

# Ch1 Nature And Scope (Of) Business Economics

## 1. INTRODUCTION

General definition of the study of Economics is individual and social choice in the face of scarcity. The law of scarcity implies that consumer's wants will never be completely satisfied. Economic problems arise due to two reasons:

- a) Unlimited wants
- b) Scarce resources

The term 'Economics' owes its origin to the Greek word 'Oikonomia' meaning 'household' Management.

- Economics is a science that studies those activities, which are, concerned with the efficient consumption, production, exchange and distribution of scarce means which have alternative uses.
- The purpose of economics is to achieve maximum satisfaction of wants and increasing of welfare as well as economic growth.

## 2. Meaning of Business Economics

- Business Economics is also referred to as Managerial Economics. It is application of economic theory and methodology.

- Every business involves decision-making as survival and success depends on sound decisions.





➤ Decision making means the process of:-

1. evaluating various course of action
2. making rational judgment on the basis of available information, and
3. selecting i.e. making choice of a suitable alternative by decision maker.

- Decision making is not simple and straight forward. It has become very complex due to ever changing business environment, growth competition, large scale production, big size of business houses, complex laws, cost awareness, etc. in other words the economic environment in which the firm operates in very complex and dynamic.

- Business Economics provides a scientific base to the professional management of a business activity. It provides tools like budgeting, market analysis, cost-benefit analysis, etc. which can be scientifically applied to take sound business decision. Thus, Business Economics is a sub-branch of Economic which aims at the scientific application of economic knowledge, logic, theories and tools to take rational business decision. Thus it is an APPLIED ECONOMICS.

- Business Economics is closely connected with both viz, Micro Economic Theory as well as Macro Economic Theory. It is also useful to the manager of 'not-for-profit' organizations.





### 3. Definitions of Business Economics

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

• "Business Economics is concerned with the application of economic laws, principles of methodologies to the managerial decision making process within a business firm under the condition of risk and uncertainties." (Evan Douglas)

### 4. Types of Economics

1. **Microeconomics** :- Microeconomics is the study of particular firm, particular household. Individual price, wages, income, industry and particular commodity. Thus, it is a study of a particular unit rather than all the units combined. Microeconomics theory deals with the problem of allocation of resources. Under microeconomics, we study:
  - a) Theory of product pricing / price theory
  - b) Theory of consumer behaviour
  - c) Theory of factor pricing
  - d) study of a firm.





2. **Macroeconomics**:- Macro economics theory is that part of economics which studies the overall average and aggregates of the system, such as total production, total consumption, total saving and total investment. Thus, macroeconomics is the study of overall phenomena as a whole rather than its individual parts. Macroeconomics deals with growth and development of resources. Under macroeconomics, we study:

- a) Theory of national income, employment and money
- b) Theory of general price level
- c) Theory of economic growth and development
- d) Theory of international trade





## 5. Difference Between Microeconomics and Macroeconomics

Basis	Microeconomics	Macroeconomics
Study of	It is study of individual economics units.	It is study of the <del>ag</del> economics as a whole and its aggregates.
Deal with	It deals with individual income, individual prices and individual output, etc.	It deals with national income, price level, national output, etc.
Tools	Its main tools are demand & supply of a particular commodity.	Its main tools are aggregate demand and aggregate supply of the economy as a whole.
Central Problem	Its central is price determination of commodities of factor of production.	Its central problem is determination of level of income and employment.
Prices	Price determined under this are called 'relative prices'.	Price determined under this are called 'absolute price'.
Type of analysis	It is a partial equilibrium analysis.	It is a general equilibrium analysis.
Scope	Its scope is limited.	It is wider in scope.
Example	(a) Lock out in TELCO. (b) Finding the causes of failure of X and Co.	(a) Per capita income (b) Corporate income tax (c) Economy growth





## 6. Nature of Business Economics

1. **Business Economics is a Science**:- Science is a systematized body of knowledge which trace the cause and effect relationships. Business Economics uses the tools of Mathematics, Statistics and Econometrics with economic theory to take decision and frame strategies. Thus, it make use of scientific methods.
2. **Based on Micro-Economics**:- As Business Economics is concerned more with the decision making problem of a particular business establishment. Micro level approach suits is more. Thus, Business Economics largely depends on the techniques of Micro-Economics.
3. **Incorporates elements of Macro Analysis**:- A business unit is affected by external environment of the economy in which it operates. A business is affected by general price level, level of employment, govt. policies related to taxes, interest rates, industries, exchange rates, etc. A business manager should consider such macro-economic variable which may affect present or future business environment.
4. **Business Economics is an Art**:- It is related with practical application of laws and principles to achieve the objectives.
5. **Use of Theory of Market & Private Enterprise**:- It uses the theory of market and resource allocation in a capitalist economy.





6. **Pragmatic approach**:- Micro-Economics is purely theoretical while, Business Economics is practical in its approach.
7. **Inter-disciplinary in nature**:- It incorporates tools from other disciplines like Mathematics, Statistic, Econometrics, Management Theory, Accounting, etc.
8. **Normative in Nature**:- Economic theory has been developed along two lines - POSITIVE and NORMATIVE

Positive Science	Normative Science
1. Robbins	Alfred Marshall
2. What it is	What should be or ought to be
3. Based on analysis, facts, realistic	Based on ethics
4. Will not pass value Judgement (not give solution)	Will pass value Judgement (gives solution)
5. E.g. India is an over populated country.	Family planning should be started to control population.

A positive science or pure science deal with the things as they are & their **CAUSE** and **EFFECTS** only. It states 'what is'? It is **DESCRIPTIVE** in nature. It does not pass any moral or value judgements.

A normative science deals with 'what ought to be' or 'what should be'. It passes value judgments and states what is right & what is wrong / it is **PRESCRIPTIVE** in nature as it offers suggestions to solve problems. Normative science is more practical, realistic and useful science.





## 9. Scope of Business Economics

- The scope of Business Economics is wide. Economics theories can be directly applied to two types of business issues namely -

➤ Micro-economics is applied to operational or internal issues of a firm.

➤ Macro-economics is applied to environment or external issues on which the firm has no control.

### 1. Micro-economics applied to operational or internal; issues.

Issues like choice of business size of business, plant layout, technology, product decision, pricing, sales promotion, etc. are dealt by Micro-economic theories. It covers -

- Demand analysis and forecasting
- Product and cost analysis
- Inventory Management
- Market structure and Pricing Analysis
- Resource Allocation
- Theory of Capital and Investment Decisions
- Profitability Analysis
- Risk and Uncertainty Analysis.





2. Macro-economics applied to environment or external issues.

The major economic factors relate to---

- The type of economic system
- The stage of business cycles
- The general trends in national income, employment, price, saving and investment.
- Government's economic policies
- Working of financial sector and capital market
- Socio-economic organizations
- Social and political environment.

These external issues has to be considered by a firm in business decision and frame its policies accordingly to minimize their adverse effects.

10. Central Economic Problem (scarcity)

1. What to produce (capital goods, consumer goods)
2. How to produce (capital use capital, labour use labourer)
3. From whom to produce (poor or rich, in india it gives to poor for upliftment)
4. What provision should be made for economic growth.

When are goods produced

&

How much to produce

} not an economic problem.





## 11. Economic System

Capitalist  
economy

Socialist  
economy

Mixed  
economy

### 1. Capitalist Economy

#### FEATURES

1. Means of production are privately owned
2. Freedom of enterprise & freedom of price choice
3. Allocation of resources is as per consumer preference
4. Entrepreneurs are guided by profit motive.
5. Competition exist among producers
6. Capitalist economy use price mechanism as a principle motive

#### MERITS

1. Greater efficiency & incentive to work hard
2. Faster economic growth possible
3. Consumer are benefitted because of good quality product
4. Higher standard of living
5. Innovation & technological progress

#### DEMERITS

1. Uneven distribution of Income & wealth
2. Income inequality & social injustice
3. Exploitation of consumer and labourer
4. Economic instability which may lead to depression
5. Creation of monopoly power

#### Others name for capitalist economy

1. Market economy
2. Market system
3. Free markets
4. Market mechanism
5. Price mechanism





## 2. Socialist Economy

### FEATURES

1. It is known as command economy, controlled economy, centrally planned economy
2. collective ownership of means of production
3. Promote welfare of people
4. Lack of competition

### MERITS

1. Balance economic development
2. No class conflict
3. Economic Fluctuation & unemployment are minimized
4. Right to minimum work
5. No exploitation of consumer & worker

### DEMERITS

1. Corruption, Red tapism, results into inefficiency
2. No freedom of choice
3. Price are administered by state

## 3. Mixed Economy

### FEATURES

1. combination of both capitalism & socialism
2. Freedom to join any occupation trade or business
3. People are free to consume goods of their choice

### MERITS

1. Freedom of occupation

2. Encourages enterprise & Risk taking

3. Development of technology through R&D

4. Economic & social equality possible

Skill India

Mudra  
Loan  
upto 10 lac

Innovation in India

vaccine & UPI

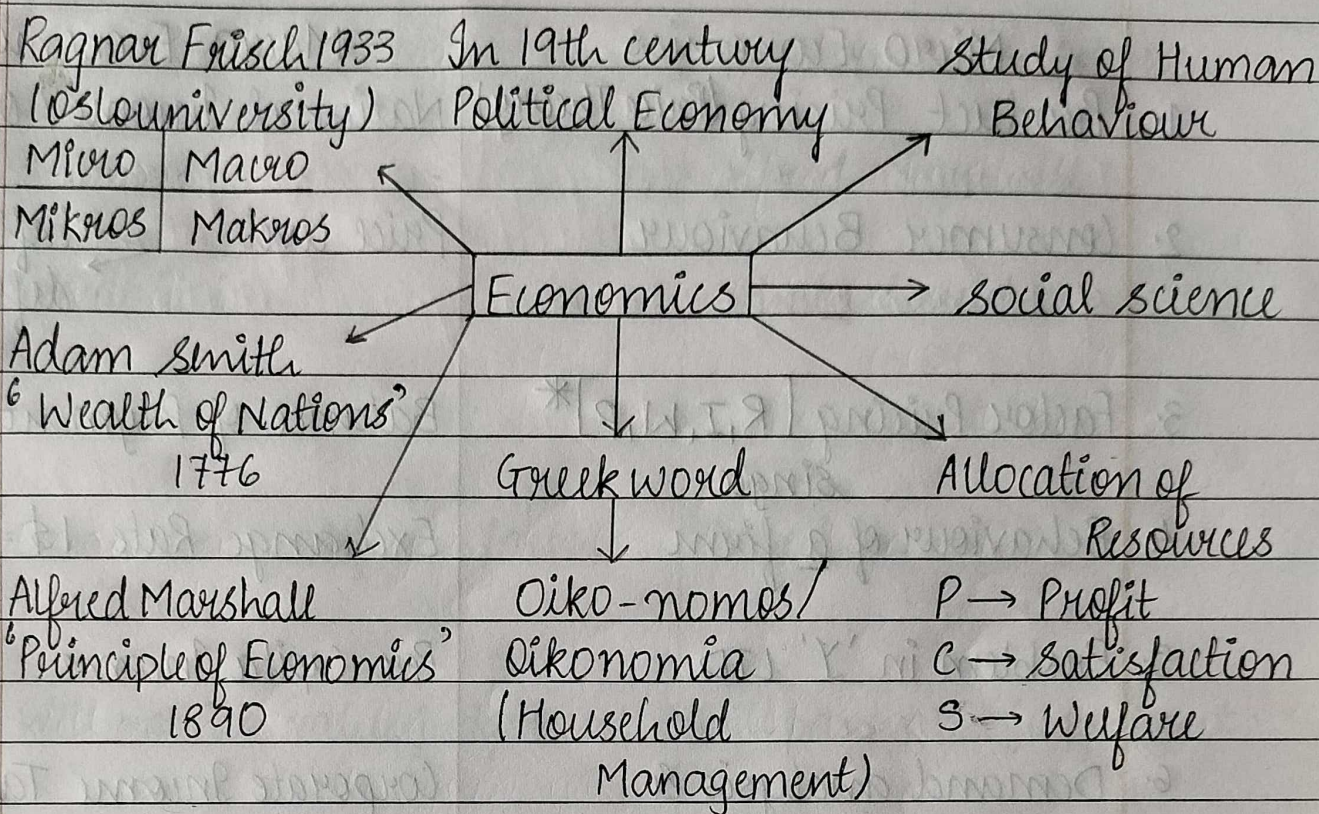




## DEMERITS

1. Poor implementation of plans
2. High level of taxes <sup>Petrol</sup> ₹106 - ₹72 tax
3. Good level of corruption
4. Wastage of Resources





- \* The word Economics is associated with scarcity.
- \* Unlimited wants and limited resources is the subject matter of economics (Resources have alternative uses)
- \* Wants are also called as ends & Resources are also called as means
- \* As per economics wealth is stock and income is flow.
- \* According to Samuelson Economics is a Queen of Social Science.
- \* Allocation of resources is a micro concept.
- \* Country without scarcity is not found in real world.
- \* Value of next best alternative is called as Opportunity cost.
- \* Alfred Marshall is an architect of Micro economics.





\* Rent, Interest, Wages, Profit

Micro Economics	Macro Economics
1. Product Pricing (Price Theory)	National Income / Output
2. Consumer Behaviour	Price level $\rightarrow$ inflation deflation
3. Factor Pricing [R, I, W, P]* Single	Balance of Payment
4. Behaviour of a firm	Exchange Rate 1\$ = 81
5. Problem in 'Y' LTD	Per Capita Income
6. Demand analysis & Forecasting	Corporate Income Tax
7. Market Structure	savings rate Savings / and investment
8. Location of industry (Industry ka location)	Social and Political environment
9. Income from Railways	Interest rates
10. Allocation of Resources	Capital Formation
11. Particular industry eg: steel industry	





Positive Science	Normative Science
1. Robbins	Alfred Marshall
2. What it is	What should be or ought to be
3. Based on <sup>(*)</sup> analysis, facts, realistic	Based on Ethics
4. Will not Pass value judgement	Will pass value judgement
5. Supports Neutrality	Does not support Neutrality
6. Descriptive in Nature	Prescriptive in Nature

Central economic Problem → Scarcity

1. What to Produce
2. How to Produce
3. For whom to Produce (Distribution of national income)
4. An what Provisions should made for economic growth.

\* When are goods Produced  
&  
How much to Produce } Not a central Problem

Deductive Method  
General to  
Particular

Inductive Method  
Particular to  
General



## Definition of Economics

Economics is the study of Processes by which relatively scarce resources are allotted to satisfy unlimited wants of human beings in a society.





