplifying the above and solving, we have  $Y = 432.50 + 0.6Y$ .

$$\text{Hence, } Y = \frac{432.50}{0.4} = 1081.25$$

Hence,  $Y = \text{Equilibrium level of income} = 1081.25$

4. Expenditure multiplier (or) investment multiplier =  $\frac{\Delta Y}{\Delta I} = \frac{1}{1 - MPC} = \frac{1}{1 - 0.6} = 2.5 \text{ times.}$

Answer to Q. 2:

Effect of opening up the economy

1. In a four sector economy,  $Y = C + I + G + (X - M)$ .

So we have,  $Y = (0.6Y + 132.5) + 100 + 200 + [25 - (5 + 0.25Y)]$

Simplifying the above and solving, we have  $Y = 0.6Y + 132.50 + 100 + 200 - 5 - 0.25Y$

So,  $Y - 0.6Y + 0.25Y = 452.50$

$$\text{Hence, } 0.65Y = 452.50$$

$$\text{Hence, } Y = \frac{452.50}{0.65} = 696.15$$

2. In this case, Imports (M) =  $5 + 0.25Y = 5 + 0.25 (696.15) = 179.04$

3. So, balance of trade =  $X - M = 25 - 179.04 = 154.04$  (Adverse balance of trade i.e. deficit)

80. An economy is characterised by the following equations:

$$\text{Investment (I)} = 100$$

$$\text{Government Expenditure (G)} = 120$$

$$\text{Exports (X)} = 200$$

$$\text{Imports (M)} = 100 + 0.15Y$$

$$\text{Consumption (C)} = 100 + 0.9Y_d$$

$$\text{Tax (T)} = 50$$

Compute - (1) Equilibrium level of income, (2) Balance of trade, (3) Value of Foreign Trade Multiplier.

**Solution:**

Answer to Q. 1:

Note:  $Y_d$  (Disposable income) = Income (-) Taxes =  $Y - T = (Y - 50)$

In a four sector economy,  $Y = C + I + G + (X - M)$ .

So we have,  $Y = (100 + 0.9Y_d) + 100 + 120 + [200 - (100 + 0.15Y)]$

Substituting  $Y_d = (Y - 50)$ , we have,

$$Y = [100 + 0.9(Y - 50)] + 100 + 120 + [200 - 100 - 0.15Y]$$

Simplifying the above and solving, we have

$$Y - 0.9Y + 0.15Y = 375. \text{ Hence, } 0.25Y = 375.$$

Hence,  $Y = 1500$

Answer to Q. 2:

In this case, Imports (M) =  $100 + 0.15Y = 100 + 0.15(1500) = 325$

So, balance of trade =  $X - M = 200 - 325 = 125$  (Adverse balance of trade i.e. Deficit)

Answer to Q. 3: In a four sector economy, Expenditure (or) Foreign trade multiplier =  $\frac{1}{1 - b - v}$ , where  $b = \text{MPC}$ ,  $v = \text{Propensity to import}$ . Here,  $b = \text{MPC} = 0.9$  [from "C" function] and  $v = \text{Propensity to import} = 0.15$  [from "M" function] Substituting in the equation, we have Foreign trade Multiplier = 4 times

## ICAI

### ILLUSTRATION 81

What will be the value of average propensity to save when -

(i)  $C = 200$  at  $Y = 1,000$

(ii)  $S = 450$  at  $Y = 1,200$

**SOLUTION**

$$\text{APS} = \frac{S}{Y}; S = Y - C = 1,000 - 200 = 800. \text{ Therefore, } \text{APS} = \frac{S}{Y} = \frac{800}{1000} = 0.8$$

$$\text{When } S = 450 \text{ and } Y = 1,200; \text{ APS} = \frac{S}{Y} = \frac{450}{1200} = 0.375$$

### ILLUSTRATION 82

Calculate marginal propensity to consume and marginal propensity to save from the following data about an economy which is in equilibrium:

National income = 2500, Autonomous consumption expenditure = 300,

Investment expenditure = 100

**SOLUTION**

$$Y = C + I$$

By putting the value we get,  $2500 = C + 100$

$$C = 2500 - 100 = 2400$$

$$C = C + bY$$

$$2400 = 300 + 2500b$$

$$2400 - 300 = 2500b$$

$$b = 0.84; \text{MPS} = 1 - \text{MPC} = 1 - 0.84 = 0.16$$

### ILLUSTRATION 83

An economy is in equilibrium. Calculate national income from the following-

Autonomous consumption = 100; Marginal propensity to save = 0.2; Investment expenditure = 200

**SOLUTION**

$$Y = C + I$$

$$Y = C + \text{MPC}(Y) + I \quad \text{where } \text{MPC} = 1 - \text{MPS}$$

$$Y = 100 + 0.8Y + 200 = 300 + 0.8Y$$

$$Y - 0.8Y = 300$$

$$0.2Y = 300,$$

$$Y = 1500$$

**ILLUSTRATION 84**

Suppose the consumption of an economy is given by  $C = 20 + 0.6 Y$  and investment  $I = 10 + 0.2 Y$ . What will be the equilibrium level of National Income?

**SOLUTION**

$$\begin{aligned} Y &= C + I = 20 + 0.6 Y + 10 + 0.2 Y \\ Y &= 30 + 0.8 Y \\ Y - 0.8 Y &= 30 \\ Y &= 150 \end{aligned}$$

**ILLUSTRATION 85**

Suppose the consumption function  $C = 7 + 0.5Y$ , Investment is ₹ 100, Find out equilibrium level of Income, consumption and saving?

**SOLUTION**

Equilibrium Condition-

$$\begin{aligned} Y &= C + I, \text{ Given } C = 7 + 0.5Y \text{ and} \\ I &= 100 \end{aligned}$$

Therefore  $Y = 7 + 0.5Y + 100$

$$Y - 0.5Y = 107$$

$$Y = 214$$

$$Y = C + I$$

$$214 = C + 100$$

$$C = 114$$

$$\begin{aligned} S &= Y - C \\ &= 100 \end{aligned}$$

**ILLUSTRATION 86**

If the consumption function is  $C = 250 + 0.80 Y$  and  $I = 300$ . Find out equilibrium level of  $Y$ ,  $C$  and  $S$ ?

**SOLUTION**

$$Y = \frac{1}{1-b} (a + I) \text{ or } Y = C + I$$

$$Y = \frac{1}{1-0.80} (250+300) = 2750$$

$$C = \frac{a + bY}{1-b} \text{ (a+ I) or } C = 250 + 0.80 Y$$

$$C = 250 + 0.8(2750) \quad C = 2450$$

$$S = Y - C \text{ where } C = a + bY$$

$$S = Y - (a + bY)$$

$$S = -a + (1-b)Y$$

$$Y = \frac{-250 + (1-0.80) 2750}{1-0.80} = 300$$

Or directly,  $S = Y - C$

$$S = 2750 - 2450 = 300.$$

**ILLUSTRATION 87**

If saving function  $S = -10 + 0.2Y$  and autonomous investment  $I = 50$  Crores. Find out the equilibrium level of income, consumption and if investment increases permanently by ₹ 5 Crores, what will be the new level of income and consumption?

**SOLUTION**

$$S = I \quad -10 + 0.2Y = 50$$

$$0.2Y = 50 + 10$$

$$Y = 300 \text{ Crores}$$

$$C = Y - S$$

Where  $S = -10 + 0.2 (300) = 50$

$$C = 300 - 50 = 250 \text{ Crores}$$

With the increase in investment by ₹ 5 Crores, the new investment will become equal to ₹ 55 Crores.

$$S = I$$

$$\begin{aligned} -10 + 0.2Y &= 55 \\ Y &= 325 \text{ Crores} \\ C &= 270 \text{ Crores} \end{aligned}$$

**ILLUSTRATION 88**

Given the empirical consumption function  $C = 100 + 0.75Y$  and  $I = 1000$ , calculate equilibrium level of national income. What would be the consumption expenditure at equilibrium level national income?

**SOLUTION**

$$\begin{aligned} C &= 100 + 0.75Y \text{ and } I = 1000, \\ Y &= C + I \text{ in equilibrium} \\ Y &= 100 + 0.75Y + 1000 \Rightarrow Y = \frac{I}{1 - 0.75} \quad (100 + 1000) \end{aligned}$$

$$Y = \frac{I}{1 - 0.75} \quad (1100) = 1/0.25 (1100) = 4400.$$

$$Y = C + I; C = 4400 - 1000 = 3400$$

**ILLUSTRATION 89**

In an economy investment expenditure is increased by ₹ 400 Crores and marginal propensity to consume is 0.8. Calculate the total increase in income and saving.

**SOLUTION**

$$\begin{aligned} \text{MPC} &= 0.8; \Delta I = 400 \text{ Crores} \\ \text{Multiplier (K)} &= 1 / 1 - \text{MPC} = 1 / 1 - 0.8 = 1 / 0.2 = 5 \\ \text{MPS} &= 1 - \text{MPC} = 1 - 0.8 = 0.2 \\ \text{Increase in income } (\Delta Y) &= K \times \Delta I = 5 \times 400 = 2,000 \text{ Crores} \\ \text{Increase in saving} &= \Delta Y \times \text{MPS} = 2,000 \times 0.2 = 400 \text{ Crores} . \end{aligned}$$

**ILLUSTRATION 90**

An increase in investment by 400 Crores leads to increase in national income by 1,600 Crores. Calculate marginal propensity to consume.

**SOLUTION**

$$\begin{aligned} \text{Increase in investment } (\Delta I) &= 400 \text{ Crores} \\ \text{Increase in national income } (\Delta Y) &= 1,600 \text{ Crores} \\ \text{Multiplier (K)} &= \Delta Y / \Delta I = K = 1,600 / 400 = 4 \\ \text{We know, } K &= 1 / 1 - \text{MPC} \quad 4 = 1 / 1 - \text{MPC} \\ \Rightarrow \text{MPC} &= 0.75 \end{aligned}$$

**ILLUSTRATION 91**

In an economy, investment is increased by Rs 600 Crores. If the marginal propensity to consume is 0.6, calculate the total increase in income and consumption expenditure.

**SOLUTION**

$$\begin{aligned} \text{MPC} &= 0.6; \Delta I = ₹ 600 \text{ Crores} \\ \text{Multiplier (K)} &= 1 / 1 - \text{MPC} = 1 / 1 - 0.6 = 1 / 0.4 = 2.5 \\ \text{Increase in income } (\Delta Y) &= K \times \Delta I = 2.5 \times ₹ 600 \text{ Crores} = ₹ 1,500 \text{ Crores} \\ \text{Increase in consumption } (\Delta C) &= \Delta Y \times \text{MPC} = ₹ 1,500 \text{ Crores} \times 0.6 = ₹ 900 \text{ Crores} . \end{aligned}$$

**ILLUSTRATION 92**

Suppose in a country investment increases by ` 100 Crores and consumption is given by  $C = 10 + 0.6Y$  (where  $C$  = consumption and  $Y$  = income). How much increases will there take place in income?

**SOLUTION**

$$\text{Multiplier} = k = 1 \quad \frac{1}{\Delta \text{MPC}} \quad k = \frac{1}{1 - 0.6} = 2.5$$

Substituting the value of  $k$  and  $\Delta I$  value in  $\Delta Y = k \Delta I$

$$\Delta Y = 2.5 \times 100 = \text{amt } 250 \text{ Crores}$$

Thus, increase in investment by Rs 100 Crores will cause equilibrium income to rise by ₹ 250 Crores.

**ILLUSTRATION 93**

Suppose we have the following data about a simple economy:

$C = 10 + 0.75Y_d$ ,  $I = 50$ ,  $G = T = 20$  where  $C$  is consumption,  $I$  is investment,  $Y_d$  is disposable income,  $G$  is government expenditure and  $T$  is tax.

- Find out the equilibrium level of national income.
- What is the size of the multiplier?

**SOLUTION**

(a) Since  $G = T$ , budget of the government is balanced. Substituting the values of  $C$ ,  $I$  and  $G$  in  $Y$  we have

$$Y = C + I + G$$

$$Y = a + bY_d + I + G$$

$$Y = 10 + 0.75(Y - 20) + 50 + 20$$

$$Y = 10 + 0.75Y - 15 + 50 + 20 \text{ or, } Y - 0.75Y = 65$$

$$\text{or, } Y(1 - 0.75) = 65$$

$$\text{or, } 0.25Y = 65$$

$$\text{or, } Y = 65 / 0.25 = 260$$

The equilibrium value of  $Y = 260$

(b) The value of the multiplier is  $= 1 / (1 - MPC) = 1 / (1 - b) = 1 / (1 - 0.75) = 1 / 0.25 = 4$

**(ii) Income Determination with Lump Sum Tax and Transfer payments**

The consumption function is defined as -

$$C = a + bY_d$$

Where  $Y_d = Y - T + TR$  where  $T$  is a lump sum tax and  $TR$  is autonomous transfer payments

$$C = a + b(Y - T + TR)$$

$$Y = C + I + G$$

$$Y = a + b(Y - T + TR) + I + G$$

$$Y = a + bY - bT + bTR + I + G$$

$$Y - bY = a - bT + bTR + I + G$$

$$Y(1 - b) = a - bT + bTR + I + G$$

$$Y = \frac{1}{1 - b}(a - bT + bTR + I + G)$$

**ILLUSTRATION 94**

Suppose the structural model of an economy is given -

$C = 100 + 0.75Y_d$ ;  $I = 200$ ,  $G = T = 100$ ;  $TR = 50$ , find the equilibrium level of income?

**SOLUTION**

$$Y = C + I + G$$

$$Y = 100 + 0.75Y_d + 200 + 100$$

$$Y = 100 + 0.75(Y - 100 + 50) + 200 + 100$$

$$Y = 100 + 0.75Y - 75 + 37.5 + 200 + 100$$

$$Y = 1450$$

Or use

$$Y = \frac{1}{1 - b}(a - bT + bTR + I + G) \text{ to calculate income.}$$

**(iii) Income Determination with tax as a function of Income**

In (i) and (ii) above, we have analysed the effect of balanced budget with an autonomous lump sum tax. In reality, the tax system consists of both lump sum tax and proportional taxes. The tax function is defined as;

$$\text{Tax function } T = T + tY$$

Where  $T$  = autonomous constant tax

$t$  = income tax rate

$T$  = total tax

The consumption function is

$$C = a + bY_d$$

Where  $Y_d = Y - T$  or  $Y - T - tY$

$$C = a + b(Y - T - tY)$$

Therefore, the equilibrium level of national income can be measured as-

$$Y = C + I + G$$

$$Y = a + bY_d + I + G$$



$$Y = a + b(Y - T - tY) + I + G$$

$$Y = a + bY - bT - b tY + I + G$$

$$Y - bY + b tY = a - bT + I + G$$

$$Y(1 - b + b t) = a - bT + I + G$$

$$Y = \frac{1}{1 - b(1 - t)} (a - bT + I + G)$$

Where  $\frac{1}{1 - b(1 - t)}$  (represent the tax multiplier)

### ILLUSTRATION 95

For a closed economy, the following data is given -

Consumption  $C = 75 + 0.5(Y - T)$ ; Investment  $I = 80$ ; Total tax  $T = 25 + 0.1Y$ ; Government expenditure  $G = 100$ .

(a) Find out equilibrium income?

(b) What is the value of multiplier?

#### SOLUTION

a)  $Y = C + I + G$

$$Y = 75 + 0.5(Y - 25 - 0.1Y) + 80 + 100$$

$$Y(1 - 0.5 + 0.05) = 75 - 12.5 + 80 + 100$$

$$Y = \frac{1}{1 - 0.5 + 0.05} (242.5)$$

$$Y = 440.91$$

b) Multiplier = 1

$$= \frac{1}{1 - b(1 - t)} = \frac{1}{1 - 0.5(1 - 0.1)} = 1.82$$

(iv) Income Determination with Tax (as a Function of Income), Government Expenditure and Transfer Payments

Here consumption function is written as  $C = a + b(Y - T - tY + TR)$

$$Y = a + b(Y - T - tY + TR) + I + G$$

$$Y = \frac{1}{1 - b(1 - t)} (a - bT + bTR + I + G)$$

### ILLUSTRATION 96

Suppose  $C = 100 + 0.80(Y - T + TR)$ ;  $I = 200$ ;  $T = 25 + 0.1Y$ ;  $TR = 50$ ;  $G = 100$

Find out equilibrium level of Income?

#### SOLUTION

$$Y = C + I + G$$

$$Y = 100 + 0.80(Y - T + TR) + I + G$$

$$Y = 100 + 0.80(Y - 25 - 0.1Y + 50) + 200 + 100$$

$$Y - 0.80Y + 0.08Y = 420$$

$$Y(1 - 0.8 + 0.08) = 420$$

$$Y = 1500$$

### ILLUSTRATION 97

The consumption function is  $C = 40 + 0.8Y_d$ ,  $T = 0.1Y$ ,  $I = 60$  Crores  $G = 40$  Crores,  $X = 58$  and  $M = 0.05Y$ .

Find out equilibrium level of income, Net Export, net export if export were to increase by 6.25.

#### SOLUTION

$$C = 40 + 0.8Y_d$$

$$C = 40 + 0.8(Y - 0.1Y)$$

$$Y = C + I + G + (X - M) = 40 + 0.8(Y - 0.1Y) + 60 + 40 + (58 - 0.05Y)$$

$$Y = 40 + 0.8(0.9Y) + 60 + 40 + 58 - 0.05Y$$

$$Y - 0.72Y + 0.05Y = 198$$

$$Y(1 - 0.72 + 0.05) = 198$$

$$Y(0.33) = 198$$

$$Y = 198 / 0.33 = 600 \text{ Crores}$$

$$\text{Net Export} = X - M = 58 - 0.05Y = 58 - 0.05(600)$$

$$= 58 - 30 = 28$$

If exports increase by 6.25, then exports = 64.25

Then,  $Y = 40 + 0.8(Y - 0.1Y) + 60 + 40 + (64.25 - 0.05Y)$

$Y(1-0.72+0.05) = 204.5$   
 $Y(0.33) = 204.5$   
 $Y=204.5/0.33 = 619.697$   
 Then import =  $.05 \times 619.697 = 30.98$   
 Net Export =  $64.25 - 30.98 = 33.27$  Crores  
 Thus, there is surplus in balance of trade as Net Exports are positive.

**ILLUSTRATION 98**

An economy is characterized by the following equation-

Consumption  $C = 60 + 0.9Y_d$   
 Investment  $I = 10$   
 Government expenditure  $G = 10$   
 Tax  $T = 0$   
 Exports  $X = 20$   
 Imports  $M = 10 + 0.05Y$

What is the equilibrium income?

Calculate trade balance and foreign trade multiplier.

**SOLUTION**

$$\begin{aligned}
 Y &= C + I + G + (X - M) \\
 &= 60 + 0.9(Y - 0) + 10 + 10 + (20 - 10 - 0.05Y) \\
 &= 60 + 0.9Y + 30 - 0.05Y \\
 Y &= 600
 \end{aligned}$$

$$\text{Trade Balance} = X - M = 20 - 10 - 0.05(600) = -20$$

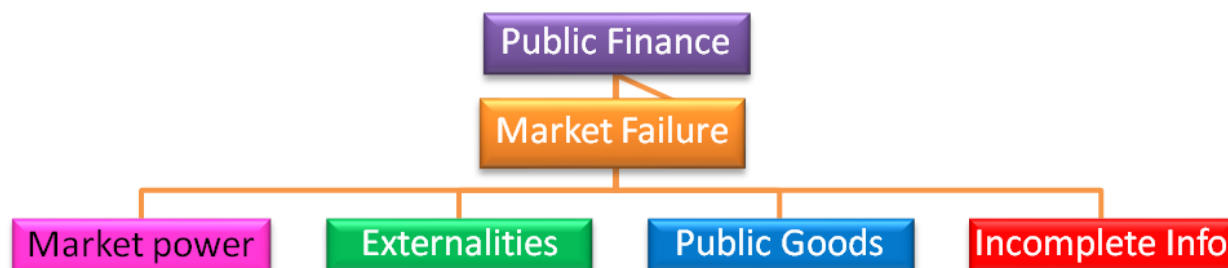
Thus, trade balance in deficit.

$$\text{Foreign trade multiplier} = \frac{1}{1-b+m} \quad \& \quad \frac{1}{1-0.9+0.05} = 6.66$$

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# Public finance – Market Failure and Government Intervention

## Chapter overview



### 2.1.1 Market Failure

- Economists presume that people will make choices in their **own self-interest**. They will choose those things that provide the **greatest personal benefit**. In other words, individuals will **behave rationally**.
- In other words, in a well functioning market, **prices provide the accurate signals** to producers and consumers and the right quantity of whatever consumers choose to consume will be produced and supplied at the right price.
- The general belief is that markets are amazingly competent in organizing the activities of an economy as they are generally efficient and capable of achieving optimal allocation of resources. However, under certain circumstances, '**market failure**' occurs
- The term "market failure" does not mean the market is not working at all, it only means that the market does not function in the way that it should.
- Market failure is a situation in which the free market leads to **misallocation of society's scarce resources** in the sense that there is either **overproduction** or **underproduction** of particular goods and services leading to a less than optimal outcome. Market failures are situations in which a particular market, left to itself, is inefficient.
- There are two types of market failure namely:
  - 1) Complete market failure. This is a case of "missing markets" and occurs when the market does not supply products at all despite the fact that such products and services are wanted by people. E.g. Pure public goods.
  - 2) Partial market failure occurs when the market does actually function, but it produces either the wrong quantity of a product or at the wrong price. This results in loss of economic welfare.

### 2.1.2 Four major reasons for Market Failure

Market power

Externalities

Public Goods

Incomplete Info

#### Market Power

Point	Explanation
Meaning	1) Market power or monopoly power is the <b>ability of a firm to profitably raise the market price</b> of a good or service over its marginal cost and can charge a price that gives them positive economic profits. 2) These profits are not achieved due to operating efficiency, but due to market

	<p>power and dominance.</p> <p>3) Thus, market fails to produce the right quantity of goods and services at the right price.</p> <p>4) <i>For Buyers: Market Power is the ability of Buyers to influence the Seller into the production of certain goods and services, over and above optimum levels of consumption. (Generally, Market Power is viewed from the Sellers' Perspective)</i></p>
Techniques	<p>1. <b>Lower output:</b> Excessive market power causes the single producer or a small number of producers to produce and sell less output than would be produced in a competitive market. (<i>artificial scarcity</i>)</p> <p>2. <b>Higher Price:</b> Firms with Market power are Price Makers. They can change a Price that gives them positive Economic Profits i.e. over and above Normal Profits.</p> <p>3. <b>Missing Markets:</b> There may be failure to produce certain goods even if such products and services are wanted by people and are socially desirable (e.g. Pure Public Goods). This problem is called "Non- Existence of Markets" or "Missing Markets"</p>

### 2.1.3 Externalities

(Kare koi aur bhare koi aur)

Point	Explanation
Meaning and concept	<p>1. <b>When actions of either Consumers or Producers result in costs or Benefits that do not reflect as part of the Market Price, such costs or Benefits which are not recognized by, and accounted for, by the Market Price are called "Externalities"</b></p> <p>2. An externality occurs, when a Consumption or Production Activity has an indirect effect on other's consumption or Production activities and such effect are not reflected directly in Market Prices.</p> <p>3. Externalities are costs (negative externalities) or benefits (positive externalities), which are not reflected in free market prices.</p> <p>4. <u>The unique feature of an externality is that it is initiated and experienced not through the operation of the price system, but outside the market.</u></p>
Working	<p>1. As the originator of the externality imposes costs or benefits on others who are not responsible for initiating the effect, therefore, Externalities are also referred to as '<b>spillover effects</b>', '<b>neighborhood effects</b>' '<b>third-party effects</b>' or '<b>side-effects</b>',</p> <p>2. Since it is outside the price mechanism, it has not been compensated for, or in other words it is uninternalized or <u>the cost (benefit) of it is not borne (paid) by the parties.</u></p>
Consequences of Negative Externalities	<p>1) Negative externalities impose costs on society that extent beyond the cost of production as originally projected by the producer. Due to negligence of negative externalities, marginal private cost is lower than marginal social cost thus there are high chances of over production and underpricing.</p> <p>2) Or in other words, in case of negative externalities, the firm has to pay no extra cost for creating externalities, thus these costs are not considered while determining equilibrium price &amp; hence equilibrium price is less than the efficient price leading to market failure.</p>

## 2.1.4 Types of Externalities

### A. Unidirectional and reciprocal Externalities

Unidirectional Externalities	Reciprocal Externalities
Occurs when Originator imposes costs or Benefits on another (Recipient) and there is no externality imposed by the Recipient back on the Originator.	It occurs when 2 persons impose there is costs or on one another.
If an accountant who is disturbed by loud noise from factory but has not imposed any externality on the workers, then the externality is unidirectional.	workshop creates earsplitting noise and imposes an externality on a baker who produces smoke and disturbs the workers in the workshop

### B. Production Externalities & Consumption Externalities

Production Externalities	Consumption Externalities
<b>Production externality</b> initiated in production which imposes an external cost/ benefit on others may be received by another in consumption or in production.	<b>Consumption externalities</b> initiated in consumption which produce external costs/ benefits on others may be received in consumption or in production.

### C. Externalities can be positive or negative.

Positive externalities	Negative externalities
occur when the action of one party <b>confers benefits</b> on another party	occur when the action of one party <b>imposes costs</b> on another party.
Positive externalities occur when the action of one party confers benefits on another party.	Negative externalities occur when the action of one party imposes costs on another party.
Positive production externality, less commonly seen, initiated in production that confers external benefits on others.	Negative externality is common & initiated in production which imposes an external cost on others.
It is socially desirable	It is socially undesirable

1. **Negative Production Externalities** - A negative externality initiated in production which imposes an **external cost** on others may be received by another in consumption or in production.

a) **Negative production externality on Consumption**- A negative production externality occurs when a factory which produces aluminum discharges untreated waste water into a nearby river and pollutes the water causing health hazards for people who use the water for drinking and bathing.

b) **Negative production externality on production** - Pollution of river also affects fish output as there will be less catch for fishermen due to loss of fish resources.



2. **Negative consumption externalities** - Such negative consumption externalities initiated in consumption which produce external costs on others may be received in consumption or in production.

a) **Negative consumption externality on Consumption** - Smoking cigarettes in public place causing passive smoking by others, creating litter and





diminishing the aesthetic value of the room and playing the radio loudly obstructing one from enjoying a concert.



- b) **Negative Consumption externality on production** - Excessive consumption of alcohol causing impairment in efficiency for work and production are instances of negative consumption externalities affecting production.

3. **Positive production externalities** - A positive production externality initiated in production that confers **external benefits** on others may be received in production or in consumption.



- a) **Positive production externality on Consumption** - A positive production externality is received in consumption when an individual raises an attractive garden and the persons walking by enjoy the garden.
- b) **Positive production externality on Production** - A beekeeper who locates beehives in an orange growing area enhancing the chances of greater production of oranges through increased pollination

4. **Positive consumption externalities**- A positive consumption externality initiated in consumption that confers external benefits on others may be received in consumption or in production.



- a) **Positive consumption externalities on consumption** - If people get immunized against contagious diseases, they would confer a social benefit to others as well by preventing others from getting infected.
- b) **Positive consumption externalities on Production** - Consumption of the services of a health club by the employees of a firm would result in an external benefit to the firm in the form of increased efficiency and productivity.

### Distinction between private costs and social costs.

Private cost	Social cost
<ul style="list-style-type: none"> <li>✓ It is the cost faced by the producer or consumer directly involved in the transaction.</li> <li>✓ Private cost is the money cost of production incurred by the firm i.e. costs such as wages, raw materials, heating and lighting which must be paid to carry out production, and these which would appear in the firm's accounts.</li> <li>✓ The supply curve here corresponds to only the private marginal costs.</li> <li>✓ Cost incurred and recognized by producer/ consumer directly.</li> <li>✓ When negative production externalities exist <b>private costs is less than social cost.</b></li> </ul>	<ul style="list-style-type: none"> <li>✓ It refers to the total cost to the society on account of production and consumption activity.</li> <li>✓ <b>Social Cost = Private Cost + External Cost</b></li> <li>✓ When negative production externalities exist <b>social cost is greater than private cost.</b></li> </ul>

- ✓ The external costs are not included in firms' income statements or consumers' decisions.
- ✓ The market prices determined without incorporating externalities are not ideal as they do not reflect all social costs and benefits.
- ✓ Such prices send incorrect signals to producers and consumers and cause either overproduction or underproduction.

## 5. Goods

**Characteristics of Private goods:** Private goods refer to those goods that yield utility to people. Anyone who wants to consume them must purchase them.

A few examples are: food items, clothing, movie ticket, television, cars, houses etc.

Properties of Private goods:

1. **Property Right:** Owners of private goods can exercise private property rights and can prevent others from using the good or consuming their benefits.
2. **Rivalrous:** Consumption of private goods is 'rivalrous' that is the purchase and consumption of a private good by one individual prevents another individual from consuming it
3. **Excludable:** Private goods are 'excludable' i.e. it is possible to exclude or prevent consumers who have not paid for them from consuming them or having access to them.
4. **No Free riding problem:** This means that the private goods will be available to only those persons who are willing to pay for it.
5. **Rejectable:** All private goods and services can be rejected by the consumers if their needs, preferences or budgets change.
6. **Additional resource costs** are involved for producing and supplying additional quantities of private goods
7. **Efficient Allocation-** the market will efficiently allocate resources for the production of private goods.
8. **There is no Market Failure.** The Market will efficiently allocate Resources for production of Private Goods. Competitive Markets have sufficient Incentives to produce and supply Private Goods.

**Public Goods** - Paul A. Samuelson who introduced the concept of 'collective consumption good' in his path-breaking 1954 paper 'The Pure Theory of Public Expenditure' is usually recognized as the first economist to develop the theory of public goods.

### a) Characteristics of Public Goods:

1. **Collective in nature:** Public goods yield utility to people and are products whose consumption is essentially collective in nature.
2. **No direct payment** by the consumer is involved in the case of pure public goods.
3. **Non-rival in consumption.** It means that consumption of a public good by one individual does not reduce the quality or quantity available for all other individuals. *When consumed by one person, it can be consumed in equal amounts by the rest of the persons in the society. For example, if, you eat your apple, another person too cannot eat it. But, if you walk in street light, other persons too can walk without any reduced benefit from the street light.*
4. **Public goods are non-excludable.** Consumers cannot (at least at less than prohibitive cost) be excluded from consumption benefits. If the good is provided, one individual cannot deny other individuals' consumption. For example, national defense.
5. **Public goods are characterized by indivisibility.** For example, you can buy chocolates or ice cream as separate units, but a lighthouse, a highway, an airport, defense, clean air etc cannot be consumed in separate units.
6. **Free Riding Problem & Externalities:** Public goods are generally more vulnerable to issues such as externalities, inadequate property rights, and free rider problems.
7. **Example:** Defence, Highways, Education, Scientific Research, Law Enforcement, Lighthouse, Fire Protection, Disease Prevention, Public Sanitation etc. **[Note:** Public Goods are divided into Public Consumption Goods and Public Factors of Production.]



### Pure and Impure Public Goods

sn	Pure Public Goods	Impure Public goods
1.	A pure public good is <b>non-rivalrous</b> and <b>non-excludable</b> .	There are many hybrid goods that possess <b>some features of both public and private goods</b> . Impure public goods are partially rivalrous or congestible.
2.	Since the goods are non-excludable, there is <b>no price mechanism</b> for it.	Since the goods are excludable, the market can provide a price mechanism for it.
3.	Provider of goods is not able to control the degree of congestion.	Provider of goods may be able to control the degree of congestion, by regulating the number of people who may use it, or the frequency with which it may be used or both. <i>Consumption of these goods by another person reduces, but does not eliminate, the benefits that other people receive from their consumption of the same good.</i>
	Law, Govt School, Hospital, Army	<i>An example of an impure public good would be cable television. It is non-rivalrous because the use of cable television by other individuals will in no way reduce your enjoyment of it. The good is excludable since the cable TV service providers can refuse connection if you do not pay for set top box and recharge it regularly</i>

### Free Riding

- Free riding is **'benefiting from the actions of others without paying'**.
  - Consumers can take advantage of public goods **without contributing sufficiently** to their production.
  - The **absence of excludability** in the case of public goods and the **tendency of people to act in their own self-interest** will lead to the problem of free riding.
  - In other words, they will not express to buy a particular quantity at a price. Briefly put, there is no incentive for people to pay for the goods because they can consume it without paying for it.
  - If every individual plays the same strategy of free riding, the strategy will fail because nobody is willing to pay and therefore, nothing will be provided by the market. Then, a free ride for any one becomes impossible.
- No public good will be provided in private markets
  - Private markets will seriously under produce public goods even though these goods provide valuable service to the society.





### Information failure

- Complete information is an essential element of competitive market. Information failure is common in numerous market exchanges. When this happens misallocation of scarce resources takes place and equilibrium price and quantity is not established through price mechanism. Due to the following reasons the real markets are not fully satisfied.
- a) **Complex nature:** Often, the nature of products and services tends to be highly complex. E.g. Cardiac surgery, financial products (such as pension fund products, mutual funds etc.)
  - b) **Information not available quickly and cheaply:** In many cases consumers are unable to quickly or cheaply find sufficient information on the best prices as well as quality for different products.
  - c) **Ignorant Buyer/seller:** People are ignorant or not aware of many matters in the market. Generally, they have inaccurate or incomplete data and consequently make potentially 'wrong' choices or decisions.
  - d) **Inaccuracy:** People have inaccurate or incomplete data, and thus make potentially 'wrong' choices / decisions.
  - e) **Misunderstanding:** In some situations, Consumers misunderstand the true costs or benefits of a product, or are uncertain about the true costs and benefits.



### Asymmetric information

- a) Asymmetric information occurs when there is an **imbalance in information between buyer and seller** i.e. when the buyer knows more than the seller or the seller knows more than the buyer can distort choices.
- b) These are situations in which one party to a transaction knows a material fact that the other party does not. This phenomenon, which is sometimes referred to as the **'lemons problem'**, is an important source of market failure. With asymmetric information, low-quality goods can drive high-quality goods out of the market.
- c) For example, the landlords know more about their properties than tenants, a borrower knows more about their ability to repay a loan than the lender, a used-car seller knows more about vehicle quality than a buyer and some traders may possess insider information in financial markets, health insurance buyers know more about their state of health than the insurance companies etc
- d) This lead to Problem of **Adverse Selection**



### 'Lemons problem' developed by **George Akerlof** in relation to the used car market.

- a) Second-hand cars may be good quality cars or poor quality cars defined as **"lemons"**. The owner of a car knows much more about its quality than anyone else & he may not disclose all the mechanical defects of the vehicle.
- b) Based on the probability that the car on sale is a 'lemon', the buyers' willingness to pay for any particular car will be based on the **'average quality'** of used cars. Since there is quality uncertainty, to account for this risk, the price offered for any used car is likely to be less.
- c) Since the price offered in the market is lower than the acceptable one, sellers of good quality cars will not be inclined to place the car for sale sell in the used car market.



- d) The good-quality cars disappear from the market and the market becomes flooded with 'lemons' and eventually the market may offer nothing but 'lemons'.
- e) Thus, asymmetric information leads to elimination of high-quality goods from the market. Economic agents end up either selecting a sub-standard product or leaving the market altogether.