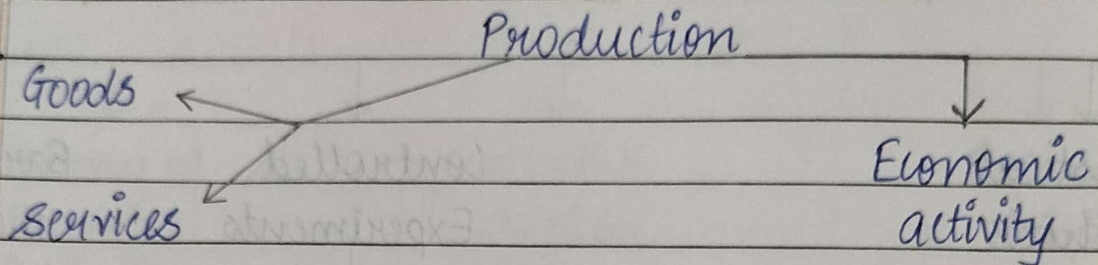
## Points to Remember

1. Business Economics involves practical application of economic theory and has a multi disciplinary approach.
2. Macro economics is also called as aggregate economics.
3. Capital budgeting, risk analysis, business cycle are within the scope of business economics.  
(accounting standards is not a part of it) (can be asked for odd man out)
4. Larger production of capital goods would lead to higher production in future.
5. Social securities benefits, sickness benefits are found under both socialism and mixed economy.
6. Science of wealth → Adam Smith
7. Science which deals with wealth of nation → Adam Smith
8. Science which deals with wealth → J.B. Say (classical economics) ↑
9. Growth and development definition → Paul Samuelson
10. Welfare oriented definition → Alfred Marshall, Pigou
11. Study of mankind → Alfred Marshall (-)(+)
12. Scarcity oriented definition → Robins / Robinson





# Ch 3 Theory of Production and Cost



- Converting inputs  $\rightarrow$  outputs (Exchange value)
- Transformation of Raw material  $\rightarrow$  Final goods
- Creation Utility

*\* Man cannot create or destroy Matter \**

## Production

→ Land	Rent	} Factor Payments
→ Labour	Wages	
→ Capital	Rate of Interest	
→ Entrepreneur	Profit	





*\* If nothing is given Perfectly inelastic supply \**

Land

Economy's Point  
of view

Perfectly inelastic  
supply

Firm Point of  
view

Relatively elastic  
supply

*\* Factors of Production*

*\* Land \**

Land includes natural resources:-

1. on the surface of earth ; Eg: soil, forest, plots of land, etc.
2. Below the surface of earth, Eg: mineral deposits, etc, and
3. Above the surface of earth, Eg: climate, sunshine, rain, etc.

Land has the following characteristics:-

1. Primary Factor  
Original and primary or natural factor of production.
2. Free Gift of Nature  
Creation of nature and not man made.
3. Inelastic Supply
4. Lacks Geographical Mobility

Zero Mobile Factor

It has occupational mobility.





5. Passive Factor  
Land cannot do anything on its own human efforts are needed.
6. Heterogeneous  
No two piece of land are same.
7. Permanent  
Original & Indestructible  
DAVID RICARDO → Classical economist
8. Diminishing Marginal Returns
  - \* Only applicable for agricultural.
  - \* Output will increase at a diminishing rate.

1 <sup>st</sup> year	↑	100 Q	50	↓
2 <sup>nd</sup> year		150 Q	30	
3 <sup>rd</sup> year		180 Q	20	
4 <sup>th</sup> year		200 Q	20	

Total output ↑ Marginal ↑  
but at diminishing rate





## \* Labour \*

Labour denotes work (unskilled) whereas Labourer is the individual doing the labour.

Any exertion  
done of mind  
or body  
undergone  
partly or wholly  
with a view of  
earning some <sup>fin</sup> in return  
in economics it is called  
**LABOUR.**

Labour has the following peculiarities which makes it different from other factors:

1. Labour is inseparable from labourer

\* Imp 2. Human factors.  
Surroundings, working conditions, motivation, leisure, recreation, working hours, etc all the things will matter.

3. Highly perishable

\* A day lost without work means a day's work gone forever.

\* \* Labourer has weak bargaining power.

4. The labourer sells his services and not himself.





5. Heterogeneous
  - \* Power depends upon physical strength, education, skill, training, efficiency, etc.
  - \* Labour can be classified as **unskilled**, **semi-skilled** and **skilled labour**.
  - \* The **skilled labour** is called as **human capital**.
6. <sup>t</sup>Restricted Mobility
  - \* Labour is much less mobile than capital.
7. Active Factor
8. Labour has sociological characteristics  
Eg:- Social security like provident fund, gratuity, medical benefits, pension, etc.
9. Supply curve of labour is **backward sloping**.
10. The supply of labour is relatively inelastic in short run





### \* Capital \*

Anything which is used in the business is called as capital.

Capital has therefore, been rightly defined as "produced means of production" and as "man made instrument of production".

Following are the main characteristics of capital:-

1. Capital is man-made
2. Capital is productive
3. Supply of capital is elastic
- \* Savings and investments
4. All capital is wealth but all wealth is not capital
5. Capital is a passive factor
6. Capital is the most mobile factor
- \* Capital has highest mobility
7. Capital is durable (can be used again and again)
8. Capital involves social cost (kind of opportunity cost)
- \* Sacrifice of present consumption and enjoyment of the people is treated as a social cost.





## \* Types of Capital

1. Fixed Capital

\* Used in production process repeatedly.

2. Circulating or working Capital

\* Used in production process only once.

3. Sunk Capital

\* Used for one purpose

4. Floating Capital

\* Used for many/several uses.

5. Real Capital

6. Human Capital

\* Only skilled in human capital

7. Tangible capital

8. Intangible Capital

\* Goodwill, patent, trademark & lopyright **TNTANGIBLE**

9. Money Capital

\* Money capital is used to purchase Real Capital.

\* Cash ~~at~~ Bank, cash in hand, shares, debentures, bonds.





### 10. Individual capital

- \* Owned by one firm
- \* Personal or private ownership

### 11. Social capital

- \* Owned by government used by all
- \* Non excludable in nature

## \* Capital Formation

- \* Creation of any physical asset
- \* Capital formation means a sustained increase in the stock of real capital in a country.
- \* It is thus, an addition of capital goods like machines, tools, factories, transport, facilities, power plant, etc in the country.

\* Capital formation is also known as investment.

~~\*\*\*~~ \* These are mainly three stages of capital formation which are as follows:

- a) Savings
- b) Mobilization of savings
- c) Investments





## \* Entrepreneurship

### Functions of an entrepreneur

1. Initiating a business enterprise and coordination

2. Risk bearing and uncertainty

\* F.H. Knight

\*\*\* 3. Innovation

\* Schumpeter → Peter Peter = Schumpeter :-

\* Electronic and automobiles

### \* Enterprise's objectives and constraints:

The objectives of an enterprise may be broadly categorised under the following heads:

1. Organic Objectives:

To survive or to stay alive.

2. Social Objectives

3. Human Objectives

4. National objectives





### \* Enterprise's problems

An enterprise faces a number of problems from its inception, through its lifetime and till its closure, following are a few problems relating to:

1. Objectives
2. Location and size of the plant
3. Selecting and organising physical facilities
4. Finance
5. Organisation structure
6. Marketing
7. Legal formalities
8. Industrial relations





## \* Production Function

\* **Technical / Physical / Functional** relationship between inputs and outputs

\* An amount of **Output** that can be produced with given level of **inputs** and **technology**.

## \* Types of Production Function

### 1. Short Run Production Function

It is that production function where at least one factor is fixed and others are variable

$$Q = F(\bar{L}, L, \bar{K})$$



Quantity

Bar indicates fixed

### 2. Long Run Production Function

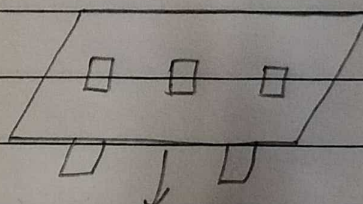
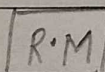
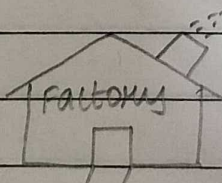
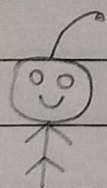
It is that Production function where all the factors are variable.

$$Q = F(L, \bar{L}, K)$$

Labour



Land Capital



Capital





### Example for Short Run Production Function

If a gifts maker has to manufacture set units of goods for Halloween in six days, it needs to increase labourers and raw materials but not the machinery. In this case, labourers and raw materials become variable inputs while the machinery remains fixed.

### Example for Long Run Production Function

A long run can be of the same company ABC, permanently looking to expand production capacity of cars instead of only during the seasons. It requires new land, labour, and equipment in addition<sup>to</sup> the existing infrastructure.





## \* Types of Production

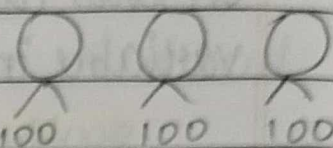
labourers = 100

1. Total Product [TP] 10,000 units

Total Production / Total Output produced

2. Average Product [AP]

Average Production / Average Output

  
100 100 100

(Andha takla)

$$AP = \frac{TP}{Q}$$

Q

labour (variable input)

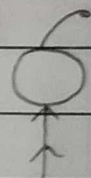
$$= \frac{10,000}{100}$$

$$100$$

$$= 100 \text{ units}$$

3. Marginal Product [MP]

Marginal Production / Marginal Output

  
1

(Choti wala takla)

Additional output produced by one additional labourer

$$MP = \frac{\Delta TP}{\Delta Q}$$





## Law of Variable Proportion (7 Marks)

Short run  
Production  
Function

Law of  
Diminishing  
Returns

Returns  
to factor  
cost

Stage 1: Law of increasing returns

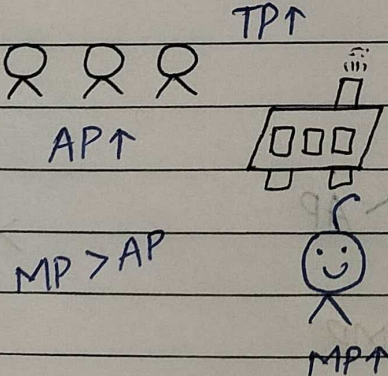
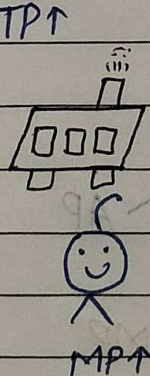
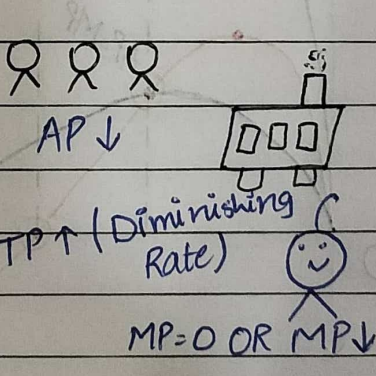
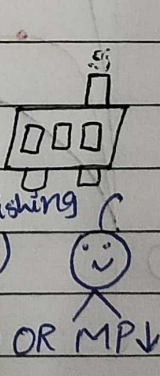
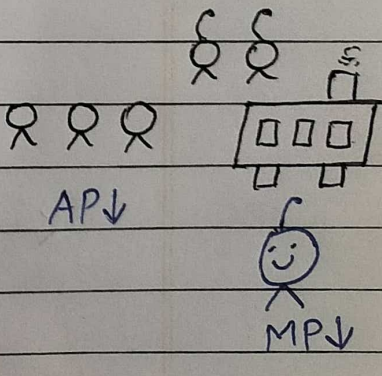
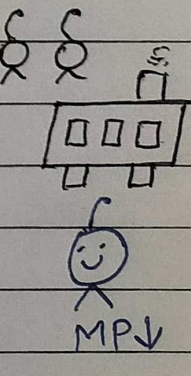
Stage 2: Law of Diminishing returns

Stage 3: Law of Negative returns

All 3 stages belong  
to one company  
only

Stage 1: Law of Diminishing Returns  
Also known as Economic Absurd

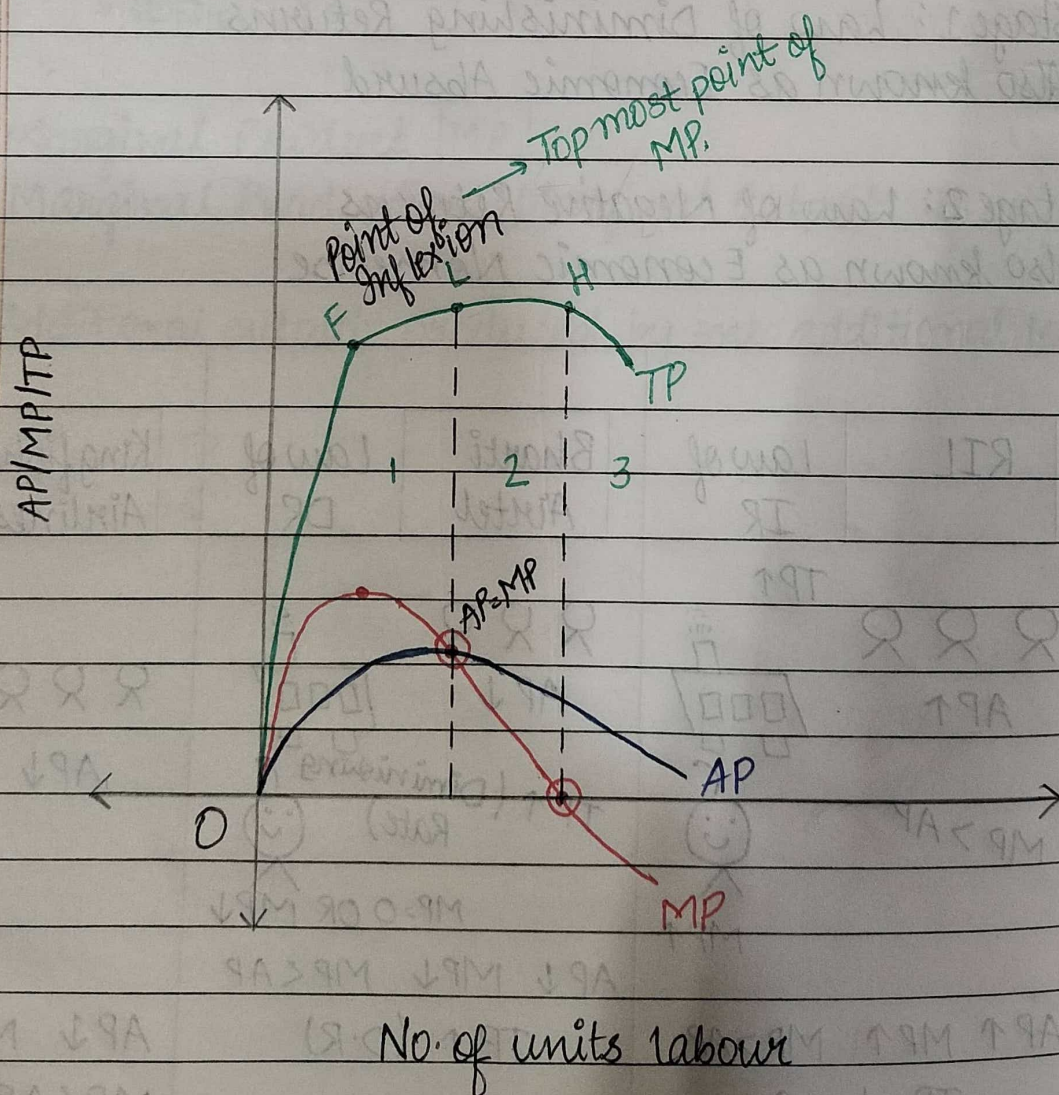
Stage 3: Law of Negative Returns  
Also known as Economic Nonsense

RIL	Law of IR	Bharti Airtel	Law of DR	Kingfisher Airlines	Law of NR
 <p>TP ↑</p> <p>AP ↑</p> <p>MP &gt; AP</p> <p>MP ↑</p>	 <p>TP ↑</p> <p>AP ↑</p> <p>MP &gt; AP</p> <p>MP ↑</p>	 <p>AP ↓</p> <p>TP ↑ (Diminishing Rate)</p> <p>MP = 0 OR MP ↓</p> <p>AP ↓ MP ↓ MP &lt; AP</p>	 <p>AP ↓</p> <p>TP ↑ (D.R)</p> <p>MP = 0 OR MP ↓</p> <p>AP ↓ MP ↓ MP &lt; AP</p>	 <p>AP ↓</p> <p>MP ↓</p> <p>MP &lt; AP</p> <p>TP ↓</p>	 <p>AP ↓</p> <p>MP ↓</p> <p>MP &lt; AP</p> <p>TP ↓</p>
AP ↑ MP ↑ MP > AP TP also ↑		AP ↓ MP ↓ MP < AP TP ↑ (D.R)	AP ↓ MP ↓ MP < AP TP ↑ (D.R)	AP ↓ MP ↓ (-) MP < AP TP ↓	AP ↓ MP ↓ (-) MP < AP TP ↓





	Labour	TP	AP	MP	Analysis
I	1	2	2	2	AP ↑ MP ↑
	2	5	$5/2 = 2.5$	3	MP > AP
	3	9	3	4	TP also ↑
	4	12	3	3	AP = MP both ↓
II	5	14	$14/5 = 2.8$	2	MP < AP
	6	15	$15/6 = 2.5$	1	TP ↑ (Diminishing Rate)
	7	15	$15/7 = 2.14$	0	MP = 0 TP MAX
III	8	14	$14/8 = 1.75$	-1	AP ↓ MP ↓ (-)
	9	12	$12/9 = 1.33$	-2	MP < AP TP ↓







### \* Reasons for Law of Increasing Returns

1. Optimum utilization of fixed factor.
2. Division and specialization of labour.

### \* Reason for Law of Diminishing Returns

1. More variable factor compared to fixed factor.
2. Imperfect substitution and lack of co-ordination among variable factors.

### \* Reasons for Law of Negative Returns

1. Too excessive increase in variable factor.
2. Variable factor comes in each others way leading to wastages.
3. Over utilization of fixed factor.





## Points To Remember

In first stage TP increases at increasing rate till point F but from F to L it increases at diminishing rate.

Top most point of MP is called as Point of Inflexion.

Slope of TP when TP is max 0.

When MP declines in first stage TP increases at diminishing rate.

When  $AP > MP$  TP increases at diminishing rate and then falls.

When MP is zero TP is maximum and AP falls.

Second stage starts where AP is maximum.





Reduction  
Internal economies of scale measures efficiency of production & occur b/c of factors controlled by its management team.

External economies of scale happen b/c of larger changes within the industry, so when the industry grows, the average costs of business drop.

Internal diseconomies of scale can arise from technical issues of production or organizational issues within the structure of a firm or industry.

External diseconomies of scale can arise due to constraints imposed by the environment within which a firm or industry operates.

per unit cost = Economies of Scale

internal Goes with size

external Goes with location

internal Goes with size

external Goes with location

### Law of Returns to Scale (inputs)

Long Run  
Production  
Function

In long run (Na Nature  
there are no return na  
fixed factor & loss hota hai  
No negative in long run)  
returns

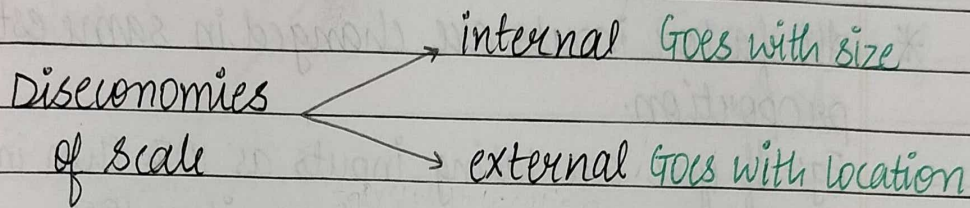
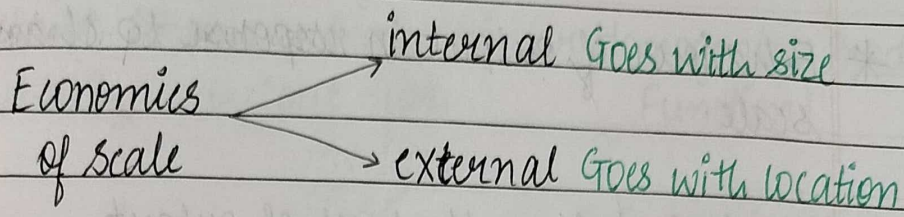
Stage 1: Increasing returns to scale

Stage 2: Constant returns to scale

Stage 3: Diminishing returns to scale



Reduction in per unit cost = Economies of Scale



Law of Returns to scale (inputs)

Long Run  
Production  
Function

In long run (Na Nature  
there are no return na  
fixed factor & loss hota hai  
No negative in long run)  
returns

Stage 1: Increasing returns to scale

Stage 2: Constant returns to scale

Stage 3: Diminishing returns to scale





\* Behaviour of output in response to change in scale.

\* Effect of scale on the level of output.

\*\*\* \* All factor inputs are changed in same established proportion.

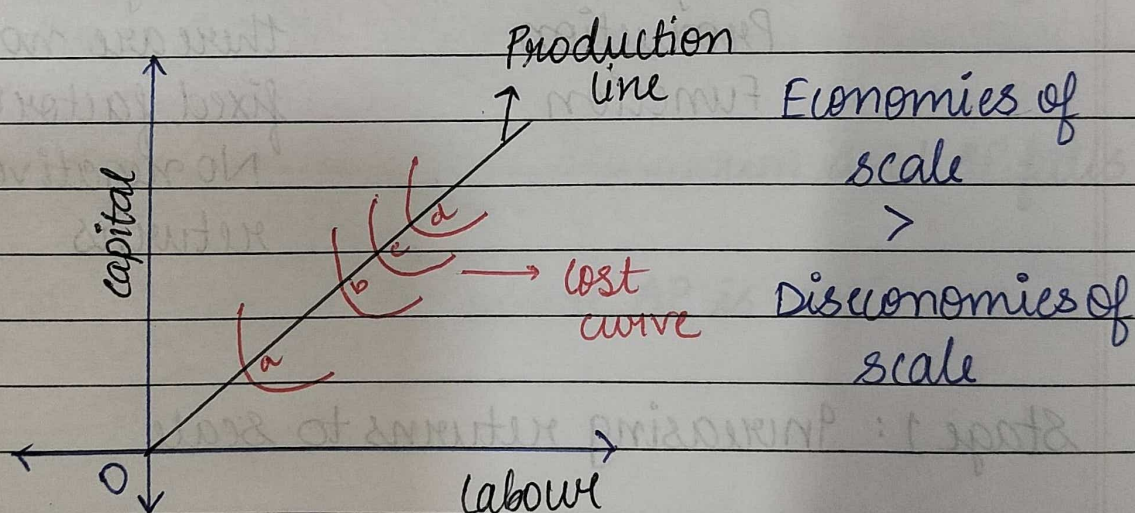
Eg:- If you are taking inputs as 10% then in all the three cases you should take it as 10%

\* Increasing returns to scale

Inputs 10%

Outputs 50%

Cost ↓ Returns ↑



Increasing returns to scale occur when a simultaneous increase in all the inputs in the same given proportion result in a more than proportionate increase in the output.

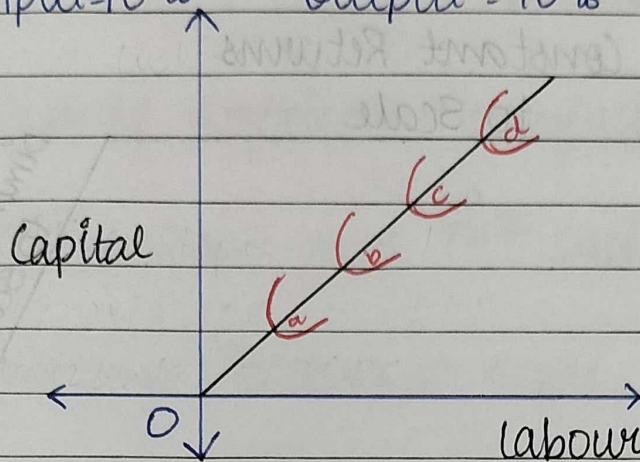
For example:- If input is increased by 10% then the output increases by 50%.





\* Constant Returns to Scale (Linear Homogenous Production Function)

Input = 10%      Output = 10%



Economies of scale  
=

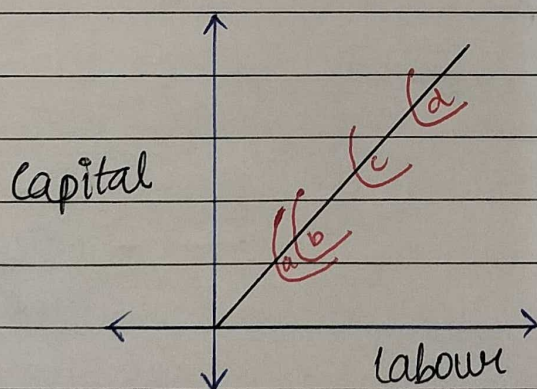
Diseconomies of scale

Constant returns to scale are said to be constant when a proportionate increase in all the inputs results in proportionate increase in output.

For example:- If inputs is increased by 10% then the output also increases by 10%.

\* Diminishing Returns to Scale

Inputs = 10%      Output = 05% (Input increases by 10% output also increases by 5% but less than 10%)



Cost ↑ Returns ↓

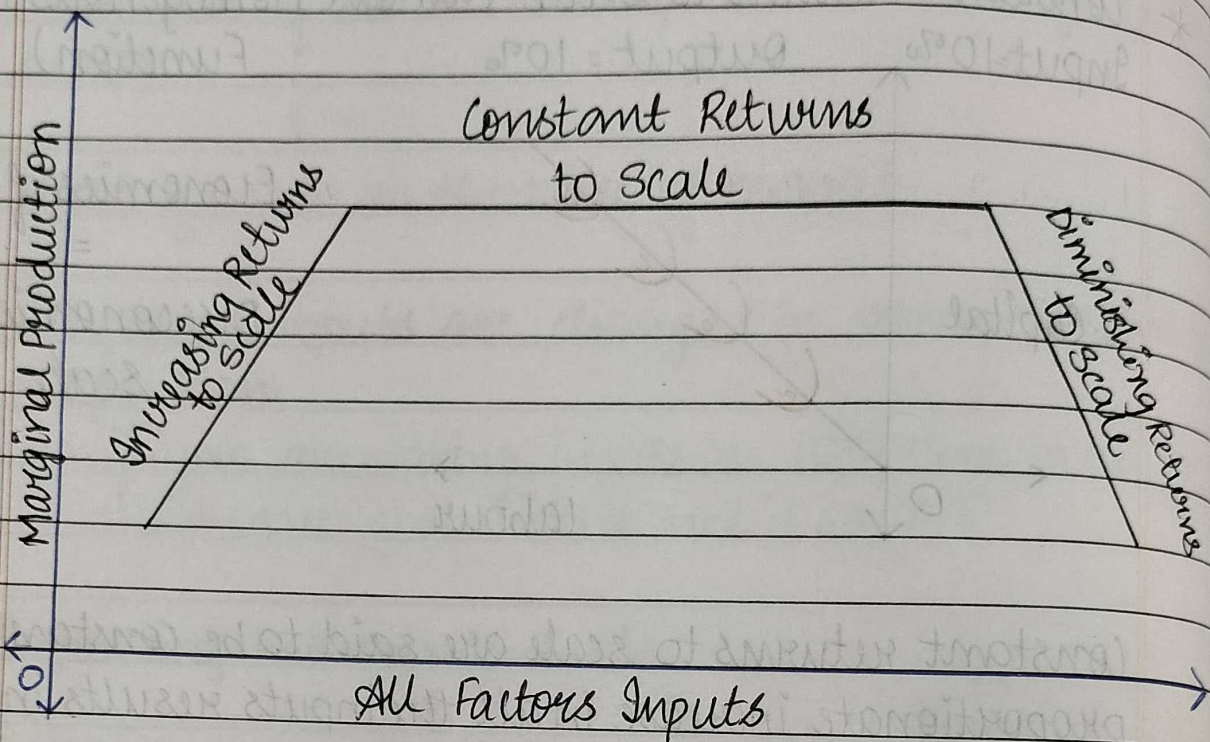
Economies of scale  
<

Diseconomies of scale

Diminishing returns to scale occur when simultaneous increase in all inputs in the same given proportion result in a less than proportionate increase in the output.

For example:- if inputs is increased by 10% then the output also increases by 5% but less than 10%.





Positive slope  $\rightarrow$  IRS

Horizontal slope  $\rightarrow$  CRS

Negative slope  $\rightarrow$  DRS





## Cobb - Douglas Production Function

\* Whole of American Manufacturing Unit

\*  $3/4^{\text{th}}$  Labour and  $1/4^{\text{th}}$  Capital

\* Constant Returns to Scale

\*  $Q = KL^a C^{(1-a)}$

$Q$  = Output

$C$  = Capital

$L$  = Labour

$K$  &  $a$  = Positive constants

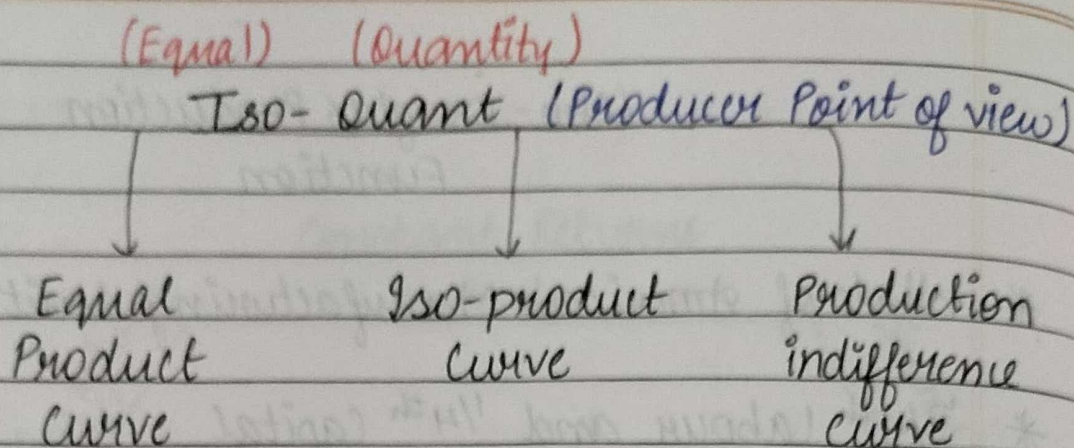
→ Labour → Capital

\*  $a + b = 1 \rightarrow \text{CRS}$

$a + b > 1 \rightarrow \text{IRS}$

$a + b < 1 \rightarrow \text{DRS}$





Statement :-

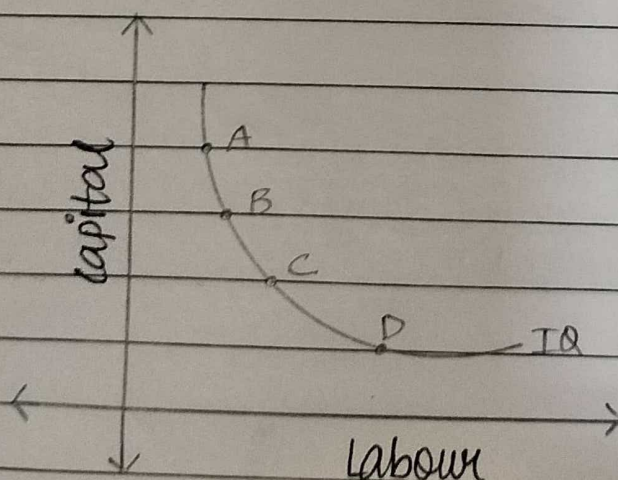
Various combinations of two inputs that gives same level of output.