### Adverse Moral Hazard

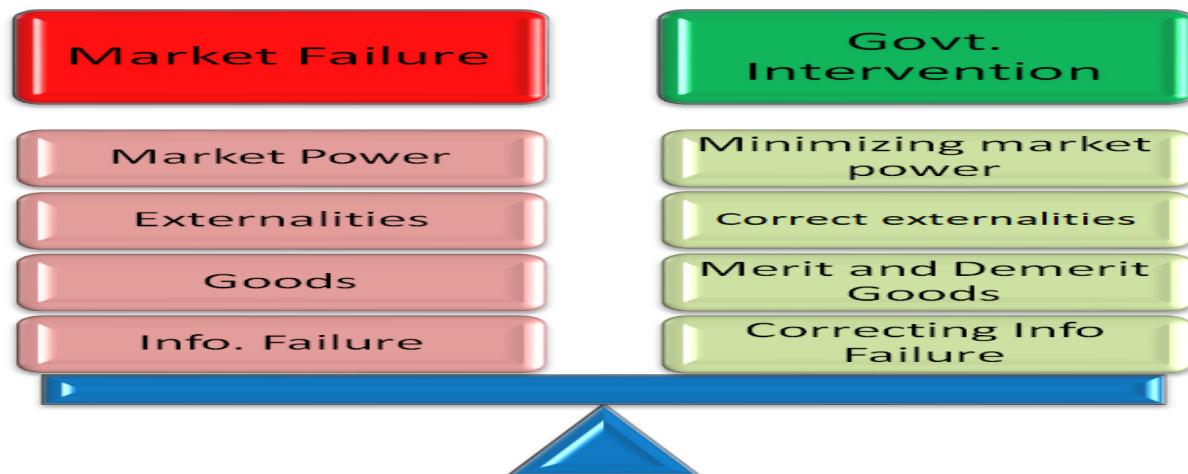
1. Moral Hazard is **opportunism** characterized by an informed person's taking **advantage of a less-informed person through an unobserved action**.
2. It arises from lack of information about someone's future behavior.
3. It occurs when one party to an agreement knows that he need not bear the consequences of his bad behaviour or poor decision making and that the consequence, if any, would be borne by the other party. Therefore, he engages in risky behaviour or fails to act in good faith or acts in a different way than if he had to bear those consequences by himself.
4. Moral hazard occurs when there is distortion of incentives to take care or to exert effort when **someone else bears the costs of the lack of care or effort**.
5. Moral Hazard occurs when a party whose actions are unobserved can affect the probability of magnitude of a payment associated with an event.
6. When someone is **protected from paying the full costs of their harmful actions**, they tend to irresponsibly making the harmful consequences more likely.
7. Example: a) Insured Consumers are likely to take greater risks, knowing that a claim will be paid for by the Insurance Company,  
b) A person cares less about the Doctor charging excessive fees or using inefficient and costly procedures as part of his health care, since the costs are paid by the Insurance company.  
(Note: This causes Insurance Premium to rise for all persons, sending many potential customers out of the market.)



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## Unit 2- Government intervention to correct Market failure



Government plays a vital role in ensure a well functioning market by:

- creating the necessary physical infrastructure such as roads, bridges, airports and waterways,
- institutional infrastructure such as legal and regulatory framework, establishment of the 'rule of law', protection of property rights,
- Ensuring performance of contracts, appropriately framed competition and consumer law.

### Role of Government

#### Objectives of Government Interventions:

1. To control potential rise in prices. (MRTP Act)
2. To bring in welfare to the under privileged sections of the Society by ensuring equity and fairness, (Subsidy)
3. To provide Incentives to promote production / use of Resources in a socially desirable direction etc. (Organic vegetable).
4. One of the most important activities of the government is to redistribute incomes so that there is equity and fairness in the society. Some common policy interventions include: progressive income tax, targeted budgetary allocations, unemployment compensation, transfer payments, subsidies, social security schemes, job reservations, land reforms, gender sensitive budgeting etc.

#### Argument in favor of Government Interventions:

1. The role of government *improves the wellbeing of individuals and households*.
2. *Under production* of certain goods & higher prices than would exist under conditions of competition (Generic Medicine)
3. *Non-production of public goods* (or collective goods) in sufficient quantities by the market. (Parks and Playground)
4. Production and Consumption of a Good or Service affects People and they cannot influence through Markets decision about how much of the Good or Service should be produced e.g. Pollution
5. Reduction or Distortion in choices available to consumers, and consequently lower welfare. (Only Private mode of Transport)
6. Equity and Fairness- to Curb Inequalities in the distribution of Income and Wealth.
7. Instabilities caused by Business cycles and fluctuations which lead to recession, inflation, etc. for prolonged periods, and cannot be corrected by Market system as such.

8. Market's inability to rectify "**Stagflation**" i.e. a State of affairs in which inflation and Unemployment co-exist,
9. Market's inability to rectify "**Contagious Effect**" i.e. forces of instability transmitted from one country to other countries, due to increased international interdependence

#### Arguments against government interventions:

- Government intervention does not imply that Markets are replaced by Government action. Government can act only as **complement rather than as a substitute** to the Market System in an economy,
- Governments may **not always** be **unbiased and benevolent**.
- Individuals may use Government as a Mechanism for maximizing their **self interest**
- In certain cases, the **cost** incurred by Government to deal with some Market failure could be greater than the cost of Market Failure itself.
- Government intervention may produce **fresh and more serious problems** that the ones sought to be rectified.
- Government intervention is ineffective if it causes **wastage of resources** expended for the intervention
- Governments are likely to commit **serious errors** in its attempt to correct Market failure.

#### Types of Government interventions

Government interference can be-

- **Direct** as a buyer or supplier of public goods / information
- **Indirectly** in the form of **subsidies / taxes** and regulation / influence to correct distortion in the market which occurs when there are deviations from the ideal perfectly competitive state.

#### Market Power- Government control

1. Policy options for limiting market power also include price regulation in the form of **setting maximum prices** that firms can charge.
2. Price regulation is most often used for **natural monopolies** (Monopoly arising due to inherent nature that can produce the entire output of the market at a cost that is lower than what it would be if there were several firms). If a firm is a natural monopoly, it is more efficient to permit it serve the entire market rather than have several firms who compete each other. Examples of such natural monopoly are electricity, gas and water supplies. In some cases, the government's regulatory agency determines an acceptable price, to ensure a competitive or fair rate of return. This practice is called **rate-of-return regulation**. Another approach to regulation is setting **price-caps** based on the firm's variable costs, past prices, and possible inflation and productivity growth.
3. Market liberalization by introducing competition in previously monopolistic sectors such as energy, telecommunication etc.
4. Controls on mergers and acquisitions if there is possible market domination
5. Price capping and price regulation
6. Profit or rate of return regulation
7. Patronage to consumer associations
8. Tough investigations into cartelization and unfair practices such as collusion and predatory pricing
9. Restrictions on monopsony power of firms
10. Reduction in import controls and
11. Nationalization



### Government intervention to Correct Externalities

- ✓ Freely functioning markets produce externalities because producers and consumers need to consider only their private costs and benefits and not the costs imposed on or benefits accrued to others.
- ✓ In other words, the key to internalizing an externality (both external costs and benefits) is to ensure that those who create the externalities include them while making decisions.

**A. Direct Control:** (also known as command solutions) - Direct controls **prohibit** specific activities that explicitly create negative externalities or require that the negative externality be limited to a certain level.

Examples Include:

- Smoking is completely banned in many public places.
- Stringent rules are in place in respect of tobacco advertising, packaging and labeling etc.
- fix emissions standard which is the legal limit on how much pollutant a firm can emit
- Licensing, production quotas and mandates regarding acceptable production processes are other examples of direct intervention by governments.
- Production, use and sale of many commodities and services are prohibited in our country.
- Government may insist that the polluting firms install pollution-abatement mechanisms to ensure adherence to the emission standards. This means additional expenditure to the firm leading to rise in the firm's average cost. New firms will find it profitable to enter the industry only if the price of the product is greater than the average cost of production plus abatement expenditure.
- Governments may also form special bodies/ boards to specifically address the problem: for instance the Ministry of Environment & Forest, the Pollution Control Board of India and the State Pollution Control Boards.
- If the firm breaches the law, it can invite monetary penalties or/and criminal liabilities.

**B. Indirect/ market-based Control:**

- ✓ These provide economic incentives to Market Participants, to achieve the socially optimal solution.
  - ✓ In other words, the government tries to alter the prices of goods through taxes and subsidies and thus change the behaviour of market participants.
    1. Setting the price directly through a pollution tax
    2. Setting the price indirectly through the establishment of the cap-and-trade system.
- a)** One method of ensuring internalization of negative externalities is imposing pollution taxes.
- i.** These taxes are named Pigouvian taxes after A.C. Pigou.
  - ii.** The size of the tax depends on the amount of pollution a firm produces.
  - iii.** These taxes have the effect of 'making the polluter pay'.
  - iv.** Tax increases the private cost of production or consumption as the case may be, and would decrease the quantity demanded and therefore the output of the good which creates negative externality.
  - v.** Problems **in administering an efficient pollution tax.**
    - ∅ **Difficult to Administer-** it is difficult to discover the right level of taxation that would ensure that the private cost plus taxes will exactly equate with the social cost.
    - ∅ **Complex-** it involves the use of complex and costly administrative procedures for monitoring the polluters.
    - ∅ **No Genuine solution-** It only establishes an incentive system for use of methods which are less polluting.

- ∂ **Failure in case of inelastic demand-** producers will be able to easily shift the tax burden in the form of higher product prices.
- ∂ **Adverse effect on employment-** Pollution taxes also have potential negative consequences on employment and investments because high pollution taxes in one country may encourage producers to shift their production facilities to those countries with lower taxes.

**b) The second approach to establishing prices indirectly is 'tradable emissions permits'.**

You might have heard of 'carbon credits'. The use of tradable permits to limit emissions is often called 'cap and trade'.

- a) A tradable permit is a license that allows a company to release a unit of pollution into the environment over some period of time.
- b) Marketable Licenses (called permits) to emit limited quantities of pollutants can be bought at a specified price from the Regulatory Agency, by Polluters
- c) Each Firm has permits specifying the number of units of emissions that the firm is allowed to generate
- d) These permits are transferable. So, different pollution levels are possible across the regulated entities.
- e) A high polluter has to either- i) pay monetary penalties, or ii) buy more permits both leading to increase in costs and decrease in profits.
- f) A low polluter can- i) avoid Monetary Penalties, and ii) sell permits and earn revenue, both making such firm profitable.
- g) The cap and trade method is administratively cheap and simple to implement and ensures that pollution is minimised in the most cost-effective way. The 'cap' puts a clear upper limit on the quantity of pollution that may be generated in each period.
- h) However, firms with a relatively inelastic demand for its product can easily shift the extra cost incurred for procuring additional permits in the form of higher price.

**Government Intervention to correct externalities Positive externalities:**

Though positive externality is associated with **external benefits**, we still call it a **market failure** because, left to market, there will be less than optimal output.

**A. Direct Control:- Production & Supply**

- a) Government enters the market directly as an Entrepreneur, to produce items whose externalities are vastly positive & pervasive.
- b) Examples: R&D, afforestation, Sewage Treatment, Cleaning up Rivers etc.

**B. Indirect control:- Subsidies:**

- a) Subsidies given by Government reduce the Production Costs of firms.
- b) This leads to higher output and supply.
- c) Thus, such goods will be produced in higher quantities i.e. socially optimum level of output

**Government intervention in case of Merit Goods**

**Meaning and Example**

1. Merit Goods- a) are **socially desirable**, b) involve substantial **positive externalities** in their consumption.
2. Examples: Education, health Care, Welfare Services, housing, Fire Protection, Waste Management, Public Libraries, Museums and Public Parks.



### Need for Intervention

1. **Lower Output:** they are likely to be **under-produced** and under-consumed through the market mechanism so that social welfare will not be maximized.
2. **Equity Fairness:** Certain Merit goods (Health and Education) should be provided free on the **basis of need rather than on the basis of individual's ability to pay.** (Health care)
3. **Uncertainty in consumption:** Due to uncertainty about the nature and timing of certain merit goods Example, The market is unlikely to provide the optimal quantity of healthcare when consumers actually need it, as they may not have adequate finances to pay the market price.
4. **Imperfect information:** one may not act in their best interest because of imperfect information.



### Government can regulate the supply of merit goods in following manner

1. **Direct government provision:** leading to large economies of scale and productive efficiency apart from generating substantial positive externalities.
2. **Regulation:** Regulation determines **how a private activity may be conducted.** For example, the way in which education is to be imparted is government regulated.
3. **Subsidies:** paying part of the cost to the firms in order to promote production of goods having positive externalities.
4. Governments also engage in direct production of environmental quality. Examples are: afforestation, replantation, protection of water bodies, and treatment of sewage and cleaning of toxic (deadly) waste sites.



### Government intervention in De-merit Goods

#### Meaning and Example

1. Demerit goods are goods which are believed to be **socially undesirable** and involve **high level of negative externalities.**
2. Also, the private costs incurred by individual consumers are less than the social costs experienced by the society
3. Examples of demerit goods are cigarettes, alcohol, intoxicating drugs etc.
4. However, it should be kept in mind that all goods with negative externalities are not essentially demerit goods; e.g. Production of steel causes pollution, but steel is not a socially undesirable good.
5. More than optimal production and consumption.
6. Misallocation of society's scarce resources.
7. Consumers overvalue demerit goods because of imperfect information.



#### ways for Intervention

1. **Complete ban:** At the extreme, government may enforce complete ban on a demerit good. e.g. Intoxicating drugs. In such cases, the possession, trading or consumption of the good is made illegal.
2. **Persuasion** which is mainly intended to be achieved by negative advertising campaigns which emphasize the dangers associated with consumption of demerit goods.
3. **Through legislations** that prohibit the advertising or promotion of demerit goods in whatsoever manner. (Liquor Adv. Ban)
4. **Strict regulations** of the market for the good may be put in place so as to limit access to the good, especially by vulnerable groups such as children and adolescents.



5. **Regulatory controls** in the form of spatial restrictions e.g. smoking in public places, sale of tobacco to be away from schools, and time restrictions under which sale at particular times during the day is banned.
6. **Imposing unusually high taxes** on producing or purchasing the good making them very costly and unaffordable to many is perhaps the most commonly used method for reducing the consumption of a demerit good. For example, the GST Council has bracketed four items namely, high end cars, pan masala, aerated drinks and tobacco products

**Note:** The effect of stringent regulation such as total ban is seldom realized in the form of complete elimination of the demerit good; conversely such goods are secretly driven underground and traded in a hidden market.

#### Reason why Govt. fails to provide such measures -

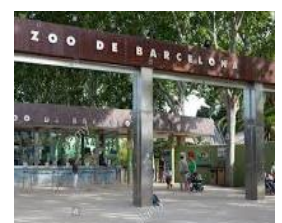
1. **Addiction level** of the consumer causes consumption in spite of control measures.
2. It is difficult to determine the **level of taxes** that will equal to the Marginal external cost and the impact of Negative externalities.
3. **Inelastic nature of demand** of demerit goods is such that the increase in price resulting from additional taxes causes a less than proportionate decrease in demand.
4. Sellers can always **shift the taxes to consumers** without losing customers. So, production is not discouraged as such
5. Banned goods are **secretly driven underground** and traded in a hidden market.

#### Government intervention in other areas

#### Goods

#### Reason why certain goods are produced by government despite the fact that it can be produced by Private sector

1. **Left to the markets and profit motives, these may prove dangerous to the society.** Examples are scientific approval of drugs, production of strategic products such as atomic energy, provision of security at airports, etc.
2. In the case of such pure public goods where entry fees cannot be charged, **direct provision by governments through the use of general government tax revenues** is the only option.
3. Public goods which are non-excludable are highly prone **to free rider problem** and therefore markets are unlikely to get established.
4. Direct provision of a public good by government can help overcome free-rider problem which leads to market failure. The most important public goods like defence, establishment and maintenance of legal system, fire protection, disease prevention etc are invariably provided by the government.
5. **Remedies for free rider problem**
  - a) Excludable public goods can be provided by government and the same can be financed through entry fees.
  - b) A very commonly followed method is to grant licenses to private firms to build a public good facility. Under this method, the goods are provided to the public on payment of an entry fee. In such cases, the government regulates the level of the entry fee chargeable from the public and keeps strict watch on the functioning of the licensee to guarantee equitable distribution of welfare.



### Price intervention: non-market pricing

1. Very often, there is strong political demand for governments to intervene in markets for various goods and services on grounds of **fairness and equity**.
2. Price intervention generally takes the form of **price controls which are legal restrictions on price**. Government usually intervenes in many primary markets which are subject to extreme as well as unpredictable fluctuations in price
3. **Price floor** (a minimum price buyer is required to pay). Price floor means the lowest price fixed by government for a product. The Government fixes floor price for farm products. This regulates income of the farmers.
4. **Price ceiling** (a maximum price seller is allowed to charge for a good or service). When prices of certain essential commodities rise extremely, government may resort to controls in the form of price ceilings for making a resource or commodity available to all at reasonable prices.
5. Fixing of minimum wages and rent controls are examples of such market intervention.
6. Government usually intervenes in many primary markets which are subject to extreme as well as unpredictable fluctuations in price. In the case of many crops the government has initiated the Minimum Support Price (MSP) programme as well as procurement by government agencies at the set support prices. The objective is to guarantee steady and assured incomes to farmers. In case the market price falls below the MSP, then the **guaranteed MSP will prevail**. With the objective of ensuring stability in prices and distribution, governments often intervene in grain markets through building and maintenance of buffer stocks. It involves purchases from the market during good harvest and releasing stocks during periods when production is below average. *(this means supply control)*

### Government Intervention for Incomplete Information

For combating the problem of market failure due to information problems following interventions are resorted to:

- Government makes it mandatory to have accurate labeling and content disclosures by producers. E.g. Labeling on cigarette packets, display of nutritional information on food packages.
- Mandatory disclosure of information, for example: SEBI requires that accurate information be provided to prospective buyers of new stocks.
- Public dissemination of information to improve knowledge and subsidizing of initiatives in that direction.
- Regulation of advertising and setting of advertising standards to make advertising more responsible, informative and less persuasive.



**MUTUAL  
FUNDS**  
*Sahi Hai*

## FISCAL FUNCTIONS: AN OVERVIEW CENTRE AND STATE FINANCE

Allocation  
Function

Redistribution  
function

Stabilisation  
function

The governments of all nations have important economic functions even where markets constitute the basic resource allocation mechanism.

The primary goal of the state is to promote the general welfare of the society.

There are three main macroeconomic goals for any nation.

The first is economic growth.

The second goal is high levels of employment which will ensure higher income and higher output.

The third macroeconomic goal is stable price levels. Inflation reduces real incomes and purchasing power of some people, and disproportionately affects lower income families. On the contrary, deflation signals a downturn in economic activity which may cause recession or even depression and large scale unemployment

### View of Economists

#### Adam Smith

Adam Smith is often described as a bold Advocate of Free Markets and Minimal Governmental Activity. However, Smith underlines the role of government in the following areas which the market may fail to produce on account of lack of sufficient Profits-

- National Defense
- Establishment and Maintenance of Highly beneficial Public Institutions such as roads, bridges, canals, harbors, and postal system that profit-seeking individuals may not be able to efficiently build and operate.
- Maintenance of Justice
- Public Works

#### Richard Musgrave

Richard Musgrave, in his classic treatise "The Theory of Public Finance" (1959) introduced the three-branch taxonomy of the role of Government functions in a Market Economy. Musgrave believed that, for conceptual purposes, the functions of government are to be separated into three, namely-

1. **Allocation Function (Efficiency Focus)**- Aims to correct the sources of inefficiency in the Economic System
2. **Distribution Function (fairness focus)**- Ensures that the Distribution of Wealth and Income is fair and equitable.
3. **Stabilization Function (to ensure price stability)**- Covers Monetary and Fiscal Policy, ensuring Macro-economic stability, Maintenance of High Levels of Employment and Price Stability etc.

*The allocation and distribution functions are primarily microeconomic functions, while stabilization is a macroeconomic function.*

### Allocation Function

1. **Meaning: Optimal or efficient allocation of scarce resources** means that the available resources are put to their best use and no wastages are there.
2. Resource allocation is a critical problem because the resources of a society are limited in supply, whereas the wants of the members of the society are unlimited. In addition, any given resource can have many alternative uses.
3. The private sector resource allocation is characterized by market supply and demand and price mechanism as determined by consumer sovereignty and producer profit motives. The state's allocation, on the other hand, is accomplished through the revenue and expenditure activities of governmental budgeting.
4. In the real world, resource allocation is determined by both market and the government.
5. In its allocation role, the government acts as a complement rather than as a substitute to the market system in an economy.
6. The allocation responsibility of the governments involves suitable corrective action when private markets fail to provide the right and desirable combination of goods and services.

### Reason for Government Intervention in allocation:

1. While private goods will be sufficiently provided by the market, public goods will not be produced in sufficient quantities by the market.
2. There is also the problem of nonexistence of markets in a variety of situations.
3. Government intervention will improve in social welfare. In the absence of appropriate government intervention, market failures may occur and the resources are likely to be misallocated by too much production of certain goods or too little production of certain other goods.

### Market failures which hold back the efficient allocation of resources

1. **Imperfect competition and presence of monopoly power** leading to under-production and higher prices
2. Markets typically fail to provide collective goods such as defence which are, by their very nature, consumed in common by all the people.
3. Incomplete markets; markets may fail to produce the right quantity merit goods, such as education and healthcare
4. Common property resources (e.g. environment) are overused and exhausted in individual pursuit of self-interest.
5. Externalities which arise when the production and consumption of a good or service affect third parties (e.g. pollution).
6. Factor immobility which causes unemployment and inefficiency.
7. Imperfect information because it may not be in the interests of one party to provide full information to the other party, and
8. Inequalities in the distribution of income and wealth

### Conclusion:

1. **According to Musgrave**, the state is the instrument by which the needs and concerns of the citizens are fulfilled and therefore, public finance is connected with economic mechanisms that should ideally lead to the effective and optimal allocation of limited resources.
2. The resource allocation role of government's fiscal policy focuses on the potential for the government to improve economic performance through its expenditure and tax policies.
3. The allocative function in budgeting determines
  - a) who and what will be taxed



- b) how much and on what the government revenue will be spent
- c) the process by which the total resources of the economy are divided among various uses
- d) the optimum mix of various social goods (both public goods and merit goods).
- e) the level of involvement of the public sector in the national economy
- f) the reallocation of society's resources from private use to public use.

A variety of allocation instruments are available by which governments can influence resource allocation in the economy.

1. Government may **directly produce** the economic good (for example, electricity and public transportation services)
2. Government may **influence private allocation** through incentives and disincentives (for example, tax concessions and subsidies may be given for the production of goods that promote social welfare and higher taxes may be imposed on goods such as cigarettes and alcohol)
3. Government may influence **allocation through its competition policies**, merger policies etc which will affect the structure of industry and commerce ( for example, nationalization of banks)
4. Governments' regulatory activities such as licensing, controls, minimum wages, and directives on location of industry influence resource allocation
5. Government **sets legal and administrative frameworks**, and
6. **Any of a mixture** of intermediate techniques may be adopted by governments

### Re-distribution Function

1. **Meaning:** The distribution responsibility of the government arises from the fact that, left to the market, the distribution of income and wealth among individuals in the society is likely to be skewed and therefore the government has to intervene to ensure a more socially optimal, egalitarian distribution, desirable and just distribution.
2. The distributive function of budget is related to the basic question of 'for whom' should an economy produce goods and services.
3. Governments can redistribute income and wealth either through the expenditure side or through the revenue side of the budget.
4. On the expenditure side, governments may provide free or subsidised education, healthcare, housing, food and basic goods etc. to deserving people.
5. On the revenue side, redistribution is done through progressive taxation.

The distribution function of the government aims at-

1. **Equitable Distribution-** Redistribution of income to achieve an equitable distribution of societal output among households.
2. **Well-being** of those members of the society who suffer from deprivations of different types
3. Providing **equality** in income, wealth and opportunities
4. Providing security for people who have **hardships**, and
5. Ensuring that everyone enjoys **a minimal standard of living**.
6. households ensuring increased overall social welfare

Redistribution function/ market intervention for socio- economic reasons performed by governments are:

1. Taxation policies of the government whereby **progressive taxation** of the rich is combined with provision of subsidy to the poor household.
2. Proceeds from progressive taxes used for financing public services, especially those that benefit low-income households (example, supply of essential food grains at highly subsidized prices to BPL households).



3. **employment reservations** and preferences to protect certain segments of the population, minimum wages and minimum support prices for farmers for their output.
4. families below the poverty line are provided with monetary aid and aid in kind
5. Regulation of the manufacture and sale of certain products to ensure the health and well-being of consumers, and
6. **Special schemes for backward regions** and for the vulnerable sections of the population

Redistribution measures should be accomplished with minimal efficiency costs by carefully balancing **equity and efficiency** objectives-comment:

1. In modern times, most of the egalitarian welfare states provide free or subsidized education and health-care system, unemployment benefits, pensions and such other social security measures.
2. In other words, governments' redistribution policies which interfere with producer choices or consumer choices are likely to have efficiency costs or deadweight losses.
3. For example, greater equity can be achieved through high rates of taxes on the rich; but high rates of taxes could also act as a disincentive to work and discourage people from savings and investments and risk taking. This in turn will have negative consequences for productivity and growth of the economy. Consequently, the potential tax revenue may be reduced and the scope for government's welfare activities would get seriously limited. Thus trade-off between equity and efficiency should be achieved.
4. In other words, redistribution measures should be accomplished with minimal efficiency costs by carefully balancing equity and efficiency objectives.

### Stabilization Function

1. Macroeconomic stability is said to exist when:
  - a) an economy's output matches its production capacity,
  - b) the economy's total spending matches its total output
  - c) the economy's labour resources are fully employed, and
  - d) Inflation is low and stable.
2. Stabilization function of the government is derived from the Keynesian proposition that *a market economy does not automatically generate full employment and price stability and therefore the governments should pursue deliberate stabilization policies.*
3. Business cycles are **natural phenomena** in any economy and they tend to occur periodically. The market system has inherent tendencies to create business cycles. The **market mechanism is limited in its capacity** to prevent or to resolve the disruptions caused by the fluctuations in economic activity.
4. In the absence of appropriate corrective intervention by the government, the instabilities that occur in the economy in the form of recessions, inflation etc. may be **prolonged for longer periods** causing enormous hardships to people especially the poorer sections of society. It is also possible that a situation of stagflation (a state of affairs in which inflation and unemployment exist side by side) may set in and make the problem more intricate.
5. The stabilization issue also becomes more complex as the increased international interdependence causes forces of instability to get easily transmitted from one country to other countries This is also known as **"Contagion effect"**.

6. Thus, The stabilization function is one of the key functions of fiscal policy and *aims at eliminating macroeconomic fluctuations arising from suboptimal allocation.*
7. The stabilization function is concerned with the performance of the aggregate economy in terms of:
  - a) labour employment and capital utilization,
  - b) overall output and income,
  - c) general price levels,
  - d) balance of international payments, and
  - e) the rate of economic growth.
8. Government's stabilization intervention may be through monetary policy as well as fiscal policy. Monetary policy works through controlling the size of money supply and interest rate in the economy.
9. Fiscal policy by means of its expenditure and taxation decisions.

### Centre and State Finance

- 1) **Fiscal federalism**, a term introduced by Richard Musgrave, deals with the division of governmental functions and financial relations among the different levels of government.
- 2) Federalism is an institutional arrangement to accommodate two sets of government – one at the national level and the other at the regional level.
- 3) Each government is autonomous in its own sphere. An independent judiciary is established to resolve disputes between the central government and the states on issues related to division of power.
- 4) Musgrave argued that the **federal or central government should be responsible for economic stabilization and income redistribution**, and the **allocation of resources** should be the **responsibility of the state and local governments.**
- 5) India is a federation of 28 states and 8 union territories.
- 6) **The constitution of India** has provided for the division of powers between the central and the state governments.
- 7) **Article 246 of the Constitution demarcates the powers of the union and the state** by classifying their powers into three lists, *namely union list, state list and the concurrent list.*
  - i. **The union list** contains items on which the union parliament alone can legislate
  - ii. **The state list** has items on which the state legislative assemblies alone can legislate
  - iii. **The concurrent list**, on which both the parliament and the legislative assemblies can legislate. In the event of conflicting legislation in concurrent list, the law passed by the centre prevails.
- 8) The central government has greater revenue raising powers. The union government can levy taxes such as tax on income, other than agricultural income, customs and export duties, excise duties on certain goods, corporation tax, tax on capital value of assets excluding agricultural land, terminal taxes, security transaction tax, central GST, union excise duty, taxes other than stamp duties etc.
- 9) The state governments can levy taxes on agricultural income, lands and buildings, mineral rights, electricity, vehicles, tolls, professions, collect land revenue and impose excise duties on certain items.
- 10) The property of the union is exempt from state taxation. The property and income of the states are not liable to be taxed by the centre.
- 11) A significant element of fiscal federalism is inter-governmental transfers and revenue-sharing to fulfill diverse national objectives.
- 12) Articles 268 to 281 of the constitution contain specific provisions in respect of distribution of finances among states.

Distribution of revenue between the union and states is based on the constitutional provisions as follows:

<b>Article 268</b>	Duties levied by the union but collected and appropriated by the states.
<b>Article 269</b>	Taxes levied and collected by the union but assigned to the states.
<b>Article 270</b>	Taxes levied and collected by the union and distributed between the union and states as prescribed in clause 2 and the States.
<b>Article 271</b>	Surcharge on certain duties and taxes for purposes of the union
<b>Article 275</b>	Statutory Grants - in-aid from the union to certain states.
<b>Article 280</b>	Provides for an institutional mechanism, namely the Finance Commission, to facilitate such transfers. ###
<b>Article 282</b>	Grants for any public purpose
<b>Article 292</b>	Borrowing by the government of India and borrowing by states
<b>Article 293</b>	Loans for any public purpose. <i>Article 292 and 293 read together - The centre may give loans to the states within limits fixed under article 292 and give guarantees in respect of loans raised by the states.</i>

- 1) The Finance Commission is a constitutionally mandated body that is at the centre of fiscal federalism.
- 2) The Finance Commission helps in maintaining fiscal federalism in India by performing following functions:
  - (a) The distribution between the union and the states of the net proceeds of taxes.
  - (b) Determination of principles and quantum of grants-in-aid to states which are in need of such assistance.
  - (c) To make recommendations to the President on measures needed to augment (increase) the consolidated fund of a state to supplement the resources of the panchayats and municipalities in the state on the basis of the recommendations made by the Finance Commission of the state.

#### Expenditure Responsibility:

- 1) The central government is entrusted with the responsibilities of provision of nationally important areas like defence, foreign affairs, foreign trade and exchange management, money and banking, cross-state transport and communication.
- 2) The state governments are entrusted with the responsibility of facilitating agriculture and industry, providing social sector services such as health and education, police protection, state roads and infrastructure.
- 3) The local self governments such as municipalities and panchayats are entrusted with the responsibility of providing public utility services such as water supply and sanitation, local roads, electricity etc.

#### Working Mechanism

- ⊖ *While recommending transfers, the Finance Commission considers issues related to vertical equity (deciding about the share of all states in the revenue collected by centre) and horizontal equity (allocation among states their share of central revenue).*
- ⊖ *The Finance Commission broadly assesses the overall gross tax revenues of the union; cesses, surcharges and non-tax revenue are netted out from gross tax revenue to arrive at the net divisible pool (NDP).*
- ⊖ *Considering the needs of the central and the state governments, the Commission determines what percentage out of the net divisible pool should be assigned to the state governments. The balance remains with the central government.*
- ⊖ *The Fifteenth Finance Commission was constituted on 27, November 2017 against the background of*

*the abolition of Planning Commission and the introduction of the goods and services tax (GST). The commission recommended the share of states in the central taxes (vertical devolution) for the 2021-26 to be 41%, which is the same as that for 2020-21.*

o *The criteria for distribution of central taxes among states for 2021-26 period are same as that for 2020-21. They is **Income Distance** i.e the distance of a state's income from the state with the highest income.*

+ **Area** , **Population** (2011), **Demographic performance** (to reward efforts made by states in controlling their population), **Forest and ecology**, **Tax and fiscal efforts**:

### **GST: - Background and facts**

1. The introduction of GST, which was rolled out across the country on 1 July 2017. The GST system replaced the then prevailing production-based taxation system with a consumption based one.
2. The GST subsumes the majority of indirect taxes - excise, services tax, sales tax, octroi (entry tax). The GST has made India's indirect tax regime unitary in nature.
3. The states levy and collect state GST (SGST) and the union levies and collects the central GST (CGST).
4. For any particular good or service or a combination of the two, the SGST and CGST rates are equal. An integrated GST (IGST) is applied on inter-state movement of goods and services and on imports and exports. IGST is administered and collected by the union government and distributed between the union and states *after settlement of input tax credit and verification of the destination of the goods and services.*
5. For providing compensation to states, a cess is levied on luxury goods and demerit goods and the proceeds are credited to the compensation fund. GST compensation was extended beyond five years to enable states to tide over the pandemic induced economic slowdown.
6. Facts
  - a) During the five-year transition period, the top five GST compensation-receiving states were Maharashtra, Karnataka, Gujarat, Tamil Nadu, and Punjab.
  - b) The total amount of compensation released to the states and union territories during the year 2022 -23 is ` 1,15,662 crore.
  - c) With many taxes subsumed under it, GST accounts for 35 per cent of the gross tax revenue of the union and around 44 per cent of own tax revenue of the states.
  - d) As per the supreme court verdict in May 2022, the Union and state legislatures have "equal, simultaneous and unique powers "to make laws on Goods and Services Tax (GST) and the recommendations of the GST Council are not binding on them.

## THE PROCESS OF BUDGET MAKING: SOURCES OF REVENUE, EXPENDITURE MANAGEMENT AND MANAGEMENT OF PUBLIC DEBT

1. A Budget is a statement that presents the details of 'where the money comes from' and 'where the money goes to'.
2. It is a powerful policy instrument in the hands of government to regulate and to restructure a country's economic priorities.
3. Government budget is a schedule of the entire revenues and expenditures that the government expects to receive and plans to spend during the following year.
4. It consolidates revenues from all sources and outlays for all activities, the budget is the most comprehensive report of the government's finances.
5. The government budget is a document presented for approval and legislation by a government and contains estimates of the proposed expenditure for a given period and the proposed means of financing them.
6. The budget includes projections for the economy and its various sectors such as agriculture, industry, and services.
7. The budget also contains estimates of the government's accounts for the next fiscal year called budgeted estimates.
8. Need for Government Budget: Budget is required -
  - a) To efficiently allocate limited resources to ensure maximum social welfare.
  - b) To reallocate resources in accordance with its declared priorities.
  - c) To ensure redistribution of Income and Wealth.
  - d) For Reduction/ elimination of economic fluctuations to bring in stability, sustainable increase in real GDP and reduction in regional Disparities.
9. Apart from the union budget, state and the local bodies have their own budgetary processes for the next financial year.

### THE PROCESS OF BUDGET MAKING

1. The finances of the government of India have traditionally been controlled by the Ministry of Finance.
2. The budget is prepared by the Ministry of Finance in consultation with NITI Aayog and other relevant ministries. The budget must be presented and approved by both houses of parliament before the beginning of the fiscal year (April 1 to March 31).
3. Despite the fact that the union budget is presented on 1st February, the process of budget preparation commences in August-September of the previous year.
4. **Annual Financial statement:** The term 'Budget' has not been used in the Indian Constitution. Article 112 of the constitution provides that in respect of every financial year the 'president shall cause to be laid before both the houses of parliament a statement of the estimated Receipts and Expenditure of the Government of India for that year.
5. The budgetary procedures are -
  - a. Preparation of the budget
  - b. Presentation and enactment of the budget and
  - c. Execution of the budget
6. The budget process mainly consists of two types of activities:
  - a. The administrative process, wherein the budget along with the accompanying documents are



prepared in consultation with various stakeholders;

- b. The legislative process wherein the budget is passed by the parliament after discussions.
7. The process of budget making is set off with the Budget Division issuing the budget circular containing detailed instructions and formats for preparing the estimates to all ministries, states, union territories and autonomous bodies.
8. The detailed estimates of expenditure are prepared by ministries and departments according to their assessment of requirements for the subsequent year.
9. A series of pre-budget consultations are done by the union finance minister with the finance ministers and chief ministers of states, various stakeholders and interest groups including industry associations, representatives from agriculture and social and welfare sectors, labour organisations, experts from NITI Aayog, economists etc. to elicit their suggestions on the proposed budget.
10. The budget is presented in the Parliament.
11. Broadly, the budget documents depict information relating to receipts and expenditure for two years. They are:
  - a. Budget estimates (BE) of receipts and expenditure in respect of current and ensuing financial year
  - b. For the current year through Revised Estimates (RE); and
  - c. Actuals of the year preceding the current year

**The budget speech of the Finance Minister is usually in two parts.**

The finance minister makes a detailed budget speech at the time of presenting the budget before the Lok-Sabha.