Assumption :-

MRTS  $\rightarrow$  sacrifice

- Only two inputs
- MRTS is diminishing (Marginal Rate of Technical Substitution)

Combinations	Labour	Capital	MRTS
A	1 $\uparrow$	12 $\downarrow$	-
B	2	6	6
C	3	4	2
D	4	3	1



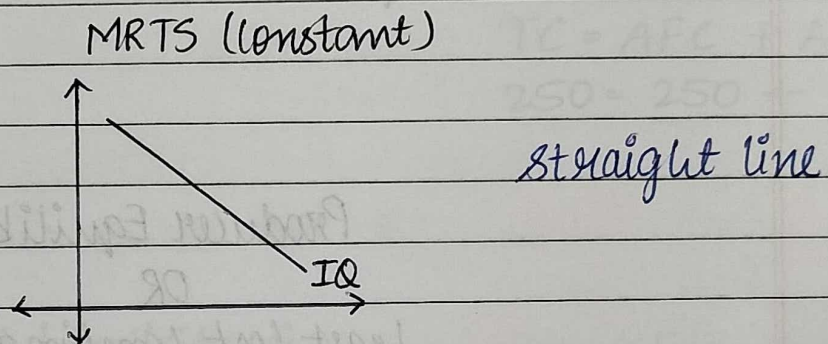
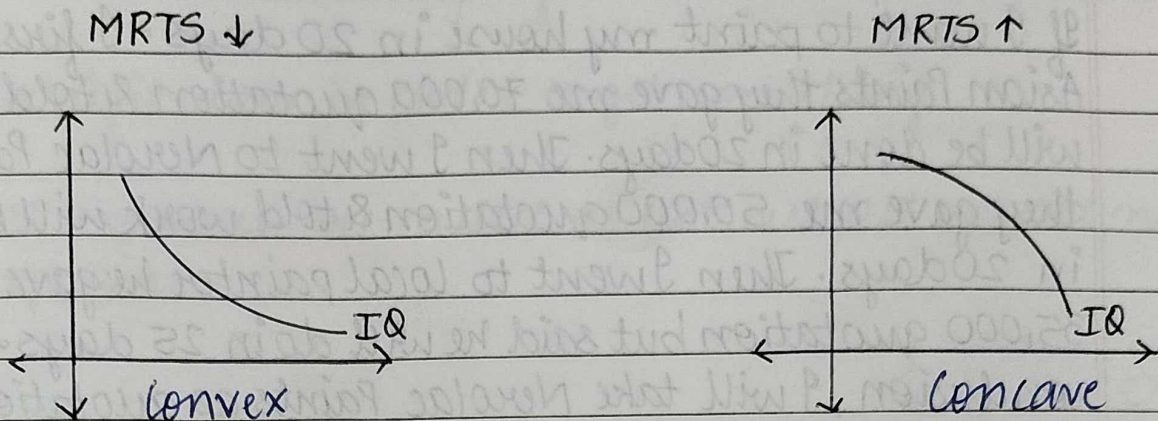
Slope of TQ

$\rightarrow - \frac{MPL}{MPK}$

Points on the curve  
is called locus

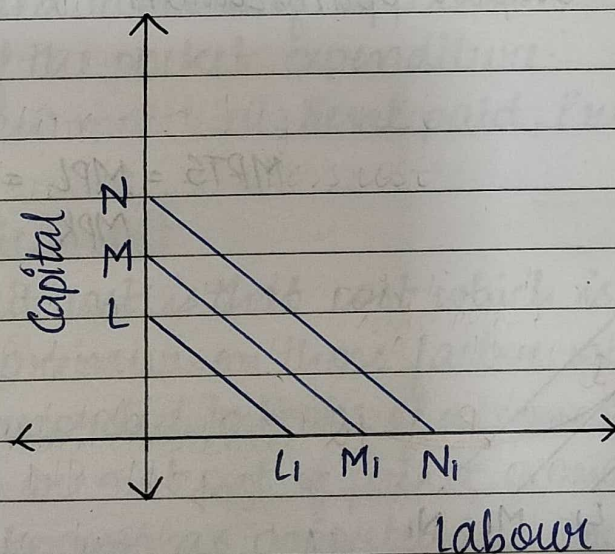
Resources are scarce so the relation will be inverse.





### ISO-cost lines

Various combinations of two inputs which a firm can buy with its money income.



Slope of iso-cost

$w \rightarrow$  wages  
 $r \rightarrow$  rate of interest

Top line  $\rightarrow$  High cost  
Bottom line  $\rightarrow$  Low cost

\* cost should be less output should be same





\* For example

If I want to paint my house in 20 days. I first went to Asian Paints they gave me 70,000 quotation & told work will be done in 20 days. Then I went to Nerolac Paints they gave me 50,000 quotation & told work will be done in 20 days. Then I went to local painter he gave me 35,000 quotation but said he will do in 25 days. So conclusion, I will take Nerolac Paints as quotation is less and the output is same i.e 20 days.

Producer Equilibrium

OR

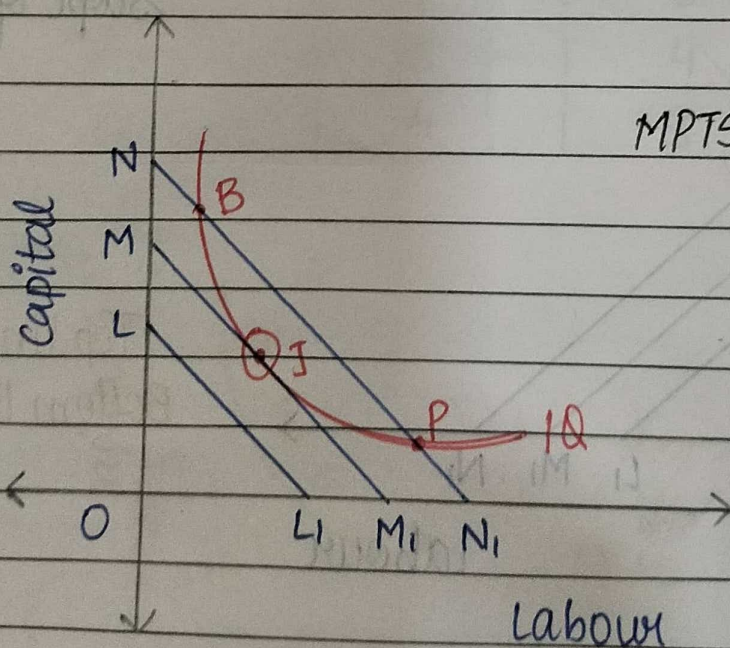
Least Cost Combination

OR

Cost Minimization

OR

Output Optimization



$$MPTS = \frac{MPL}{MPK} = \frac{w}{r}$$





When you're spending which is going to generate income is called as cost.

Date : \_\_\_\_\_

Page No.: 87

## Theory of cost

- \* Sacrifice done in order to get something.
- \* All expenses are called as cost but all cost are not expenses.

$$\text{Output} = 0$$

$$TC = AFC + AVC$$

$$250 = 250 + 0$$

## Types of costs

### 1. Accounting cost / explicit cost

- a. Accounting cost / explicit cost are that cost which is incurred on those factors that are not owned by an entrepreneur. He has to purchase from outside.
- b. Recorded in books of account.
- c. Out of the pocket expenditure.  
eg:- Raw material, Rent paid, Printing & Stationary cost.

### 2. Implicit cost

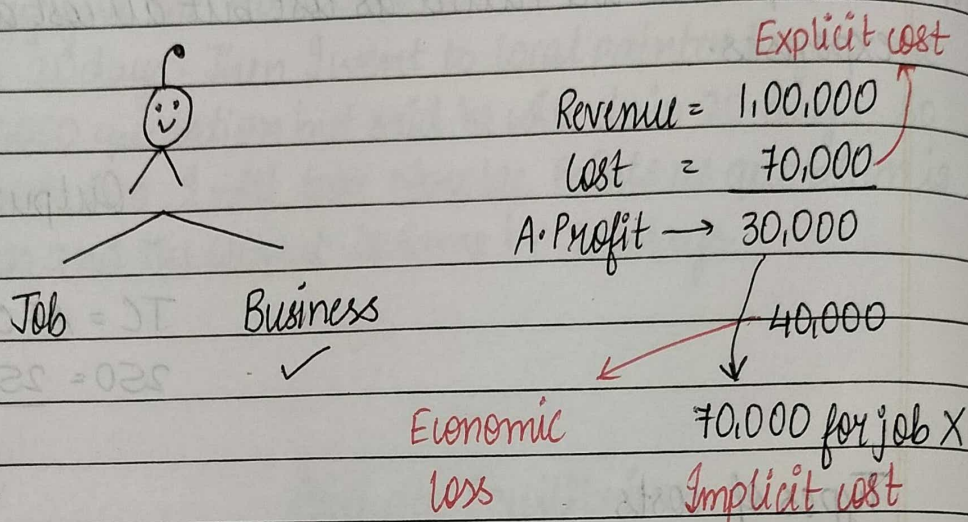
- a. Implicit cost is that cost which is incurred by an entrepreneur on those factor which are owned by him.
- b. Not recorded in books of account.
- c. They are not out of pocket expenditure.
- d. Also known as opportunity cost.  
Eg: owned property, owned capital.



### 3. Economic Cost

$$\text{Explicit cost} + \text{Implicit cost} = \text{Economic cost}$$

$$70,000 + 70,000 = 1,40,000$$



### 4. Outlay Cost

It involves actual outlay of funds on wages material, rent known as "Financial expenditure."

### 5. Opportunity Cost

- Opportunity cost is a sacrifice or loss of alternative
  - Value of next best alternative
  - Known as Trade off, Forgone cost, Implicit cost.
- sacrific

### 6. Direct Cost

- Direct cost is also known as "Traceable cost."
  - Cost which can be easily identified called as direct cost.
- Eg: In production of shoes cost of leather is a direct cost.





## 7. Indirect cost

- a. Indirect cost is also known as non-traceable cost.
- b. Cost which cannot be easily identified called non-traceable/indirect cost.  
Eg: Electricity, Power charges

## 8. Incremental cost

- a. Incremental cost is related to concept of marginal cost.
- b. It refers to the total additional cost incurred by the business.  
Eg: purchase of new equipment, expansion of production capacity.

## 9. Sunk cost

Sunk cost refers to that cost which has been already incurred for one purpose in the past & cannot be recovered.

Eg: Expense on advertisement

## 10. Historical cost

~~How~~ Historical cost are those cost which are incurred on the purchase of an asset in the past, may or may not be recovered.

Eg: Machinery, Tools.

## 11. Replacement cost

Replacement cost refers to expenditure to be made for replacing an old asset.

Purana do naya ko  $\rightarrow$  Difference  $\rightarrow$  Replacement cost





## 12. Private cost

Private cost are those cost which are incurred or provided by the firm or organisation.

Eg: cost of manufacturing a product

MRF tyre  $\rightarrow$  ₹5000



Private cost

## 13. Social cost

Social cost refers to the total cost to the society due to business activities it includes both private & external cost.

Eg: Pollution of all types

Private cost + External cost = Social cost

## 14. Fixed cost

a. Fixed cost do not change with output

b. It is independent of output

c. It cannot become zero also known as supplementary cost or overhead cost.

Eg: Rent, Property tax, Interest on Capital, Depreciation

## 15. Variable cost

a. Variable cost changes with change in output

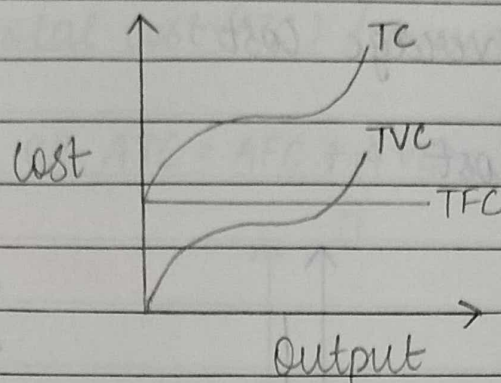
b. Dependent on output

c. It can become zero also known as prime cost. very imp.

Eg: Wages, Raw Material etc.

\* If business will not be able to recover the variable cost the business will shut down.





### 16. Semi variable cost

It is a mixture of fixed cost & variable cost.

Eg: Electricity charges, Post paid mobile connection.

### 17. Stair step cost

A salary or Remuneration give to a foreman or extra helper represent stair step cost.

\*  $\text{Accounting profit} = \text{Revenue} - \text{Accounting cost}$

\*  $\text{Economic loss} = \text{Accounting profit is less than implicit cost.}$





AFC/ATC shape  $\rightarrow$  Technology remains constant

(main reason)  $\rightarrow$  Law of variable Proportion

AFC  $\rightarrow$  Output  $\uparrow$  AFC  $\downarrow$   
cannot touch ~~the~~ axis

Minimum point will only come in AC curve

## Short Run Average Cost

### 1. Average Fixed Cost

$$AFC = \frac{TFC}{Q}$$

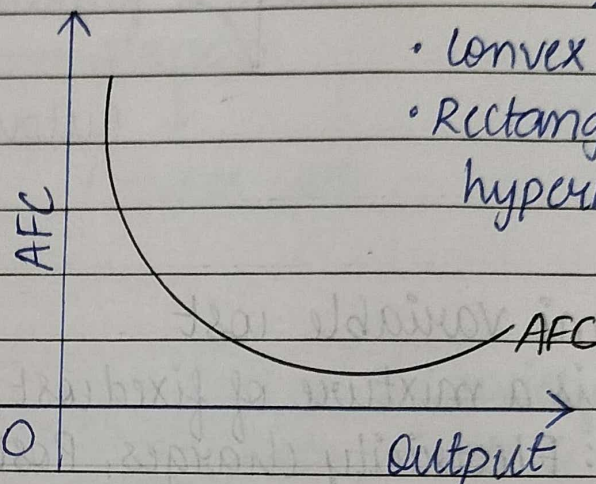
$Q$

$\downarrow$   
Output

Rent : 50,000

100

= 500 AFC



• downward slope

• convex

• Rectangular hyperbola

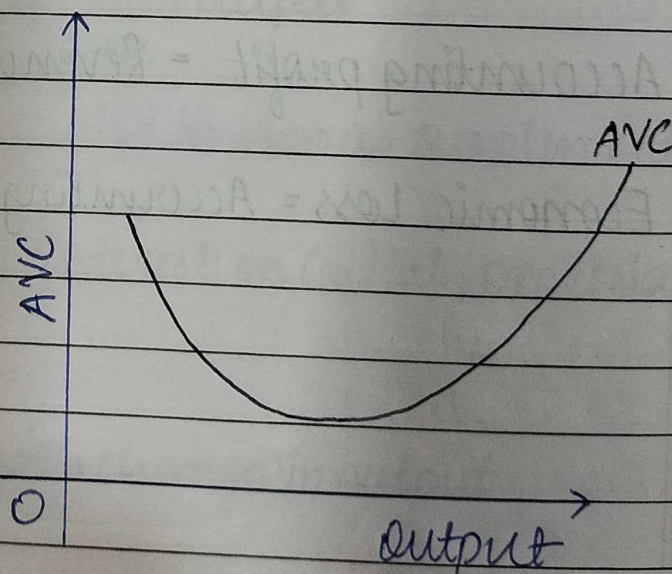
Output  $\uparrow$  AFC  $\downarrow$

cannot touch the axis as fixed cost cannot be 0

### 2. Average Variable Cost

$$AVC = \frac{TVC}{Q}$$

$Q$



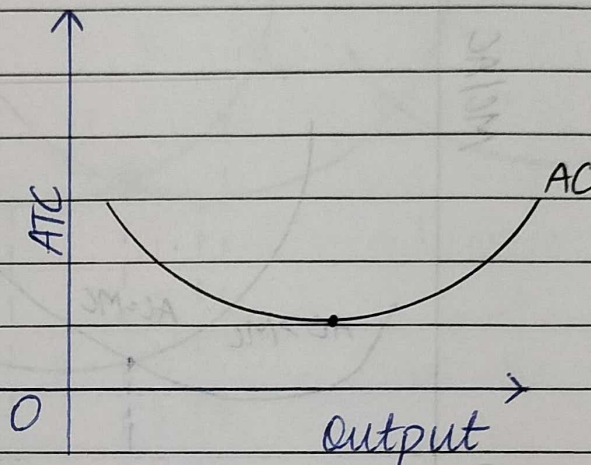
U-Shape





## 3. Average total cost (ATC) / Average cost (AC) \*

$$AC = \frac{TC}{Q} \quad \text{OR} \quad ATC = AFC + AVC$$



U-Shape

## 4. Marginal cost (MC)

Additional cost incurred for producing one additional unit of output.

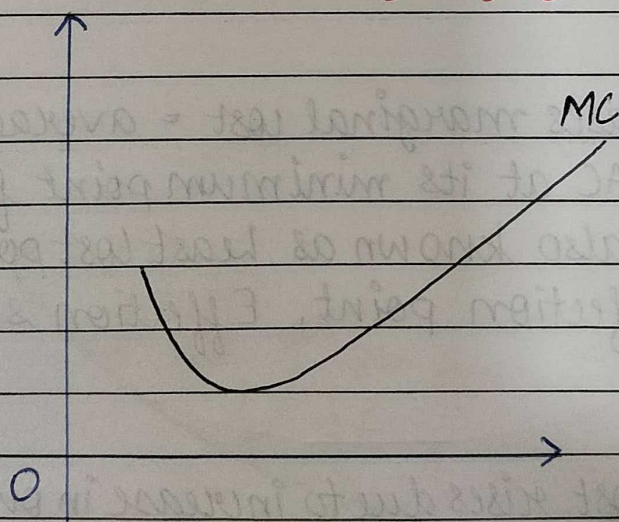
1 - 200  
2 - 350

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

OR

$$MC = \frac{\Delta TC}{\Delta Q} = \frac{300 - 200}{2 - 1}$$

$$= 150$$



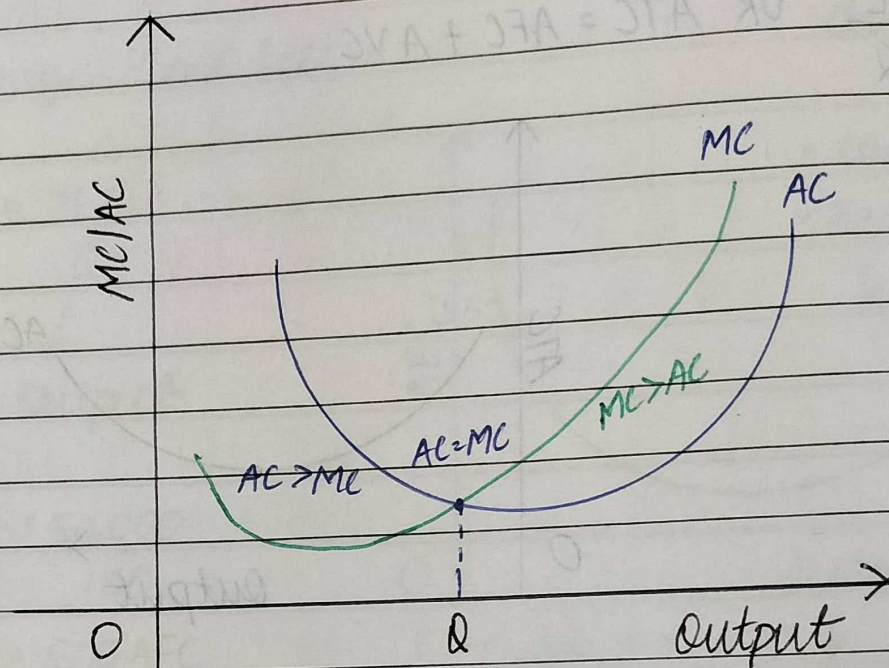
U-Shape

\* Marginal cost is related to variable cost

\* MC can be calculated either with 'TC' or 'TVC'.



## \* Relationship between AC & MC



### Stage 1

When Average cost declines due to increase in output marginal cost is below average cost. (When AC falls MC is falling as well as rising)

$AC > MC$

### Stage 2

As output increases marginal cost = average cost MC curve cuts AC at its minimum point from below. Minimum point also known as Least cost point, Productively effecton point, Effecton scale.

$AC = MC$

### Stage 3

When average cost rises due to increase in output marginal cost is greater then average cost. Both AC and MC are rising.

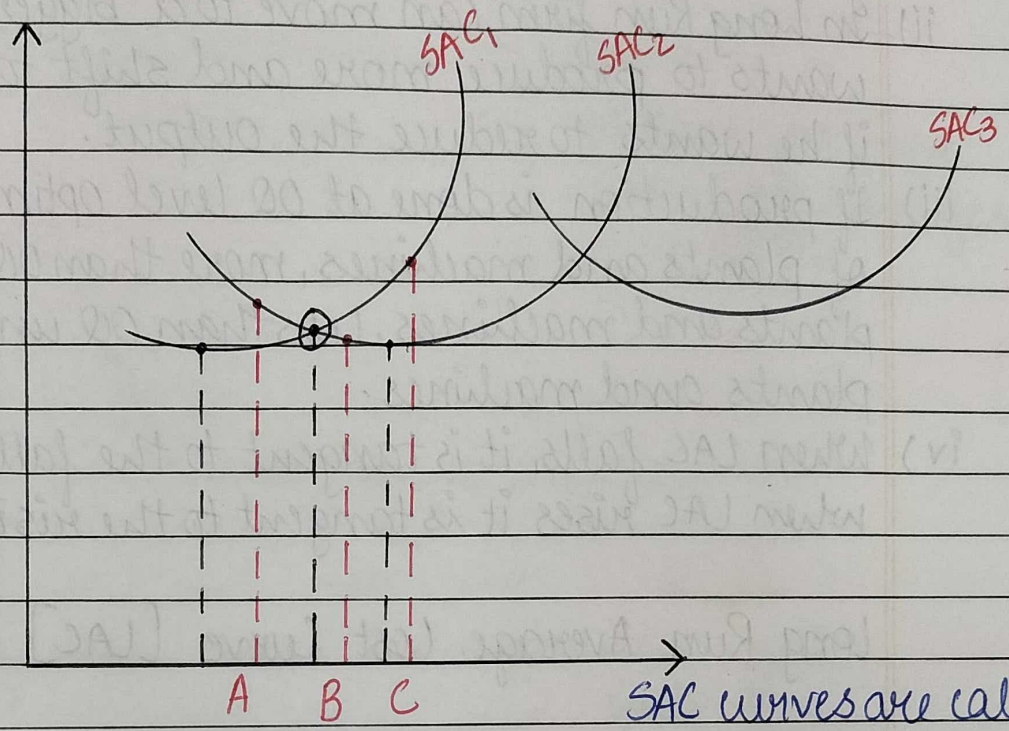
$MC > AC$





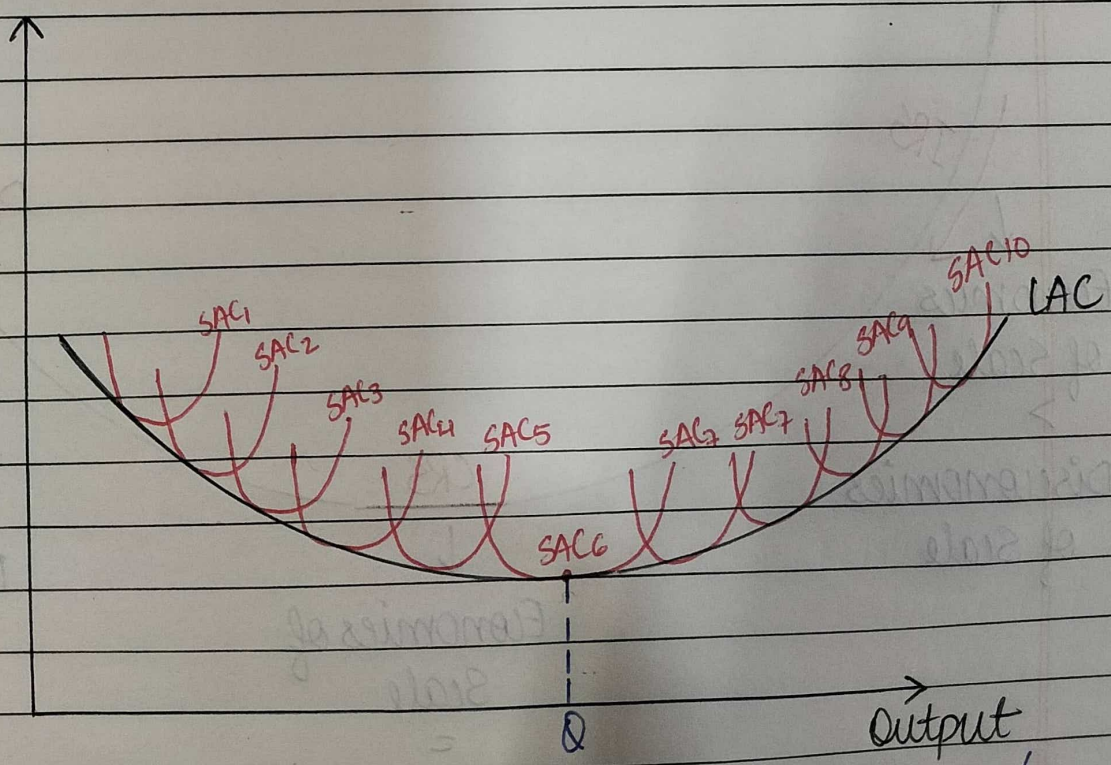
\* Reason behind U-shape LAC  $\rightarrow$  Returns to scale Law of

## Short Run Average Cost Curve [SAC]



SAC curves are called as 'Plant Curves'

## Long Run Average Cost Curve [LAC]

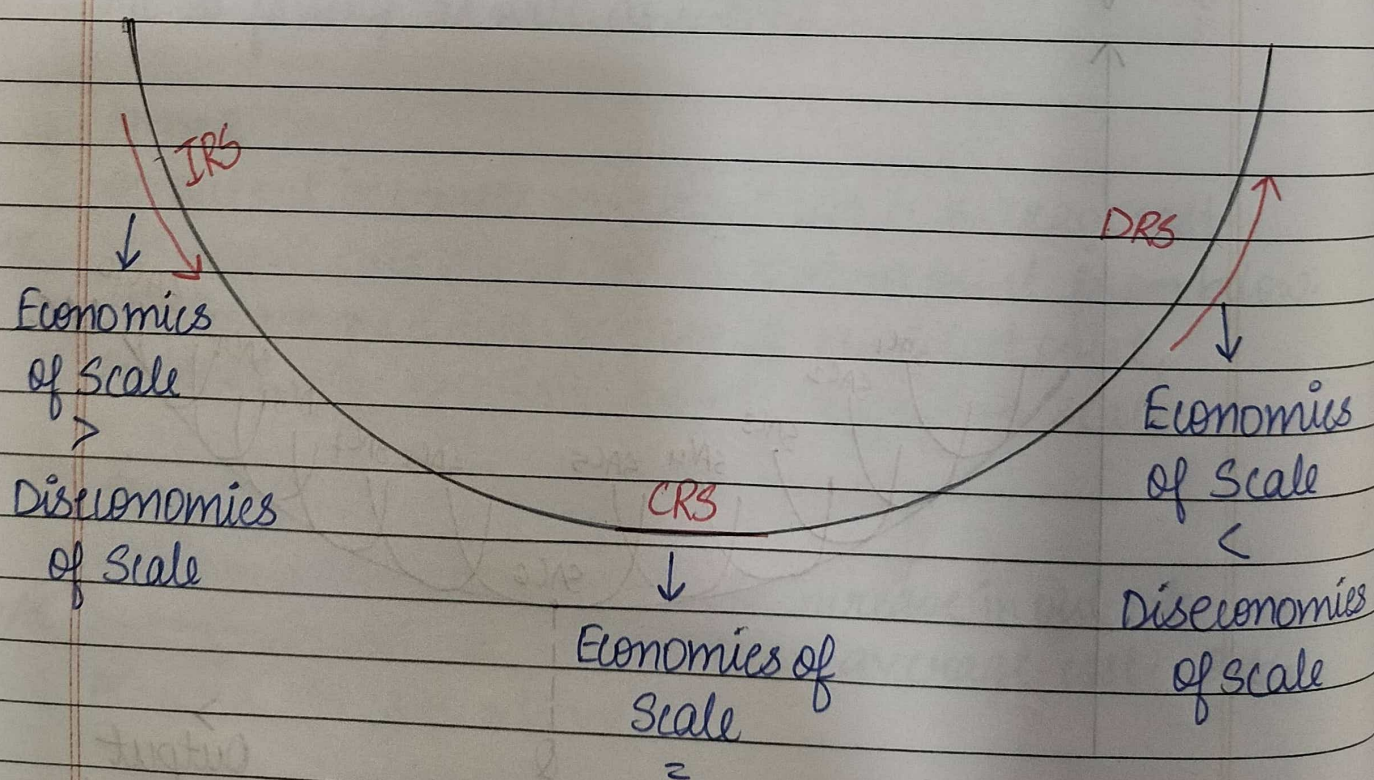


- Planning Curve / Envelope Curve / Boat Shaped Curve / Saucer Shaped Curve



- i) Short Run is that period where some factors are fixed whereas in Long Run all factors are variable
- ii) In Long Run firm can move to a bigger plant if he wants to produce more and shift to a smaller plant if he wants to reduce the output.
- iii) If production is done at OQ level optimum utilization of plants and machines, more than OQ over utilization of plants and machines, less than OQ under utilization of plants and machines.
- iv) When LAC falls, it is tangent to the falling SAC and when LAC rises it is tangent to the rising part of SAC

### Long Run Average Cost Curve [LAC]



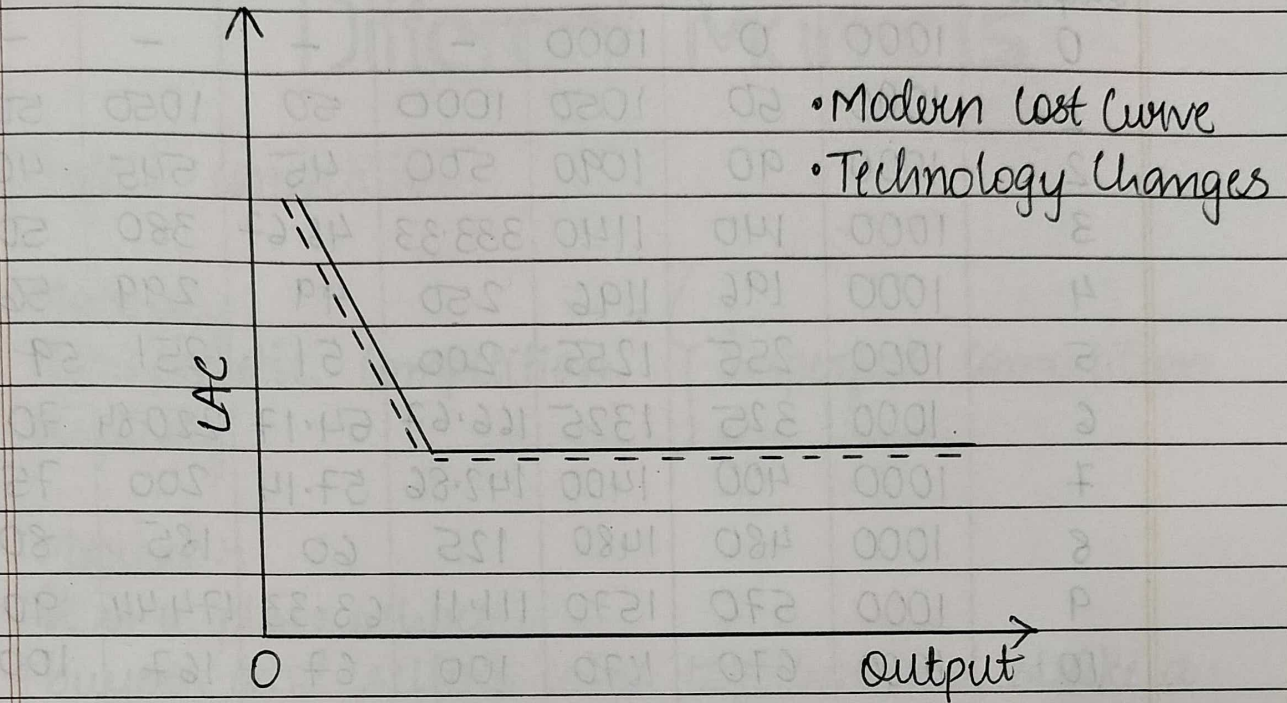
### Diseconomies of Scale

Negative slope falling part of LAC denotes IRS.  
Positive slope rising part of LAC denotes DRS.