- A. **Part A of the budget speech gives an outline of the prevailing macro economic situation of the country and the budget estimates for the next financial year.** Elaborating the priorities of the government, the minister presents a broad framework of the total funds raised by the government via taxes or borrowings, proposed government expenditure allocations for different sectors and fresh schemes for different sectors.
- B. **Part B of the budget speech details the progress** the government has made on various developmental measures, the direction of future policies and the government's tax proposals for the upcoming financial year including variations in the current taxation system.
- C. **The Annual Financial Statement** shows the **receipts and expenditure** of government in three separate parts under which government accounts are maintained, namely:
  - a. Consolidated Fund of India
  - b. Contingency Fund of India, and the
  - c. Public Account.
- D. **The list of budget documents presented to the parliament**, besides the finance minister's budget speech, is given below:
  - a. Annual Financial Statement (AFS)
  - b. Demands for Grants (DG)
  - c. Finance Bill
  - d. Statements mandated under FRBM Act:
    - Macro -Economic Framework Statement
    - Medium-Term Fiscal Policy cum Fiscal Policy Strategy Statement

- E. **Nine other documents** which are in the nature of explanatory statements supporting the mandated documents are also presented along with the documents mentioned above.
- F. The expenditures of certain categories (e.g. the emoluments and allowances of the President of India and his/her office, and emoluments of Judges of supreme courts and high ranking personnel of constitutional bodies across India) are 'charged' on the Consolidated Fund of India and are not subject to the vote of parliament, are also indicated separately in the budget.
- G. *By convention in an election year, the budget may be presented twice. The first one is to first to secure a Vote on Account for a few months. This is followed by the Annual financial statement for that year or the full-fledged Budget.*
- H. The budget is discussed in two stages in the Lok Sabha.
- First, there is the general discussion on the budget as a whole. Then house is adjourned for a fixed period.
  - During this period, the demands for grants of various ministries/ departments are considered by the standing committees concerned, the house proceeds to discussion and conducts ministry-wise voting on demands for grants.
  - The Lok Sabha has the power to concur or to refuse any demand or even to reduce the amount of grant sought by government.
  - The budget is laid on the table of the Rajya Sabha soon after the Finance Minister has completed her/his budget speech in the Lok Sabha. The Rajya Sabha, does not vote on the demands for grants and there is only a general discussion on the budget.
- I. After the general discussion on the budget proposals and voting on demands for grants have been completed, the government introduces the Appropriation Bill. Motions for reduction to various demands for grants are made in the form of 'cut motions' seeking to reduce the sums sought by government.
- J. The Finance Bill seeking to give effect to the government's taxation proposals is introduced in Lok Sabha immediately after the presentation of the general budget.
- K. The motion for leave to introduce a finance bill cannot be opposed.
- L. The finance bill is taken up for consideration and passing after the Appropriation Bill is passed. The finance bill seeks to give effect to the financial proposals of the government for the next financial year.
- M. The Parliament has to pass the Finance Bill within 75 days of its introduction.
- N. On the last day of the days allotted for discussion on the demands for grants, the speaker puts all the outstanding demands for grants to the vote of the house. This process is known as 'Guillotine'. It is a device for bringing the debate on financial proposals to an end within a specified time.
- O. After the Finance Bill has been passed by the Lok Sabha, it is transmitted to the Rajya Sabha for Its recommendations and has to return it within a period of 14 days, with or without recommendations.
- P. The recommendations of Rajya Sabha may be accepted or rejected by the Lok Sabha.
- Q. However, from 2017-18, the date of presentation of the budget has been advanced to 1st February. An important budgetary reform was the merger of railway budget with the general budget from the budget for financial year 2017-18.

## SOURCES OF REVENUE

The broad sources of revenue are:

1. The **Department of Revenue of the Ministry of Finance** exercises control in respect of the revenue matters relating to **direct and indirect union taxes**. The department is also administering goods and services tax (GST), central sales tax, stamp duties too.
2. The Department of Revenue exercises control in respect of matters relating to all the direct and indirect union taxes through two statutory boards, namely,
  - a) the Central Board of Direct Taxes (CBDT) - Matters relating to the levy and collection of all direct taxes
  - b) the Central Board of Indirect Taxes and Customs (CBIC). - Matters relating to the levy and collection of all indirect taxes (GST, Customs and central excise duties, service tax)

3. Government receipts are classified under two categories:

a) Revenue receipts		b) Capital receipts	
Tax revenue	Non tax revenue.	debt capital receipts	non debt capital receipts
1. Corporation tax 2. Taxes on income 3. Wealth tax 4. Customs duties 5. Union excise duties 6. Goods and services tax including GST compensation cess 7. Taxes on union territories	1. Interest receipts, 2. Dividends and profits from public sector enterprises and surplus transfers from Reserve Bank of India 3. Other Non-tax revenues and 4. Receipts of union territories	1. Market loans for different purposes 2. Short term /Treasury bill borrowings 3. Securities issued against small savings, 4. State provident fund (Net) 5. Net external debts 6. Other receipts (Net)	1. Recoveries of loans and advances 2. Miscellaneous capital receipts (disinvestments and others)

- ❖ **Debt capital receipts** Comprise of market loans and short term borrowings by the government, borrowing from the Reserve Bank of India and loans taken from foreign governments/institutions.
- ❖ **Non debt capital receipts** include recoveries of loans advanced by the government to PSEs, state governments, foreign governments and union territories and sale proceeds of government assets, including those realized from divestment of government equity in public sector undertakings (PSUs).

## PUBLIC EXPENDITURE MANAGEMENT

1. Developing economies like India require enormous amount of public spending to initiate and accelerate economic growth and to promote employment opportunities.
2. Effective reduction in fiscal deficit requires an ingenious mix of **revenue and expenditure policies**.
3. **Public expenditure programmes** or projects should be designed and implemented to provide given levels of outputs or achieve specific objectives at minimum cost.
4. The economic costs of unproductive public expenditures can be extensive and may have far reaching effects such as:
  - a. larger deficits
  - b. higher levels of taxation,

- c. lower economic growth,
  - d. fewer resources available for use elsewhere, and
  - e. greater debt burden in the future.
5. The **Department of Expenditure of the Ministry of Finance** is the nodal department for overseeing the public financial management system in the central government and matters connected with state finances. It is responsible for
- a. the implementation of the recommendations of the Finance Commission and the Central Pay Commission,
  - b. monitoring of audit comments/observations, and preparation of central government accounts.
  - c. Additionally, it also assists central ministries/departments in
  - d. controlling the costs and prices of public services,
  - e. reviewing systems and procedures to optimize outputs and outcomes of public expenditure.
6. One of the explanatory documents of the budget document is the 'Expenditure Profile' (earlier known as expenditure budget) gives an aggregation of various types of expenditure and certain other items across demands.

In Expenditure budget, the Central government expenditure is classified into six broad categories as below:

#### A. Centre's Expenditure:

- a) Establishment Expenditure of the Centre- includes establishment-related expenditure of the ministries/departments, and attached and subordinates offices.
- b) Central sector schemes- include those schemes which are entirely funded and implemented by the central agencies under union government ministries/departments.
- c) Other central expenditures including those on CPSEs and Autonomous Bodies

#### B. Centrally Sponsored Schemes and other Transfers: The transfers include

- a) Centrally sponsored schemes
- b) Finance Commission transfers and
- c) Other transfers to states

### PUBLIC DEBT MANAGEMENT

1. In emerging market and developing economies, the government is generally the largest borrower.
2. Government debt from internal and external sources contracted in the Consolidated Fund of India is defined as Public Debt.
3. The government raises funds primarily from the domestic market using market-based and fixed-rate instruments to finance its fiscal deficit.
4. Public debt, in simple words, means debt incurred by the government in mobilizing savings of the people in the form of loans, which are to be repaid at a future date with interest.
5. Public debt is not a one-time exercise of borrowing and repaying. Debt servicing is a continuous exercise as a portion of debt falls due each month, government does not usually cut expenditure or raise taxes to provide funds to retire or repay the maturing bonds. Rather, the government simply refinances the debt, i.e. it sells new bonds and uses the proceeds to pay off holders of the maturity bonds.
6. **Public debt management refers to the task of determining and implementing the strategy, by the fiscal and monetary authorities, the size and composition of debt, the maturity pattern, interest rates, redemption of debt etc.** It is the process of setting up for managing public debt in

order to raise the required amount of funding at the desired risk and cost levels.

7. The overall objective of the central government's debt management policy is to "meet the central government's financing needs at the lowest possible costs and to keep the total debt within sustainable levels.
8. Debt management strategy is based on three broad pillars namely, **low cost of borrowing, risk mitigation and market development.**
9. The **institutions responsible for public debt management are:**
  - a) **Internal Debt Management Department (IDMD) (28 states and 2 UT)** - Division of RBI
    - The RBI acts as the debt manager for marketable internal debt.
      - a) Treasury bills are issued to meet short term cash requirements of the government.
      - b) Dated securities are issued to mobilise longer term resources to finance the fiscal deficit.
      - c) Reserve Bank also provides short-term credit up to three months to state governments banking with it in the form of Ways and Means Advances (WMA).
  - b) **External Debt - Department of Economic Affairs in Ministry of Finance (MOF)**
    - a) Most of the external debt is sourced from multilateral agencies (International Bank for Reconstruction and Development, Asian Development Bank, etc.).
    - b) The entire external debt is on long -term basis and a major part is at fixed interest rates.
    - c) The risk associated with external the debt is the depreciation in the value of the domestic currency.
  - c) **Ministry of Finance: Budget** Division and Reserve Bank of India - Other liabilities such as small savings, deposits, reserve funds etc.
10. **The Fiscal Responsibility and Budget Management (FRBM) was passed in 2003** to provide a legislative framework for reduction of deficit and thereby debt of the central government. The objectives of the act are:
  - a) inter-generational equity in fiscal management,
  - b) long run macroeconomic stability,
  - c) better coordination between fiscal and monetary policy, and
  - d) Transparency in fiscal operation of the government.

11. **The Public Debt Management Cell (PDMC) was created in 2016** under the Department of Economic Affairs.

#### 12. Debt Position of the Government of India

	31/3/2023 - (in ₹ crores)	31/3/2024 - (in ₹ crores)
Internal debt	147,77,724.43	164,23,983.04
External debt	4,83,397.69	5,22,683.81
Total	152,61,122.12	169,46,666.85

₹

#### Budget concepts (Type of budgets)

<b>surplus budget</b>	<ul style="list-style-type: none"> <li>• When estimated government receipts are more than the estimated government expenditure it is termed as surplus budget.</li> <li>• Public revenue exceeds expenditure (R&gt;E.)</li> </ul>
<b>deficit budget</b>	<ul style="list-style-type: none"> <li>• When estimated government receipts are less than the government expenditure.</li> <li>• A deficit budget increases the liability of the government or decreases its</li> </ul>



	reserves
<b>Balanced budget</b>	<ul style="list-style-type: none"> <li>• A balanced budget is a budget in which revenues are equal to expenditures.</li> <li>• Thus, neither a budget deficit nor a budget surplus exists.</li> </ul>
<b>Unbalanced budget</b>	The budget may either be surplus or deficit.
<b>Capital Receipts</b>	<ul style="list-style-type: none"> <li>• Capital receipts are those receipts that lead to a reduction in the assets or an increase in the liabilities of the government.</li> <li>• Examples include recoveries of loans, earnings from disinvestment and debt.</li> </ul>
<b>Revenue Receipts</b>	<ul style="list-style-type: none"> <li>• Revenue receipts can be defined as those receipts which neither create any liability nor cause any reduction in the assets of the government.</li> <li>• There are two sources of revenue receipts for the government – tax revenues and non-tax revenues.</li> </ul>
<b>Capital Expenditure</b>	<ul style="list-style-type: none"> <li>• There are expenditures of the government which <b>result in creation of physical or financial assets or reduction in financial liabilities</b>. This includes expenditure on the acquisition of land, building, machinery and equipment, investment in shares, and loans and advances by the CG to SG and UT, PSUs and other parties.</li> <li>• When a government spends more than it collects by way of revenue, it incurs a budget deficit.</li> </ul>
<b>Revenue Expenditure</b>	<ul style="list-style-type: none"> <li>• Revenue expenditure is expenditure incurred for purposes <b>other than creation of physical or financial assets</b> of the central government.</li> <li>• It relates to those expenses incurred for the normal functioning of the government departments and various services, interest payments on debt incurred by the government, and grants given to state governments and other parties (even though some of the grants may be meant for creation of assets).</li> </ul>
<b>Revenue Deficit</b>	<ul style="list-style-type: none"> <li>• The revenue deficit refers to the excess of government's revenue expenditure over revenue receipts.</li> <li>• It shows the shortfall of government's current receipts over current expenditure.</li> <li>• Revenue deficit = Revenue expenditure - Revenue receipts</li> </ul>
<b>Budgetary Deficit or Overall Deficit</b>	<ul style="list-style-type: none"> <li>• Budgetary Deficit is defined as the excess of total estimated expenditure over total estimated revenue, both revenue and capital.</li> </ul>
<b>Fiscal Deficit</b>	<ul style="list-style-type: none"> <li>• Fiscal deficit is the difference between the government's total expenditure and its total receipts <b>excluding borrowing</b> (non-borrowed receipts).</li> <li>• It is often presented as a percentage of the gross domestic product (GDP).</li> <li>• Total Receipts excluding borrowing = Revenue Receipts + Capital Receipts excluding borrowing or (Non debt creating capital receipts). <ul style="list-style-type: none"> <li>➤ Non debt creating capital receipts include recoveries of loans advanced by the government and sale proceeds of government assets, including those realized from divestment of government equity in public sector undertakings (PSUs).</li> <li>➤ Fiscal deficit = Total Expenditure - Total Receipts excluding borrowing</li> <li>➤ Fiscal Deficit = (Revenue Expenditure + Capital Expenditure) - (Revenue Receipts + Capital Receipts excluding borrowing).</li> <li>➤ Fiscal Deficit = (Revenue Expenditure - Revenue Receipts) + (Capital Expenditure - Capital Receipts excluding borrowing)</li> <li>➤ Fiscal Deficit = Revenue Deficit + (Capital Expenditure - Capital Receipts excluding borrowing)</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>The fiscal deficit will have to be financed by borrowing. Therefore fiscal deficit points to the total borrowing requirements of the government from all sources.</li> </ul>
<b>Primary Deficit</b>	<ul style="list-style-type: none"> <li>Primary deficit is <b>defined as fiscal deficit of current year minus interest payments on previous borrowings.</b></li> <li>In other words whereas fiscal deficit indicates borrowing requirement inclusive of interest payment, primary deficit indicates borrowing requirement exclusive of interest payment.</li> <li><b>Primary deficit = Fiscal deficit - Net Interest liabilities</b> <ul style="list-style-type: none"> <li>✓ Net interest liabilities interest payments minus interest receipts by the government on domestic lending.</li> </ul> </li> </ul>
<b>Finance Bill</b>	The Bill produced immediately after the presentation of the union budget detailing the Imposition, abolition, alteration or regulation of taxes proposed in the budget.
<b>Outcome budget</b>	<ul style="list-style-type: none"> <li>The outcome budget measures <b>budgetary allocations of schemes and its annual performance targets measured through output and outcome indicators.</b></li> <li>It is a progress card of what various ministries &amp; departments have done with the allocated annual budget.</li> <li>It measures the development outcomes and whether the money has been spent for the purpose it was sanctioned including the outcome of the fund usage.</li> </ul>
<b>Guillotine</b>	<ul style="list-style-type: none"> <li>The parliament has very limited time for examining the expenditure demands of all the ministries.</li> <li>Once the prescribed period for the discussion on demands for grants is over, the speaker of Lok Sabha puts all the outstanding demands for grants, whether discussed or not, to the vote of the house. This process is popularly known as 'Guillotine'.</li> </ul>
<b>Cut Motions</b>	<ul style="list-style-type: none"> <li>Motions for reduction to various demands for grants are made in the form of cut motions seeking to reduce the sums sought by government on grounds of economy or difference of opinion on matters of policy or just in order to voice a grievance.</li> </ul>
<b>Consolidated Fund of India</b>	<ul style="list-style-type: none"> <li>All revenues received, loans raised and all moneys received by the government in repayment of loans are credited to the Consolidated Fund of India</li> <li>All expenditures of the government are incurred from this fund.</li> </ul>
<b>Contingency Fund of India</b>	<ul style="list-style-type: none"> <li>A fund placed at the <b>disposal of the President</b> to enable him/her to make advances to the executive/Government to meet urgent unforeseen expenditure.</li> <li>Contingency fund enables the government to meet unforeseen expenditure and does not require prior legislative approval.</li> </ul>
<b>Public Account</b>	<ul style="list-style-type: none"> <li>Under provisions of Article 266(1) of the Constitution of India, public account is used in relation to all the fund flows where government is acting as a banker.</li> <li>Examples include Provident Funds and Small Savings.</li> <li>This money does not belong to government but is to be returned to the depositors.</li> <li>The expenditure from this fund need not be approved by the parliament.</li> </ul>

## Fiscal Policy - Meaning and Objective

### Meaning:

1. Fiscal policy involves the use of government spending, taxation and borrowing to influence both the pattern of economic activity and level of growth of aggregate demand, output and employment. It includes any design on the part of the government to change the price level, composition or timing of government expenditure or to alter the burden, structure or frequency of tax payment.
2. Fiscal policy is in the nature of a demand-side policy.
3. An economy which is producing at full-employment level does not require government action in the form of fiscal policy.

### Objective of Fiscal policy:

1. Achievement and maintenance of full employment,
2. Maintenance of price stability,
3. Acceleration of the rate of economic development, and
4. Equitable distribution of income and wealth,

The importance as well as order of priority of these objectives may vary from country to country and from time to time.

### Discretionary fiscal policy

- 1) Discretionary fiscal policy refers to a *deliberate policy actions* on the part of the government to change the levels of expenditure and taxes to influence the level of national output, employment, and prices.
- 2) Discretionary Fiscal Policies are deliberate actions taken by Government, to correct instabilities, fluctuations in the economy. Automatic Stabilizers do not always sufficient to manage instabilities.
- 3) Discretionary Policies seek to address the GDP measure [i.e.  $GDP = C + I + G + (X - M)$ ], Where  $C$  = Private Consumption,  $I$  = Private Investment,  $G$  = Government spending,  $(X - M)$  = Net exports.
- 4) Governments can influence economic activity (GDP) by controlling  $G$  directly and influencing  $C$ ,  $I$ , and  $(X - M)$  indirectly through changes in taxes, transfer payments and expenditure policies.
- 5) *Examples:*
  - o Specific export subsidies and concessions are an example of boosting  $(X - M)$  to promote exports, while imports can be discouraged by increasing import duties.
  - o Deliberate higher levels of Government spending during recession, increase demand. While curtailing the expenditure during inflation
  - o Increase in Government Borrowings during inflation phase, is intended to reduce the Disposable incomes of Households and slacken the demand and moderate the inflation effect.

### Non- Discretionary fiscal policy

- 1) Non- discretionary fiscal policy or automatic stabilizers are part of the structure of the economy and are '*built-in*' fiscal mechanism that operates *automatically* to reduce the expansions and contractions of the business cycle.
- 2) It occurs when there is changes in economic conditions cause government expenditures and taxes automatically.
- 3) Example: personal income tax, corporate income tax, and transfer payment.

### Explanation

1. In automatic or non-discretionary fiscal policy, *the tax policy and expenditure* pattern are so framed that taxes and government expenditure automatically change with the change in national income.

## 2. Automatic Stabilizers during Recession when incomes are reduced

- With **progressive tax structure**, there will be a decline Income tax, resulting lower tax payments as well as some tax refunds.
- Simultaneously, government expenditures increase due to increased **transfer payments** like unemployment benefits.
- These two together provide proportionately more disposable income available for consumption spending to households.

## 3. Automatic Stabilizers during Inflation/ Demand-pull inflation

- With progressive system of taxes people/ corporates have to pay higher taxes as their income rises.
- This leaves them with lower disposable income and thus causes a decline in their consumption and therefore aggregate demand.
- Also, during expansion unemployment falls, so transfer payments falls and inflation gets controlled to a certain extent.

### Four Instruments/ tools of Fiscal Policies

<b>Taxes</b>	<p><b>Meaning:</b> Taxes form the most important source of revenue for governments. Taxation policies are effectively used for establishing stability in an economy.</p> <p><b>Taxes determine the size of disposable income</b> in the hands of the general public which in turn determines aggregate demand and possible inflationary and deflationary gaps.</p> <p><b>Action during Inflation-</b></p> <ol style="list-style-type: none"> <li>New Taxes can be levied and the rates of existing taxes are increased, in order to reduce the Disposable Incomes and to wipe off the surplus purchasing power.</li> <li>However, excessive taxation may stifle new investments, and so this tool has to be used cautiously.</li> </ol> <p><b>Action during Recession</b></p> <ol style="list-style-type: none"> <li>Lower personal taxes lead to higher disposable incomes with people, inducing higher consumption.</li> <li>Low Corporate Taxes increase the prospects of profits for business and promote further investment.</li> <li>Thus, tax rates are lowered, in order to encourage private expenditure on Consumption &amp; Investment.</li> </ol>
<b>Government expenditure</b>	<p><b>Meaning -</b> Public expenditures include all types of government expenditure such as capital expenditure on public works, relief expenditures, subsidy payments of various types, transfer payments and other social security benefits.</p> <p>Government expenditures include:</p> <ol style="list-style-type: none"> <li><b>current expenditures</b> to meet the day to day running of the government,</li> <li><b>capital expenditures</b> which are in the form of investments made by the government in capital Equipments and infrastructure, and</li> <li><b>Transfer payments</b> i.e. pension, unemployment allowance</li> </ol>

**During a recession,**

1. It may initiate a fresh wave of public works, such as construction of roads, irrigation facilities, sanitary works, ports, electrification of new areas etc.
2. Government expenditure involves employment of labour as well as purchase of multitude of goods and services.
3. These expenditures directly generate incomes to labour and suppliers of materials and services.
4. Apart from the direct effect, there is also indirect effect in the form of working of multiplier. (we have studied this in chapter 1 investment multiplier).

**During Expansion/ Inflation phase-**

1. Government reduces its spending, by deferring / avoiding public works, reducing further employment in Government Institutions etc
2. Reduction in Labour Incomes and reduced Govt purchases helps to eliminate excess aggregate demand.

**There are two concepts of public spending during depression- 'pump priming' and 'compensatory spending'.**

1. Pump priming assumes that when private spending becomes deficient, certain volumes of public spending will help to revive the economy.
2. Compensatory spending is said to be resorted to when the government spending is carried out with the obvious intention to compensate for the deficiency in private investment.

**Public Debt****Meaning and Types:**

1. Public debt may be internal or external;
2. when the government borrows from its own people in the country, it is called **internal debt**.
3. When the government borrows from outside sources, the debt is called **external debt**.
4. Public debt takes two forms namely, **market loans** and **small savings**.
5. **In the case of market loans**, the government issues treasury bills and government securities of varying denominations and duration which are traded in debt markets. For financing capital projects, long-term capital bonds are floated and for meeting short-term government expenditure, treasury bills are issued.
6. **The small savings** represent public borrowings, which are not negotiable and are not bought and sold in the market. In India, various types of schemes are introduced for mobilizing small savings e.g., National Savings Certificates, National Development Certificates, etc.

**Action During Inflation:**

Borrowing from the public through the sale of bonds and securities curtails the aggregate demand in the economy.

**Action During Recession:**

Repayments of debt by governments increase the availability of money in the economy and increase aggregate demand.



**Budget****Meaning:**

1. The budget is a statement of Revenues from Taxes & other sources (say R), and Expenditures (say E) made by a nation's Government in a year.
2. A Government's Budget can either be balanced, surplus, or deficit.
3. Note: Balanced Budget ( $R = E$ ): This budget has no net effect on Aggregate Demand since the leakages from the system (Taxes collected) are equal to the Injections (Govt Expenditure).

**Action during Recession:**

1. Government proposes a Deficit Budget
2. Deficit Budget ( $R > E$ ): This budget has a positive net effect on aggregate demand since injections exceed leakages from the Government sector. Consumption & Investment is enhanced.
3. Deficit budget may be financed through- a) Past Surpluses, if any or b) Government Borrowings, or c) Monetization (i.e. creation of additional money to finance expenditure)

**Action during Inflation:**

1. Government proposes a surplus budget.
2. Surplus budget ( $R > E$ ): This budget has a negative net effect on the Aggregate demand since leakages exceed injections. Disposable Income available for consumption & Investment is reduced.

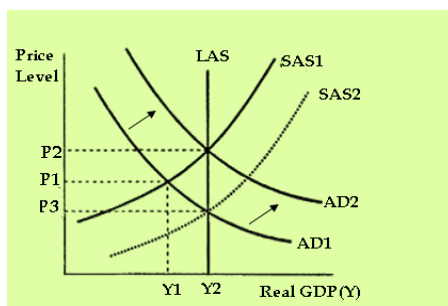
**Types of Fiscal**

There are two basic types of Fiscal- **Expansionary and contractionary**

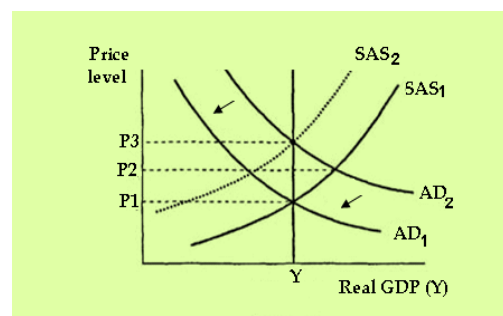
	<b>Expansionary Fiscal policy</b>	<b>Contractionary Fiscal Policy</b>
<b>When Used?</b>	<p>Expansionary fiscal policy is designed to <b>stimulate</b> the economy-</p> <ol style="list-style-type: none"> <li>1. During the contractionary phase of a business cycle.</li> <li>2. When there is an anticipation of a business cycle contraction.</li> </ol>	<p>Designed to <b>restrain</b> the levels of economic activity of the economy -</p> <ol style="list-style-type: none"> <li>1. During an Inflationary phase.</li> <li>2. When there is anticipation of a business-cycle expansion which is likely to induce inflation.</li> </ol>
<b>Scenario</b>	<ol style="list-style-type: none"> <li>1. Decline / slump in overall economic activity,</li> <li>2. Decline in Real Income (Real GDP)</li> <li>3. Higher rates of unemployment</li> <li>4. Fall in aggregate demand (i.e demand-deficit recession),</li> <li>5. Production of lower quantity of goods and services</li> </ol>	<ol style="list-style-type: none"> <li>1. Increase in Aggregate Demand (i.e. Demand-pull inflation)</li> <li>2. Increase in economic activities of consumption and Investment, due to higher levels of disposable incomes with households and firms,</li> <li>3. higher factor prices, leading to higher cost of producing goods.</li> </ol>
<b>Tools</b>	<ul style="list-style-type: none"> <li>• Lower personal and corporate taxes,</li> <li>• Higher levels of Government spending.</li> <li>• Reduction in Government borrowing and</li> <li>• Higher budget deficit or reduced surplus</li> </ul>	<ul style="list-style-type: none"> <li>• Higher personal and corporate taxes</li> <li>• Reduced levels of Government spending</li> <li>• Increase in Government Borrowing, and</li> <li>• Smaller Budget deficit or higher surplus</li> </ul>

## Gap

1. A recessionary gap, also known as a contractionary gap, is said to exist if the existing levels of aggregate production is less than what would be produced with full employment of resources.



1. Inflationary Gap or Expansionary Gap-
2. It arises Aggregate demand rises beyond what the economy can potentially produce by fully employing its given resources.



## National Debt

- A Nation's debt is the difference between its Total Past Deficits and its total Past surpluses
- If a government has borrowed money over the years to finance its deficits and has not paid it back through accumulated surplus, then it is said to be in Debt.
- A surplus budget reduces National Debt and a deficit budget will add to the National Debt.

## FISCAL POLICY FOR LONG-RUN ECONOMIC GROWTH

- When government supports building a modern infrastructure, the private sector is provided with the requisite overheads it needs.
- Government provision of public goods such as education, research and development etc. provide momentum for long-run economic growth.
- A well-designed tax policy that rewards innovation and entrepreneurship, without discouraging incentives will promote private businesses who wish to invest and thereby help the economy grow.

## Fiscal policy for Reducing Inequality

## Means and Methods:

1. **Direct Tax:** A progressive direct tax system ensures that those who have greater ability to pay contribute more towards defraying the expenses of government and that the tax burden is distributed fairly among the population.
2. **Indirect taxes** can be differential: for example, the commodities which are primarily consumed by the richer income group, such as luxuries, are taxed heavily and the commodities the expenditure on which form a larger proportion of the income of the lower income group, such as necessities, are taxed light.

## Government Spending on Expenditure:

1. Redistributing income from the rich to the poorer sections of the society.
2. Poverty alleviation programmes. free or subsidized medical care, education, housing, essential commodities etc. to improve the quality of living of poor
3. Infrastructure provision on a selective basis
4. Various social security schemes such as old-age pensions, unemployment relief.
5. Subsidized production of products of mass consumption
6. Public production and/ or grant of subsidies to ensure sufficient supply of essential goods, and
7. Strengthening of human capital for enhancing employability etc.

### Shortcoming and Limitations of Fiscal policy

1. **Timing Problem:** Discretionary fiscal policy may create more problems due to time delays (i.e lags) which include-
  - a) Recognition Lag- Delay in recognizing the economy's problems, and the need for Government Intervention,
  - b) Decision Lag- Delay in evaluating the possible alternative policies, and in deciding the most appropriate policy
  - c) Implementation Lag- Delay in evaluating the possible alternative policies, and in deciding the most appropriate policy,
  - d) Impact Lag- outcomes of a policy are not visible for some time.
2. The effect of this is that Fiscal Policy changes may at times be badly timed, so that it is highly possible that an expansionary policy is initiated when the economy is already on a path of recovery and vice-versa
3. **Government constrains:**
  - Difficulties in instantaneously changing governments' spending and taxation policies.
  - Difficult to reduce government spending on various items such as defense and social security as well as on huge capital projects which are already midway.
  - Public works cannot be adjusted easily along with movements of the trade cycle because many huge projects such as highways and dams have long gestation period. Besides, some urgent public projects cannot be postponed for reasons of expenditure cut to correct fluctuations caused by business cycles.
4. There are **possible conflicts** between different objectives of fiscal policy.
5. Supply-side economists are of the opinion that certain fiscal measures will cause disincentives. For example, increase in profits tax may adversely affect the incentives of firms to invest and an increase in social security benefits may adversely affect incentives to work and save.
6. **Negative effect of Deficit financing:** Deficit financing increases the purchasing power of people. The production of goods and services, especially in under developed countries may not catch up simultaneously to meet the increased demand. This will result in prices spiraling beyond control.
7. Increase in government borrowing creates perpetual burden on even future generations as debts have to be repaid.
8. **"Crowding Out" Effect:** If Governments compete with the private sector to borrow money for spending, this may cause interest rates to go up. Firms' willingness to invest may be reduced. Individuals too may be reluctant to borrow and spend and the desired increase in Aggregate demand may not be realized.

### Crowding out

#### Meaning and Example:

1. When spending by government in an economy **replaces** private spending, the private sector is said to be crowded out. (Note: Government spending has to "Support" and "enhance" private spending not merely "replace" it.)
2. "Crowding out" effect is the negative effect that a fiscal policy may generate, when money from the private sector is "crowded out" to the public sector.

**Impact on Investment:****1. High Interest Rate-**

- a) When government *increases its spending by borrowing from the loanable funds* from market, the demand for loans increases and this *pushes the interest rates up*. Private investments are sensitive to interest rates and therefore some private investment spending is discouraged.
- b) Government *increases the budget deficit by selling bonds or treasury bills*, the amount of money with the private sector decreases and consequently *interest rates will be pushed up*. As a result, private investments, especially the ones which are interest -sensitive, will be reduced.

**2. Impact on market's ability of self-correction:**

- a) It will reduce the economy's ability to self-correct from the recession, and reduce the economy's prospects of long-run economic growth.
- b) Effect of Government spending in increasing aggregate demand would be smaller than what it should be, and thus the Fiscal policy may become ineffective.

**Positive Aspects-**

- a) during deep recessions, crowding-out is less likely to happen as private sector investment is already minimal and therefore there is only insignificant private spending to crowd out.
- b) Moreover, during a recession phase the government would be able to borrow from the market without increasing interest rates.

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# CHAPTER- 8 MONEY MARKET

## 1. Money- Meaning and Basics

1. Money refers to assets which are commonly used and accepted
  - as a means of payment or Exchange
  - medium of transferring purchasing power
  - store of value, which means people can save it and use it later—smoothing their purchases over time
2. To put it a different way, money is something that holds its **value over time**, can be **easily translated into prices**, and is **widely accepted**. Many different things have been used as money over the years—among them, cowry shells, barley, peppercorns, gold, and silver.
3. For **policy purposes**, money may be defined as the **set of liquid financial assets**, the **variation in the stock** of which will have **impact on aggregate economic activity**.
4. **Anything that would act as a medium of exchange is not necessarily money**. For example, a bill of exchange may also be a medium of exchange, but it is not money since it is not generally accepted as a means of payment. Money is a totally liquid asset as it can be used directly, instantly, conveniently and without any costs or restrictions to make payments.
 
5. **Currency which represents money does not necessarily have intrinsic value**. As you know, fiat money has no intrinsic value, but is used as a medium of exchange because the government has, by law, made them "legal tender," which means that they serve by law as means of payment
6. In modern days, money is not necessarily a physical item; it may also constitute **electronic records**.
 
7. Fiat money is **materially worthless**, but has value simply because a nation collectively agrees to **ascribe a value to it**. In short, money works because people believe that it will.
 

### Evolution of money - Just for Knowledge - not tested in exam

Many years ago, gold and silver were the main currency people used. Gold and silver are heavy, though, and over time, instead of carrying the actual metal around and exchanging it for goods, people found it more convenient to deposit precious metals at banks and buy and sell using a note that claimed ownership of the gold or silver deposits. Anyone who wanted to could go to the bank and get the precious metal that backs the note. Eventually, the paper claim on the precious metal was delinked from the metal. When that link was broken, fiat money was born.



## 2. Characteristics of Money

*Money, though not having any inherent power to directly satisfy human wants, by acting as a medium of exchange, it commands purchasing power and its possession enables us to purchase goods and services to satisfy our wants.*

Following are the important characteristics of Money-

- Generally **A**ceptable
- Durable or **L**ong-lasting
- Effortlessly **R**ecognizable.
- Difficult to **C**ounterfeit i.e. Not easily reproducible by people
- Relatively **S**carce, but has elasticity of supply
- **P**ortable or easily transported
- Possessing **U**niformity;
- **D**ivisible into smaller parts in usable quantities or fractions without losing value.