## 'L' Shaped cost curve







Unit of output	TFC	TVC	TC	AFC	AVC	ATC	MC
0	1000	0	1000	-	-	-	-
1	1000	50	1050	1000	50	1050	50
2	1000	90	1090	500	45	545	40
3	1000	140	1140	333.33	46.67	380	50
4	1000	196	1196	250	49	299	56
5	1000	255	1255	200	51	251	59
6	1000	325	1325	166.67	54.17	220.84	70
7	1000	400	1400	142.86	57.14	200	75
8	1000	480	1480	125	60	185	80
9	1000	570	1570	111.11	63.33	174.44	90
10	1000	670	1670	100	67	167	100
11	1000	780	1780	90.91	70.91	161.82	110
12	1000	1080	2080	83.33	90	173.33	300





# Ch2 Theory of Demand and Supply

## UNIT 1: LAW OF DEMAND AND ELASTICITY OF DEMAND

\* Desire + Ability to Pay + Willingness to spend = Demand  
(At a given price at a given period of time)

1. Desire
  2. Ability
  3. Willingness
  4. Price
  5. Time
- } Demand

\* Demand = Flow and Relative concept

Price

Time

\* Price and Quantity Demanded has an inverse relationship and has a downward or negative slope.

Why Negative slope?

→

↑ (+)    ↓ (-)

$(+)(-) = (-)$  so it is negative





Q. When Qty. Demand comes?

→ Only when it is Price of a commodity then only Qty demand should come.

Date: \_\_\_\_\_

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## \* Factors / Determinants Affecting Demand

1. Price of a commodity  
(Most Imp. Factor)

↑ P ↓ Qty Demand

↓ P ↑ Qty Demand

2. Income

[Goods found in every household (between necessary

Normal Goods / Luxury Goods & (comfort

Inferior Goods goods)]

Normal Goods / Luxury Goods = ↑ Income ↑ Demand

Inferior Goods = ↑ Income ↓ Demand

↓ Income ↑ Demand

3. Price of Related goods

Complementary Goods

Substitutes Goods

Car

Petrol

Pepsi

Coke

↑ Price

↓ Demand

↑ Price

↑ Demand

↓ Price

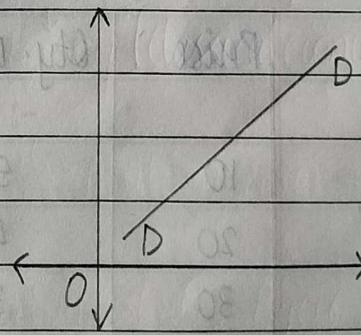
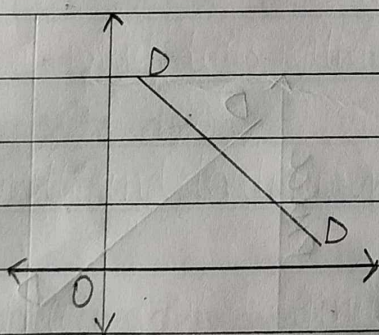
↑ Demand

↓ Price

↓ Demand

Inverse Relation

Direct Relation



Downward Slope / Negative

Upward Slope / Positive





#### 4. Expectation about Future Price

Gold

Present demand

Future Price

↑

↑

↓

↓

5. Advertisement

6. Distribution of Income

7. Population

8. Credit Facility (Loan)

9. Taste, habit and Fashion

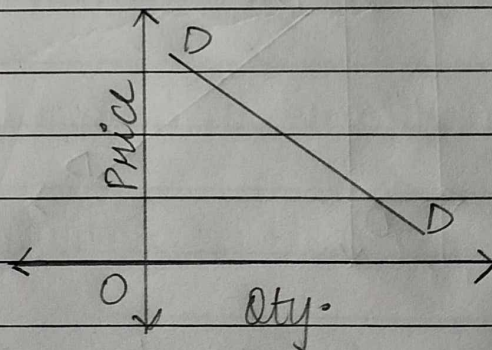
10. Government Tax Policy

#### \* DEMAND SCHEDULE

##### 1. Individual Demand Schedule

When a single buyer buying different quantity of a commodity at a different prices at a point of time.

Price	Qty. Demand
10	50
20	40
30	30
40	20
50	10







## 2. Market Demand Schedule

Buying different quantity of a commodity at different price at a point of time.

Price	M <sub>d</sub> .A	M <sub>d</sub> .B	M <sub>d</sub> .C	Market Demand (A+B+C)
1	50	60	70	180
2	40	50	60	150
3	30	40	50	120
4	20	30	40	90
5	10	20	30	60

\* Horizontal submission of all Individual demand curve gives Market Demand Curve.

## \* TYPES OF DEMAND

1. Direct demand :- Consumer goods  
Eg: Book, Pen, Umbrella, etc.
2. Indirect / Derived demand :- Producer goods or Factors of Production.
3. Composite demand (Multiple uses) :-  
Electricity, Water, Wood, Milk
4. Competitive demand :- Substitute goods
5. Joint or Tied demand :- Complementary goods like car and petrol.





Price will never  
Remain constant

Ganpati Bappa  
Moriya  
Mangal Murti  
Moriya

Date : \_\_\_\_\_  
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## LAW OF DEMAND

- By Alfred Marshall
- Qualitative Relation between

Higher the price lower the demand, lower the price higher the demand. (2)  
This called as law of demand (2).

Ceteris Paribus higher the demand, Ceteris Paribus lower the demand. (2) This is called as law of demand. (2) Inverse relation downward slope, inverse relation negative slope. (2). This is called as law of demand. (2)  
Alfred Baba ki Tai!! :)

### STATEMENT

"Other things being constant (Ceteris Paribus)  
More Quantity will be demanded at lower price  
and less quantity will be demanded at higher price.

\* Why demand curve slopes downward?

- Law of DMU
- Various uses of commodity
- Income effect

Law of substitution effect and Income effect both concepts are given by

HICKS And ALLEN

Imp\*\*

Price ↓  $\left. \begin{array}{l} 100 \\ 50 \end{array} \right\} \rightarrow \begin{array}{l} \text{Save} \\ \text{Qty} \end{array}$

- Substitution effect

Pepsi Coke

50/- 50/-

80/- 50/-

Price ↑ Demand ↓

Income effect  
+  
Substitution effect = Price effect



## LAW OF DEMAND

- o By Alfred Marshall
- o Qualitative Relation between Price and Demand

### STATEMENT

"Other things being constant (*ceteris Paribus*)  
More Quantity will be demanded at lower price  
and less quantity will be demanded at higher price.

\* Why demand curve slopes downward?

1. Law of DMU

2. Various uses of commodity

3. Income effect

Price ↓  $\left. \begin{array}{l} 100 \\ 50 \end{array} \right\} \rightarrow \text{Save} \uparrow \text{Qty}$

4. Substitution effect

Pepsi      Coke

50/-      50/-

80/-      50/-

Price ↑ Demand ↓

Law of substitution  
effect and income  
effect both  
concepts are  
given by  
HICKS And ALLEN

Imp \*\*

Income effect  
+  
Substitution effect = Price effect





\* If I am wearing a watch and then saw the same watch in other's hand then I don't want to wear that watch. I will buy new watch which is again a unique. In short I want to be unique from others.

Date : \_\_\_\_\_  
Page No.: 23

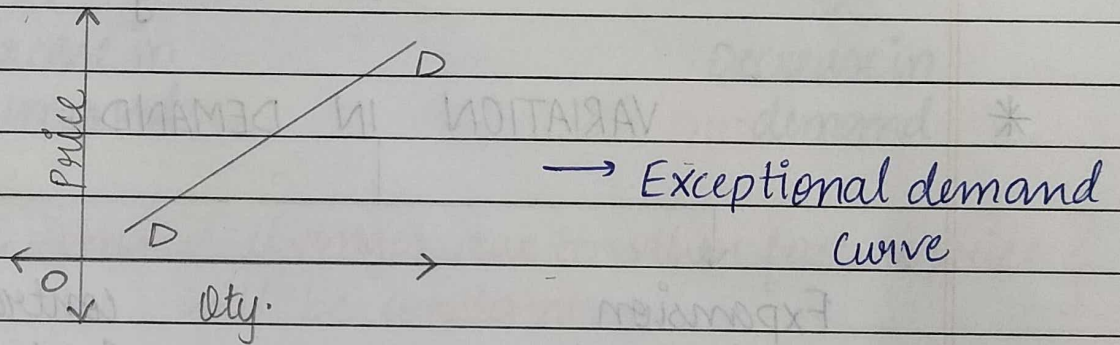
5. Number of consumers :- By giving offers, discount, etc

## \* EXCEPTIONS TO LAW OF DEMAND

Against the law

↑ Price    ↑ Demand

↓ Price    ↓ Demand



1. Giffen Goods :- Inferior goods  
↑ Price    ↑ Demand

Giffen Good → Robert Giffen  
Prestige Goods → Veblen

\*

2. Conspicuous Goods / Prestige / Snob / Veblen (T.) Goods :-  
appeal / behaviour

3. Future Expectations About Price :-

↑ Demand    ↑ Future

↓ Demand    ↓ Future

4. Ignorance Effect :-

5. Consumer Price Illusion :-





0. Difference between price illusion and speculative motive

Date : \_\_\_\_\_

→ Price illusion → to save money

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Speculative motive → to earn profits

to copy others

6. Demonstration Effect / Bandwagon Effect /  
Conspicuous Necessity (copying others) :-

7. Impulsive purchase :-

8. Demand for Necessaries :-

Eg: Tata steel → going to reach 135

9. Speculative motive :-

Eg: Price of shares

↑  $₹105 \times 100 \text{ qty}$

↑  $₹115 \times 100 \text{ qty}$

↑  $₹129 \times 100 \text{ qty}$

↑ direct/upward/  
positive

\*

### VARIATION IN DEMAND

↓  
Expansion  
in demand

↓  
contraction  
in demand

(Rise in demand due  
to fall in price).

(Fall in demand due  
to rise in price)

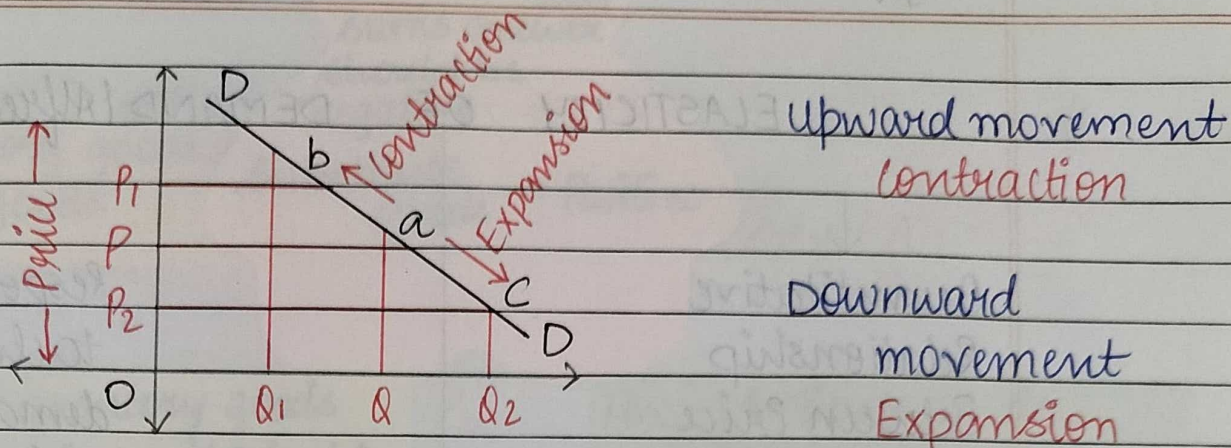
{ When demand changes to price only }  
{ other factors will remain constant. }

\* Also known as change  
into qty demand

/ Movement along the same  
demand curve.

Slope ek hi curve per hai so  
the movement is along the  
same demand curve.





\*

## CHANGE IN DEMAND

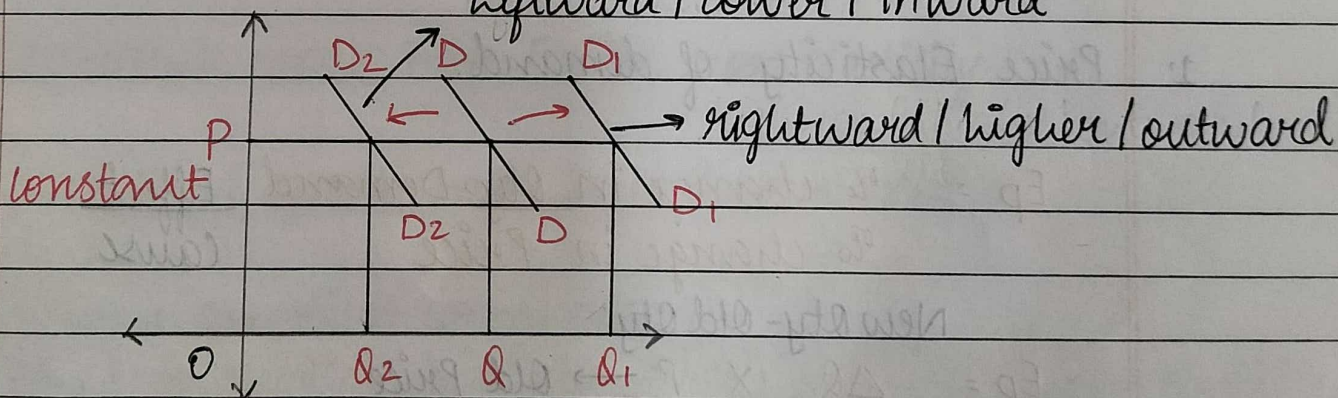
Increase in demand

Decrease in demand

{ When demand changes due to other factors price }  
will be constant.