**There are few other features of money**

- **Better than barter:** By decomposing the single barter transaction into **two separate transactions of sale and purchase**, money eliminates the need for **double coincidence of wants**.
- Money also facilitates separation of transactions both in **time and place** and this in turn enables us to economize on time and efforts involved in transactions.
- **Common Measure of value:** It is convenient to measure the prices of all commodities in terms of a single unit, rather than record the relative price of every good in terms of every other good.
- **Comparability:** Goods and services which are otherwise not comparable are made comparable through expressing the worth of each in terms of money.
- **Liquidity and Reversibility:** Additionally, money also commands reversibility as its value in payment equals its value in receipt. All assets other than money lack perfect reversibility in the sense that their value in **payment is not equal to their value in receipt**
- Liquidity refers to the extent to which financial assets can be sold at close to full market value at short notice. That is, they can easily be converted into another form of money, such as cash.

## Unit 2: Demand for Money

### 1. Demand for Money

1. If people desire to hold money, we say there is demand for money.
2. As we are aware, the demand for money is in the nature of derived demand; it is demanded for its purchasing power.

The Demand for Money is because of two reasons-

a) Demand for **liquidity and demand to store value**. It represents the desire of people to hold money as an asset instead of *other assets like bonds in their asset portfolio*. Although it gives little or no return, individuals, households as well as firms hold money because it is liquid and offers the most convenient way to accomplish their day to day transactions.



- b) People wish to have **command over real goods and services** with the use of money.
3. Demand for money has an important role in the determination of **interest**, **prices** and **income** in an economy.

### 2. Variables/ Factors on which Demand for Money depends

Sr. no	Factor	Nature of relationship	Relationship
1	Income and Expenditure	Direct	Higher the income and expenditure, higher will be the demand of the money. This is because with the higher income the tendency to expend will also rise and thus demand will also rise.
2	General price Index	Direct	If the general price index is high, one will try to hold money.
3	Interest (Opportunity cost)	Inverse	Opportunity cost is the interest rate a person could earn on other assets. Thus, higher the rate more will be temptation to invest in other assets.
4	Degree of Financial Innovation	Inverse	Financial innovation like internet banking, ATM, UBI based payments etc. reduces the need of holding the money. <b>Google pay and Paytm</b>

### 3. Theories of Demand for Money

#### Theories of Demand for Money:

- a) Quantity theory of Money (QTM) - Classical Approach or Fisher's Approach
- b) Cash Balance Approach - Neo-classical Approach or Cambridge Approach
- c) Liquidity Preference Theory - Keynesian Theory

#### Post Keynesian Theories -

- d) Inventory Approach- Baumol
- e) Friedman Theory, and
- f) Demand for Money as Behavior towards Risk-Tobin

#### 4. Quantity Theory of Money [QTM]

1. The quantity theory of money was propounded by **Irving Fisher of Yale University** in his book '**The Purchasing Power of Money**' published in 1911.
2. QTM demonstrate that there is **strong relationship between money and price level**.
3. **Changes in the general level of commodity prices** or changes in the value or purchasing power of money are determined by **changes in the quantity of money in circulation**.
4. Fisher's version, also termed as '**equation of exchange**' or '**transaction approach**' is formally stated as follows :
5. As per Fisher's approach-
  - **Quantity of Money demanded = price level (P) × Total volume of transaction (T)= Supply of Money (MV+M'V')**
  - **Therefore, MV= PT** (where only Actual money is considered and not credit money)
  - **And MV+M'V' = PT** (where both Actual and Credit money is used)( Credit money means demand deposits by bank)



Here,

- i. M= Total Amount of Money in circulation
  - ii. V= Transaction Velocity of Circulation- means average number of times a **unit of money** is spent in purchasing goods and services
  - iii. M'= Total quantity of Credit Money
  - iv. V'= Velocity of Circulation of Credit money.
  - v. P= Average Price Level
  - vi. T= Total Number of Transactions- T is a function of national income. Since full employment prevails, the volume of transactions T is fixed in the short run.
6. Thus, more the number of transactions people want, greater will be the demand for money.

#### 5. Cash balance approach/ Neo classic Approach/ Cambridge approach

1. In the early 1900s, Cambridge Economists **Alfred Marshall, A.C. Pigou D.H. Robertson** and **John Maynard Keynes** forward **neo-classical theory or cash balance approach**.
2. As per the Cambridge version the demand of the money is because of the following two reasons-
  - a) enabling the possibility of split-up of sale and purchase to two different points of time rather than being simultaneous. i.e. avoiding double coincidence of wants. since the sale and purchase of commodity does not place simultaneously, they need temporary abode of purchasing power, **Transaction need**
  - b) being a hedge against uncertainty. **Precautionary need.**
3. **Demand for Money= Proportion of income that people want to hold as cash (k) × income (PY).**  
 $(M^d) = k PY$   
 Where,
  - Y = Real national income
  - P = Average price level of currently produced Goods & services
  - PY= Nominal Income
  - K = Proportion of PY that people want to hold as Cash Balances

4. The term '**k**' in the above equation is called '**Cambridge k**'. This represents the portion of nominal income that people want to hold as cash balance.
5. Higher the income, higher will be the quantity purchased and thus greater money amount of money will be needed.

### Liquidity theory of demand/ Keynesian Theory of Demand for Money

*'Liquidity preference', a term that was coined by John Maynard Keynes in his masterpiece 'The General Theory of Employment, Interest and Money' (1936), denotes people's desire to hold money rather than securities or long-term interest-bearing investments.*



According to Keynes, people hold money (M) in cash for three motives:

- (i) Transactions motive,
- (ii) Precautionary motive, and
- (iii) Speculative motive.

Description
<p><b>Transaction Motive</b></p> <ol style="list-style-type: none"> <li>a) It is need for cash for current transaction for <b>personal and business (trade) exchange</b>.</li> <li>b) This need arises due to timing gap between Receipt of Income and Planned Expenditures.</li> <li>c) This need is further classified into- i) Income motive (for individuals &amp; households), and ii) Trade Motive (for Business Firms).</li> <li>d) Transaction Demand is directly related to the level of Income not affected by interest rates.</li> <li>e) Transactions Demand (L<sub>r</sub>) = Earnings (Y) × Ratio of income which is kept for transaction purposes (k)</li> <li>f) Keynes considered the aggregate demand for money for transaction purposes as the sum of individual demand and therefore, the aggregate transaction demand for money is a function of national income.</li> </ol>
<p><b>Precautionary Motive</b></p> <ol style="list-style-type: none"> <li>a) Individuals &amp; businesses keep a portion of their income to finance unforeseen, unpredictable and unanticipated Expenditures.</li> <li>b) Precautionary demand depends on the <b>size of income, prevailing economic &amp; political conditions and personal traits of the individual such as Optimism / pessimism, farsightedness etc.</b></li> <li>c) Precautionary Motive Cash Balances are considered <b>Income-Elastic</b> and by itself <b>not very sensitive to Rate of Interest</b>.</li> </ol>
<p><b>Speculative Motive</b></p> <ol style="list-style-type: none"> <li>a) This need reflects people's desire to hold cash, in order to be equipped to <b>exploit any attractive investment opportunity requiring cash expenditure</b>. i.e. to take advantage of favorable business situation</li> <li>b) The theory explains the portion of cash to be kept in asset portfolio depending upon the interest rate prevailing.</li> <li>c) Higher the interest rate, lower the speculative demand for money, and vice-versa.</li> </ol> <p>Explanation</p> <ol style="list-style-type: none"> <li>1. According to Keynes, people demand to hold money balances to take advantage of the future changes in the rate of interest, which is the same as future changes in bond prices. It is implicit in Keynes theory, that the 'rate of interest', i, is really the return on bonds.</li> <li>1. Keynes assumed that the expected return on money is zero, while the expected returns on bonds are of two types, namely:</li> </ol>

- (i) the interest payment  
(ii) the expected rate of capital gain.
2. The market value of bonds and the market rate of interest are inversely related. A rise in the market rate of interest leads to a decrease in the market value of the bond, and vice versa.
2. Investors have a relatively fixed conception of the 'normal' or 'critical' interest rate  $R_c$  and compare the current rate of interest  $R_N$  with such 'normal' or 'critical' rate of interest

Situation	If current Rate ( $R_n$ ) > Critical Rate ( $R_c$ )	If Current rate ( $R_n$ ) < Critical Rate ( $R_c$ )
<b>Process</b>	Investors expect a fall in the Interest Rate (rise in Bond Prices), and now they will convert their cash into Bonds since-  a) They can earn high rate of return on Bonds. b) They expect Capital Gains resulting from a rise in Prices.	Investors expect a rise in Interest Rate (fall in Bond Prices), and hence they hold their wealth in Liquid Cash because- a) Loss, i.e Interest foregone is small. b) Anticipated capital losses (fall in prices) is avoided. c) Return on Money will be high than that on Bonds, d) Idle Cash held can be used to buy bonds at lower price and thereby.
<b>Action</b>	Asset Portfolio would consist only of <b>Bonds.</b>	Asset portfolio would consist wholly of <b>Money/Cash.</b>

Summing up,

- ✓ so long as the current rate of interest is higher than the critical rate of interest, a typical wealth-holder would hold in his asset portfolio only government bonds,
- ✓ if the current rate of interest is lower than the critical rate of interest, his asset portfolio would consist wholly of cash.
- ✓ When the current rate of interest is equal to the critical rate of interest, a wealth-holder is indifferent to holding either cash or bonds.
- ✓ In this case discontinuity of Individual curve disappears & a continuous downward sloping function showing the Inverse Relationship between Interest Rate & Demand is obtained.

### The concept of Liquidity Trap

1. Liquidity trap is a situation when expansionary monetary policy (increase in money supply) does not increase the interest rate, income and hence does not stimulate economic growth.
2. It is a situation in which the general public is prepared to hold on to whatever amount of money is supplied, at a given rate of interest. They do so because of the fear of adverse events like deflation, war. In a liquidity trap, the monetary policy is powerless to affect the interest rate.
3. There is a liquidity trap at short term zero percent interest rate. When interest rate is zero, public would not want to hold any bond, since money, which also pays zero percent interest, has the advantage of being usable in transactions.
4. In other words, investors would maintain cash savings rather than hold bonds. The speculative demand becomes perfectly elastic with respect to interest rate and the speculative money demand curve becomes parallel to the X axis. This situation is called a 'Liquidity trap'.
5. Since the opportunity cost of holding money is zero, even if the monetary authority increases money supply to stimulate the economy, people would prefer to hoard money.
6. Consequently, excess funds may not be converted into new investment. The liquidity trap is synonymous with ineffective monetary policy .
7. The Bank of Japan's experience is a real-life example of the Keynesian economic theory of a liquidity trap.



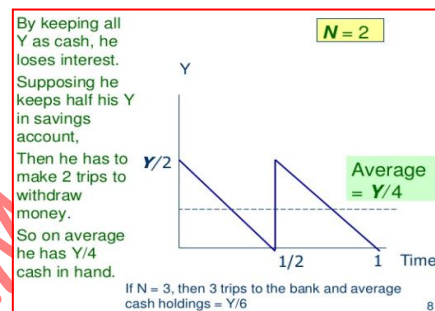
## POST-KEYNESIAN DEVELOPMENTS- emphasize the store-of-value or the asset function of money

### 6. Inventory Approach

1. Baumol and Tobin asserts that individuals hold money (inventory of money) for the transaction purposes.
2. Baumol (1952) and Tobin (1956) developed a deterministic theory of transaction demand for 'real cash balance', known as Inventory Theoretic Approach, in which money is essentially viewed as an inventory held for transaction purposes.
3. Inventory models assume that there are two media for storing value-
  - a. money
  - b. interest-bearing alternative financial asset.



3. As per Baumol, receipt of income, say  $Y$  takes place once per unit of time but expenditure is spread at a constant rate over the entire period of time. Excess cash over and above what is required for transactions during the period under consideration will be invested in bonds or put in an interest-bearing account. Money holdings on an average will be lower if people hold bonds or other interest yielding assets.



4. There is a fixed cost of making transfers between money and the alternative assets e.g. broker charges.
5. Individual or business firms try to hold optimum cash balance so that balance between opportunity cost and transaction cost is met.
6. As per Baumol model, optimum cash balance is given by  $(2AT/i)^{1/2}$ .  
Where  $A$ = annual cash requirement  
 $T$ = transaction cost/ transaction  
 $I$ = interest/annum

#### 7. Explanation

- a. Individuals have to keep optimum inventory/ quantity of money for their day to day transaction purposes.
- b. They also incur cost when they hold inventories of money and the cost forgone is the interest rate which they could have earned, **called opportunity cost**.
- c. Baumol and Tobin proclaim that transactions demand for **money depends on the rate of interest**.
- d. Money that people hold in the form of currency and demand deposits which are very safe and riskless but pays no interest.
- e. While bonds or shares provide returns (interest) but are risky and may also involve capital loss if people invest in them. Moreover, there is **fixed transfer cost per transfer**. Higher the number of transactions raises the Total cost.
- f. An individual combines his asset portfolio of cash and bond in such proportions that his overall cost of holding the assets is minimised.
- g. This means that the average amount of cash withdrawal which minimises cost is the square root of the two times broker's fee multiplied by the size of an individual's income and divided by the interest rate. This is also called Square Root Rule.

## 7. FRIEDMAN'S THEORY

1. Milton Friedman (1956) extended **Keynes' speculative** money demand within the framework of asset price theory.
2. **Milton Friedman** (1956) treats the demand for money as for demand for **capital assets**.
3. Demand for money is affected by the same factors as demand for any other asset, namely
  - a) Permanent income.
  - b) Relative returns on assets. (which incorporate risk)

### Explanation:

As per Friedman there are Four determinant of demand-

Factor	Particulars
Permanent Income	<ol style="list-style-type: none"> <li>1. Friedman maintains that it is <b>permanent income</b> - and not current income as in the Keynesian theory - that determines the demand for money.</li> <li>2. Permanent income which is Friedman's measure of wealth is the present expected value of all future income.</li> <li>3. Permanent Income is calculated by discounting future cash incomes.</li> <li>4. discount rate, defined as the average return on the five assets, namely <b>money, bonds, equity, physical capital and human capital</b></li> </ol>
Price level	<ul style="list-style-type: none"> <li><input type="checkbox"/> If the price level rises the demand for money increases and vice versa.</li> <li><input type="checkbox"/> Thus, it's directly related to price level</li> </ul>
Opportunity cost	<ul style="list-style-type: none"> <li><input type="checkbox"/> Nominal demand for money rises if the opportunity costs of money holdings (i.e. returns on bonds and stock) decline and vice versa.</li> <li><input type="checkbox"/> Thus, there is an inverse relationship between demand for money and opportunity cost</li> </ul>
Inflation	<ul style="list-style-type: none"> <li><input type="checkbox"/> Nominal Demand for Money is influenced by inflation. A positive Inflation Rate reduces the real value of Money Balances, thereby increasing the opportunity cost of Money Holdings.</li> <li><input type="checkbox"/> Thus, there is an inverse relationship between demand for money and inflation</li> </ul>

## 8. Demand for money as a behaviour towards risk

1. According to James Tobin, an investor is faced with a problem of **what proportion of his portfolio of financial assets he should keep in the form of ready money** (which earns no interest) **and in the form of investment** (which earns interest) such as bonds. An individual's portfolio may also consist of more risky assets such as shares.
2. According to Tobin, when individuals are faced with **various safe and risky assets**, they diversify their portfolio by holding a balanced combination of safe and risky assets.
3. According to Tobin, an individual's behaviour shows risk aversion. (risk avoiding behavior)
4. If an individual chooses to hold a greater proportion of risky assets such as bonds or shares in his portfolio - then higher average return but higher degree of risk.
5. Tobin argues that a risk averter will not choose such a portfolio with all risky bonds or a greater proportion of them.
6. In the other case, an individual who, in his portfolio of wealth, holds only safe and riskless assets such as money in form of cash or demand deposits, he will be taking almost zero risk but will also be getting no return.
7. Therefore, people prefer a mixed or diversified portfolio of money, bonds and shares, with each person opting for a little different balance between risk and return.

## Tobin's Liquidity Preference Function

- Basics of theory:** Tobin analysed that the **Risk - Avoiding behaviour of Individuals** provided the basis-
- For the Liquidity Preference, and
  - For a negative relationship between the Demand for Money and the Interest Rate. If this payment is increased, Investor is willing to put a greater proportion of the Portfolio into the Risk Asset (i.e Bonds) and thus a smaller proportion into money.
  - Thus, Demand for Money is primarily based on the Portfolio Management Principles.

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## Unit 3: Supply of Money

### 1. Meaning and introduction

- Economic stability (Inflation and price control) requires that the supply of money at any time should be maintained at an optimum level. Hence Supply of money shall be measured
- "Money supply" denotes the **Total Quantity of Money** available to **the people in the economy**. The Quantity of money at any point of time is a measurable concept.
- Supply of Money- Stock or Flow concept- It refers to the total amount of money **at any particular point of time**, thus it is a Stock Concept.
- Change in the Stock of Money (i.e. increase or decrease per month or year), is a Flow Variable.
- Stock of Money in General Parlance**- Generally, Stock of money refers to the Stock of money available to **'Public'** as means of payments and store of value. Such stock of money is always less than the Total Stock of Money that really exists in an Economy.
- Meaning of Public-**

The term 'Public' includes all Economic Units-	The term 'Public' excludes Producers of Money
a) Households, Firms, and Institutions, b) Quasi-Governmental Institutions, c) Non- banking Financial Institutions, d) Non- Departmental Public Sector Undertakings, e) Foreign Central Banks and Foreign govt. f) International Monetary Fund which holds a part of Indian Money in India in the form of Deposits with RBI.	a) Government, which includes- <ul style="list-style-type: none"> <li>• Central Government</li> <li>• All State Governments</li> <li>• <b>Local Bodies.</b></li> </ul> b) Banking System - <ul style="list-style-type: none"> <li>• Reserve Bank of India &amp;</li> <li>• All banks that accept Demand Deposits (Note)</li> </ul>

### Rationale of measuring supply of Money in Market-

Measurement of money is important because of two reasons-

- Money supply analysis facilitates analysis of Monetary Developments to provide a **deeper understanding of the causes of Money Growth**.
- It is important from monetary policy perspective as it provides a framework to evaluate **whether the stock of money in market is consistent with standard for price stability** and to understand nature of **deviation from standard**.
- Also, the other reason is to **stabilize Price level and GDP growth**.

### 2. Sources of Money supply

Supply of the money in an economy depends upon-

- Decision of **central bank**, and
  - The **supply responses of Commercial banking system** of country wrt. to policy of central bank. Commercial banks create **Credit Money** in an economy.
- Money either has **intrinsic value** or **represents title to commodities that have intrinsic value** or title to other debt instruments.
  - In modern economies, the currency is a form of money that is issued exclusively by the sovereign (or a central bank as its representative) and is legal tender.
  - Paper currency is such representative money, and it is essentially a debt instrument. It is a liability of the issuing central bank (and sovereign) and an asset of the holding public.
  - There are two broad sources of Money Supply, i.e **High Powered Money**, and **Credit Money**. These are explained as under-

	High Powered Money / Fiat Money i.e. Currency issued by the Central Bank	Credit Money, i.e. Money created by Commercial Banks
1	The <b>Central Banks</b> of all the countries are <b>empowered to issue Currency</b> . Therefore, the Central Bank is primary source of Money Supply in all Countries.	Total Money Supply in the Economy is also determined by the extent of Credit created by the Commercial Banks.
2	The Currency issued by the Central Bank is ' <b>Fiat Money</b> ' and is backed by supporting <b>Reserves and its value is guaranteed</b> by the Government. ***	Banks create Money Supply in the process of borrowing and lending transactions with the public.
3	Quantity of Fiat Money depends on the decision of the Central bank based on the authority conferred on it.	Supply of Credit money is responses of the Commercial Banking system of the country to various policies and norms of central bank of a country.
4	It is the source of all other forms of money.	

**NOTE:**

a) The currency issued by the Central Bank is a liability of the Central Bank and the Government. Therefore, it must be backed by an equal value of Assets mainly consisting of Gold and Foreign Exchange Reserves.

b) In practice, most countries have adopted a 'Minimum Reserve System' wherein the Central Bank is empowered to issue Currency to any extent by keeping only a certain minimum reserve of Gold & Foreign Securities.

**Central Board Digital Currency and Crypto Currency**

- RBI is going step by step for the issuance of its own CBDC (Digital Rupee (e₹)), with minimal or no disruption to the financial system.
- Reserve Bank broadly defines CBDC as the legal tender issued by a central bank in a digital form. It is akin to sovereign paper currency but takes a different form, exchangeable at par with the existing currency and shall be accepted as a medium of payment, legal tender and a safe store of value.
- CBDCs would appear as liability on a central bank's balance sheet.
- The Crypto currencies face significant legislative uncertainties and are not legally recognized in India as currency. Hence, these are not categorized as money.
- In a massive development for crypto traders in India, the Reserve Bank of India (RBI) has said that banks or other financial entities cannot cite RBI's 2018 order that barred them from dealing with virtual cryptocurrencies.





### 3. MEASUREMENT OF MONEY SUPPLY IN INDIA

- The measures of money supply vary from country to country, from time to time and from purpose to purpose.
- We shall be concentrating on the Indian case only.
- Till 1967-68, the RBI used to publish only a single 'narrow measure of money supply' (M1)
- From 1967-68, a 'broader' measure of money supply, called 'aggregate monetary resources' (AMR) was additionally published by the RBI.
- From April 1977, following the recommendations of the Second Working Group on Money Supply (SWG), the RBI has been publishing data on four alternative measures of money supply denoted by M1, M2, M3 and M4 besides the reserve money. These are known as **Monetary Aggregates**.
- Different aggregates represent different level of Liquidity. **M1 being most liquid and M4 being least liquid.**
- The following table will explain what is included in Monetary Aggregates

Item	Computation
<b>M1 - Narrow Money</b>	Currency notes and coins with the Public + Net Demand Deposits of Banks (CASA Deposits) + Other Deposits with RBI. (Other than those held by government) Note: Net Demand Deposits = Total Demand Deposits <b>Less</b> Inter - Bank Deposits <b>(Also refer note below)</b>
<b>M2</b>	MI + Savings Deposits with Post Office Savings Banks.
<b>M3- Broad Money</b>	MI + Net time Deposits with the Banking System.
<b>M4</b>	M3 + Total deposits with Post Office Savings banks (excluding National Savings Certificates)

Points to be remembered-

- Currency **includes Paper Currency Notes & Coins** with the people.
- Current A/c Deposits and Demand Deposits portion of Savings Deposits, all held by the 'Public'. These are also called CASA Deposits and these are the cheapest sources of finance for a Commercial Bank but excludes Inter- Bank Deposits, since they are not held by the 'Public'.**
- Other deposits of RBI exclude RBI's Deposits held by the Government (the Central & State Government)**

#### NEW MONETARY AGGREGATES and LIQUIDITY AGGREGATES-

On the recommendations of the working' Group on Money (1998), RBI has started publishing 4 set of new Monetary aggregates on the basis of the Balance Sheet of the Banking Sector as per Progressive Liquidity Norms.

Reserve Money, NM1, NM2, NM3

- Reserve Money-** Reserve Money can be computed in two ways as under- Note: Net result is same in both.

Method 1 -	Method 2-
Currency in Circulation / held by public + Bankers' Deposits with the RBI - <b>Note:</b> These are Commercial Banks Deposits with RBI for maintaining Cash Reserve Ratio (CRR) & as Working Funds for clearing adjustments. +Other Deposits with the RBI	Net RBI Credit to Government +RBI Credit to Commercial Sector +RBI's Claims on Banks +RBI's Net Foreign Assets +Government's Currency Liabilities to the Public -RBI's Net Non- Monetary Liabilities.

- a) Reserve Money is also known as **Central bank Money, Base Money** or **High- Powered Money**.
- b) Management of Reserve Money is important to stabilize Liquidity, Growth & Price Level in an Economy.

#### Currency with the Public

Add: Demand Deposits with the Banking System

Add: Other Deposits with RBI

#### New Monetary Aggregate 1 (denoted as NMI)

Add: Short term Time Deposits of Residents (including and up-to Contractual maturity of 1 Year)

#### New Monetary Aggregate 2 (denoted as NM2)

Add: Long term time deposits of Residents

Add: Call / Term Funding from Financial Institutions

#### New Monetary Aggregate 3 (Denoted as NM3)

Add: All deposits with the Post Office Savings Banks (excluding National Saving certificates)

#### Liquidity Aggregate 1 (Denoted as L1)

Add: Term Deposits with Term Lending Institutions and Re-financing Institutions

Add: Term Borrowing by Financing Institutions and Certificates of Deposits issued by Financing Institutions

#### Liquidity Aggregate 2 (Denoted as L2)

Add: Public Deposits of Non- Banking Financial Companies

#### Liquidity Aggregate 3 (Denoted as L3)

**Note on Liquidity Aggregates** - While the Instruments issued by the Bank are included in 'Money' Instruments, which are close substitutes of Money but are issued by the Non- Banking Financial Institutions, are also included in it. (L1, L.2, L.3)

## 4. DETERMINATION OF MONEY SUPPLY

The alternative approaches in respect of determination of Money Supply, are as under-

1. According to the first view, money supply is determined **exogenously** by the central bank.
2. According to Second view money supply is determined **endogenously** by changes in the economic activities which affect people's desire to hold currency relative to deposits, rate of interest etc.
3. The current practice is to explain the determinants of money supply based on '**money multiplier approach**' which focuses on the relation between the money stock and money supply in terms of the monetary base or high-powered money.
4. Accordingly, supply of nominal money in the economy is determined by the **joint behavior** of the central bank, the commercial banks and the public.

### Money Multiplier approach to supply of money- Milton Friedman & Anna Schwartz.

1. A one-rupee increase in the monetary base causes the money supply to increase by more than one rupee.
2. **Money multiplier m** is defined as ratio that relates change in money supply to the given change in monetary base. It denotes by how much money supply will change with change in monetary base

$$M = m \times MB$$

3. Where

- ✓ M = Money Supply,
- ✓ m = Money Multiplier Ratio, and
- ✓ MB= Monetary Base / High Powered Money/ money created by the RBI

4. Example: For instance, if there is an injection of Rs.100 Cr through an open market operation by the central bank of the country and if it leads to an increment of Rs.500 Cr. of final money supply, then the money multiplier is said to be 5.

5. What determines the size of the money multiplier?

We make two simplifying assumptions as follows;

- Banks never hold excess reserves.
- Individuals and non-bank corporations never hold currency.

6. The money multiplier is the reciprocal of the reserve ratio.

Therefore, if R is the reserve ratio in a country for all commercial banks, then

$$\text{Money Multiplier} = 1 / R$$

7. For example, if R = 10%, the value of money multiplier will be 10. If the reserve ratio is only 5%, then money multiplier is 20.

8. Thus, the higher the reserve ratio, the less of each deposit banks loan out, and the smaller the money multiplier.

9. If some portion of the increase in high-powered money finds its way into currency, this portion does not undergo multiple deposit expansion. The size of the money multiplier is reduced when funds are held as cash rather than as demand deposits.

### Credit Multiplier approach to supply of money-

#### 1. Credit Multiplier:

- a) It describes the amount of Additional Money created by Commercial Bank through the process of lending available Money in excess of the Reserve Requirement.
- b) It reflects the bank's ability to increase the Money Supply.
- c) It is also called "Deposit Multiplier" or "Deposit Expansion Multiplier".
- d) Credit Multiplier =  $\frac{1}{\text{Required Reserve Ratio}}$

2. **Illustration:** For this Illustration, assume A, B, C, D and E are all individuals and X, Y, Z are banks

- i. A earns 10 crore and deposits 10 crore in cash at Bank X. If the required RDR is 10%, Bank X will lend 9 crore to Benny, i.e. it deposits 9 crore in B's Account, that B can now use. Now Benny owns Rs. 900. B buys goods from C and pays 9 crore to C's Bank Y. Now, Bank Y will have an increase in cash of 9 crore, which it may lend 8.1 crore to David after 10% RDR.
- ii. D may again deposit this money in another Bank Z. After keeping 10% as RDR, 7.29 crore can be lent out to Eminem.
- iii. This process continues "ad infinitum" and Banks thus "create" money supply called "Credit Money".
- iv. The total of all this Money Supply will be =  $1 \times 10 \text{ crore} = \text{Rs. } 100 \text{ crore}$ . So, initial Deposit multiplies itself by 10 times

#### 3. Impact of RDR on Money Supply & Credit Multiplier

##### 1. RDR Impact:

1. When people deposit their money into Banks, Banks do not hold them as such. Banks create "**Credit Money**" by using the deposited money for giving Loans to individuals / Business Firms, who have to repay them to the Banking system.
2. The difference between Interest paid (to public) and Interest Earned (on Loans given) is called "**Spread**" and constitutes Gross Income of the Banks, from which other Expenses are met.
3. However, every rupee of Demand Deposits cannot be given away as Loans, since banks are required to hold back a portion of such deposits as "**Reserves**" to maintain Liquidity in the Banking system. This Ratio is called as **RDR (Reserves to Deposits Ratio)**.

4. If Reserves increase, then Money Supply will be reduced. Hence, Money Supply is inversely related to RDR.

### 5. Reserves may be as the result of-

- The regulations of the Central Bank (RBI) - referred as Statutory Reserves, or
- Decisions taken by the Commercial Banks themselves - referred as Excess Reserves.

### 6. Impact of Statutory Reserves:

Situation	Effect on Money Supply
Central Bank decreases Statutory Reserve Ratio on Demand Deposits	There will be expansion of Loans by Banks, since lesser level of reserves can now support more Loans and Deposits. Thus, money supply will increase.
Central Bank increases Statutory Reserve Ratio on Demand Deposits	Since Reserves are needed, Banks will restrict / recall / reduce (i.e contract) their loans, causing a decline in Deposits and hence in Money Supply.
Central Bank injects money into Banking system but, these are held as Excess Reserves by the Banking System	Since they do not lead to any Additional loans, these Excess Reserves do not lead to creation of money. There will be no effect on Deposits or Currency and hence no effect on Money Supply.

### 7. Excess Reserves and its Impact: Excess reserve represents the additional reserve maintained by commercial bank with RBI over and above the minimum required ratio to be kept. 'Excess reserves' are the difference between total reserves (TR) and required reserves (RR). Therefore, $ER=TR-RR$ .

- Excess Reserve is affected by the Cost and Benefits of holding such Reserves. For this purpose-
  - Cost** = Interest that could have been earned by giving these amounts as Loans, i.e Opportunity Cost,
  - Benefit** = Assurance as to adequate liquidity in the banking system, to meet withdrawal of Deposits by Public.
8. These costs and benefits are influenced by two factors, viz. **Market Interest Rates and Expected Deposits Outflows**, which have following impact-

Situation	Effect on excess Reserves
<b>If interest rate increases</b>	Banks will prefer to reduce Excess Reserves and give them as Loans to have higher earnings. So, the ratio of Excess Reserves to Deposits falls.
<b>If Interest Rate decreases</b>	Opportunity Cost of holding excess Reserves declines and Excess reserves will rise.
<b>If deposit outflows are expected to increase</b>	Banks will want more assurance against the possibility and will increase the Excess Reserves Ratio.
<b>If deposit Outflows are expected to decrease</b>	Decline in Expected Deposit Outflows will reduce Excess Reserves

Therefore, we conclude that the banking system's excess reserves ratio  $r$  is negatively related to the market interest rate.

### 5. DETERMINATION OF MONEY SUPPLY

Three factor as immediate determinants (also called as 'proximate determinants') of money supply are-

- the stock of high-powered money (H)
- the ratio of reserves to deposits or reserve-ratio  $r = \{Reserves/Deposits R/D\}$  and
- the ratio of currency to deposits, or currency-deposit ratio  $c=\{C/D\}$

### A. Stock of High- Powered Money (H)

- a) H (High-powered money) represents the behavior of the **Central Bank**.
- b) Its control over the Issue of Currency is reflected in the supply of Nominal High-Powered Money.
- c) With all other variables unchanged, Total Supply of Nominal Money will **vary directly with the Supply** of Nominal High - Powered Money.

### B. Ratio of Reserves to Deposits (RDR)

- a) RDR (Reserves to Deposits Ratio) represents the behaviour of the **Commercial Banks**, in determining Money Supply through "Credit Money".
- b) The behaviour of the Commercial Banks is reflected in the Ratio of their Cash Reserves to Deposits, known as the "Reserve Ratio" (RDR).
- c) If the required reserve ratio on demand deposits increases (while all the other variables remain the same), more reserves would be needed. This implies that banks must contract their loans, causing a decline in deposits and hence in the money supply.
- d) If the required reserve ratio falls, there will be greater expansions of deposits because the same level of reserves can now support more deposits and the money supply will increase.
- e) To sum up, smaller the reserve ratio larger will be the money multiplier.
- f) Thus the **Inverse relation exists**.

### C. Ratio of Currency to Deposits (CDR)

- a) As we know, demand deposits undergo multiple expansions while currency in your hands does not.
- b) So, when bank deposits are being converted into currency, banks can create only less credit money.
- c) The overall level of multiple expansion declines, and therefore, money multiplier also falls.
- d) Hence, we conclude that money multiplier and the money supply are negatively related to the currency ratio c.
- e) CDR represents the behaviour of the **General Public**, in determining Money Supply. It represents the behaviour of public to hold money in for of cash.
- f) They influence the Nominal Demand Deposits of the Commercial Banks by their decisions in respect of the amount of Nominal Currency in hand (Money holding as Cash) designated as "Currency Ratio" (CDR).
- g) The currency-deposit ratio (c) represents the degree of adoption of banking habits by the people.
- h) This is related to the level of economic activities or the GDP growth
- i) It is influenced by the degree of financial sophistication in terms of ease and access to financial services, availability of a richer array of liquid financial assets, financial innovations, institutional changes etc.
- j) The time deposit-demand deposit ratio i.e. how much money is kept as time deposits compared to demand deposits, also has an important implication for the money multiplier and, hence for the money stock in the economy. An increase in **TD/DD ratio** means that greater availability of free reserves and consequent enlargement of volume of multiple deposit expansion and monetary expansion.

To summarise the money multiplier approach, the size of the money multiplier is determined by the-

- (i) required reserve ratio (r) at the central bank,
- (ii) the excess reserve ratio (e ) of commercial banks and
- (iii) the currency ratio (c) of the public.



(iv) The lower these ratios are, the larger the money multiplier is.

(v) In other words, the money supply is determined by high powered money (H) and the money multiplier (m) and varies directly with changes in the monetary base, and inversely with the currency and reserve ratios.

(vi) We may now rewrite the money multiplier including the above variables.

a.  $M = C+D$  (1)

b.  $H = C+ \text{reserves}$  (2)

Where  $C$  is currency and  $D$  is deposits which are assumed to be demand deposits. currency-deposit ratio  $c = C/D$ , reserve-ratio  $r = \text{Reserves}/D$ , and the stock of high-powered money ( $H$ )

- Rewriting equation (1) and (2) above as
- $M = (c+1) D$ ,
- $H = (c+ r) D$
- $M = 1+c \times H = m \times H$
- $r + c$
- $m = 1 + c$
- $r + c$
- When there are excess reserves, the money multiplier  $m$  is expressed as
- $m = 1 + c$
- $r + e + c$
- Money Supply  $M = 1 + c \times H$
- $r + e + c$

### Impact of Other factors on Money Supply & Money Multiplier

#### Effect of Government expenditure on Money supply-

- a) Whenever the Central and State Governments' cash balance falls short of the Minimum requirement, they are eligible to avail of the facility called **Ways & Means Advances (WMA) / Overdraft (OD) Facility**.
- b) When Government incurs expenditure, it involves debiting Government balances with RBI, and Crediting the Receiver (e.g. Salary Account of Employee) Account with the Commercial Bank.
- c) So, it results in generation of Excess Reserves, (i.e. excess balances of Commercial Banks with RBI).
- d) Excess reserves thus created can potentially lead to an increase in Money supply through the Money Multiplier process e.g. When the Employee uses this money for making payments for purchase of goods etc.

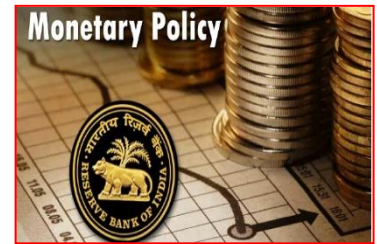
# Unit 4: Monetary Policy

Reserve Bank of India uses **monetary policy** to manage **economic fluctuations** and **achieve price stability**, which means that inflation is low and stable.

Reserve Bank of India conducts monetary policy by adjusting the supply of money, usually through buying or selling securities in the open market.

When central banks lower interest rates, monetary policy is easing.

When it raises interest rates, monetary policy is tightening.



## 1. Monetary Policy

- 1. Meaning:** Monetary Policy refers to the use of **Monetary Policy Instruments** which are at the **disposal of the Central Bank** for achieving various objectives.
- 2. Monetary Policy refers to-** **Action programme** of the Monetary Authorities (Generally central bank), to **control and regulate Demand & Supply** of Money with the Public and flow of credit, With the view to **achieve predetermined Macro-Economic Goals**.
- 2. Monetary Policy** encompasses all actions of the Central bank which are aimed at -
  - **Directly** controlling the **Money supply**, and
  - **Indirectly** at regulating the **Demand** for Money.
- 3. Monetary Policy** is in the nature of "**demand-side**" Macro-economic Policy and works by stimulating or discouraging Investment and Consumption spending on Goods & services.

## 2. Monetary Policy Framework

In the execution of Monetary Policy, the Central Bank functions within a specified monetary policy Framework which has 3 components as under-

- 1. Monetary Policy Objectives-** providing explicit Guidance to the Policy Makers.
- 2. Analytics of Monetary Policy-** which focus on Transmission Mechanisms for implementation.
- 3. Operating procedures-** which focus on operating targets and instruments.

### Monetary Policy Objectives

- The Reserve Bank of India Act, 1934 in its preamble sets out the objectives of RBI as "to **regulate the issue of Bank notes** and the **keeping of Reserves** with a view to securing **Monetary Stability** in India generally to **operate Currency and Credit System** of the country to its advantage".
- Prima Objectives:** The most common objectives of Monetary Policy of the Central Banks across the World are -
  - **Price Stability-** Establishment and Maintenance of stability in Prices (or controlling inflation)
  - **Economic Stability-** Maintenance of Full Employment and achievement of high level of economy's growth
- For the following objectives-
  - to **regulate** the availability, cost and use of Money & Credit,
  - to promote **economic growth**,
  - ensuring an adequate flow of credit to the productive sectors,
  - sustaining - a moderate structure of interest rates to encourage investments, and
  - creation of an efficient market for government securities.
  - to ensure **Price Stability**,

- g. to achieve **optimum levels** of output and employment,
- h. to obtain Balance of Payments **equilibrium**,
- i. to ensure **stable currency**, or

### What is an Impact of Conflicting Objectives?

Sometimes, simultaneous achievement of several objectives may create a conflict among them. For example, a Policy targeted at controlling inflation is likely to generate Unemployment. So, **based on the pre-determined National Priorities**, the Monetary Policy Makers must exercise appropriate trade-offs to balance the conflicting objectives.

### 3. Analytics of Monetary Policy - Transmission Mechanism for Implementation

The process or **Channels** through which the **change of Monetary Aggregate** affects the level of **Product and Prices** is known as "Monetary Transmission Mechanism". It describes how policy - induced changes in the nominal Money Stock / Short - Term Nominal Interest Rates impact real variables like Aggregate Output and Employment.

In simple terms, the transmission can be summarised in two stages.

- i. Changes to monetary policy affect interest rates in the economy.
- ii. Changes to interest rates affect economic activity and inflation.

#### A. Saving and Investment Channel

Monetary policy influences economic activity by **changing the incentives for saving and investment**.

- **Lower interest rates on bank deposits** - induce to **save Less** their money >>>> Induce to **spend their money more** on goods and services >>>> encourage households to borrow more
- **Lower lending rates** - can increase investment spending by businesses as the cost of borrowing is lower >>>> Increases demand too >>>> returns on these projects are now more than the cost of borrowing.

#### B. Cash-flow Channel

Monetary policy **influences interest rates**, which affects the decisions of households and businesses by changing the amount of cash they have available to spend on goods and services.

- A reduction in lending rates - reduces interest repayments on debt >>>> increasing the amount of cash available for households and businesses >>>>> leaving them with more disposable income.
- A reduction in lending rates - reduces the amount of income from deposits >>>>> and restrict their spending.
- These two effects work in opposite directions, but a reduction in interest rates can be expected to increase spending in the Indian economy through this channel (with the first effect larger than the second)

#### C. Asset Prices and Wealth Channel

- The asset prices and wealth channel typically affects consumption and investment.
- Lower interest rates support asset prices (such as housing and equities) by encouraging demand for assets than debt instruments.
- Higher asset prices also increase the equity (collateral) of an asset that is available for banks to lend against. This can make it easier for households and businesses to borrow.

- An increase in asset prices increases people's wealth. This can lead to higher consumption and housing investment as households generally spend some share of any increase in their wealth.

#### D. Exchange Rate Channel

- The exchange rate can have an important influence on economic activity and inflation.
- It is typically more important for sectors that are export-oriented or exposed to competition from imported goods and services.
- If the Reserve Bank lowers the cash rate it means that interest rates in India have fallen compared with interest rates in the rest of the world
- Lower interest rates reduce the returns investors earn from assets in India. Lower returns reduce demand for assets in India, with investors shifting their funds to foreign assets (and currencies) instead.
- A reduction in interest rates (compared with the rest of the world) results in a lower exchange rate, making foreign goods and services more expensive compared with those produced in India. This leads to an increase in exports and domestic activity. A lower exchange rate also adds to inflation because imports become more expensive in Indian rupees.

**Effectiveness:** The effectiveness of different Channels function depends on

1. Stage of Development of the Economy, and
2. Underlying Financial Structure of the Economy.

#### 4. Operating Procedures and Instruments

**Quantitative tools** - The tools applied by the policy that impact money supply in the entire economy, including sectors such as manufacturing, agriculture, automobile, housing, etc.

1. **Reserve Ratio** Banks are required to keep aside a set percentage of cash reserves or RBI approved assets. Reserve ratio is of two types:
  - a. **Cash Reserve Ratio (CRR)** - Banks are required to set aside this portion in cash with the RBI. The bank can neither lend it to anyone nor can it earn any interest rate or profit on CRR.
  - b. **Statutory Liquidity Ratio (SLR)** - Banks are required to set aside this portion in liquid assets such as gold or RBI approved securities such as government securities. Banks are allowed to earn interest on these securities, however it is very low.
2. **Open Market Operations (OMO)** -In order to control **money supply and inflation**, the RBI buys and sells government securities in the open market. These operations conducted by the Central Bank in the open market are referred to as Open Market Operations.
  - a. When the RBI sells government securities, the liquidity is sucked from the market,
  - b. when RBI buys securities the liquidity is injected from the market
  - c. The objective of OMOs are to keep a check on temporary liquidity mismatches in the market, owing to foreign capital flow.
3. **Qualitative tools** - Unlike quantitative tools which have a direct effect on the entire economy's money supply, qualitative tools are selective tools that have an effect in the money supply of a specific sector of the economy.
  - a. **Margin requirements** - The RBI prescribes a certain margin against collateral, which in turn

impacts the borrowing habit of customers. When the margin requirements are raised by the RBI, customers will be able to borrow less.

- b. **Moral suasion** - By way of persuasion, the RBI convinces banks to keep money in government securities, rather than certain sectors.
- c. **Selective credit control** - Controlling credit by not lending to selective industries or speculative businesses.

#### 4. Market Stabilisation Scheme (MSS) -

- a. It was introduced following MOU between RBI and the Government of India with the primary aim of aiding the Sterilization Operations of RBI.
- b. Sterilization is the process by which the Monetary Authority (RBI) sterilizes the effects of significant Foreign Capital Inflows on Domestic Liquidity, by off - loading a portion of the Stock of Government Securities held by it.
- c. Government borrows from RBI (additional to its Normal Borrowing) and issues Treasury Bills / Dated Securities for absorbing the excess liquidity from the market arising from Large Capital Inflows. MSS absorbs the excess liquidity from the market

#### 5. Policy Rates -

- a. Fixed Repo Rate quoted for sovereign Securities in the overnight segment of LAF is considered as the Policy Rate. (India has many other Repo Rates in operation)
- b. RBI uses this rate for balancing liquidity.
- c. Its change gets transmitted through Money Market to the entire Financial System & alters all other Short-Term Interest Rates & Influences aggregate Demand - key determination of level of Inflation & Economic Growth.
- d. If RBI wants to make it more expensive for banks to borrow money, it increases the Repo Rate. Similarly, if it wants to make it cheaper for Banks borrow money, it reduces the Repo Rate. In other words, an increase in the Repo Rate will lead to higher Liquidity and vice - versa, other things remaining constant.

6. **Bank rate** - The interest rate at which RBI lends long term funds to banks is referred to as the bank rate. However, presently RBI does not entirely control money supply via the bank rate. It uses Liquidity Adjustment Facility (LAF) - repo rate as one of the significant tools to establish control over money supply. Bank rate is used to prescribe penalty to the bank if it does not maintain the prescribed SLR or CRR.

7. **Liquidity Adjustment Facility (LAF)** - RBI uses LAF as an instrument to adjust liquidity and money supply. The following types of LAF are:

- a. **Repo rate**: Repo rate is the rate at which banks borrow from RBI on a short-term basis against a repurchase agreement. Under this policy, banks are required to provide government securities as collateral and later buy them back after a pre-defined time.
- b. **Reverse Repo rate**: It is the reverse of repo rate, i.e., this is the rate RBI pays to banks in order to keep additional funds in RBI.
- c. It is linked to repo rate in the following way: **Reverse Repo Rate = Repo Rate - 1**

8. **Marginal Standing Facility (MSF) Rate**: MSF Rate is the penal rate at which the Central Bank lends money to banks, over the rate available under the rep policy.

- a. **Banks availing MSF Rate can use a maximum of 1% of SLR securities.**
- b. **MSF Rate = Repo Rate + 1MSF Rate = Repo Rate + 1 .**



### Monetary Policy Framework Agreement (MPFA)

1. The Reserve Bank of India (RBI) Act, 1934 was amended on June 27, 2016, for giving a statutory backing to the Monetary Policy Framework Agreement (MPFA) and for setting up a Monetary Policy Committee (MPC).
2. It is an Agreement reached between the Government of India and RBI on the Maximum tolerable Inflation Rate that RBI should target to achieve price stability.
3. The amended RBI 2016 Act provides for a statutory basis for the implementation of the 'Flexible Inflation targeting Framework'.
4. Announcement of an Official Target Range for Inflation is known as Inflation Targeting.
5. The Expert Committee under Urijit Patel, in January, 2014, suggested RBI abandoned the 'Multiple Indicator' Approach and made Inflation Targeting the primary objective of its Policy.

### Inflation Target

1. Inflation target is set once in every 5 years.
2. Central Government has notified 4% Consumer Price Index (CPI) Inflation as the target for the period from 5 August 2016 to 31 March 2021 (Upper Tolerance Limit - 6%, Lower Tolerance Limit - 2%)
3. RBI is mandated to publish a Monetary Policy report every 6 months, explaining the Sources of Inflation and the Forecast of Inflation for the coming period of 6 - 18 months.
4. Following Factors are notified by the Central Govt. as constituting failure to achieve Inflation Target -
  - Average Inflation > Upper Tolerance Level of Inflation Target for any 3 consecutive quarters, or
  - Average Inflation < Lower Tolerance level for any 3 Consecutive Quarters.
5. CPI is chosen for Inflation Target, since it closely reflects cost of Living and has larger influence on Inflation Expectation compared to other Indicators / Anchors.

### 9. Challenges in Implementation of Monetary policy

Following are the main challenges in implementation of Monetary Policy

1. Rudimentary and Non - competitive Financial System
2. Lack of Integrated Money and Inter - Bank Markets,
3. Uncertainties surrounding the economy, due to both Internal & external sources.
4. Issues related to Operational Autonomy of the Central Bank
5. Extent of co-ordination between Fiscal and Monetary authorities.

Item (Source RBI)	Outstanding as on	
	March 31/3/22	30/12/22
<b>M3 (In Crores)</b>	<b>2,04,93,729</b>	<b>2,18,59,358</b>
<b>Components (i+ii+iii+iv)</b>		
i) Currency with the Public	30,35,689	31,22,019
ii) Demand deposits with Banks	22,12,992	23,41,912
iii) Time Deposits with Banks	1,51,86,605	1,63,32,494
iv) 'Other' Deposits with Reserve Bank	58,444	62,932
<b>Source (i+ii+iii+iv - v)</b>		
i) Net Bank Credit to Government Sector (a+b)	64,77,629	65,65,472
(a) Reserve Bank	14,50,596	11,70,253
(b) Other Banks	50,27,033	53,95,219
ii) Bank Credit to Commercial Sector (a+b)	1,26,16,520	1,40,44,417
(a) Reserve Bank	16,571	19,852
(b) Other Banks	1,25,99,950	1,40,24,565
iii) Net Foreign Exchange Assets of Banking Sector	48,54,063	47,46,428
iv) Government Currency Liabilities to the Public	28,013	29,384
v) Banking Sector's Net Non-Monetary Liabilities	34,82,496	35,26,343
of which: Net Non-Monetary Liabilities of R.B.I.	13,08,500	14,94,789

### Numerical illustrations

#### ILLUSTRATION 1

Calculate Narrow Money (M1) from the following data

Currency with public	₹	90000 crore
Demand Deposits with Banking System	₹	200000 crore
Time Deposits with Banking System	₹	220000 crore
Other Deposits with RBI	₹	280000 crore
Saving Deposits of Post office saving banks	₹	60000 crore

#### SOLUTION

$$\begin{aligned}
 M1 &= \text{Currency with public} + \text{Demand Deposits with Banking System} + \text{Other Deposits with the RBI} \\
 &= 90000 \text{ crore} + 200000 \text{ crores} + 280000 \text{ crore} \\
 &= 570000 \text{ crore}
 \end{aligned}$$

#### ILLUSTRATION 2

Compute credit multiplier if the required reserved ratio is 10% and 12.5% for every ₹ 1, 00,000 deposited in the banking system. What will be the total credit money created by the banking system in each case?

#### SOLUTION

Credit Multiplier is the reciprocal of required reserved ratio.

$$\text{Credit Multiplier} = \frac{1}{\text{Required Reserved Ratio}}$$

$$\text{For RRR} = 0.10 \text{ i.e. } 10\% \text{ the credit multiplier} = \frac{1}{0.10} = 10$$

$$\text{For RRR} = 0.125 \text{ i.e. } 12.5\% \text{ the credit multiplier} = \frac{1}{0.125} = 8$$

$$\text{Credit creation} = \text{Initial deposits} * \frac{1}{\text{RRR}}$$

For RRR 0.10 credit creation will be 1, 00,000 × 1/0.10 = Rs, 10, 00,000

For RRR 0.125 credit creation will be 1, 00,000 × 1/0.125 = Rs, 8, 00,000

**ILLUSTRATION 3**

Calculate currency with the Public from the following data (₹ Crore)

1.1	Notes in Circulation	2496611
1.2	Circulation of Rupee Coin	25572
1.3	Circulation of Small Coins	743
1.4	Cash on Hand with Banks	98305

**SOLUTION**

Currency with the Public  $(1.1 + 1.2 + 1.3 - 1.4) = (2496611 + 25572 + 743) - 98305 = 2424621$

**ILLUSTRATION 4**

Calculate M2 from the following data

	(₹ Crore)
Notes in Circulation	2420964
Circulation of Rupee Coin	25572
Circulation of Small Coins	743
Post Office Saving Bank Deposits	141786
Cash on Hand with Banks	97563
Deposit Money of the Public	1776199
Demand Deposits with Banks	1737692
'Other' Deposits with Reserve Bank	38507
Total Post Office Deposits	14896
Time Deposits with Banks	178694

**SOLUTION**

$M2 = M1 + \text{Post Office Saving Bank Deposits}$

where  $M1 = (\text{Notes in Circulation} + \text{Circulation of Rupee Coin} + \text{Circulation of Small Coins} - \text{Cash on Hand with Banks}) + \text{Deposit Money of the Public}$   
 $= (2420964 + 25572 + 743 - 97563) + 1776199 = 4125915$

$M2 = M1 + \text{Post Office Saving Bank Deposits} = 4125915 + 141786 = 4267701$

**ILLUSTRATION 5**

If the required reserve ratio is 10 percent, currency in circulation is ₹ 400 billion, demand deposits are ₹ 1000 billion, and excess reserves total ₹ 1 billion, find the value of money multiplier.

**SOLUTION**

$r = 10\% = 0.10$

Currency = 400 billion

Deposits = 1000 billion

Excess Reserves = 1 billion

Money Supply is  $M = \text{Currency} + \text{Deposits} = 1400$  billion

$c = C/D =$

$400 \text{ billion} / 1000 \text{ billion} = 0.4$  or depositors hold 40 percent of their money as currency

$e = 1 \text{ billion} / 1000 \text{ billion} = 0.001$  or banks hold 0.1% of their deposits as excess reserves.

Multiplier

$= 1 + 0.4 / 0.1 + 0.001 + 0.4 = 1.5 / 0.501 = 2.79$

Therefore, a 1 unit increase in MB leads to a 2.79 units increase in M.

**Numerical Illustration**

(a) In Gladys land,

$$r = 10\% = 0.10$$

Currency = 400 billion

Deposits = 800 billion

Excess Reserves = 0.8 billion = 800 million

Money Supply is  $M = \text{Currency} + \text{Deposits} = 1200$  billion

$c = C/D = 400 \text{ billion} / 800 \text{ billion} = 0.5$  or depositors hold 50 percent of their money

$e = 0.8 \text{ billion} / 800 \text{ billion} = 0.001$  or banks hold 0.1% of their deposits

as excess reserves.

$$\text{Multiplier } m = 1 + c$$

$$R + e + c$$

$$= 1 + 0.5 / 0.1 + 0.001 + 0.5 = 1.5 / 0.601 = 2.5$$

Therefore, a 1 unit increase in H leads to a 2.50 units increase in M.

The simple deposit multiplier in this example would be  $1/r = 1/0.1 = 10$

The difference is due to inclusion of currency and excess reserves in calculating the multiplier.

(b) If the reserve ratio is increased to 15 percent, the value of the money multiplier will be,

$$= 1 + 0.5 / 0.15 + 0.001 + 0.5 = 1.5 / 0.651 = 2.3$$

Obviously,  $r$  and  $m$  are negatively related:  $m$  falls when  $r$  rises, and  $m$  rises when  $r$  falls. The reason is that less multiple deposit creation can occur when  $r$  rises, while more multiple deposit creation can occur when  $r$  falls.

CA ADITYA SHARMA

## CH 9 : INTERNATIONAL TRADE



### What is International Trade

- ▲ International trade is the exchange of goods and services as well as resources between countries. It involves transactions between residents of different countries in multiple currencies. Compared to internal trade, international trade has greater complexity.
- ▲ International trade is an integral part of international relations and has become an important engine of growth in developed as well as developing countries.

### Distinction between International Trade and Domestic trade

Point	International Trade	Domestic Trade
<b>Meaning</b>	Exchange of goods, services, resources etc. between / amongst different countries.	Exchange of goods, services, resources, etc within domestic territory of a country.
<b>Persons</b>	Transactions between Residents of different countries.	Transactions between / amongst Residents of the same country.
<b>Currency</b>	2 or more currencies are involved.	Only one currency (Local Currency) is involved.
<b>Regulations</b>	This involves multiple Legal Systems, detailed documentation, procedural formalities, Trade Barriers, Shipping and Transportation issues etc.	This involves law of only one country and less documentation and procedural formalities.
<b>Tariff</b>	Customs Tariff is applicable.	Domestic Tariff/ taxes are applicable.

### Advantages of International trade / Globalization/ Advantage of Liberalisation

1. International **trade is a powerful stimulus to economic efficiency** and contributes to economic growth and rising incomes.
2. Efficient deployment of productive resources to their best use is a direct economic advantage of foreign trade.
3. It provides access to new markets and new materials and enables sourcing of inputs and components internationally at competitive prices.
4. It also enables nations to acquire foreign exchange reserves necessary for imports which are crucial for sustaining their economies.
5. Opening up of new markets results in broadening the productive base and facilitates export diversification so that new production possibilities are opened up.
6. Trade can also contribute to human resource development, by facilitating fundamental and applied research and exchange of know-how and best practices between trade partners.
7. Trade strengthens bonds between nations by bringing citizens of different countries together in mutually beneficial exchanges and, thus, promotes harmony and cooperation among nations.

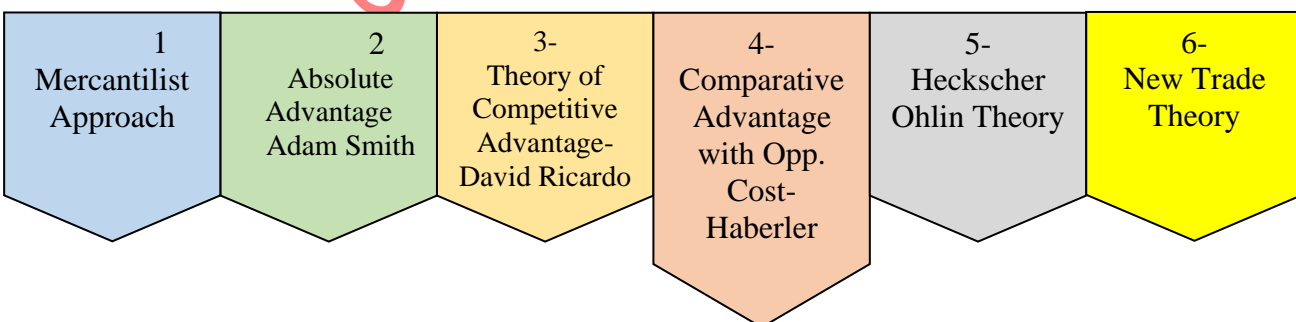


8. **Wide range of Products:** International trade enables consumers to have access to wider variety of goods and services that would not otherwise be available.
9. **Innovation:** Trade necessitates increased use of automation, supports technological change, stimulates innovations, and facilitates greater investment in research and development and productivity improvement in the economy.
10. **Employment:** Trade creates International Employment Opportunities by boosting economic sectors that create stable jobs and usually higher incomes, thus improving livelihoods.
11. **Competition:** Increase in competition reduces the chances of Domestic Monopolies, and is beneficial to the public.

### Disadvantages of International trade/Globalization/ Liberalisation

1. International trade is often not equally beneficial to all nations.
2. Economic exploitation is a likely outcome when underprivileged countries become vulnerable to the growing political power of corporations operating globally.
3. International Trade **threatens local infant industries** through stiff competition.
4. Substantial environmental damage and exhaustion of natural resources in a shorter span of time could have serious negative consequences on the society at large.
5. Trade cycles and the associated economic crises occurring in different countries are also likely to get transmitted rapidly to other countries.
6. Risky dependence of underdeveloped countries on foreign nations impairs economic autonomy and endangers their political sovereignty. Such reliance often leads to political disturbances.
7. Too much export orientation may distort actual investments away from the genuine investment needs of a country.
8. Lack of transparency and predictability in respect of many aspects related to trade policies of trading partners.
9. There are other negative impact on **Labour class, exploitation of Resources, unsustainable production and consumption**, excessive exports may cause shortages of many, Import of **unwanted and harmful goods**.

### Theories of International Trade



### Mercantilist approach- 16<sup>th</sup> and 18<sup>th</sup> century

1. Mercantilism, which is derived from the word mercantile, "trade and commercial affairs", is the economic policy trending in Europe from the 16th to the 18th centuries
2. This approach advocated **that a country can grow richer and prosperous, by accumulating Gold and other precious metals**, and hence required a Country to export more and get Gold, Silver and More Precious Metals in return thereof.
3. Hence, **Exports were viewed favorably** if they resulted in inflow of Gold, while Imports were not considered conducive for Balance of economic growth, since it resulted in outflow of Gold.
4. As per this approach one country can grow economically, only at the expense/ detriment of another, and there is no "win-win" favorable situation in International Trade. The Trade according to Mercantilism is "Zero-Sum Game", as one country's gain is the other Country's loss. (loss of one party = Gain of other party)

### 1.2.2 The Theory of Absolute Advantage

*(they get more from international trade from what they can get doing production individually)*

1. Theory of Absolute Cost Advantage was propounded by **Adam Smith**
2. Under this Theory, an exchange of goods will take place **only if each of the two countries can produce one commodity at an absolutely lower production cost than the other country.**
3. Each Country which has an absolute advantage over another country in the production of **an item**, can trade such item, and hence gain in terms of International Trade.
4. Absolute Advantage refers to the ability of a Party (an Individual, a firm, or Country) to produce more of a good or service than the competitors, using the same amount of resources.
5. Adam Smith first described the principle of absolute advantage in the context of international trade, using **labour as the only input.**
6. Since absolute advantage is determined by a simple comparison of labour productivity.
7. If nations have no absolute advantage in anything then no international trade will take place.
8. **Assumptions of the Absolute Advantage Theory:**
  - a. Trade between the **two countries** and **two-commodity** framework for his analysis.
  - b. There is no transportation cost.
  - c. Used **labour as the only input.**
  - d. He assumed that labour was mobile within a country but immobile between countries.
  - e. He implicitly assumed that any trade between the two countries considered would take place if each of the two countries had an absolutely lower cost in the production of one of the commodities.

### Comparative advantage theory- Ricardo's Theory

1. **David Ricardo** developed the classical theory of comparative.
2. The law of comparative advantage states that **even if one nation is less efficient than (has an absolute disadvantage with respect to) the other nation in the production of all commodities, there is still scope for mutually beneficial trade.**
3. The first nation should specialize in the production and export of the commodity in which its

**absolute disadvantage is smaller** (this is the commodity of its comparative advantage) and import the commodity in which its absolute disadvantage is greater (this is the commodity of its comparative disadvantage).

4. Comparative advantage differences between nations are explained by **exogenous factors** which could be due to the differences in national characteristics.
5. The notion of comparative advantage also extends beyond physical goods i.e intangibles or services—such as writing computer code or providing financial products.
6. Labour differs in its productivity internationally and different goods have different labour requirements.
7. Because of comparative advantage, trade raises the living standards of both countries. Douglas Irwin (2009) calls comparative advantage "good news" for economic development.
8. This theory also assumed that Labour is the only factor of Production.

#### Explanation:

Consider two countries (A and B) and two products (X and Y) with the following assumptions- Production details of the same is given below

Time required for 1 unit of	Product X	Product Y
Country A	40 Hours	45 Hours
Country B	60 Hours	50 Hours

1. Calculation of Output per Hour (1/data in the table above)

	Product X	Product Y
Country A	0.025	0.022
Country B	0.017	0.020

2. Country A is better in production of both the product X and Y compared to country B, on the basis of time taken to produce one unit of each commodity.
3. Analysis of comparative advantage

	Product X	Product Y	Calculation of Opportunity cost
Country A	40 hours pu = 0.025 uph	45 hours = 0.022 uph	$\frac{1}{40} X = \frac{1}{45} Y$ Therefore, Y So, $1X = 0.89Y$ (or) $1.125X = 1Y$
Country B	60 hours pu = 0.017 uph	50 hours = 0.020 uph	$1/60X = 1/50Y$  So, $1X = 1.20Y$ (or) $0.83X = 1Y$
Comparative Cost Ratio	$60 = 1.5$ 40	$50 = 1.11$ 45	International Terms of Trade may be $IX = IY$ or as agreed subject to Exchange Rates, etc.

( Absolute advantage wali country jisme zyda better hai who produce karegi aur specialize karegi, aur jo country second hai who jisme kam kharab perform karegi who export karegi)

Advantages	Disadvantages
Trade can take place, even if one country has absolute disadvantage in both products.	It is too simplistic a Model to consider. It does not recognize many practical barriers to

	International Trade.
One country's Gain need not be another country's Loss.	Labour is considered as the only Factor Input in the analysis of Absolute Advantage.
This theory recognizes the importance of division of labour, specialization and consequent benefits.	It emphasizes only Supply-side conditions and ignores domestic demand in respective countries. ( agar demand hi nai hogi toh kya karoge)
Global output is maximized, and all products are available to Consumers of all countries.	

### HECKSHER-OHLIN theory ( H-O Theory) or Modern Theory

1. This theory is also known as **factor-endowment theory of trade or Modern Theory of Trade**.
2. In the early 20th century, **Swedish economists Eli Heckscher and Bertil Ohlin** identified the role of labour and capital, so-called factor endowments, as a determinant of advantage.
3. **Factor endowment means Availability of usable resources** including both natural and man-made means of production.
4. The Heckscher-Ohlin theory of trade states that comparative advantage in cost of production is explained exclusively by the differences in factor endowments of the nations.
5. Accordingly, **international trade occurs because different countries have different factor endowment**.
6. The Heckscher-Ohlin (H-O) model studies the case that **two countries have different factor endowments under identical production function and identical preferences**.
7. The theory states that a country's exports depend on its **resources endowment** i.e. whether the country is capital-abundant or labour-abundant.
8. If a country is a capital abundant one, it will produce and export capital-intensive goods relatively more cheaply than another country. Capital-abundant countries have comparative cost advantage in the production of goods that need capital-intensive technology.
9. Likewise, a labour-abundant country will produce and export labour-intensive goods relatively more cheaply than another country. The labour-abundant countries have comparative cost advantage in the production of goods which require labour-intensive technology.
10. According to this theory, international trade is but a **special case of inter-regional trade**.
11. The Heckscher-Ohlin Trade Theorem establishes that **a country tends to specialize in the export of a commodity whose production requires intensive use of its abundant resources and imports a commodity whose production requires intensive use of its scarce resources**. (this is the crux of the theory).

*The Factor-Price Equalization Theorem states that international trade equalizes the factor prices between the trading nations. Therefore, with free trade, wages and returns on capital will converge across the countries.*

### Comparison of Theory of Comparative Costs and Modern Theory

Theory of Comparative Costs	Modern Theory
Difference between countries arises because of comparative costs of <b>Labour and</b> differences in productive efficiency of workers	Difference between countries arises because of differences in <b>factor endowments</b>
Based on <b>labour theory of value</b>	<b>Based on money cost</b> which is more realistic.

Considered labour as the sole factor of production.	Widened the scope to include <b>labour and capital</b> as important factors of production. This is <b>2-factor model</b> and can be extended to more factors.
Treats international trade as <b>quite distinct from domestic trade</b>	International trade is only a special case of <b>inter-regional</b> trade.
Does not take into account the factor price differences	Considers factor price differences as the main cause of commodity price differences
<b>Normative</b> ; tries to demonstrate the gains from international trade	<b>Positive</b> ; concentrates on the basis of trade

### New Trade Theory

- ▲ American economist and journalist Paul Krugman received the 2008 Nobel Prize for Economics for his work in economic geography and in identifying international trade patterns.
- ▲ The Heckscher-Ohlin model predicted that trade would be based on such factors as the ratio of capital to labor, with "capital-rich" countries exporting capital-intensive goods and importing labor-intensive goods from "labor-rich" countries. But that wasn't the observed case.
- ▲ The auto industry in capital-intensive Sweden, for example, exports cars to capital-intensive America, while Swedish consumers also import cars from America.
- ▲ Krugman defended free trade. He was passionate and showed deep concern for the well-being of which can be understood from his book "In Praise of Cheap Labor," published in Slate in 1997.

### NEW TRADE THEORY (NTT)

**Concept:** New Trade Theory developed in the late 1970s and early 1980s focuses on the role of increasing returns to scale and network effects.

NTT explains that there are two reasons for advantages to countries by engaging in International Trade.

Economies of scale- supply side	Network effect - demand Side
<ol style="list-style-type: none"> <li>1. As a firm produces more of a product, its cost per unit keeps going down.</li> <li>2. So if the firm serves domestic as well as foreign market instead of just one, then it can reap the benefit of large scale of production consequently the profits are likely to be higher.</li> <li>3. They shall produce and export too.</li> <li>4. This happens because of governmental support and various other factors.</li> </ol>	<ol style="list-style-type: none"> <li>1. One person's value for a good or service is affected by the value of that good or service to others.</li> <li>2. The value of the product or service is enhanced as the number of individuals using it increases.</li> <li>3. This is also referred to as the 'bandwagon effect'. Consumers like more choices, but they also want products and services with high utility, and the network effect increases utility obtained from these products over others.</li> <li>4. A good example will be Mobile App such as What's App and software like Microsoft Windows.</li> </ol>

- NTT is the latest entrant to explain the rising proportion of world trade between the developed and bigger developing economies (such as BRICS), which trade in similar products. These countries constitute more than 50% of world trade.



## Unit 2 – Instruments of Trade Policy

1. Protectionism is a state policy aimed to protect domestic producers against foreign competition through the use of tariffs, quotas and non-tariff trade policy instruments.
2. Trade liberalization refers to opening up of domestic markets to goods and services from the rest of the world by bringing down trade barriers.
3. Individuals and organizations continue to pressurize policymakers and regulatory authorities to restrict imports or to artificially boost up the size of exports.
4. In this unit, we shall describe some of the most frequently used forms of interference with trade.

### Basics

#### Meaning of Trade policy:

Trade policy encompasses all instruments that governments may use to **promote or restrict imports and exports**. Trade policy also includes the approach taken by countries in trade negotiations.

The instruments of trade policy that countries typically use to restrict imports and/ or to encourage exports can be broadly classified into price- related measures such as tariffs and non-price measures or non-tariff measures (NTMs).

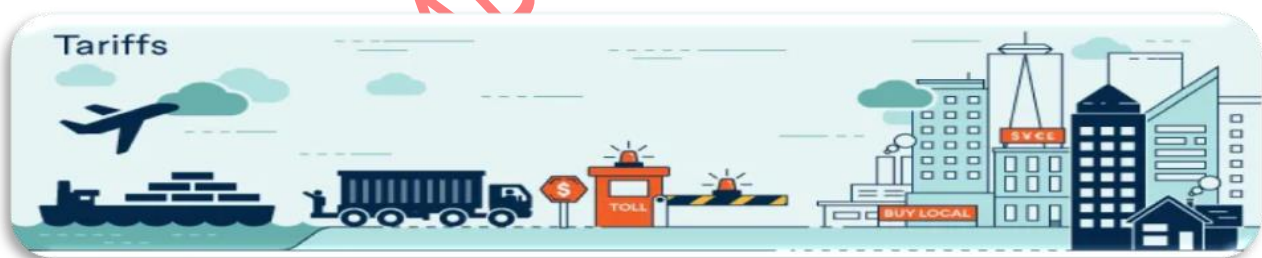
#### Objectives:

The main purpose of trade policy is typically to **restrict imports and/or encourage exports**.

Other objectives include:

1. The highest possible degree of free trade.
2. An efficient internal market and open trade policy.
3. A strengthened multilateral trade system through the world trade organization (WTO)
4. Increasing trade among different countries and greater investment.

### Tariff



1. Tariffs, **also known as customs duties**, are basically **taxes or duties** imposed on goods and services which are imported or exported.
2. Tariffs are often identified with import duties.
3. It is defined as a financial charge in the form of a tax, imposed at the border on goods going from one customs territory to another.
4. They are the most visible and universally used trade measures that determine market access for goods.
5. Instead of a single tariff rate, countries have a tariff schedule which specifies the tariff collected on every particular good and service.
6. **Purpose of tariff:** Tariffs are aimed at altering the relative prices of goods and services imported. Tariffs leave the world market price of the goods unaffected; while raising their prices in the domestic market.