Also known as Shift in Demand Curve

leftward / lower / inward







Short period / complementary goods  $\rightarrow$  inelastic  
 long period / substitute goods  $\rightarrow$  elastic

Date : \_\_\_\_\_  
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## ELASTICITY OF DEMAND (Alfred Marshall)

Quantitative  
 Relationship  
 Between Price  
 and Demand

Responsiveness  
 to change in  
 demand due to  
 price and other  
 factors

P.Y Price - 15  
 C.Y Price - 20  $\downarrow$  change

(changes / fluctuates)

Eg: Basic necessities  
 Irrespective of the price

(no change)

### \* TYPES OF ELASTICITY OF DEMAND

#### 1. Price Elasticity of demand

$$E_p = \frac{\% \text{ change in Qty. Demand}}{\% \text{ change in Price}} \quad \text{Effect Cause}$$

New Qty - Old Qty

$$E_p = \frac{\Delta Q}{\text{Old Qty} \leftarrow Q} \times \frac{P}{\Delta P} \rightarrow \text{Old Price}$$

New price - old price

#### 2. Income Elasticity of demand

$$E_y = \frac{\% \text{ change in Qty. Demand}}{\% \text{ change in Income}}$$

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





Short period / complementary goods  $\rightarrow$  inelastic  
 long period / substitute goods  $\rightarrow$  elastic

Date : \_\_\_\_\_  
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## ELASTICITY OF DEMAND (Alfred Marshall)

↓  
 Quantitative  
 Relationship  
 Between Price  
 and Demand

↓  
 Responsiveness  
 to change in  
 demand due to  
 price and other  
 factors

P.Y  $\rightarrow$  100  
 C.Y  $\rightarrow$  85 ↓  
 decrease

↓  
 Elastic  
 Demand  
 (changes / fluctuates)

↓  
 Inelastic  
 Demand  
 (no change)

### \* TYPES OF ELASTICITY OF DEMAND

#### 1. Price Elasticity of demand

$$E_p = \frac{\% \text{ change in Qty. Demand}}{\% \text{ change in Price}} \quad \text{Effect cause}$$

New Qty - Old Qty

$$E_p = \frac{\Delta Q}{\text{Old Qty}} \times \frac{P}{\Delta P} \rightarrow \text{Old Price}$$

New price - Old price

#### 2. Income Elasticity of demand

$$E_y = \frac{\% \text{ change in Qty. Demand}}{\% \text{ change in Income}}$$

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





Numerical sums  
if complemen-  
tary  
sums answer  
should be  
negative

3. Cross Elasticity  
complementary goods  
substitute goods

Substitute goods → Positive

For complementary goods  
Price Car ↓ Demand Petrol ↑

$P_B$   
 $\Delta P_B$

For substitute goods  
Coke price ↑ Demand for ↑  
Pepsi

4. Advertisement Elasticity of demand

$$E_a = \frac{\% \text{ change in Qty D}}{\% \text{ change in Adv. exp.}}$$

When elasticity is given without any qualification then it is always Price Elasticity demand.

- \* Complementary goods have negative cross elasticity
- \* Substitute goods have Positive cross elasticity.
- \* Unrelated goods have Zero cross elasticity.

## When a question comes as →

1. What is elasticity of demand? (It has asked only for elasticity)  
→ Explain price elasticity, its formula and the formula in numerical.
2. Types of elasticity of demand? (It has asked only for elasticity)  
→ Explain types of price elasticity.



## Cross Elasticity of demand

$$EC = \frac{\% \text{ change in Qty D of Product A}}{\% \text{ change in Price of Product B}}$$

$$EC = \frac{\Delta Q_a}{Q_a} \times \frac{P_b}{\Delta P_b}$$

For substitute goods  
Coke price  $\uparrow$  Demand for  $\uparrow$   
Pepsi

## Advertisement Elasticity of demand

$$E_a = \frac{\% \text{ change in Qty D}}{\% \text{ change in Adv. exp.}}$$

When elasticity is given without any qualification then it is always Price Elasticity demand.

Complementary goods have negative cross elasticity

Substitute goods have Positive cross elasticity.

Unrelated goods have Zero cross elasticity.

When a question comes as  $\rightarrow$

What is elasticity of demand? (It has asked only for elasticity)

Explain price elasticity, its formula and the formula in numerical.

Types of elasticity of demand? (It has asked only for elasticity)

Explain types of price elasticity.

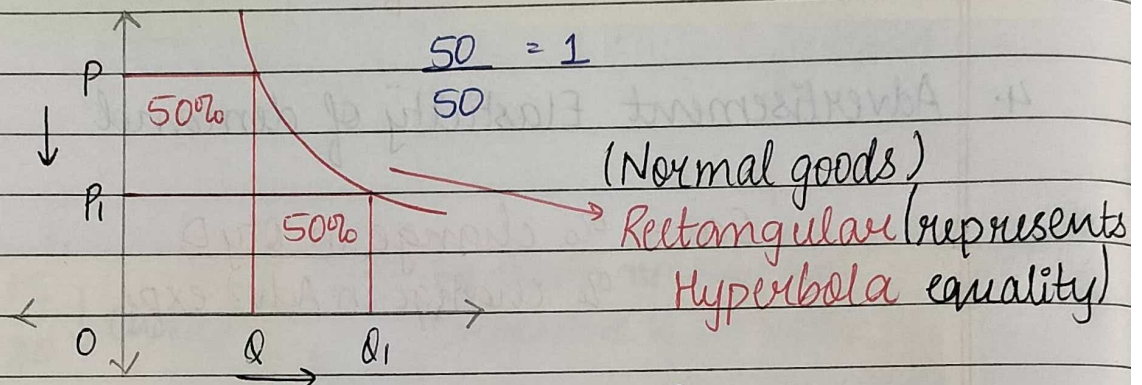




## \* Types of Price Elasticity of Demand

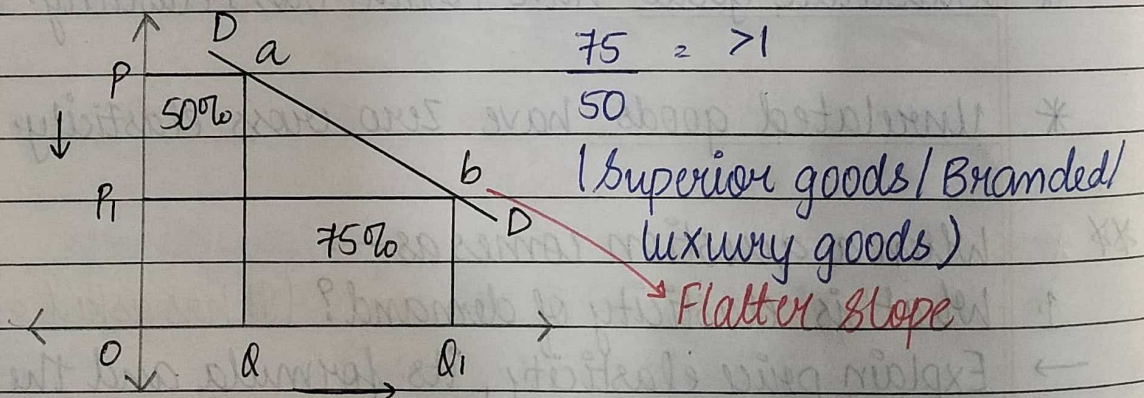
1. Unitary Elastic Demand ( $e = 1$ ) Also known as uniform elastic

% change in Qty. demand is equal to % change in Price.



2. Also known as High elastic demand  
Relatively Elastic Demand Curve (more elastic) ( $e > 1$ )

% change in Qty. demand is greater than % change in Price.



\*\* When a question comes as →

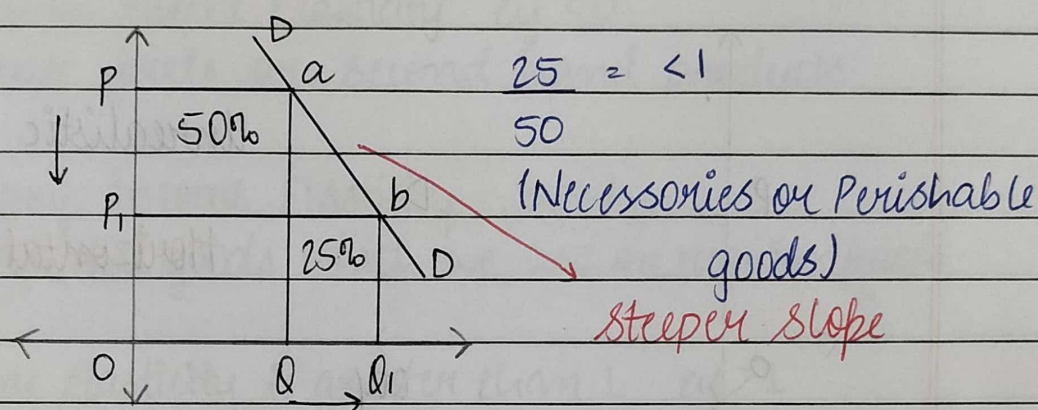
1. Explain elastic demand
- Explain relatively / more / high elastic demand.





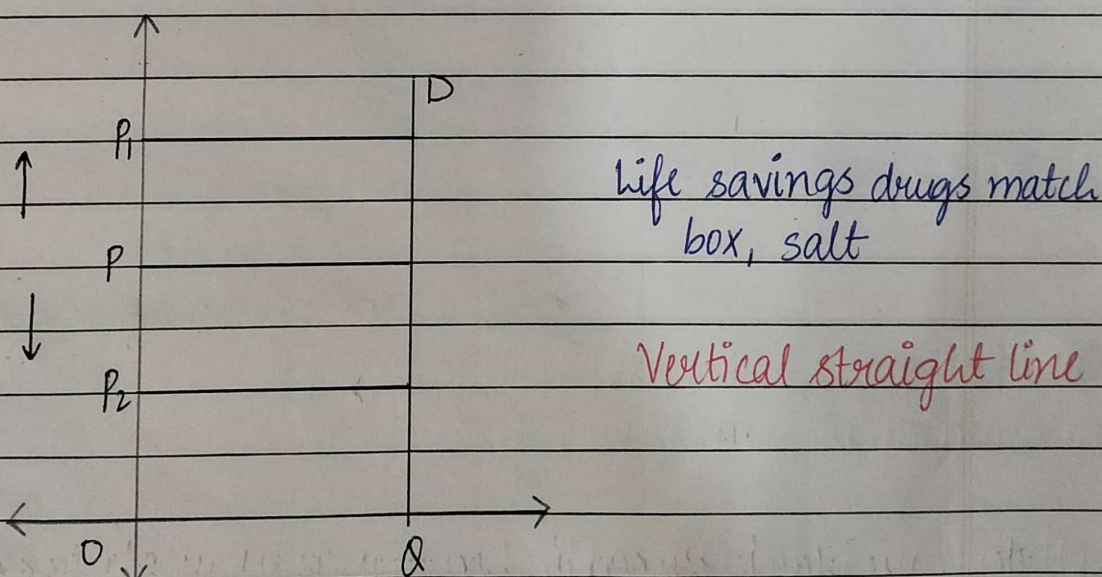
- Also known as low elastic demand
3. Relatively Inelastic demand / less elastic demand ( $e < 1$ )

% change in Qty. Demand will be lesser than % change in price



- is imaginary always
4. Perfectly Inelastic demand ( $e = 0$ ) (No change)

Slight change in a price of a commodity leads to no change in Qty. demand.

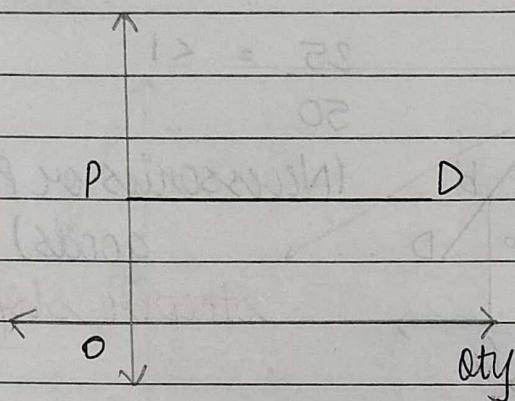






5. Perfectly Elastic Demand ( $e = \infty$ )  
(Imaginary, doesn't exist in R.W)

Slight change in a price leads to infinite change in Qty. demand



Unrealistic concept

Horizontal line





## \* Types of Income Elasticity of Demand

1. Zero Elasticity  $e_y = 0$   
eg:- salt, newspaper, life saving drugs, matchbox.
2. Negative Income Elasticity  $e_y < 0$   
Inferior goods or second hand products
3. Unitary Income Elasticity  $e_y = 1$   
Eg:- Normal goods which we use on regular basis.
4. Income elasticity is greater than 1  $e_y > 1$   
Eg:- Superior goods / luxurious goods.
5. Income elasticity less than 1  $e_y < 1$   
Eg:- Necessaries or Perishable goods





## \* Methods for measuring elasticity of demand

1. Ratio or percentage Method  
(Same as Price Elasticity of Demand)

2. Total Outlay Method

One man's  
expenditure  
is other men's  
revenue

Expenditure  
Method

Revenue  
Method

Pocket se kitna paisa  
gaya.  $T_o$

Alfred Marshall

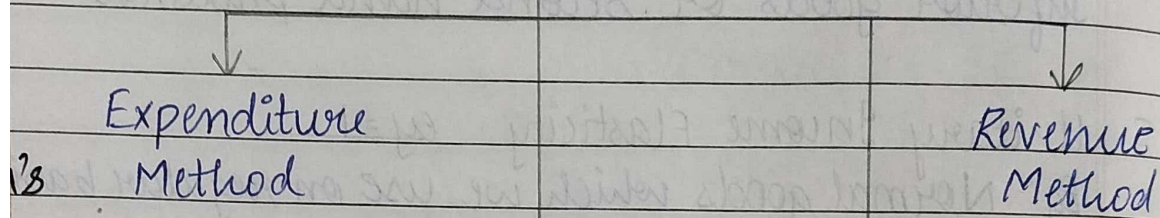
Price $\uparrow$ or $\downarrow$ Total outlay remains same	Case	Price	Qty	$T_o$ (Total Outlay)	Elasticity
$₹10 \times 12 = 120$ $8 \times 15 = 120$	Tab price low hua tabhi bhi same demand hua		12	120	$e = 1$
			15	120	Unitary elastic
$\uparrow P \downarrow T_o \downarrow P \uparrow T_o$	Inverse Relation Price kam to $\rightarrow$ Zyada		12	120 $\uparrow$	$e > 1$
			20	160 $\uparrow$	Elastic Demand
$\uparrow P \uparrow T_o \downarrow P \downarrow T_o$	Direct Relation Price kam to kam		12	120	$e < 1$
			14	112	Inelastic Demand



## Methods for measuring elasticity of demand

Ratio or percentage Method  
(Same as Price Elasticity of Demand)

Total Outlay Method

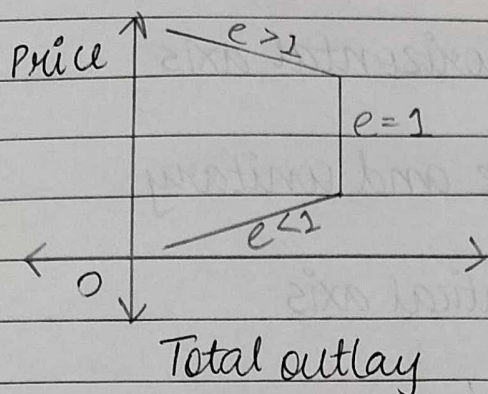


Pocket se kitna paisa gaya.  $T_o$

Alfred Marshall

Case	Price	Qty	$T_o$ (Total Outlay)	Elasticity
1	10   8 ↓	12 15	120 120	$e = 1$ Unitary elastic
2	10   8 ↓	12 20	120 ↑ 160 ↑	$e > 1$ Elastic Demand
3	10   8 ↓	12 14	120 112	$e < 1$ Inelastic Demand

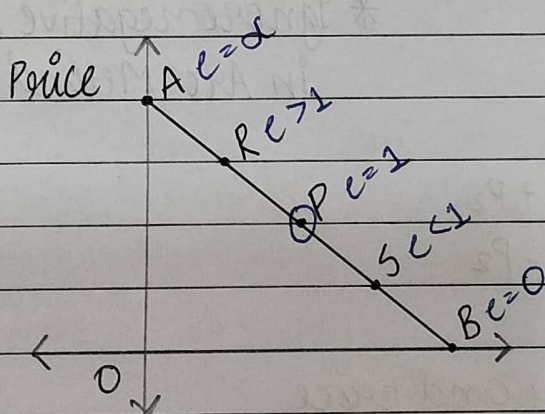




\* Vertical straight line parallel to Y-axis in **total exp.** method indicates unitary elastic demand.