1. *To protect the domestic import-competing industries.*
2. *The main goals of tariffs are to raise revenue for the government.*
3. Discourage import, increase price of imported goods and reduce volume of imported goods.

#### There are few disadvantages of imposing tariff

1. Tariff barriers create obstacles and decrease the volume of international trade.
2. The prospect of market access of the exporting country is worsened when an importing country imposes a tariff.
3. Tariffs discourage domestic consumers from consuming imported foreign goods. Domestic consumers suffer a loss in consumer surplus. This reduces the consumption.
4. Domestic market incorrectly increases prices than would be possible in the case of free trade (Increased producer surplus in the industry).
5. Tariffs discourage efficient production in the rest of the world and encourage inefficient production in the home country.

### Forms of Import Tariff

#### A. Specific Tariff (irrespective of Value)

1. A specific tariff is an import duty that assigns a **fixed monetary tax per physical unit** of the good imported. It is calculated on the basis of a unit of measure, such as weight, volume, etc. of the imported goods
2. This tariff can vary according to the type of good imported.
3. Since the calculation of these duties does not involve the value of merchandise, customs valuation is not applicable in this case.
4. *e.g. A specific tariff of Rs. 1000/ may be charged on each imported bicycle.*

#### B. Ad valorem (on value)

1. An ad valorem tariff is levied as a **constant percentage of the monetary value** of one unit of the imported good.
2. *A 20% ad valorem tariff on any bicycle generates a Rs.1000/ payment on each imported bicycle priced at Rs.5,000/ in the world market; and if the price rises to Rs. 10,000, it generates a payment of Rs.2,000/.*
3. It gives incentives to deliberately undervalue the good's price on invoices and bills of lading to reduce the tax burden.
4. Nevertheless, ad valorem tariffs are widely used across the world.

#### C. Mixed Tariffs

1. It is the combination of **Specific tariff** or **Ad Valorem** tariffs.
2. Mixed tariffs are expressed either on the basis of the value of the imported goods (an ad valorem rate) or on the basis of a unit of measure of the imported goods (a specific duty) depending on which generates the most income (or least income at times) for the nation.
3. *For example, duty on cotton: 5 per cent ad valorem Or Rs. 3000/per ton, whichever is higher.*

#### D. Compound Tariff or a Compound Duty

1. Ad valorem + specific tariff. : Fixed + Variable
2. That is, the tariff is calculated on the basis of both the value of the imported goods (an ad valorem duty) and a unit of measure of the imported goods (a specific duty). It is generally calculated by adding up a specific duty to an ad valorem duty.
3. For example: duty on cheese at 5 per cent ad valorem plus 100 per kg.

#### E. Technical Tariff

1. Duty is calculated on the components of the imported item
2. Separate Duty Rate may be applied on each component of the item.
3. E.g. Rs. 3000/ on each solar panel plus Rs.50/ per kg on the battery.

#### F. Tariff Rate Quotas

1. Combine two policy instruments: quotas and tariffs.
2. Imports entering under the specified quota portion are usually subject to a lower (sometimes zero) tariff rate.
3. Imports above the quantitative threshold of the quota face a much higher tariff.

#### G. Variable Tariff:

1. A duty typically fixed to bring the price of an imported commodity up to the domestic support price for the commodity. (*Adjusted according to intention, whether to promote or discourage international trade*)

#### H. Escalated Tariff

1. Duty Rates on raw materials, semi processed goods and final products are progressively higher.
2. This method ensures protection of domestic processing industries if Raw materials originate in the Home country, by making semi processed and final goods costlier.
3. This type of tariff is discriminatory as it protects manufacturing industries in importing countries and dampens the attempts of developing manufacturing industries of exporting countries.
4. Developing countries are thus forced to continue to be suppliers of raw materials without much value addition.
5. For example, a four percent tariff on iron ore or iron ingots and twelve percent tariff on steel pipes.

I. **A prohibitive tariff** is one that is set so high that no imports will enter. E.g. 200% import duty on luxury cars.

#### J. Anti-dumping Duties

1. An anti-dumping duty is a protectionist tariff that a domestic government imposes on foreign imports.
2. It is applicable when article is imported at less than its nominal value, foreign seller dumps goods in a country at less than sale prices in his market, or less than Full average cost.
3. Dumping may be persistent, seasonal, or cyclical.

4. Dumping is done to
  - a) Constitutes international price discrimination.
  - b) Harms the domestic producers of the importing country.
  - c) drive out established domestic producers from the market and to establish monopoly position.
  - d) Promotes consumption of foreign goods at undesirable levels.
  - e) Affects national interest in certain situations.
5. ADD is added so as to offset the foreign firm's unfair price advantage
6. *For example: In January 2017, India imposed anti-dumping duties on color-coated or pre-painted flat steel products imported into the country from China and European nations for a period not exceeding six months and for jute and jute products from Bangladesh and Nepal.*

#### K. Safeguard Duties

1. It is a form of duty levied to avoid import of increased quantities and in conditions to cause serious injury to the Domestic Industry.
2. There may be genuine case where the other country is not dumping their product but actually producing at lower cost. This will still create negative effect in domestic economy of importing company.

#### L. Countervailing Duties

1. It is levied on imports from any country which pays directly or indirectly, *any subsidy on the manufacture, production* etc. of an article
2. These duties seek to offset the artificially low prices charged by Foreign Sellers, on account of subsidies and concessions offered to them in their home Country.
3. For example, in 2016, in order to protect its domestic industry, India imposed 12.5% countervailing duty on Gold jewellery imports from ASEAN (*Jitni subsidy- utna tax*)

**M. Tariffs as Response to Trade Distortions:** when some countries engage in 'unfair' foreign-trade practices, the affected importing countries, respond quickly by measures in the form of tariff responses referred to as "trigger-price" mechanisms.

#### N. MFN Tariffs

1. MFN tariffs are what countries promise to impose on imports from *other members of the WTO*, unless the country is part of a preferential trade agreement (such as a free trade area or customs union).
2. This means that, in practice, MFN rates are the *highest* (most restrictive) that WTO members charge one another. Some countries impose higher tariffs on countries that are not part of the WTO.

#### O. Preferential tariff

1. Under *Preferential Tariff* countries promise to give another country's products lower tariffs than their MFN rate.
2. A lower tariff is charged from goods imported from a country which is given preferential treatment. Many time even *nil rate*.
3. Examples are preferential duties in the EU region under which a good coming into one EU country to another is charged zero tariffs.

- Another example is North American Free Trade Agreement (NAFTA) among Canada, Mexico and the USA where the preferential tariff rate is zero on essentially all products.

#### P. Bound Tariff

- A bound tariff is a tariff which a WTO member binds itself with a **legal commitment not to raise it above a certain level**.
- The bound rates are specific to individual products and represent the maximum level of import duty that can be levied on a product imported by that member.
- A member is always free to impose a tariff that is lower than the bound level. Once bound, a tariff rate becomes permanent and a member can only increase its level after negotiating with its trading partners and compensating them for possible losses of trade.

#### Q. Applied Tariff

- An 'applied tariff' is the duty that is actually charged on imports on a most-favored nation (MFN) basis.
- Applied tariff can also be lower than Bound tariff.

### Non-Tariff Measures (NTM) and Non-tariff barriers (NTB)

- ⤴ The non-tariff measures constitute the hidden or 'invisible' measures that interfere with free trade.
- ⤴ **Non-Tariff Measures (NTM) -**
  - a. These are policy measures, other than Ordinary Custom Tariff, that can have an effect on international trade in goods, changing quantities traded or prices, or both.
  - b. NTMs include regulations that **restrict trade** or that **facilitate higher trade**. These have a wider scope.
- ⤴ **Non-tariff barriers (NTB)**
  - c. Non-tariff barriers which are **simply discriminatory non-tariff measures** imposed by governments to favor domestic over foreign suppliers.
  - d. NTBs are oriented only **towards restricting imports**.
  - e. NTBs are thus a subset of NTMs that have a 'protectionist or discriminatory intent'.
- ⤴ **Depending on their scope NTMs are categorized as Technical Measures & Non-technical Measures:**

#### Technical Measures:

**Meaning-** Technical measures refer to **product-specific properties such as characteristics of the product, technical specifications and production processes**. These measures are intended for ensuring product quality, food safety, environmental protection, national security and protection of animal and plant health.

#### TYPES OF TECHNICAL NTMs

##### Technical Barriers to Trades- (TBT)

- Technical Barriers to Trade (TBT) cover **both food and non-food traded products**.
- It refers to mandatory 'Standards and Technical Regulations' that define the specific



characteristics that a product should have, such as its size, shape, design, labeling / marking / packaging, functionality or performance and production methods.

3. Any product that does not confirm to the standard cannot be imported.
4. TBT measures can also be used effectively as obstacles to imports or to discriminate against imports and protect domestic products when ordinary tariff cannot be imposed.
5. Some examples of TBT are: food laws, quality standards, industrial standards, organic certification, eco-labeling, and marketing and label requirements.

### Sanitary and Phytosanitary (SPS) Measures

1. SPS measures are applied to protect human, animal or plant life from risks arising from additives, pests, contaminants, toxins or disease-causing organisms and to protect biodiversity.
2. These include ban or prohibition of import of certain goods, all measures governing quality and hygienic requirements, production processes, and associated compliance assessments.
3. For example; prohibition of import of poultry from countries affected by avian flu, meat and poultry processing standards to reduce pathogens, residue limits for pesticides in foods etc.

### Non-technical Measures:

**Meaning-** Non-technical measures relate to trade requirements; for example; *shipping requirements, custom formalities, trade rules, taxation policies*, etc.

It is further distinguished as-

1. **Hard measures** (e.g. Price and quantity control measures),
2. **Threat measures** (e.g. Anti-dumping and safeguards) and
3. **Other measures** such as trade-related finance and investment measures.

Furthermore, categorization also distinguish between-

1. **Import-related measures**- imposed by the importing country, and
2. **Export-related measures**- imposed by the exporting country itself.
3. **Procedural obstacles (PO)** which are practical problems in administration, transportation, delays in testing, certification etc. that may make it difficult for businesses to adhere to a given regulation.

### TYPES OF NON-TECHNICAL NTMs

#### Import Quotas

1. **Import quota** is a direct restriction which specifies that only a certain physical amount of the good will be allowed into the country during a given time period, usually one year. an import quota always raises the domestic price of the imported good indirectly.
2. **Binding Quota** is set below the free trade levels of imports, is enforced by issuing licenses.
3. **A Non - Binding Quota** is set at or above free trade level of imports and does not affect trade much.
4. **Absolute Quotas** of a permanent nature limit the quantity of imports to a specified level during a specified period of time and the imports can take place any time of the year. No condition is attached to the country of origin of the product. For example: 1000 tonnes of fish import of which can take place any time of the year from any country.
5. **A Tariff Rate Quota** When country allocation is specified, a fixed volume or value of the product must originate in one or more countries. Example: A quota of 1000 tonnes of fish that can be imported any time of the year, but where 750 tonnes must originate in country A

and 250 tonnes in country B. The profits received by the holders of such import licenses are known as 'quota rents'.

6. **Unilateral Quota**, a country unilaterally fixes a ceiling on the quantity of the import of a particular commodity.
7. **A Bilateral Quota** results from negotiations between the importing country and particular Supplier Country, or between the Importing Country and export groups within the supplier Country.

#### Price Control Measures:

1. Price control measures are steps taken to control or influence the prices of imported goods in order to support the domestic price.
2. These are also known as 'para-tariff' measures.
3. Example: A minimum import price established for Sulphur.

#### Non-automatic Licensing and Prohibitions:

1. These measures are normally aimed at limiting the quantity of goods that can be imported, regardless of whether they originate from different sources or from one particular supplier.
2. For example, India prohibits import/export of arms and related material from/to Iraq.

#### Financial Measure

1. The objective of financial measures is to increase import costs by regulating the access to and cost of foreign exchange for imports and to define the terms of payment.
2. Advance payment requirements, foreign Exchange Controls, i.e. denying the use of forex for certain countries/ goods.
3. For example, an importer may be required to pay a certain percentage of the value of goods imported three months before the arrival of goods or foreign exchange may not be permitted for import of newsprint.

#### State Trading

1. These measures grant exclusive privileges and special preferences to a few Operators/ Agencies.
2. These include Govt. imposed Special Import Channels or compulsory use of National Services.
3. Example: Export/ Import Trade in certain goods is handled exclusively by certain specialized Agencies being State Enterprises eg. State Trading Corporation. All these items imported into such a country or items exported from it are canalized through these Agencies.

#### Local Content Measure

1. These measures include rules on local content requirements that mandate a specified fraction of a final good should be produced domestically.
2. Requirement to use certain minimum levels of locally made components, (25 percent of components of automobiles to be sourced domestically)
3. Restricting the level of imported components, and
4. Limiting the purchase or use of imported products to an amount related to the quantity or value of local products that it exports. (A firm may import only up to 75 % of its export earnings of the previous year)

### Distribution Restrictions:

1. Distribution restrictions are limitations imposed on the distribution of goods in the importing country involving additional license or certification requirements.
2. These may relate to geographical restrictions or restrictions as to the type of agents who may resell.
3. For example: a restriction that imported fruits may be sold only through outlets having refrigeration facilities.

### Service Restrictions

1. Producers may be restricted from providing after-sales services for exported goods in the importing country.
2. Such services may be reserved to local service companies of the importing country.

### Procedural Obstacles

1. There are procedural obstacles which increase the transaction costs thereby discouraging imports e.g. Licenses, Administrative Delay, Permission of Foreign Exchange Remittance etc.
2. These include specifying conditions as to "Rules of Origin" certificate e.g. The country / source from which the item is imported. The cost of obtaining this certificate discourages imports.

### Licensing

1. Prospective Importers are required to apply and obtain a license from the Licensing Authorities.
2. The possession of an Import License is necessary to obtain the Forex to pay for the imports. Licensing seeks to limit the quantities of goods to be imported.

### Rule of origin

1. Rules of origin are the criteria needed by governments of importing countries to determine the national source of a product. Their importance is derived from the fact that duties and restrictions in several cases depend upon the source of imports.
2. E.g. China may dump its cheap product through export from any European country. Thus, source rule may eliminate this threat.

### Embargos

1. An embargo is a total ban imposed by government on import or export of some or all commodities to particular country or regions for a specified or indefinite period.
2. This may be done due to political reasons or for other reasons such as health, religious sentiments. This is the most extreme form of trade barrier.

### Exports related Measures

#### 1. Export Quotas

- a. A quota on the export of a product from a country may be imposed if the Government feels that exports in excess of that will affect interests of the domestic consumers.

#### 2. Ban on exports

- a. Certain items are always specifically banned from export.
- b. During periods of shortages in home country, specified products are banned from being exported, so as to make them available for home consumption.

### 3. Export tax

- a. An export tax is a tax collected on exported goods and may be either specific or ad valorem. The effect of an export tax is to raise the price of the good and to decrease exports.
- b. Since an export tax reduces exports and increases domestic supply, it also reduces domestic prices and leads to higher domestic consumption
- c. E.g. Mangoes get higher price in international market and the farmers are induced to export entire output in International Market. Imposing Export duty will discourage the export and make goods available for Home consumption

### 4. Export Subsidies

- a. Governments or government bodies also usually provide financial contribution to domestic producers in the form of grants, loans, equity infusions etc. or give some form of income or price support.
- b. This is done to promote exports, and to make the product competitive in the global market.
- c. Indirect taxes paid locally on the Materials used in the production of Exported Product, may be refunded in the form of Refund, Duty Drawback, Duty-free supply of Intermediates etc.
- d. Sometimes, Direct Tax Concessions may also be granted to exporters.

### 5. Voluntary Export Restraints (VERs)

- a. Voluntary Export Restraints (VERs) refer to a type of *informal quota administered by an exporting country voluntarily restraining the quantity of goods that can be exported out of that country during a specified period of time.*
- b. Such restraints originate primarily from *political considerations* and are imposed based on negotiations of the *importer with the exporter.*
- c. The reason for the exporter to agree to a VER is to *avoid* the effects of possible *retaliatory trade restraints* that may be imposed by the importer.
- d. VERs may arise when the import-competing industries seek protection from a surge of imports from particular exporting countries.

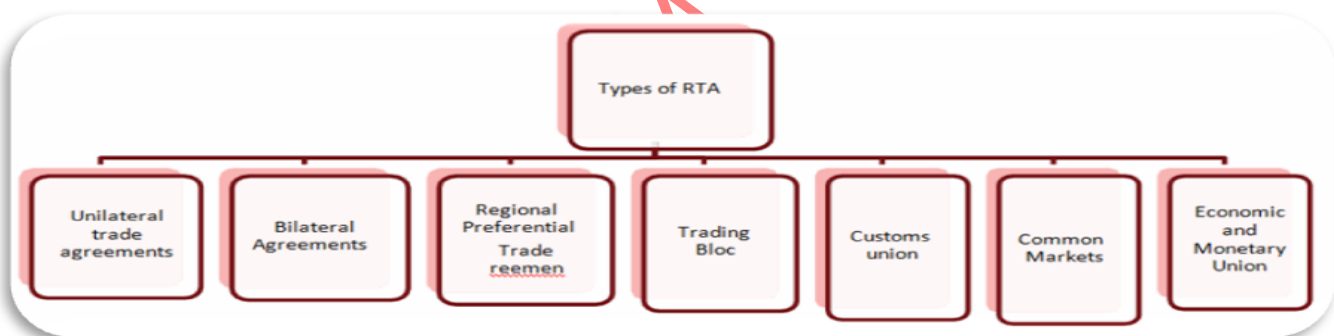
## Unit 3 – Trade Negotiation

### Trade Agreement

- Trade negotiations-** It is a process in which Nations meet to discuss the possibility of trade, with the goal of reaching a Trade Agreement.
- The aim of both the nations is to reach mutual consciences and establish trade agreement and promote international trade.
- National governments are not the sole stakeholders in a trade negotiation. Many interest groups, lobbying groups, pressure groups and Non-Governmental Organizations (NGO) exert their influence on the process.
- For example, in trade negotiations, when one of the parties seems to be bargaining for market access through reduction in tariffs, the other (s) may be clamoring on the issue of possible grant of protection to domestic industries.

### Regional Trade agreement/ Regional preferential trade agreement

Regional Trade Agreements (RTAs) are groupings of countries, which are formed with the objective of reducing barriers to trade between member countries; not necessarily belonging to the same geographical region. They reduce trade barriers on a reciprocal and preferential basis for only the members of the group.



### Types of Trade Agreements

- Unilateral trade agreements** under which an importing country offers trade incentives in order to encourage the exporting country to engage in international economic activities that will improve the exporting country's economy. E.g. Generalized System of Preferences.
- Bilateral Agreements** are agreements which set rules of trade between two countries, two blocs or a bloc and a country. These may be limited to certain goods and services or certain types of market entry barriers. E.g. EU-South Africa Free Trade Agreement; ASEAN-India Free Trade Area
- Multilateral Trade agreement** are the trade agreement between Many nations at one time
- Pluri-lateral trade agreement:** Agreement between more than two countries, but not many.
- Regional Preferential Trade Agreements** among a group of countries reduce trade barriers on a reciprocal and preferential basis for only the members of the group. E.g. Global System of Trade Preferences among Developing Countries (GSTP)
- Trading Bloc** - It has a group of countries that have a free trade agreement between themselves



and may apply a common external tariff to other countries Example: Arab League (AL), European Free Trade Association (EFTA).

7. **Free-trade area** It is a group of countries that eliminate all tariff barriers on trade with each other and retains independence in determining their tariffs with nonmembers. Example: NAFTA
8. **A customs union**
  - a. It is a group of countries that eliminate all tariffs on trade among themselves but maintain a common external tariff on trade with countries outside the union (thus technically violating MFN).
  - b. The common external tariff which distinguishes a customs union from a free trade area implies that, generally, the same tariff is charged wherever a member imports goods from outside the customs union.
  - c. The EU is a Customs Union; its 27 member countries form a single territory for customs purposes.
9. **Common Market:**
  - a. A Common Market deepens a customs union by providing for the free flow of *factors of production (labor and capital) in addition to the free flow of outputs*.
  - b. The member countries attempt to harmonize some institutional arrangements and commercial and financial laws and regulations among themselves. There are also common barriers against non-members (e.g., EU, ASEAN)
10. **Economic and Monetary Union** - Members share a common currency and macroeconomic policies. For example, the European Union countries implement and adopt a single currency.

### General agreement on tariff and trade (GATT)

1. GATT is a Multilateral Trade Agreement created in January 1948 to achieve a broad, multilateral and free worldwide system of trading.
2. GATT provided the rules of international trade from 1948 to 1994 (WTO applicable from 1995 onwards)
3. GATT governed international trade, working along with the World Bank & International Monetary Fund.
4. The workings of the GATT agreement are seen by Council for Trade in Goods (Goods Council) represented by WTO member countries.
5. The Goods Council has 10 committees dealing with specific subjects.
6. **The GATT lost its relevance by 1980s because**
  - a. It was obsolete to the fast-evolving contemporary complex world trade of globalization.
  - b. International investments had expanded substantially.
  - c. Intellectual property rights and trade in services were not covered by GATT.
  - d. World merchandise trade increased by leaps and bounds and was beyond its scope.
  - e. The ambiguities in the multilateral system could be heavily exploited.
  - f. Efforts at liberalizing agricultural trade were not successful.
  - g. there were inadequacies in institutional structure and dispute settlement system
  - h. It was not a treaty and therefore terms of GATT were not fully binding

## World Trade Organisation (WTO)

### Introduction of WTO - Uruguay Round

1. The Round started in Punta del Este in Uruguay in September 1986. Finally, in December 1993, the Uruguay Round, the eighth and the most ambitious and largest ever round of multilateral trade negotiations in which 123 countries participated.
2. The final act concluding the Uruguay Round establishing the WTO Regime was signed 15 April 1994, during the ministerial meeting at Marrakesh, Morocco, and hence is known as the Marrakesh Agreement.
3. WTO took effect on 1 July 1995.

### WTO - Aim and Objectives

- a. The World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations.
- b. The principal objective of the WTO is to facilitate the flow of international trade smoothly, freely, fairly, and predictably.
- c. **The WTO has six key objectives:**
  - (i) to set and enforce rules for international trade,
  - (ii) to provide a forum for negotiating and monitoring further trade liberalization,
  - (iii) to resolve trade disputes,
  - (iv) to increase the transparency of decision-making processes,
  - (v) to cooperate with other major international economic institutions involved in global economic management, and
  - (vi) to help developing countries benefit fully from the global trading system.

### The Structure of the WTO

- a. The WTO activities are supported by a Secretariat located in Geneva, headed by a Director General. It has a three-tier system of decision making.
- b. The WTO Secretariat maintains working relations with almost 200 international organisations in activities ranging from statistics, research, standard-setting, and technical assistance and training.
- c. The WTO accounting for about 95% of world trade currently has 164 members, of which 117 are developing countries.

#### MINISTERIAL CONFERENCE

1. It is the highest-Level Body, which can take decisions on all matters under any of the multilateral trade agreements.
2. It meets at-least once every two years.

#### GENERAL CONFERENCE:

1. It acts as the Trade Policy Review Body and the Dispute Settlement Body. It refers to the Ministerial Conference.
2. It meets several times a year.

#### The Goods Council, Services Council, Intellectual Property

1. These councils oversee the implementation of WTO Agreements in Goods, Services and IPRs.
2. These councils report to the General Council.

**Committees and Working Groups:**

1. There are many Specialized Committees working under each council (eg. 11 committees under Goods Council)
2. These committees deal with individual agreements and specific areas, eg. Membership Application, Development etc.

**Guiding principles of WTO****1. Most-favoured-nation (MFN) Treatment:**

- a. Treating other people/countries equally Under the WTO and no discrimination between partner countries.
- b. It is so important that it is the first article of the *General Agreement on Tariffs and Trade (GATT)*, which governs trade in goods.
- c. Most-favored-nation (MFN) states that any advantage, favor, privilege or immunity granted by any contracting party to any product originating in or destined for any other country shall be extended immediately and unconditionally to the like product originating or destined for the territories of all other contracting parties.
- d. Some exceptions are allowed. At times country can raise barriers against products that are considered to be traded unfairly from specific countries.

**2. National Treatment Principle (NTP)**

- a. Imported goods should be treated no less favourably than domestically produced goods (at least after Foreign Goods have entered the market).
- b. The same should apply to foreign and domestic services, and to foreign and local trademarks, copyrights and patents.
- c. For instance, once imported apples reach Indian market, they cannot be discriminated against and should be treated at par in respect of marketing opportunities, product visibility or any other aspect with locally produced apples.
- d. charging customs duty on an import is not a violation of national treatment even if locally-produced products are not charged an equivalent tax.

**3. Progressive Liberalization : Freer trade: gradually, through negotiation**

- a. WTO Agreements permit countries to bring in the changes gradually, through a process called Progressive Liberalization.
- a. WTO seeks to provide greater flexibility to Less developed countries and Developing Countries, by means of special privileges.
- b. Developing countries are given a longer timeframe to conform to their obligations under WTO.

**4. Transparency**

- a. One of the achievements of the Uruguay Round of multilateral trade talks was to increase the amount of trade under binding commitments.
- b. In agriculture, 100% of products now have bound tariffs. The result of all this: is a substantially higher degree of market security for traders and investors
- c. WTO members are required- i) to publish their Trade Regulations, ii) to maintain institutions allowing for the review of administrative, iii) to respond to requests for information by other members, and iv) to notify changes in trade policies to the WTO.
- d. These internal transparency requirements are supplemented and facilitated by periodic country- specific reports (Trade Policy reviews) through the Trade Policy review Mechanism (TPRM).

5. **No Quantitative Restrictions:** All types of Quantitative Restrictions by Member Countries are prohibited under WTO.
6. **Protection of Domestic Industries** Trade control is permissible for protection of domestic industries, but only through Tariff Rates, which should be generally reduced through "reciprocal and mutually advantageous" negotiations.
7. **Market Access:** The WTO aims to increase world trade by enhancing market access by converting all non- tariff barriers into tariffs which are subject to country specific limits.
8. **Protection of Health & Environment:** Support measures to protect not only the environment but also human, animal as well as plant health with the stipulations.
9. **Dispute Settlement Mechanism**
  - a. Disputes, Misunderstandings and conflicts should be resolved through a process of consultation and negotiations between Member Countries.
  - b. In case of failure of the above, the matters can be referred to the WTO Dispute Settlement Body, which seeks to resolve the same through a Panel of Experts, along with an opportunity to appeal against the ruling on legal grounds.

#### WTO Agreement- An Overview of few

The WTO agreements cover goods, services and intellectual property and the permitted exceptions. These agreements are often called the WTO's trade rules, and the WTO is often described as "rules-based", a system based on rules.

1. **Agreement on Agriculture** aims at strengthening GATT disciplines and improving agricultural trade. It includes specific and binding commitments towards three areas of **market access**, **domestic support** and **export subsidies**.
2. **Agreement on the Application of Sanitary and Phytosanitary (SPS)** to prevent such measures from being used for arbitrary or unjustifiable discrimination or for camouflaged restraint on international trade.
3. **Agreement on Textiles and Clothing (ATC)** replaced the **Multi-Fibre Arrangement (MFA)** & provides that textile trade should be deregulated by gradually integrating over a 10-year transition period.
4. **Agreement on Technical Barriers to Trade (TBT)** aims to prevent standards and conformity assessment systems from becoming unnecessary trade barriers by securing their transparency and harmonization with international standards.
5. **Agreement on Trade-Related Investment Measures (TRIMs)** - It stipulates that countries receiving foreign investments shall not impose investment measures such as requirements, conditions and inconsistent restrictions.
6. **Anti-Dumping Agreement** seeks to tighten and codify disciplines to prevent anti-dumping measures from being abused or misused to protect domestic industries.
7. **Customs Valuation Agreement** specifies rules for more consistent and reliable customs valuation rather than arbitrary valuation systems.
8. **Agreement on Pre-shipment Inspection (PSI)** intends to secure transparency of pre-shipment inspection of merchandise in the territory of the exporting country on behalf of the importing country's custom office and issues certificates.
9. **Agreement on Rules of Origin** provides for the harmonization of rules of origin for application

to all non-preferential commercial policy instruments. It also provides for dispute settlement procedures and creates the rules of origin committee.

10. **Agreement on Import Licensing Procedures** relates to simplification of administrative procedures so it may not act as trade barriers.
11. **Agreement on Subsidies and Countervailing Measures** aims to clarify definitions of subsidies, strengthen disciplines by subsidy type and to strengthen and clarify procedures for adopting countervailing tariffs.
12. **Agreement on Safeguards** clarify disciplines for requirements and procedures for imposing safeguards and related measures which are emergency measures to restrict imports in the event of a sudden surge in imports.
13. **General Agreement on Trade in Services (GATS)**: It enumerates service sectors and stipulates that a member country cannot maintain or introduce market access restriction measures and discriminatory measures that are severer.
14. **Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)**: This agreement stipulates most-favoured-nation treatment and national treatment for intellectual properties, such as copyright, trademarks, geographical indications, industrial designs, patents, IC layout designs and undisclosed information. In addition, it requires member countries to maintain high levels of intellectual property protection and to administer a system of enforcement of such rights.
15. **Trade Policy Review Mechanism (TPRM)** provides the procedures for the trade policy review mechanism to conduct periodical reviews of members' trade policies and practices conducted by the Trade Policy Review Body (TPRB).
  - The Doha Round, formally the Doha Development Agenda, which is the ninth round since the Second World War was officially launched at the WTO's Fourth Ministerial Conference in Doha, Qatar, in November 2001.
  - **The most controversial topic in the Doha Agenda was agriculture trade.**

#### Concerns regarding WTO by Member countries

1. The developing countries contend that the real expansion of trade in the three key areas of **agriculture, textiles and services has been dismal**.
2. **Protectionism and lack of willingness** among developed countries **to provide market access** on a multilateral basis has driven many developing countries to seek regional alternatives.
3. Another major issue concerns '**tariff escalation**' where an importing country protects its processing or manufacturing industry by setting lower duties on imports of raw materials and components, and higher duties on finished products.
4. Developing countries complain that they **face exceptionally high tariffs** on selected products in many markets and this obstructs their vital exports. Examples are tariff peaks on textiles, clothing, and fish and fish products.
5. LDCs are hugely disadvantaged and vulnerable due to **lack of factor inputs, lack of capital, lack of infrastructure**, etc.
6. Significant issues like **Climate Change, high and volatile Food Prices**, and **energy production and consumption** are all issues that have not been effectively addressed.

**Part on G20 Summit is removed from this book. Same can be referred by students from CA Module.**



## Unit 4 : International Capital Movement

### Foreign Flow of Capital - This is far Wider than Foreign Investment

Foreign aid or assistance	Borrowings	Investments	Deposits from non-resident Indians (NRI)
Tied aid with strict mandates regarding the use of money	Direct government loans	Foreign direct investment (FDI)	
Untied aid where there are no such stipulations from institutions like IMF, WB	External commercial borrowing		
voluntary transfer	Soft Loans for e.g. from affiliates of World Bank such as IDA	Foreign portfolio investment (FPI) in bonds, stocks and securities	
Multilateral aid from many governments who pool funds to international organizations like the World Bank	Loans from international institutions (e.g. world bank, IMF)		
Bilateral or direct inter government grants.	Trade credit facilities		

### Foreign Direct Investment (FDI)

1. **Meaning** - Foreign direct investment is defined as a process whereby the *resident of one country* (i.e. home country) *acquires ownership of an asset in another country* (i.e. the host country) and such movement of capital involves *ownership, control as well as management* of the asset in the host country.
2. **Real Flow /Real investment** - Direct investments are *real investments* in factories, assets, land, inventories etc. and involve foreign ownership of production facilities. It Has a **long-term interest** and therefore remains invested for long.
3. **Control** According to the IMF, the acquisition of at least ten percent of the ordinary shares or voting power in a public or private enterprise by non-resident investors makes it eligible to be categorized as foreign direct investment (FDI).
4. **Components** :FDI has three components-
  - (a) Equity Capital,
  - (b) Reinvested Earnings,
  - (c) Other direct Capital in the form of intra-company loans between Direct Investors (Parent) and Affiliate Enterprises.
5. **Who can be Foreign Direct Investors**
  - (a) Individuals,
  - (b) Private and Public Enterprises, incorporated or unincorporated
  - (c) Associated Groups of Individuals or Enterprises,
  - (d) Governments or Government Agencies,
  - (e) Estates, Trusts or other organizations, or
  - (f) Any combination of the above-mentioned entities.

## 6. Modes or Forms of FDI

- (a) **Opening of a subsidiary or associate** company in a foreign country,
- (b) **Equity injection** into an overseas company,
- (c) **Acquiring a controlling interest** in an existing foreign company,
- (d) **Mergers and acquisitions(M&A)**
- (e) **Joint venture** with a foreign company.
- (f) **Green field investment** (establishment of a new overseas affiliate for freshly starting production by a parent company).
- (g) **Brownfield investments** (a form of FDI which makes use of the existing infrastructure by merging, acquiring or leasing, instead of developing a completely new one . For e.g. in India 100% FDI under automatic route is allowed in Brownfield Airport projects.

## Types of FDI

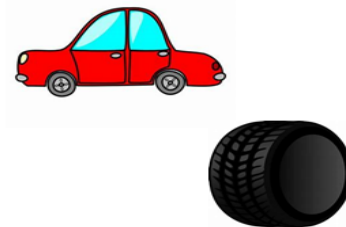
### Horizontal FDI

1. when the investor establishes the same type of business operation in a foreign country as it operates in its home country.
2. For example, a cell phone service provider based in the United States moving to India to provide the same service.



### Vertical FDI

1. A vertical investment is one under which the investor establishes or acquires a business activity in a foreign country which is different from the investor's main business activity yet in some way supplements its major activity.
2. For example; an automobile manufacturing company may acquire an interest in a foreign company that supplies parts



### Conglomerate FDI

1. A conglomerate type of foreign direct investment is one where an investor makes a foreign investment in a business that is unrelated to its existing business in its home country
2. For example; an automobile manufacturing company may acquire an interest in a foreign company that make furniture.



Yet another category of investment is '**two- way direct foreign investments**' which are reciprocal investments between countries. These investments occur when some industries are more advanced in one nation (for example, the computer industry in the United States), while other industries are more efficient in other nations (such as the automobile industry in Japan).

## Foreign Portfolio Investment (FPI)

1. **Meaning-** Foreign portfolio investment is the flow of '**financial capital**' rather than '**real capital**' and does not involve ownership, control, or management on the part of the investor.
2. **Concept** -FPI is a process in which the Resident of One Country (i.e Home Country) acquires ownership of **Financial Assets / Securities** in another country (i.e Host Company).
3. **Example** - European Citizen buying Bonds of Indian company in Indian Market.
4. **Characteristics of FPI**
  - (a) The singular intention of a foreign portfolio investor is to **earn a remunerative return through investment in foreign securities** and is primarily concerned about the safety of their capital, the likelihood of appreciation in its value, and the return generated.

- (b) Such investors also **do not have any intention of exercising voting power or controlling or managing the affairs of the company** in whose securities they invest
- (c) **Lower stake** in companies with their total stake in a firm **at below 10 percent**.
- (d) FPI have **immediate impact on balance of payment** or exchange rate rather than on production or income generation.
- (e) Portfolio investments are, to a large extent, expected to be speculative. Once investor confidence is shaken, such capital has a tendency to speedily shift from one country to another, occasionally creating financial crisis for the host country.

### FDI Vs FPI

	FDI	FPI
<b>Investment Type</b>	Involves creation of <b>physical /real</b> assets	Only in <b>financial/ Nominal</b> assets
<b>Term</b>	Has a <b>long-term interest</b>	Only <b>short-term interest</b>
<b>capital withdrawal</b>	Relatively <b>difficult</b> to withdraw	Relatively <b>easy</b> to withdraw
<b>Nature</b>	<b>Not speculative</b>	<b>Speculative</b>
<b>Technology</b>	Often accompanied by <b>technology transfer</b>	<b>Not</b> accompanied by <b>technology transfer</b>
<b>Impact on employment</b>	<b>Direct impact</b> on employment of labour and wages	<b>No direct impact</b> on employment of labour and wages
<b>Voting %</b>	10% or More	Less than 10%
<b>Control &amp; Mgmt.</b>	FDI takes place for <b>lasting interest and control</b> .	No interest in Management or Control.
<b>Influence</b>	<b>Significant</b> degree of influence by the Investor on the management of the acquired Enterprise.	Purely Financial Investment. <b>No</b> significant degree of <b>influence</b> on the Entity's management.

### Reasons/factor for FDI and FPI

- Higher rate of return:** The main motive for shifting of capital between different regions or between different industries is the expectation of higher rate of return.
- Interdependency-**the increasing interdependence of national economies and the consequent trade relations and international industrial cooperation established among them
- Economies of scale-** desire to reap economies of large-scale operation arising from technological growth
- Desire to control-**desire to procure a promising foreign firm to avoid future competition and the possible loss of export markets
- Risk diversification** so that recessions or downturns may be experienced with reduced severity
- Desire to control IPR-** necessity to retain complete control over its trade patents and to ensure consistent quality and service or for creating monopolies in a global context
- Penetration into the markets** of those countries that have established import restrictions such as blanket bans, high customs duties or non-tariff barriers which make it difficult for the foreign firm to sell in the host-country market by '**getting behind the tariff wall**'.

8. **Strategy to obtain control of strategic raw material** or resource so as to ensure their uninterrupted supply at the lowest possible price; usually a form of vertical integration
9. **Labour cost advantage**- the existence of low relative wages in the host country because of relative labour abundance coupled with shortage and high cost of labour in capital exporting countries, especially when the production process is labour intensive.
10. **Tax differentials** and tax policies of the host country which support direct investment.
11. **Shared common language or common boundaries** and possible saving in time and transport costs because of geographical proximity

### Factors discouraging FDI in host Country

General	Macro-Economic Factors	Labour related	Law/ Governance related
<ul style="list-style-type: none"> <li>⇒ Political instability</li> <li>⇒ Poor infrastructure</li> <li>⇒ Small size of market with lack of growth potential.</li> <li>⇒ Poor track-record of investments</li> </ul>	<ul style="list-style-type: none"> <li>⇒ High rates of inflation</li> <li>⇒ Exchange rate volatility</li> <li>⇒ Low income levels and lower demand</li> </ul>	<ul style="list-style-type: none"> <li>⇒ Poor literacy and low labour skills,</li> <li>⇒ Dominance of labour unions</li> <li>⇒ Language barriers</li> </ul>	<ul style="list-style-type: none"> <li>⇒ Higher degree of Non - Tariff barriers</li> <li>⇒ Unfavorable tax regime</li> <li>⇒ Law not favorable to IPR protection</li> <li>⇒ Double taxation</li> </ul>

### FDI in Host Country- Advantages and Dis-advantages

1. **Labour**- Benefits of higher wages, better opportunities for employment and skill enhancement, increased productivity. FDI not only creates direct employment opportunities but also, through backward and forward linkages, generate indirect employment opportunities.
2. **International capital** allows countries to finance more investment than can be supported by domestic savings.
3. **Technology**- FDI can accelerate growth and foster economic development by providing the much-needed capital, technological know-how, management skills and marketing methods and critical human capital skills in the form of managers and technicians.
4. **Domestic Industry**- Competitive Environment due to entry of Foreign Firms. Cost-reducing, quality-improving innovations, higher efficiency, increasing variety of better products and services, lower prices and welfare for consumers.
5. **Global Market**- Foreign enterprises possessing marketing information with their global network of marketing promote the exports of developing countries.
6. **Domestic resources**- The resources will be utilised in most efficient manner such that they give maximum output. This happens because of use of advanced use to technology
7. **Consumer** - It is likely that foreign investments enter into industries in which scale economies can be realized so that consumer prices might be lowered which were not possible for domestic firms with available resources.
8. **Competition to get FDI** among Various countries' government also has helped to promote political and structural reforms.



9. *Promotion of ancillary units/ support industries* resulting in job creation and skill development for workers.
10. Foreign enterprises possessing marketing information with their global network will utilize these strengths to promote the exports of developing countries. This way the host country will secure scarce foreign exchange.
11. Act as a source of new tax revenue which can be used for development projects
12. Increased competition from FDI reduces the established monopoly power
13. FDI have a favourable impact on the host country's balance of payment position, and
14. Better work culture and higher productivity standards may positively contribute to overall human resources development.

### FDI in Host Country- Disadvantages

- ⤴ **Labour** - FDI's are likely to concentrate on capital-intensive methods of production and service so that they need to hire only relatively few workers. Such technology is inappropriate for a labour-abundant country as it does not support generation of jobs
- ⤴ **Monopoly**- A large foreign firm with deep pockets may even drive out domestic firms from the industry and local infant industry.
- ⤴ **Domestic resources** - FDI is also held responsible by many for ruthless exploitation of natural resources and the possible environmental damage.
- ⤴ **Technology** - Often criticized of transferring outdated technology.
- ⤴ **Domestic Industry** - Decreasing competitiveness, detrimental to the long term interests.
- ⤴ **Employment** - If FDI's are concentrated towards capital-intensive methods, they will need only few workers. Such technology is inappropriate for labour-abundant country with high level of unemployment
- ⤴ FDI move towards regions or states which are well endowed in terms of natural resources and availability of infrastructure creating more regional disparity.
- ⤴ In the context of developing countries, FDI may cause the domestic governments to slow down its efforts to generate more domestic savings and investment.
- ⤴ Foreign firms may partly finance their domestic investments by borrowing funds in the host country's capital market. This action can raise interest rates in the host country and lead to a decline in domestic investments through 'crowding-out' effect.
- ⤴ The expected benefits from easing of the balance of payments situation might remain unrealised or narrowed down, when imported inputs need to be obtained or when profits are repatriated, a strain is placed on the host country's balance of payments and the home currency leading to its depreciation.
- ⤴ Jobs that require expertise and entrepreneurial skills for creative decision making may generally be retained in the home country and the host country is left with lower levels of skills and ability



jobs. FDI usually involves domestic companies 'off-shoring', or shifting jobs and operations abroad in pursuit of lower operating costs and consequent higher profits. This has deleterious effects on employment potential of home country.

- ▲ Potential national security considerations involved when foreign firms function in the territory of the host country, especially when acute hostilities prevail.
- ▲ Foreign entities are usually accused of being anti-ethical as they frequently resort to methods like aggressive advertising and anticompetitive practices which would induce market distortions.
- ▲ FDI may have adverse impact on the host country's commodity terms of trade (defined as the price of a country's exports divided by the price of its imports).
- ▲ With substantial FDI in developing countries there is a strong possibility of emergence of a dual economy with a developed foreign sector and an underdeveloped domestic sector.
- ▲ Foreign Investments may sometimes puts less developed host country's sovereignty is put at risk. Mighty multinational firms are often criticized of corruption issues, unduly influencing policy making and evasion of corporate social responsibility.

### FDI in India

- ▲ **Background -**
  - a. After the liberalization of the economy, India has been one of the highest Recipient Countries for FDI globally and is one of the top-ten most preferred investment destinations of the world.
  - b. Various Initiatives of the Government consistently over a period of years have led to growth of FDI in India
- ▲ **Routes for FDI -** An Indian Company can obtain FDI through-
  - a. **Automatic Route-** i.e without any prior approval of the Government or RBI.
  - b. **Approval Route-** i.e with prior approval of the Government
- ▲ **Instruments -** FDI can be obtained through issue of "FDI - Compliant instruments" viz **Equity Shares, fully and mandatorily Convertible Preference Shares and Debentures, Partly Paid Equity Shares and Warrants**, issued in accordance with the Companies Act 2013 and SEBI Guidelines, as applicable.
- ▲ **Prohibition - In India, Foreign Investment is prohibited in the following sectors-**
  - (a) Lottery Business including Government/ private Lottery, Online Lotteries etc
  - (b) Gambling and Betting including Casinos etc
  - (c) Chit Funds
  - (d) Nidhi Company
  - (e) Trading in Transferable Development Rights (TDRs)
  - (f) Real Estate Business or Construction of Farm Houses
  - (g) Manufacturing of cigars, Cheroots, Cigarillos and Cigarettes, of Tobacco or of Tobacco substitutes
  - (h) Activities / sectors not open to Private Sector Investment eg. Atomic Energy and Railway Operations (other than permitted activities)

**Overseas Direct Investment by Indian Business**

1. There has been progressive relaxation of the capital controls and simplification of procedures for outbound investments from India.
2. As a result, Outbound Foreign Direct Investments (OFDI) from India have undergone substantial increase in terms of size, geographical spread and sectorial composition.
3. At present any Indian Investor can make OFDI in any bonafide activity except in certain Real Estate activities.
4. India is primarily a domestic demand-driven economy, with consumption and investments contributing to 70% of the economic activity. Some of the key overseas investments and developments that have taken place in the recent past are mentioned as follows:
5. According to data released by the Reserve Bank of India (RBI), overseas direct investment stood at US\$ 1,922.51 million in September 2022.

CA ADITYA SHARMA

## Unit 5 : EXCHANGE RATE AND ITS ECONOMIC EFFECTS

- A. **Currency** - Currency is the **legal tender** of any country within its national Frontier buy or sell goods. Major traded currencies in the world are- Dollar, Yen, Pound and Euro
- B. **Home Currency** - A **country's own currency** is known as home currency / domestic currency.
- C. **Foreign Currency** -any currency **other than home currency** is a foreign currency.
- D. **Foreign Exchange** - A foreign currency transaction is a transaction that is denominated in or requires settlement in a foreign currency:
- buys or sells goods or services in a foreign currency.
  - borrow or lends funds in a foreign currency.
  - becomes a party to an unperformed forward exchange contract; or
  - otherwise acquires or sells of assets, or incurs or settles liabilities, denominated in a foreign currency.
- E. **Foreign exchange Market** -
- The wide-reaching collection of markets and institutions **that handle the exchange of foreign currencies** is known as the foreign exchange market.
  - Foreign exchange market comprises of buyers and sellers of foreign currency.
  - The operations in the Foreign exchange market originate in the requirements of customers for making remittances to and receiving them from other countries.
- F. **Features of Foreign exchange Market** -
- It is a **wide-reaching market** and operates **worldwide**.
  - It is **largest market in the world** in terms of cash value traded.
  - It is an **Over-the-Counter market** and not a physical place as such. (OTC)
  - There is **no central trading location** and **no set hours** of trading.
  - Market participants who demand and supply currencies represent themselves through their Banks and Key Forex Dealers.
  - Forex Market operates on **very narrow spreads** between buying & selling prices.
- G. **Vehicle Currency**
- A currency that is **widely used to denominate international contracts** made by parties even when it is not the national currency of either of the parties
  - a currency that is traded internationally and, therefore, is in high demand
  - a type of currency used in euro area for synchronization of exchange rates
  - Example - Dollar/ USD
- H. **Major Participants in Forex market and their role**
- Central banks**- To stabilize the excessive volatility in exchange rate
  - Commercial banks** - **executing orders** from exporters, importers, investment institutions, insurance and retirement funds, hedgers, and private investors. Commercial banks also perform trading operations in their **own interests and at their own expense**.
  - Governments** - To purchase or sell forex with the same aims as that of the Central Banks as above

- d) **Foreign exchange Dealers-** Intermediaries between different dealers or banks.
- e) **Arbitrageurs-** To earn profit by discovering price differences between pairs of currencies with different dealers or banks
- f) **Speculators /Bulls or bears** - are deliberate risk-takers who participate in the market to make gains
- g) **MNCs that engage in international trade and investments** -For normal trade
- h) **Note:** Commercial Banks and Brokerage are also called market makers as they set their own exchange price too.

### I. Spot Exchange rate

- a) A spot exchange rate is the rate at which the currencies are being traded **for delivery on the same day.**
- b) Example: If you have to make payment for the cargo arrived today in foreign currency and you visit bank. The rate at which you buy foreign currency today to make payment is called as spot rate.

### J. Future Exchange rate

- a) Contracts to buy or sell currencies for **future delivery** which are carried out in forward and/or futures markets.
- b) The currency forward contracts are quoted just like spot rate; however, the actual delivery of currencies takes place at the specified time in future.
- c) The forward exchange rate is set and agreed by the parties and remains fixed for the contract period regardless of the fluctuations in the spot rates in future. The actual spot rate on that day may be lower or higher than the forward rate agreed today.
- d) The elements which get fixed on the date are- **rate of exchange, Amount and Date of execution**

### K. Forward Premium and Forward Discount

- a) A **forward premium** is said to occur when the forward exchange rate is more than a spot trade rate. E.g.- Spot rate Rs/Dollar = 63 and future rate 67
- b) **Forward discount** is where the trade is quoted at a lower rate than the spot trade. E.g.- Spot rate Rs/Dollar = 63 and future rate 61

L. **Bid rate/ Buying rate:** It is the rate at which the **dealer is ready to buy the foreign currency** in exchange for domestic currency. Therefore, it is the buying rate.

M. **Ask rate/ Selling rate :** It is the rate at which the foreign dealer 'asks' its customers to pay in local currency in exchange of the foreign currency. Therefore, it is the **selling rate or offer rate** at which foreign currency can be purchase from the dealer.

**Bid rate/Buying rate and Ask rate/selling rate is considered from banker's point**

### N. Spread or Bid-Ask Spread

- The **difference between bid price and the offer price** is called spread. The offer price is always greater than the bid price as the dealers make money by buying bid price and selling at offer price.
- Example: A dealer quotes Indian rupees as Rs. 46.90-48.60 vis-vis dollar. The bid price is Rs. 46.90, the offer price is Rs. 48.70 and the spread is Rs. 1.7 (i.e. 48.60-46.90)

**O. Cross rate** : There may be two pairs of currencies with one currency being common between the two pairs and is called 'cross rate'

- Example: Suppose, an Indian importer wishes to purchase Yen then he would have to buy dollars first and then sell dollars to buy Yen. The banker would obtain Yen/\$ rate from Tokyo or Singapore Market and then apply the Rs. / \$ rate obtained from the local Indian market to arrive at exact rupees to be given for purchase of Yen.

$$A = A * C$$

$$B = C \quad B$$

$$\text{Bid (A/B)} = \text{Bid (A/C)} \times \text{Bid (C/B)}$$

$$\text{Ask (A/B)} = \text{Ask (A/C)} \times \text{Ask (C/B)}$$

Question 1) Rs/ Dollar rate is 79 and Rs/ Pound rate is 49 what is Dollar/ Pound rate

Question 2) Suppose the exchange rate between US dollars and the French franc was FF 5.9 = \$1 and the exchange rate between francs and pound?

**P. Base currency and Counter currency**

- In an expression Currency of one country/ Currency of Another country, the currency in denominator is Base currency and that in numerator is Counter currency
- Therefor in Direct Quote FC is base currency and HC is counter currency.**
- Therefor in Indirect Quote HC is base currency and FC is counter currency**
- Example: The following spot rates are observed in the foreign currency market.

Currency	Foreign Currency per US \$
Britain Pound	00.62
Netherlands Guilder	01.90
Sweden Kroner	06.40
Switzerland franc	01.50
Italy Lira	1,300
Japan yen	140

On the basis of this information compute to the nearest second decimal the number of-

Sr.	Particulars	Calculations	Answer
1	British pounds that can be acquired for \$ 100		
2	Swedish Kroner that can be acquired for \$ 40		
3	\$ that 50 Dutch guilders will buy		



4	Dollars that 200 Swiss Francs can buy		
5	Italian Lira that can be acquired for \$ 10		
6	Dollars that 1000 Japanese yen will buy		

### Difference between Direct and Indirect Quote

Point	Direct Quote	Indirect Quote
<b>Meaning</b>	A Direct Quote is the number of units of a Local Currency exchangeable for <b>one unit of a Foreign Currency</b> .	An Indirect Quote is the number of units of a Foreign Currency exchangeable for <b>one unit of local Currency</b> .
<b>Also known as</b>	European Currency Quotation	American Currency Quotation
<b>Base Currency</b>	Foreign Currency (i.e. Rupee in the above case)	Local Currency (i.e. US \$ in the above case)
<b>Counter Currency</b>	Local Currency (i.e. US \$ in the above case)	Foreign Currency (i.e. Rupee in the above case)
<b>Relationship</b>	Direct quote = 1/Indirect Quote	Indirect quote = 1/ Direct Quote
<b>Example</b>	Rs. 67/ US \$ means 67 is required to buy 1	\$ 0.0143 per Rupee means 1 is obtained by selling \$ 0.0143

### Arbitrage

#### Meaning

1. Arbitrage refers to the practice of making **risk-less profits** by intelligently exploiting price differences of an asset at different dealing places.
2. When **price differences occur in different markets**, Market Participants will purchase Asset in a low - priced market, for re-sale in a high- priced market and make profit in this process

#### Outcome of Arbitrage:

On account of arbitrage, regardless of physical location, at any given moment, all markets tend to have the same exchange rate for a given currency.

#### Process

1. The Arbitrageur find the market where the asset (Currency) is traded at lower rate and another market where the currency is traded at higher rate.
2. He will buy from the market where the currency is quoted at the lesser value and sell it in the market where the price is high.
3. Thus, he makes riskless profit by this process.

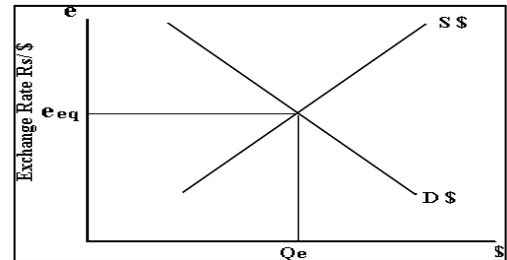
## Example

At two forex centers, the following Rs - US \$ rates are quoted:

- o London: Rs. 47.5730 - 47.6100
- o Tokyo: Rs. 47.6350 - 47.6675
- o Find out arbitrage possibilities for an arbitrageur who has Rs. 100 million.

## Determination of Exchange rate

Exchange rate is determined by **equilibrium of Demand and Supply**. RBI intervenes the market only to stabilize the exchange rate and prevent wide fluctuations.



Demand for Foreign currency arises due to	Supply of Foreign currency arises due to
<ul style="list-style-type: none"> <li>∂ <b>Purchase of goods and services</b> from another country- Import</li> <li>∂ <b>Unilateral transfers</b> such as gifts, awards, grants, donations or endowments</li> <li>∂ <b>Make investment</b> income payments abroad</li> <li>∂ <b>Purchase financial assets</b>, stocks or bonds abroad</li> <li>∂ Open a <b>foreign bank account</b> and</li> <li>∂ Acquire <b>direct ownership</b> of real capital</li> <li>∂ for speculation and hedging activities related to risk-taking or risk-avoidance activity.</li> </ul>	<ul style="list-style-type: none"> <li>∂ <b>Sale of goods and services</b> from another country- Export</li> <li>∂ Unilateral transfers <b>Inward</b> such as gifts, awards, grants, donations or endowments</li> <li>∂ <b>Receive investment income</b> payments abroad</li> <li>∂ <b>Sale financial assets</b>, stocks or bonds abroad</li> <li>∂ <b>Sale direct ownership</b> of real capital</li> </ul>

## State whether there will be rise in exchange rate or fall in exchange rate

1. Original Demand curve denoted by D And Original Supply curve denoted by S
2. New Demand curve D1 shifts upward And Original Supply curve remains constant
3. New Demand curve D1 shifts downward And Original Supply curve remains constant
4. Original Demand curve denoted by D And Supply curve shifts rightward
5. Original Demand curve denoted by D And Supply curve shifts leftward
6. Both DD and SS curve moves in same direction and same proportion.

Rise in situation-

Fall in situation-

## Difference between HC appreciation and HC depreciation

The terms, 'currency appreciation' and 'currency depreciation' describe the movements of the exchange rate.

	Home Currency Depreciation (or Foreign currency appreciation)	Home Currency Appreciation (or Foreign Currency Depreciation)
<b>Meaning</b>	a. Currency depreciates when its <u>value falls with respect to the value of another</u>	a. Currency appreciates when its <u>value increases with respect to the value of</u>

	<p><u>currency</u> or a basket of other currencies.</p> <p>b. Home-currency depreciation takes place when there is an increase in the home currency price of the foreign currency (or, alternatively, a decrease in the foreign currency price of the home currency).</p>	<p><u>another currency</u> or a basket of other currencies.</p> <p>b. Home-currency appreciation takes place when there is a decrease in the home currency price of foreign currency (or alternatively, an increase in the foreign currency price of home currency).</p>
<b>Example</b>	Suppose 72/ US \$ becomes 75/ US \$. This is called Depreciation of INR, and Appreciation of the US Dollar.	Suppose 72/ US \$ becomes 69/ US \$. This is called Appreciation of INR, and Depreciation of the US Dollar.
<b>Cause</b>	<p>1. This arises when the Demand Curve for Foreign Currency shifts to the right representing increased demand for Foreign Currency, and Supply Curve remains unchanged.</p> <p>2. Where the DD curve remains same but the supply decreases</p>	<p>1. This arises when the Supply Curve for Foreign Currency shifts to the right representing increased supply for Foreign Currency, and Demand Curve remains unchanged.</p> <p>2. Where the DD curve remains same but the supply increases</p>
<b>Effect</b>	<p>a. Exchange rate depreciation lowers the relative price of a country's exports, raises the relative price of its imports, increases demand both for domestic import-competing goods and for exports, leads to output expansion, encourages economic activity, increases the international competitiveness of domestic industries, increases the volume of exports and improves trade balance.</p>	<p>a. An appreciation of a country's currency cause changes in import and export prices will lead to changes in import and export volumes, causing resulting in import spending and export earnings.</p> <p>b. Currency appreciation raises the price of exports, decrease exports; increase imports, adversely affect the competitiveness of domestic industry, cause larger deficits and worsens the trade balance.</p>

### Impact on Exporters and importers by Appreciation/ depreciation of currency

Situation	Type	Impact	Good or Bad
When Foreign currency appreciates	Exporter		
When Home currency appreciates	Exporter		
When Home currency depreciates	Importer		
When Foreign currency Depreciates	Importer		

### Devaluation Vs Depreciation

	Devaluation	Depreciation
Meaning	<b>Deliberate downward</b> adjustment in	Currency depreciates when its <u>value falls</u>

	the value of a country's currency relative to another currency, group of currencies or standard.	<u>with respect to the value of another currency</u> or a basket of other currencies.
causes	Devaluation is caused by action of the Government/ central Bank/ Monetary authority/	Depreciation is caused when Demand increases with supply remaining constant or Where Demand is constant and Supply decreases
Regime	Applicable if <b>Fixed exchange rate Regime</b>	Applicable if <b>Floating exchange rate Regime</b>
Determinant	It is a monetary policy tool used by countries that have a fixed exchange rate or nearly fixed exchange rate regime	Determined by Market forces. Demand and supply forces determines the value of currency

*Revaluation is the opposite of devaluation and the term refers to a discrete raising of the otherwise fixed par value of a nation's currency.*

### Impacts of exchange rate fluctuations on domestic economy

- The developments in the foreign exchange markets affect the domestic economy both directly and indirectly.
- Foreign investors are likely to be indecisive or highly cautious before investing in a country that has high exchange rate volatility.
- Foreign capital inflows are characteristically vulnerable when local currency weakens.
- To reduce the fiscal deficit at the end of 2022, Russia and India agreed to switch to trade settlements in their national currencies.
- Indian authorities allowed the use of Rupees in international trade settlements.

#### 1. Export:

**(a) Home Currency Depreciates-** Depreciation in value of home currency lowers the relative price of country's export. Foreigner find that the country's exports are cheaper and Thus **Export Demand Increases**.

E.g. Suppose the rate of Rs./\$ is quoted at 65 and The SP in India Rs. Is 650. Therefore, the Exporter will Invoice the Goods at 10\$. Suppose the rate of exchange become 70/\$ on account of Rs. Depreciation. Now the Invoice will be made at  $650/70 = 9.28$  \$. Now the foreigner will find the product more attractive because of lower cost

**(b) Home Currency Appreciates-** Appreciation in value of Home currency increases the relative price of Exports. Foreigner lands out paying more for the goods and Thus **Export Demand decreases**

E.g. Suppose the rate of Rs./\$ is quoted at 65 and The SP in India Rs. Is 650. Therefore, the Exporter will Invoice the Goods at 10\$. Suppose the rate of exchange become 60/\$ on account of Rs. Appreciation. Now the Invoice will be made at  $650/60 = 10.83$  \$. Now the foreigner will find the product Costlier and Export will be Hampered.

## 2. Imports:

- (a) **Home Currency Depreciates-** Domestic residents and Importers have to pay more Home Currency on importing products. Demand for **Imports decreases**.

Suppose Import is made today for 10000 units of commodity at 60Rs/\$. Rate of Rs/\$ rises on account of HC depreciation and Goes to 65Rs/\$. The importer lands up paying more, and this discourages Import.

- (b) **Home Currency Appreciates-** Domestic consumers pay less for foreign products. The demand for Imports increases.

Suppose Import is made today for 10000 units of commodity at 60Rs/\$. Rate of Rs/\$ falls on account of HC Appreciation and falls to 55Rs/\$. The importer lands up paying less, and this encourages Import.

## 3. Domestic Inflation: (relate with Import)

- (a) **Home Currency Depreciates-** If Imports occupies significant portion of country's domestic consumption, Depreciation in value of HC will lead to Cost push Inflation. This is because the price of the commodity in which imported goods are used will rise and this overall inflation will rise.

- (b) **Home Currency Appreciates-** If Imports occupies significant portion of country's domestic consumption, Appreciation in value of HC will bring down Inflation. This is because the price of the commodity in which Imported goods are used will fall.

## 4. Domestic Demand:

- (a) **Home Currency Depreciates-** Depreciation in value of HC makes the Import costlier and thus pushes the demand for Domestic goods. This also makes the exported goods cheaper for foreigners (refer point 1-exports). Together leads to expansion of economic output.

*Example: Suppose you purchase goods worth 1000\$ from USA and due to currency depreciation INR rate falls from 65 to 70 per dollar and You end up paying more. This will discourage you to buy foreign products and lead to Increase in DD of Domestic product. Also, as explained in point 1- Exports demand for domestic goods in Foreign market will rise.*

- (b) **Home Currency Appreciates-** Appreciation in value of HC makes the Import cheaper and thus reduces the demand for Domestic goods. This also makes the exported goods costlier for foreigners (refer point 1-exports). Together leads to contraction of economic output.

*Example: Suppose you purchase goods worth 1000\$ from USA and due to currency Appreciation INR rate rises from 65 to 60 per dollar and You end up paying less. This will encourage you to buy foreign products and lead to decrease in DD of Domestic product. Also, as explained in point 1- Exports demand for domestic goods in Foreign market will fall.*

## 5. Foreign currency Debt

- (a) **Home Currency Depreciates-** Depreciation in value of home currency will lead to more HC outflow towards repayment of loan and Principle. Business firms and Government will have to pay higher effective interest rate on borrowings.

*E.g. Suppose you took FC loan of 10,000 \$ at an interest rate of 10%. The spot rate is 60 and Principle along with interest is to be paid after 3 Months. After 3 months, rate happened to be 67. The payout in that case will be  $11,000 \times 67 = 737,000$ . Therefore, effective rate of borrowings becomes 22.83%*



(b) **Home Currency Appreciates-** Appreciation in value of home currency will lead to lesser HC outflow towards repayment of loan and Principle. Business firms and Government will have to pay effectively lower interest rate on borrowings.

*E.g. Suppose you took FC loan of 10,000 \$ at an interest rate of 10%. The spot rate is 60 and Principle along with interest is to be paid after 3 Months. After 3 months, rate happened to be 57. The payout in that case will be  $11,000 \times 57 = 627,000$ . Therefore, effective rate of borrowings becomes 4.5%*

## 6. Inward remittance

(a) **Home Currency Depreciates-** Remittances to homeland by Non- Residents and Businesses abroad fetches more in terms of Domestic Currency. Depreciation increases such inflows.

*E.g. Suppose your Cousin saved 10,000\$ for you and the rate of exchange today is 60. He agreed to remit you the money after 3 months as he is aware that the currency rate will fluctuate and Rs. Will depreciate. After 3 Months the rate happened to be 67 and now upon remittance you receive 6,70,000 Rs.*

(b) **Home Currency Appreciates-** Such remittances to homeland by Non-Residents and businesses abroad is less in amount in terms of Domestic Currency.

*E.g. Suppose your Cousin saved 10,000\$ for you and the rate of exchange today is 60. He agreed to remit you the money after 3 months. After 3 Months the rate happened to be 56 and now upon remittance you receive 5,60,000 Rs.*

## 7. Current account

(a) **Home Currency Depreciates-** If Export earnings rise faster than the Import Spending, then Current Account will improve. However, the impact will not be substantial if export volumes do not increase to a reasonable level.

(b) **Home Currency Appreciates-** Increasing imports and declining Exports cause larger deficits and worsen the Current Account balance. However, inelastic demand for and exports may sometimes lead to an improvement in the Current Account position

## Exchange rate Regime

1. An exchange rate regime is the system by which a **country manages its currency in respect to foreign currencies.**
2. It refers to the method by which the **value of the domestic currency in terms of foreign currencies is determined.**
3. There are **three** broad categories of exchange rate systems.
  - (a) **Floating Exchange rate Regime:** In one system, exchange rates are set purely by private market forces with no government involvement. Values change constantly due to demand & supply of currencies.
  - (b) **Fixed Exchange rate Regime:** governments may seek to fix the values of their currencies, either through participation in the market or through regulatory policy
  - (c) **Managed Floating:** currency values are allowed to change, but governments participate in currency markets in an effort to influence those values.

## Floating rate Regime

### Meaning:

1. Under *floating exchange rate regime*, the equilibrium value of the exchange rate of a country's currency is determined by *demand for and supply of currency* relative to other currencies.
2. A free-floating system has the advantage of being *self-regulating*.
3. There is *no predetermined target rate* and the exchange rates are likely to change at every moment
4. There is *no interference on the part of the government or the central bank* of the country in the determination of exchange rate, except to moderate the rate of change and preventing undue fluctuations.

### Merits

1. Allows Central bank and /or government to pursue its *own independent monetary policy*
2. Floating exchange rate regime allows exchange rate to be used as a *policy tool*: for example, policy-makers can adjust the nominal exchange rate to influence the competitiveness of the tradable goods sector
3. The central bank is *not required to maintain a huge foreign exchange reserve*.

### Demerits

1. Volatile exchange rates generate a *lot of uncertainties* in relation to international transactions.
2. Make international transactions riskier and thus increase the cost of doing business with other countries.
3. Contracts between buyers and sellers in different countries get affected by exchange rate changes in addition to business risk.

## Fixed rate Regime

### Concept

- a) A fixed exchange rate is also referred as *pegged exchange rate*.
- b) The Country's *Central bank and / or Government announces or decrees the Rate*, i.e. what its currency will be worth in terms of -
  - i) either other country's currency,
  - ii) a basket of currencies,
  - iii) Another measure of value, e.g. Gold.
- c) When a Government intervenes in the *forex Market* so that the Exchange Rate of its currency is different from what would have been determined by the free flow of market forces, it is said to have established a *"peg"* for its currency.
- d) To maintain the Rate at that announced level (called "Parity Value"), the *Central Bank and/or Government also regularly operates in the market* by buying (or selling) Foreign Reserves.

### Merits

- (a) A fixed exchange rate *avoids currency fluctuations* and *eliminates exchange rate risks* and transaction costs that can impede international flow of trade and investments.
- (b) A fixed exchange rate can thus, *greatly enhance international trade and investment*.

- (c) A **reduction in speculation** on exchange rate movements if everyone believes that exchange rates will not change.
- (d) A fixed exchange rate system **imposes discipline on a country's monetary authority** and therefore is more likely to generate lower levels of inflation.
- (e) The government **can encourage greater trade and investment** as stability encourages investment.
- (f) **Exchange rate peg** can also enhance the credibility of the country's monetary-policy.

### Demerits

- a) The Central Bank and/or Government have to **maintain large reserves** of Foreign Currencies, to maintain the Exchange rate at the level fixed by it.
- b) Market Forces of **Demand and Supply have no role** in determination of Equilibrium FX Rate.

### Managed Float Systems

- a) Governments and central banks often seek to increase or decrease their exchange rates by buying or selling their own currencies.
- b) Exchange rates are still free to float, but governments try to influence their values. Government or central bank participation in a floating exchange rate system and intervene from time to time in the currency market to stabilize the fluctuations.
- c) Such intervention is likely to have only a small impact, if any, on exchange rates.
- d) Suppose the price of a country's currency is rising very rapidly. The country's government or central bank might seek to hold off further increases. Those actions could reduce demand for and increase the supply of the currency, thus achieving the goal of holding the exchange rate down.

Hard Peg	The Central Bank sets a fixed and unchanging value for the Exchange Rate.
Soft Peg	The Exchange Rate is generally market determined, but if the Rates tend to be move speedily in one direction, the Central Bank will intervene in the market.
Floating Regime	Market determines the Exchange rate. Supply and Demand of Currency determines the rate of exchange

### Real rate and Nominal rate of Exchange

- (a) Nominal exchange rate means how much of one currency (i.e. money) can be traded for a unit of another currency when prices are constant. If the nominal exchange rate between the dollar and the Indian Rupee is 65, then one dollar will purchase 65 INR.
- (b) By contrast, the 'real exchange rate' describes 'how many' of a good or service in one country can be traded for 'one' of that good or service in a foreign country. It is denoted by R.
- (c) Trade flows are affected not by nominal exchange rates, but instead, by real exchange rates.
- (d) A country's real exchange rate is a key determinant of its net exports of goods and services.
- (e) The real exchange rate for single commodity is represented by the following equation:

$$\text{Real exchange rate (R)} = \text{nominal exchange rate} \times \frac{\text{domestic price}}{\text{Foreign Price.}}$$

(f) Let's say that we want to determine the real exchange rate for Mobile between the US and India. Nominal exchange rate between these countries is INR 60 per dollar. Price of Laptop in India is INR 28,000 and the price of Laptop in the US is \$700. In this case, we begin with the equation for the real exchange rate of real exchange rate = (nominal exchange rate x foreign price) / (domestic price). Substituting in the numbers from above gives real exchange rate =  $(60 \times \$700) / 28,000 \text{ INR} = 1.5 \text{ Laptops in India per American Laptop}$ .

(g) When studying the economy as a whole, we use price indices which measure the price of a basket of goods and services. Real exchange rate will then be:

(h) **Real exchange rate** = **nominal exchange rate** x  $\frac{\text{domestic price Index}}{\text{Foreign Price Index}}$

(i) **Implication of RER**

- The real rate tells us how many times more or less goods and services can be purchased abroad (after conversion into a foreign currency) than in the domestic market for a given amount.
  - In contrast to the nominal exchange rate, the real exchange rate is always "floating", since even in the regime of a fixed nominal exchange rate E, the real exchange rate R can move via price-level changes.
  - Rather than focusing on the nominal exchange rate, it is more sensible to monitor the real exchange rate when assessing the effect of exchange rates on international trade or export competitiveness of a country.
- **Nominal Effective Exchange rate (NEER)**
  - Unlike nominal and real exchange rates, NEER and REER are not determined for each foreign currency separately but against a whole basket of currencies.
  - **Real effective exchange rate (REER)**: A real effective exchange rate (REER) adjusts NEER by the appropriate foreign price level and deflates by the home country price level. The REER is NEER with price or labor cost inflation removed from it.

# CHAPTER 10: INDIAN ECONOMY



## STATUS OF INDIAN ECONOMY: PRE INDEPENDENCE-PERIOD (1850 -1947)

### India's Economic Position between 1st and 17th Century

1. India is the largest economy of the ancient and the medieval world. It was prosperous and self-reliant and have controlled between **one third and one fourth** of the world's wealth.
2. The Economy is a hub for commerce, pilgrimage and administration. There were more opportunities for diverse occupations, trades and gainful economic activities in Cities.
3. Agriculture was the dominant occupation and the main source of livelihood for majority of people, apart from that the country had a highly skilled set of artisans and craftsmen who produced manufactures, handicrafts and textiles of superior quality and fineness for the worldwide market.
4. Economic Philosophy of India

### A. Handbook of Political Philosophy: Arthashastra - Period: 321 -296 BCE

#### I. Features of the Book:

- a) 'Arthashastra' the pioneering work attributed to **Kautilya (Chanakya)**.
- b) It is believed to be a kind of **handbook for King Chandragupta Maurya**, the founder of Mauryan empire.
- c) Kautilya's writings relate to statecraft, political science, economic policy and military strategy.
- d) It contains the directives as to how to reign over the kingdom and encouraging directaction in addressing political concerns without regard for ethical considerations.
- e) The major focus of the work is on the means of fruitfully maintaining and using land.

#### II. Meaning of the term Arthashastra:

- a) Artha is **not** wealth alone, rather it encompasses all aspects of the **material well-being of individuals**.
- b) Artha shastra is the science of 'Artha' or material prosperity, or "the means of subsistence of humanity," which is, **primarily, 'wealth' and, secondarily, 'the land'**.

#### III. Method adopted by King using the Book:

- a) Kautilya emphasizes the importance of robust agricultural initiatives for an abundant harvest which will go toward filling the state's treasury.
- b) Taxes, which were charged equal for private and state-owned businesses, must be fair to all and should be easily understood by the king's subjects.

**IV. True kingship:** a ruler's subordination of his own desires and ambitions to the good of his people. The preservation and advancement of this good was comprised of seven vital elements, namely the **King, Ministers, Farmlands, Fortresses, Treasury, Military and the Allies**.



**The period of British rule can be divided into two sub periods:**

1. The rule of East India Company from 1757 to 1858
2. British government in India from 1858 to 1947

**The rule of East India Company from 1757 to 1858**

a) **Reversal of Indian Market - From Exporter of Goods to exporter of RM**

- i. On the lateral part of 18<sup>th</sup> century, the manufacturing capabilities of Britain increased many times, and consequently there **arose the need for raw material supply as well as the need for finding markets for finished goods.**
- ii. This led to a virtual reversal of the nature of India's foreign trade from an exporter of manufactures to an exporter of raw materials.

b) **Tariffs Discriminatory:**

- i. The Indian exports of finished goods were subjected to heavy tariffs and the imports were charged lower tariffs under the policy of discriminatory tariffs followed by the British.
- ii. This made the **exports of finished goods relatively costlier and the imports cheaper.**

c) **Hostile policy and Competition from Machine made goods:**

The destruction of Indian manufacturing sector is mainly due to the hostile imperial policies to serve the British interests and the competition from machine made goods.

d) **Drop in Demand for Indian goods, Shift towards Western goods and Culture.**

- Indian goods lost their competitiveness and domestic demand for indigenous products fell sharply culminating in the destruction of Indian handicrafts and manufactures.
- The problem was enlarged by the shift in patterns of demand by domestic consumers towards foreign goods and inclination towards western culture.
- **Imbalance arose in Indian economy:** this causes imbalance in the traditional village Economy.

e) **List of situations where waves of colonialism have impacted as follows**

- a) Large scale unemployment and absence of alternate sources of employment which forced many to depend on agriculture for livelihood
- b) The increased pressure on land caused sub division and fragmentation of land holdings, subsistence farming, reduced agricultural productivity and poverty.
- c) Indians in favour of imported goods made the survival of domestic industries all the more difficult.
- d) Excessive pressure on land increased the demand for land under tenancy, and the zamindars got the opportunity to extract excessive rents and other payments
- e) Absentee landlordism, high indebtedness of agriculturists, growth of a class of exploitative money lenders and low attention to productivity enhancing measures led to a virtual collapse of Indian agriculture.

**British government in India from 1858 to 1947**

- a) The 'Modern' industrial enterprises in colonial India started to grow in the mid-19th century.
- b) **Cotton Mills:** The cotton milling business grew and achieved international competitiveness. With **9 million spindles** in the 1930s, India got **fifth position** globally in terms of number of spindles.

- c) **Jute Mills:** Indian jute occupied a **large stake of the international market** by the late 19th century, expanding rapidly in and around **Calcutta**. By the end of the 19th century, the Indian jute mill industry was the **largest** in the world in terms of the amount of raw jute consumed in production.
- d) **Iron Industry:** **Iron** Industry was also established as early as 1814 by British capital, ranking eighth in the world in terms of output in 1930.
- e) **Other Industries:** Brewing, paper-milling, leather-making, matches, and rice-milling industries also developed during the century.
- f) Just before the Great Depression, India was ranked as the 12th Largest Industrialized country measured by the value of manufactured products.
- g) Due to progress in modern industrial enterprises, some industries even reached global standards by the beginning of the 20th century.
- h) **Downturn in Producer goods Industries:**
  - i. The most important contributor to downturn in producer goods industries was policy formulation in favor of Britishers.
  - ii. They aimed to positively discourage the development of Indian Industries which were likely to compete with those of the English producers.
  - iii. The share in the net domestic product (NDP) of the manufacturing sector (excluding small scale and cottage industries) had barely reached 7% even in 1946.

## INDIAN ECONOMY: POST-INDEPENDENCE (1947- 1991)

### 1. Feature of Indian Economy immediately after Independence:

- a) **India** was majorly had rural inhabited, mostly illiterate and exceedingly poor population.
- b) With the literacy rate just above 18 percent and barely 32 years of life expectancy in 1951, India's poverty was not just in terms of income alone, but also in terms of human capital.

### 2. Development Strategy - Nehruvian Model:

- a. The **Nehruvian model** supporting social and economic redistribution and industrialization dominated the post- Independence Indian economic policy.
- b. India's political leadership established an economic system in which the central government had authority to design the economic strategy and to carry out the necessary investments in coordination with the private sector.
- c. **Rapid industrialization** of the economy was the cornerstone of Nehru's development strategy. The concept of 'planned modernization' meant a systematic planning to support industrialization. The bureaucrats and the technocrats envisioned a substantially significant role for the state in Industrialisation.
- d. **Centralized economic planning** and direction was at the core of India's development strategy and the economic policies were crafted to accomplish rapid economic growth accompanied by **equity and distributive justice**.
- e. The Planning Commission of India was established to particularly plan for the economic development of the nation in line with the **socialistic strategy**. This was carried through the **five-year plans** which were developed, implemented and monitored by the Planning Commission.
- f. The Industrial Policy Resolution

1948	<ul style="list-style-type: none"> <li>a. Expanded role for the public sector and licensing to the private sector.</li> <li>b. Granted state monopoly for strategic areas such as atomic energy, arms &amp; ammunition &amp;</li> </ul>
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	<p>railways.</p> <p>c. The rights to new investments in basic industries were exclusively given to the state.</p>
1950	<p>a. Policy Formulation has been based on Two Economic philosophies:</p> <ol style="list-style-type: none"> <li>1. PM Nehru's visualization to build a socialistic society with emphasis on heavy industry, and</li> <li>2. The Gandhian philosophy of small scale and cottage industry and village republics.</li> </ol>
1956	<p>a. Comprehensive framework for industrial development supported enormous expansion of the public sector.</p> <p>b. Private investments were discouraged and this had long-lasting negative consequences for industrial growth.</p>
1958-1966	<p>a. India followed an open foreign investment policy and a relatively open trade policy.</p> <p>b. A balance of payments crisis emerged in 1958 causing concerns regarding foreign exchange depletion.</p> <p>c. In turn gradual tightening of trade and reduction in investment (licensing of new investments requiring imports of capital goods). The comprehensive import controls were maintained until 1966.</p>
1950-1980	<p>a. India's average annual rate of growth of GDP- often referred to as the 'Hindu growth rate'- was a modest 3.5 percent.</p> <p>b. While agriculture was not neglected, the thrust of the first decade and a half was on capital goods— capital-intensive projects such as dams, power plants, and heavy industrialization— rather than consumer goods.</p> <p>c. Green Revolution Initiative:</p> <ol style="list-style-type: none"> <li>i. The strategy for agricultural development till then <b>was reliance on institutional model</b> i.e. land reforms, farm cooperatives etc. and not much importance was given to technocratic areas such as research and development, irrigation etc.</li> <li>ii. India then faced two severe and consecutive droughts struck in 1966 and 1967. This causes Negative growth rate and severe food problem and dependency on USA for food needs, this made to give highest priority for agricultural productivity.</li> <li>iii. The evolution of Green Revolution was successfully materialised by innovative farm technologies, including high yielding seed varieties and intensive use of water, fertilizer and pesticides especially focused on production of Wheat. Green Revolution is called as Wheat Revolution, made us to overcome food problem.</li> </ol> <p>d. The economic performance during the period of 1965-81 is the worst in independent India's history. The decline in growth due to decline in productivity because of-</p> <ol style="list-style-type: none"> <li>i. The license-raj, the autarchic policies in 1960s and 1970s,</li> <li>ii. the external shocks such as three wars (in 1962, 1965, and 1971),</li> <li>iii. major droughts (especially 1966 and 1967), and the oil shocks of 1973 and 1979</li> <li>iv. India being practically a closed economy missed out on the opportunities created</li> <li>v. by a rapidly growing world economy.</li> </ol> <p><b>e. Consequence of Framing Interventionist policy</b></p> <ol style="list-style-type: none"> <li>i. The Government introduced extra stringent administrative controls on both Trade and Industrial Licensing and launched a wave of Nationalization. The government nationalized 14 banks in 1969 and 6 in 1980.</li> <li>ii. Many government policies aimed at equitable distribution of income and wealth</li> </ol>

effectively killed the incentive for creating wealth. Equity driven policies were also largely anti- growth.

- iii. The Monopolies and Restrictive Trade Practices (MRTP) Act, 1969 was aimed at regulation of large firms which had relatively large market power. This restricted the possibility of expansion of big business houses.
- iv. In 1967, the policy of reservation of many products for exclusive manufacture by the smallscale sector was initiated but it discouraged starting of labour intensive industries in the organized sector.

## Evolution of Economic Reforms

1. Around 1980 - The seeds of early Liberalization and Reforms were sown. Considerable efforts were initiated to restore Reasonable Price Stability through a combination of tight monetary policy, fiscal moderation and a few structural reforms.
2. Between 1981-1989- This Period named as early liberalization were specifically aimed at changing the prevailing thrust on 'in-ward oriented' trade and investment practices. It is referred as reforms by stealth to denote its ad hoc and not widely publicized nature.
3. The early reforms of 1980's broadly covered three areas, namely industry, trade and taxation.

### a. List of Some Economic Reforms initiated before 1991:

- (a) Delicensing of 25 broad categories of industries.
  - (b) The facility of 'broad-banding' was accorded for industry groups. Eg: firms may switch production between different production lines such as trucks and car without a new license.
  - (c) The ceiling limit for application of MRTP Regulations have been increased from 20 crore to 100 crore.
  - (d) The multipoint excise duties were converted into a modified value-added (MODVAT).
  - (e) Establishment of the Securities and Exchange Board of India (SEBI).
  - (f) The open general licence (OGL) list was steadily expanded, Several export incentives were introduced.
  - (g) Based on the real effective exchange rate (REER), the rupee was depreciated by about 30.0 per cent from 1985-86 to 1989-90. This reflects a considerable change in the official attitude towards exchange rate depreciation.
- ✚ The budget for 1986 introduced policies of cutting taxes further, liberalising imports and reducing tariffs.

### b. Challenges faced from Reforms:

- The private sector investments were inhibited due to reasons such as complicated licensing policies, public sector reservations and excessive government controls.
- Due to reservation of goods to small scale sector as well as excessive price and distribution controls, the private sector was virtually discouraged from making investments.
- The MRTP act had many restrictive conditions creating barriers for entry, diversification and expansion for large industrial houses.
- The public sector which led the manufacturing and service sectors was plagued by inefficiency, government controls and bureaucratic procedures.
- Foreign investments and foreign competition were not allowed on grounds of affording protection

to domestic industries. Such regulating rules became major hindrances for the economic growth and development.

Despite all the odds, The liberalization in the 1980s served as the necessary foundation for the more universal and organized reforms of the 1990s.

### THE ECONOMIC REFORMS OF 1991

- ▲ India embarked on a bold set of economic reforms in 1991 under the Narsimha Rao government.
- ▲ The causes attributed to the immediate need for such a drastic change are:
  - a. The fiscal initiatives for enhanced economic growth in 1980s led fiscal deficit which was financed by huge amounts of domestic as well as external debt, making adverse balance of payments.
  - b. Persistent huge deficits led to swelling public debt and a large government's expenditure towards interest payments.
  - c. The surge in oil prices triggered by the gulf war in 1990.
  - d. The foreign exchange reserves touched the lowest point with a reserve of only \$1.2 billion which was barely sufficient for two weeks of imports.
  - e. With limited forex only essential commodities were imported; resulted in reduction in industrial output.
  - f. India had to depend on external borrowing from the International Monetary Fund which in turn put forth stringent conditions.
  - g. The fragile political situation along with the crises in the economic front ballooned into what may be called a 'crisis of confidence'.
- ▲ The year 1991 marked a paradigm shift in the Indian policy reforms.
- ▲ The nation which had embraced the 'socialist model', with the state persistently intervening in the markets.
- ▲ Collapse of the Soviet Union and the spectacular success of China, based on outward oriented policies were lessons for the Indian policy makers.
- ▲ The reforms, popularly known as liberalization, privatization and globalization, spelt a major shift in economic philosophy and fundamental change in approach and had two major objectives:
  1. reorientation of the economy from a centrally directed and highly controlled one to a 'market friendly' or market oriented economy.
  2. macroeconomic stabilization by substantial reduction in fiscal deficit.

#### The policies can be broadly classified as :

1. **Stabilization measures** >>>> short term measures >>>to address the problems of inflation & adverse balance of payment
2. **Structural reform** >>>> long term and of continuing nature>>>> aimed at bringing in productivity and competitiveness by removing the structural rigidities in different sectors of the economy.
3. The prominent industrial policy initiatives were:
  - a. **Liberalisation:** Liberalisation refers to relaxation of previous Government restrictions usually in areas of social and economic policies.
  - b. India removed the Tariff, Subsidies and other restrictions on the flow of goods and services between countries.



c. **Areas of Liberalisation: Liberalization** i.e. economic reforms were introduced in four major sectors viz. -

- ✓ Industrial Sector,
- ✓ Financial Sector,
- ✓ Foreign Trade / External Sector, and
- ✓ Fiscal Policy.

As we are aware, GDP growth rate is regarded as the most reliable indicator of economic growth. The following table and graphical presentation present data on GDP growth rate post 1991 reforms. Growth rate in 1991 was around 1.056831% and rose to 8.681229% in year 2021

### The Fiscal Reforms

▲ Bringing in fiscal discipline by reducing the fiscal deficit was vital because the crisis was caused by excess domestic demand, surge in imports and the widening of the current account deficit (CAD) which was to be financed by drawing down on reserves.

Measures to this effect included:

1. Introduction of a stable and transparent tax structure,
2. Ensuring better tax compliance,
3. Thrust on curbing government expenditure
4. Reduction in subsidies and abolition of unnecessary subsidies
5. Disinvestment of part of government's equity holdings in select public sector undertakings and
6. Encouraging private sector participation.

In order to bring in fiscal discipline, it was essential to do away with the temptation to finance deficit through the easy path of money creation. Therefore, the government entered into a historic agreement with the Reserve Bank in September 1994 to bring down the fiscal deficit in a phased manner to nil by 1997-98.

### Monetary and Financial Sector Reforms

▲ The focus was mostly on reducing the burden of nonperforming assets on government banks, introducing and sustaining competition, and deregulating interest rates.

▲ These included many measures, important among them are:

1. Interest rate liberalization and reduction in controls on banks by the RBI
2. Opening of new private sector banks and facilitating greater competition among public sector, private sector and foreign banks and simultaneously removal of administrative constraints.
3. Reduction in reserve requirements namely, statutory liquidity ratio (SLR) and cash reserve ratio (CRR) in line with the recommendations of the Narasimham Committee Report, 1991.
4. Liberalisation of bank branch licensing policy and granting of freedom to banks in respect of opening, relocating or closure of branches
5. Prudential norms of accounting in respect of classification of assets, disclosure of income and provisions for bad debt were introduced in tune with the Narasimham Committee recommendations to ensure that the books of commercial banks reflect the accurate and truthful picture of their financial position.

### Reforms in Capital Markets

- ▲ The Securities and Exchange Board of India (SEBI) which was set up in 1988 was given statutory recognition in 1992.
- ▲ SEBI has been mandated as an independent regulator of the capital market so as to create a transparent environment which would facilitate mobilization of adequate resources and their efficient allocation.

### The 'New Industrial Policy'

- ▲ The 'New Industrial Policy' announced by the government on 24 July 1991 sought to substantially deregulate industry so as to promote growth of a more efficient and competitive industrial economy. These series of reforms were introduced
  1. The New Economic Policy put an end to the 'License Raj' by removing licensing restrictions for all industries except for 18 that 'related to security and strategic concerns, social reasons, problems related to safety and overriding environmental issues'. Consequently, 80 percent of the industry was taken out of the licensing framework.
  2. This is subsequently reduced to 5, namely, arms and ammunition, atomic substances, narcotic drugs and hazardous chemicals, distillation and brewing of alcoholic drinks and cigarettes and cigars as these have severe implications on health, safety, and environment.
  3. Public sector was limited to eight sectors based on security and strategic grounds. Subsequently only two items remained - railway transport and atomic energy
  4. The Monopolies and Restrictive Trade Practices (MRTP) Act was restructured and the provisions relating to merger, amalgamation, and takeover were repealed.
  5. Many goods produced by small-scale industries have been de reserved enabling entry of large scale industries.
  6. The policy ended the public sector monopoly in many sectors .
  7. Foreign investment was also liberalised. The concept of automatic approval was introduced for foreign direct investments up to 51 percent which was later extended to nearly all industries except the reserved ones.
  8. FDI is prohibited only in four sectors viz. retail trade, atomic energy, lottery business and betting and gambling.
  9. External trade was further liberalised by substituting 'the positive list approach' of listing license-free items on the OGL list with the negative list approach. The policy did away with import licensing on all but a handful of intermediate and capital goods.
  10. In 1990-91, the highest tariff rate was 355%, The top tariff rate was brought down to 85% in 1993-94 and to 50% in 1995-96 and by 2007-08, it has come down to 10% with some exceptions such as automobile at 100%
  11. Rupee was devalued by 18% against the dollar. From 1994 onwards, all current account transactions including business, education, medical and foreign travel were permitted at market exchange rate and rupee became officially convertible on current account
  12. The disinvestment of government holdings of equity share capital of public sector enterprises was a very bold step.

## Trade Policy Reforms

- ▲ The trade policy reforms aimed at:
  - Dismantling of quantitative restrictions on imports and exports
  - Focusing on a more outward oriented regime with phased reduction and simplification of tariffs, and removal of licensing procedures for imports.
- ▲ Export duties were removed to increase the competitive position of Indian goods in the international markets.
- ▲ In 1991, India still had a fixed exchange rate system, under which the rupee was pegged to the value of a basket of currencies of major trading partners. In March 1992 the government decided to establish a dual exchange rate regime.
- ▲ From 1993 onwards, India has followed a managed floating exchange rate system.
- ▲ Some broader policy changes includes
  - \* India has progressively moved towards a market oriented economy, with a sizeable reduction in government's market intervention and unprecedented growth of private sector investment and initiatives
  - \* Easing of trade controls has enabled easier access to foreign technology, inputs, know-how and finance
  - \* Stable foreign direct investment inflows and substantial foreign portfolio investments
  - \* India enjoys a solid cushion of foreign exchange reserves close to eight months of import cover. India has one of the largest holdings of international reserves in the world.
  - \* Robust demand for information technology and financial services has kept the services trade surplus high at around 3.7 percent of GDP
  - \* Poverty has reduced substantially
  - \* Reforms led to increased competition in sectors like banking, insurance and other financial services leading to greater customer choice and increased efficiency.
  - \* Infrastructure sectors have achieved phenomenal growth
  - \* Value-added share of agriculture and allied activities has declined steadily over the past four decades.
  - \* However, the country is constrained by high levels of fiscal deficit, inflation and a high level of debt as a share of GDP at 86 percent of GDP in FY21/22. Among the emerging market and developing economies (EMDEs), India's debt is higher than their average of 64.5% for 2022(IMF).

## NITI AAYOG: A BOLD STEP FOR TRANSFORMING INDIA

### A. Background for NITI AAYOG:

- a. The Planning Commission of India was one of the most important institutions within India's central government.
- b. The new ideologies of the neoliberal era with their centre of attention on market orientation and shrinking roles of the government and the collapse of the planning system called for a change in the nature, composition and scope of institutions of governance.
- c. On 1st January 2015, the apex policy-making body namely Planning Commission, was replaced by the National Institution for Transforming India (NITI) Aayog.

d. The major objective of such a move was to 'spur innovative thinking by objective 'experts' and promote 'co-operative federalism' by enhancing the voice and influence of the states'. NITI Aayog is expected to serve as a 'Think Tank' of the government. [and] a 'directional and policy dynamo'.

**B. NITI Aayog will work towards the following objectives :**

- a. To **evolve a shared vision** of national development priorities and strategies with the active involvement of states.
- b. To foster **cooperative federalism** through structured support initiatives and mechanisms with the states on a continuous basis, recognizing that strong states make a strong nation.
- c. To develop mechanisms to **formulate credible plans** at the village level and aggregate these progressively at higher levels of government.
- d. To pay special **attention to the sections of our society** that may be at risk of not benefiting adequately from economic progress.
- e. To **design strategic and long-term policy and programme** frameworks and initiatives, and monitor their progress and their efficacy
- f. To provide **advice and encourage partnerships between key stakeholders** and national and international like-minded think tanks, as well as educational and policy research institutions.
- g. To create a **knowledge, innovation and entrepreneurial** support system through a collaborative community of national and international experts, practitioners and other partners.
- h. To offer a **platform for the resolution of inter-sectoral and inter departmental issues** in order to accelerate the implementation of the development agenda.
- i. To maintain a **state-of-the-art resource centre**, be a repository of research on good governance and best practices in sustainable and equitable development.
- j. To **actively monitor and evaluate the implementation of programmes** and initiatives.
- k. To focus on **technology up gradation and capacity building** for implementation of programmes.

**C. The key initiatives of NITI Aayog are:**

- a. **'Life'** which envisions replacing the prevalent 'use-and-dispose' economy
- b. The **National Data and Analytics Platform (NDAP)** facilitates and improves access to Indian government data
- c. **Shoonya campaign** aims to improve air quality in India by accelerating the deployment of electric vehicles
- d. **E-Amrit** is a one-stop destination for all information on electric vehicles
- e. **India Policy Insights (IPI)**
- f. **'Methanol Economy'** programme is aimed at reducing India's oil import bill, greenhouse gas (GHG) emissions, and converting coal reserves and municipal solid waste into methanol, and
- g. **'Transforming India's Gold Market'** constituted by NITI Aayog to recommend measures for tapping into the potential of the sector and provide a stimulus to exports and economic growth

**D. Weaknesses of NITI AAYOG:**

- a. NITI has a **limited role**
- b. It **does not produce National Plans, Control Expenditures, or Review state plans.**
- c. The major shortcoming of NITI is its **exclusion from the Budgeting Process.**
- d. It also **lacks Autonomy and Balance of Power** within the policy making apparatus of the central

government.

- e. The termination of the Planning Commission has strengthened the hand of the Ministry of Finance, with its 'fixation on near-term macroeconomic stability and the natural instinct to limit expenditure'. But NITI lacks the independence and power to perform as a 'counterweight' to act as a "voice of development" concerned with inequities.

## THE CURRENT STATE OF THE INDIAN ECONOMY: A BRIEF OVERVIEW

Present day Indian economy based on the three sectors namely, primary, secondary and tertiary.

### The Primary Sector

1. Agriculture, with its allied sectors, is indisputably the largest source of livelihood in India. According to the latest estimates, **47 per cent of India's population is directly dependent** on agriculture for living.
2. Till the end of 1960's, India was a food deficient nation and depended on imports.
3. India has emerged as the world's largest producer of **milk, pulses, jute and spices**. India has the **largest area planted** under **wheat, rice and cotton**.
4. India has the **world's largest cattle herd (buffaloes)**. The Indian livestock sector attained a record growth of 6.6 per cent during the last decade (2010-19) emerging as a major producer of milk, egg and meat in the world.
5. It is the **second-largest producer of fruits, vegetables, tea, farmed fish, cotton, sugarcane, wheat, rice, cotton, and sugar**.
6. Indian **food and grocery market is the world's sixth largest**, with retail contributing 70% of the sales.
7. India is among the **top ten exporters of agricultural** products in the world, with export touching all-time peak of 3,74,611 crore during the last one year
8. India grows large varieties of cash crops of which **cotton, jute and sugarcane** are prominent.
9. Although the share of agriculture has been declining in overall gross value added (GVA) of India, it continues to grow in absolute terms.
10. Gross Value Added by the agriculture and allied sector was 18.8% in 2021 -22 (until 31 January, 2022).
11. The performance of the agriculture and allied sectors has been growing on account of the measures taken by the government to:
  - \* augment crop and livestock productivity,
  - \* ensure certainty of returns to the farmers through price support (The Minimum Support Price (MSP) of **all 23 mandated crops is fixed at 1.5 times** of all India weighted average cost of production)
  - \* promote crop diversification,
  - \* improve market infrastructure
  - \* promotion of investment in infrastructure facilities through the Agriculture Infrastructure Fund.
12. Agricultural and Processed Food Export Development Authority (APEDA) is entrusted with the responsibility of export promotion of agri products.
13. The Government of India has allowed 100% FDI in marketing of food products and in food product E-commerce under the automatic route.



14. Large number of interventions is undertaken by different governments. A few such recent measures are:

- ▲ Income support to farmers through **PM KISAN**
- ▲ **Institutional credit for agriculture** sector at concessional rates
- ▲ Launch of the **National Mission for Edible Oils**
- ▲ **Pradhan Mantri Fasal Bima Yojana (PMFBY)**
- ▲ **Mission for Integrated Development of Horticulture (MIDH)**
- ▲ Provision of **Soil Health Cards**
- ▲ **Parampara at Krishi Vikas Yojana (PKVY)** supporting and promoting organic farming, and improvement of soil health.
- ▲ **Promotion of Farmer Producer Organisations (FPOs)** to ensure better income for the producers through an organization of their own.
- ▲ **Per Drop More Crop (PDMC)** scheme to increase water use efficiency at the farm level
- ▲ Setting up of **E-NAM -a pan-India electronic trading portal** which networks the existing APMC mandis to create a unified national market for agricultural commodities.
- ▲ Introduction of **Kisan Rail** for improvement in farm produce logistics, and
- ▲ Creation of a **Start-up Eco system** in agriculture and allied sectors

15. Despite phenomenal increase in output of both food crops and commercial crops, Indian agriculture faces many issues such as:

1. Indian agriculture is dominated by **small and medium farmers**. **Small and fragmented landholdings, low farm productivity** and **subsistence farming** result in very little marketable surplus and the consequent lower income levels of the agriculturists. These also reduce their ability to participate in the **domestic as well as export market**.
2. Indian agriculture is **resource intensive, cereal centric** and **regionally biased**. There is Increasing stress on water resources and soil fertility.
3. **Unscientific and wasteful agricultural practices** lead to desertification and land degradation in many parts of the country.
4. **Inadequate agro-processing infrastructure** and failure to build competitive value chains from producers to urban centers and export markets
5. **Slow agricultural diversification** to higher-value commodities
6. Inadequate adoption of **environmentally sustainable and climate resistant** new farm technology
7. **Poor adoption of new agricultural technologies**
8. **Ineffective marketing, warehousing and credit delivery** of agricultural products.
9. High food **price volatility**
10. **Heavy dependence on monsoons** and loss of crops and livelihood due to vagaries of nature
11. **Inability to tap the full export potential** of primary as well as value added products
12. Inability to effectively **channelize huge surpluses in some commodities** to alternative profitable destinations
13. Inadequate **post-harvest infrastructure and management** practices
14. Incidence of **poverty and malnutrition**.

## The Secondary Sector

- ▲ The Indian industry contributes about 30 percent of total gross value added in the country and employing over 12.1 crores of people.
- ▲ The industrial sector in India broadly comprises of manufacturing, heavy industries, fertilizers, pharmaceuticals, chemicals and petrochemicals, oil and natural gas, food processing, mining, defence products, textiles, retail, micro, small & medium enterprises, cottage industries and tourism.
- ▲ The share of informal sector in the economy is more than 50% of GVA. The development of a robust manufacturing sector is a key priority of the Indian Government.
- ▲ Manufacturing is the most important sector and accounts for 78 percent of total production.
- ▲ Eight core industries viz. Coal, Crude Oil, Natural Gas, Refinery Products, Fertilizers, Steel, Cement and Electricity.
- ▲ The Department for Promotion of Industry and Internal Trade (DPIIT) has a role in the formulation and implementation of industrial policy and strategies
- ▲ **Some of the policies are presented below:**
  - a) Introduction of **goods and services tax (GST) on 1 July 2017** replacing many indirect taxes in India such as the excise duty, VAT, services tax, etc.
  - b) **Reduction of corporate tax** to domestic companies giving an option to pay income-tax at the rate of **22%** subject to condition that they will not avail any exemption/incentive.
  - c) **'Make in India'** is a **'Vocal for Local'** initiative launched in 2014. Make in India 2.0' is now focusing on 27 sectors, which include 15 manufacturing sectors and 12 service sectors.
  - d) **'Ease of Doing Business'** with key focus areas as simplification of procedures, rationalization of legal provisions, digitization of government processes, and decriminalization of minor, technical or procedural defaults.
  - e) India ranks 63rd in the World Bank's annual Doing Business Report (DBR), 2020 as against 77th rank in 2019 registering a jump of 14 ranks.
  - f) **The National Single Window System** is a one-stop-shop for investor related approvals and services in the country for continuous support to investors.
  - g) **PM Gati Shakti National Master Plan** to integrated planning of multimodal infrastructure, thereby reducing logistics cost.
  - h) **National Logistics Policy (NLP)** launched in September 2022, aims to lower the cost of logistics.
  - i) **Production Linked Incentive (PLI)** Scheme was initiated in March 2020 for 14 key sectors to enhance India's manufacturing capabilities and export competitiveness. PLI Scheme is now extended for white goods (air conditioners and led lights).
  - j) **Industrial Corridor Development Programme:** Greenfield Industrial regions/areas/nodes with sustainable infrastructure and to make available 'plug and play' infrastructure at the plot level.
  - k) **FAME-India Scheme** (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles)
  - l) **'Udyami Bharat'** aims at the empowerment of Micro Small and Medium Enterprises (MSMEs).
  - m) **PM Mega Integrated Textile Region and Apparel (PM MITRA):** to boost FDI and local investment in the textiles sector.
  - n) **100 per cent FDI** under automatic route is permitted for the sale of coal, and coal mining activities, including associated processing infrastructure and for insurance intermediaries.

- o) Foreign Investment Promotion Board (FIPB) was abolished in May 2017, and a new regime namely Foreign Investment Facilitation Portal (FIF) has been put in place. Under the new regime, the process for granting FDI approvals has been simplified. 853 FDI proposals were disposed off in the last 5 years. FDI has increased jumped by 39% since FIF came into being.
- p) **Remission of Duties and Taxes on Export Products (RoDTEP) 2021** formed to replace the existing MEIS (Merchandise Exports from India Scheme) to boost exports.
- q) Initiatives towards fostering innovation and strengthening of Intellectual Property Rights regime.
- r) Start-up India Programme acts as the facilitator for ideas and innovation in the country. India's rank in the Global Innovation Index (GII) has improved from 81st in 2015 to 40th in 2022.
- s) **Public Procurement (Preference to Make in India) Order, 2017** gives preference to locally manufactured goods, works and services in public procurement.
- t) Scheme (ECLGS) is a fully guaranteed emergency credit line to monitor lending institutions.
- u) According to DPIIT, India received a total foreign direct investment (FDI) inflow of US\$ 58.77 billion in 2021-22.

▲ **There are many challenges to the industrial sector; a few of these are enumerated below:**

- a. Shortage of **infrastructure and manpower**.
- b. **Reliance on imports, exchange rate volatility** and timeliness of government departments.
- c. The **MSME sector still suffers for credit/ loan**.
- d. **Industrial locations established** without reference to cost-effectiveness leads to high cost.
- e. **Non performing**, inefficient and heavy loss in **Public Sector Undertaking**.
- f. **Lower export competitiveness**, slowing external demand and imposition of non tariff barriers by other countries.
- g. **Inflation & associated macro-economic developments** leading to increased cost & lower demand.
- h. **Global slowdown and related negative sentiments** affecting investment.
- i. **Aggressive tightening of monetary policy** and increases in cost of credit.
- j. **High and increasing fuel prices**, and Mounting presence of informal sector.

### The Tertiary Sector

India has the unique experience of by passing the secondary sector in the growth trajectory by a shift from agriculture to the services sector.

▲ **India's services sector covers a wide variety of activities.**

#### BOX 2. The broad classification of services as per the National Industrial Classification, 2008

1. Wholesale and retail trade and repair of vehicles	2. Public administration, defence and compulsory social security
3. Transportation and storage	4. Education
5. Accommodation and food service activities	6. Human health and social work activities
7. Information and communication	8. Arts, entertainments and recreation
9. Financial and insurance activities	10. Other service activities
11. Real estate activities	12. Activities of households as employers, undifferentiated

	goods and services producing activities of households for own use
13. Professional, scientific and technical activities	14. Activities of extra territorial organizations and bodies
15. Administrative and support services	

- a. The service sector refers to the industry **producing intangible goods** viz. services as output.
- b. The services sector is the **largest sector of India and accounts for 53.89%** of total India's GVA. The Gross Value Added (GVA) at current prices for the services sector is estimated at **₹ 96.54 lakh crore in 2020-21**.
- c. The service sector is the fastest growing sector in India and has the **highest labour productivity**.
- d. The exceptionally rapid expansion of **professional and technical services** has been responsible for the faster growth of the services sector.
- e. The **production and consumption of information-intensive service activities** such as computing, accounting, inventory management, quality control, personnel administration, marketing, advertising and legal services has increased manifold due to application of state-of-the-art information technology.
- f. The **start-ups which have grown remarkably over** the last few years mostly belong to the services sector.
- g. India is among the top 10 World Trade Organization (WTO) members in service exports and imports.
- h. While exports from all other sectors were adversely affected, India's services exports have remained resilient during the Covid-19 pandemic. The reasons are the higher demand for digital support and need for digital infrastructure modernization.
- i. The Indian services sector is the largest recipient of FDI inflows (60+ % of the total FDI).
- j. The World Investment Report 2022 of UNCTAD places India as the seventh largest recipient of FDI in the top 20 host countries in 2021.
- k. The government has permitted 100 per cent foreign participation in telecommunication services.
- l. The FDI ceiling in insurance companies was also raised from 49 to 74 per cent.
- m. Measures undertaken by the Government, such as the launch of the National Single-Window system and enhancement in the FDI ceiling through the automatic route, have played a significant role in facilitating investment.