### 3. Point or Geometric Method

$$E^d = \frac{\text{Lower segment}}{\text{Upper segment}} = \frac{L}{U}$$



$$E^d \left[ \frac{dq}{dp} \times \frac{P}{q} \right] \text{ Demand in } (-)$$

$$\left[ \frac{dq}{dp} \times \frac{P}{q} \right] \text{ Supply in } (+)$$

When change in the price is very small, negligible then this method will be used

Eg: Computer price changed from 50,000 to 50,100  
negative

\* Downward sloping straight line linear demand curve touching both the axis.

$e = 1$

$e > 1$	PB = 2	SB = 1	RB = 3	O	AB
$e < 1$	2	SA 3	RA 1	BO	O
$e = 0$	$e = 1$	$e < 1$	$e > 1$	$e = 0$	$e = d$

$e = d$

X-axis / horizontal / output axis  $\rightarrow$  X-axis

Y-axis / Vertical / Price axis  $\rightarrow$  Y-axis



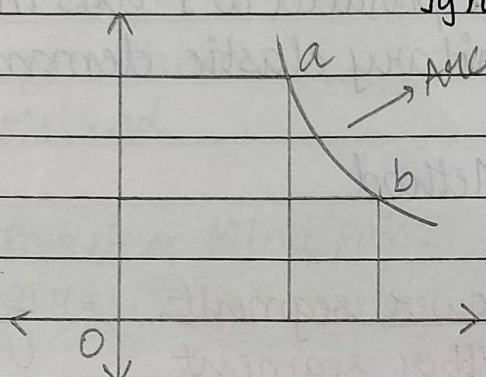


Point which lies on horizontal axis

Point which lies infinite and unitary

Point which lies on vertical axis

4. Arc Elasticity Method (Answer should always be in plus Ignore negative sign)



When change in the price is very large and substantial?

In this method, the answer should always be positive.

\* Ignore negative sign in Arc Method

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

$Q_1, P_1 \rightarrow$  old quantity and price

$Q_2, P_2 \rightarrow$  new quantity and price





## \* Factors Affecting Elasticity of Demand

### 1. Availability of substitutes

Substitutes  $\rightarrow$  elastic  
No substitutes  $\rightarrow$  Inelastic

### 2. Position of commodity in consumer's budget

Occupies small part of our Budget - Inelastic  
eg:- matchbox

Occupies large part of our Budget - Elastic  
eg:- Transportation charges.

### 3. Nature of a commodity

Necessities - Inelastic

Luxuries goods - Elastic

### 4. Number of uses

Multiple use  $\rightarrow$  Elastic

Single use  $\rightarrow$  Inelastic

### 5. Time period

Short Time - Inelastic

Long Time - Elastic





## 6. Consumer Habits

Addicted / Habits  $\rightarrow$  Inelastic

No such habits  $\rightarrow$  Elastic

## 7. Joint demand

Complementary goods  $\rightarrow$  Inelastic

They have low elasticity

\* Imp \* 8. Price Range

Very high price product and a very low price product  $\rightarrow$  Inelastic demand  
eg:- Car, milk

Medium Price Product  $\rightarrow$  Elastic demand  
Shoes, Clothes, Accessories





## UNIT 2: Consumer Behaviour

Consumer Behaviour



wants

*"All desires, tastes, motive, need of human beings are called as wants."*

- \* Wants are unlimited
- \* Wants are recurring
- \* Wants are competitive
- \* Wants are complementary
- \* Wants are changing with time, place, person.

### CLASSIFICATION OF WANTS

1. Necessaries → (Basic wants)
2. Comforts → A.C, Two-wheeler, Chair.
3. Luxuries → Lavish Birthday, Rolex Watch.

\* Utility → Abstract term

1. Want satisfying power of a commodity
2. Capacity of a commodity to satisfy a human want.

Want means wish to have something

Desire means movement you put efforts it becomes desire.





## \* FEATURES OF UTILITY

1. Subjective concept :-  
Differs from person to person
2. Differs from usefulness :-  
Commodity may be given utility but not useful for health.  
Eg:- Alcohol
3. Relative Concept  
Related to place and time.
4. Depends on intensity of want
5. Differs from satisfaction
6. May not always give you Pleasure.  
Injections, Medicine.

## \* TYPES OF UTILITY

1. Place Utility :- Transport
2. Time Utility :- Warehouse
3. Form Utility :- Manufacturing process
4. Service Utility :- Professional services
5. Knowledge Utility :- Internet, Mobile
6. Possession Utility :- Transfer of ownership





# \* LAW OF DIMINISHING MARGINAL UTILITY (1 commodity)

MR. GOSSEN'S

1<sup>st</sup> LAW

ALFRED MARSHALL

(POE 1890)

CARDINAL

APPROACH

2<sup>nd</sup> law → Equi marginal utility → 3 commodity

## \* STATEMENT

"Other things being constant"

utils

Additional benefit which a person derives from increase in a stock of thing diminishes with every increase in a stock that he already has."

Total utility,  $TU = \sum MU$ 

Utility derived by a consumer after consuming all units of a commodity.

Marginal utility  $MU_n = TU_n - TU_{n-1}$ 

OR

Utility derived by a consumer after consuming an additional unit of a commodity OR Addition made to total

Use second formula  $MU = \frac{\Delta TU}{\Delta Q}$  → Change in total utility  
for sums

$\Delta Q$  → Change in total quantity

No. of units	TU	MU	
1	10	10	→ Highest satisfaction
2	18	8	
3	22	4	
4	22	0	→ Full satisfaction
5	20	-2	→ Disutility / dissatisfaction

\* Shape of Total Utility → Inverted U shape of TU

\* Marginal utility is also known as → Demand curve





## \* ASSUMPTIONS

1. Homogeneity

2. Single Use

3. Rationality

4. Continuity - It should be consumed back to back without any time gap

5. Reasonability  $\rightarrow$  Shape, size

\*\* 6. M.U. of money constant  
M.U. for rich people is less





# \* CONSUMER SURPLUS (Not completely Realistic) (5 Marks)

Demand curve/Also known as MU/

Market Price /MRP/

Based on  
law of DMU

CS = Price Ready to

Pay - Price actually  
paid

Pay

\* 2 mcq's  
may  
comeCardinal  
ApproachCONSUMER  
SURPLUSExtra  
UtilityAlfred  
MarshallMonopoly  
MarketHighest in  
case of  
necessariesUseful for  
Tax  
Policy

No. of units	Ready to Pay	Price actually Paid	Consumer surplus
1	30	20	10
2	28	20	8
3	26	20	6
4	24	20	4
5	22	20	2
6	20	20	0
7	18	20	-2

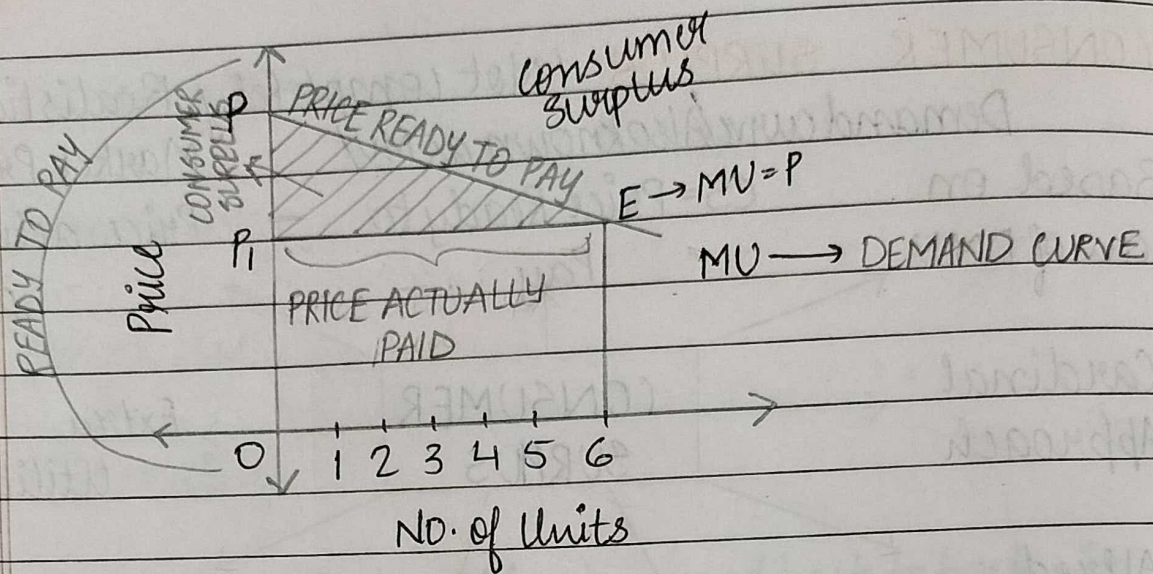
MU &gt; P

MU = P

MU &lt; P

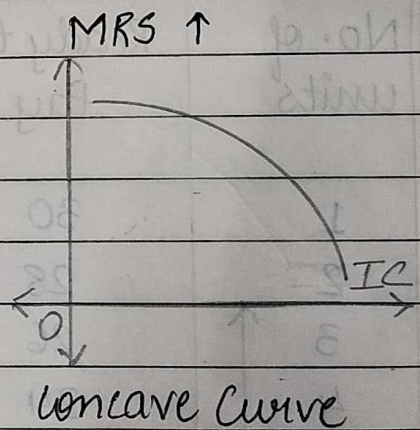
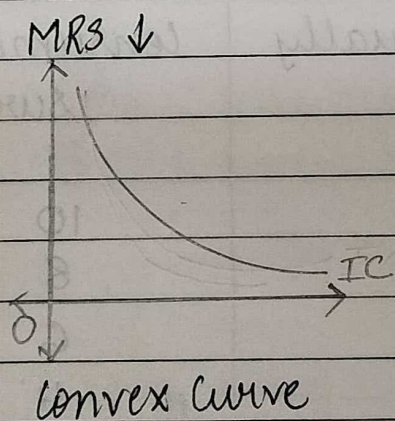
Also called as M.V. as it  
gives additional utility.Also known as  
Money



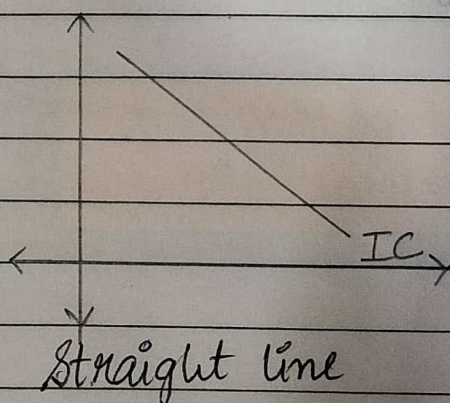


The Relation is inverse  
∴ There's a downward  
sloping curve.

Area above the price line and below the demand curve is known as Consumer Surplus.



MRS [constant]



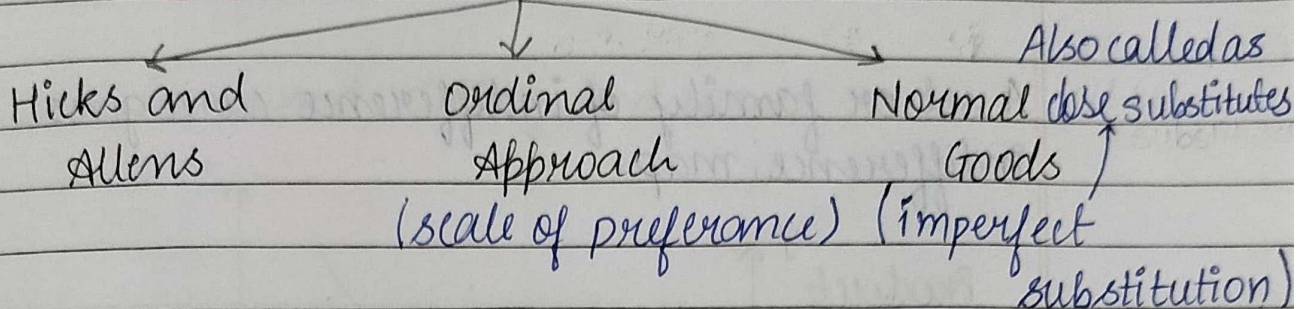




मुझे फरक नहीं पड़ता

A person/consumer is neutral

## INDIFFERENCE CURVE ANALYSIS

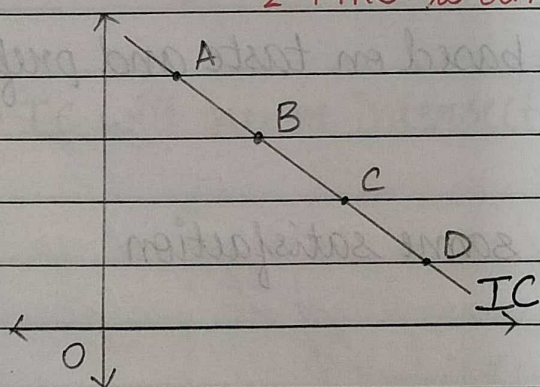


### STATEMENT

Various combination of two goods that gives same level of satisfaction.

Combination	Ice-cream Chocolate		substitution) (Marginal Rate of)
	Product X	Product Y	MRS (xy)
A	1	12	-
B	2	6	6
C	3	4	2
D	4	3	1

Assumptions:- 1. Only two goods  
2. MRS is diminishing



Inverse Relation →

Downward slope

(Convex) (MRS is decreasing)

3 names:- 1) Transitivity (movement)  
\*1 2) Trade off (sacrifice)  
3) Substitution

Point on the curve → Locus

\* Slope of I.C

\* Indifference curve:-

Downward, convex, MRS fall

\*1 Movement from A to B, B to C, C to A has 3 names

Q. Reason behind falling MRS → It is an assumption

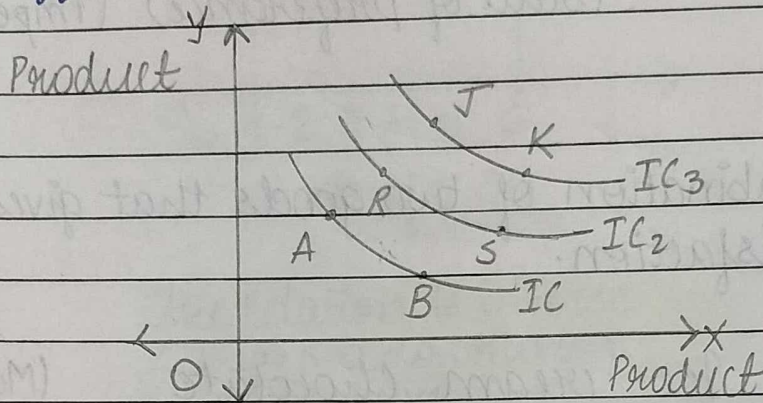
$$MRS = \frac{M_U X}{M_U Y}$$





## \* INDIFFERENCE MAP

A set or family of indifference curve gives indifference map.



\* The curve which is far from the origin = Higher satisfaction

\* The curve which is near from the origin = Lower satisfaction

\* Indifference map is based on taste and preference of consumer.

\* Point on same curve same satisfaction

eg:  $A = B$

$R = S$

$J = K$

\* Point on the different curve different satisfaction

eg:  $A \neq R \neq J$

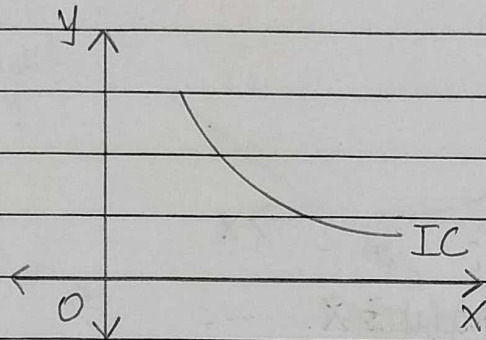
$B \neq S \neq K$



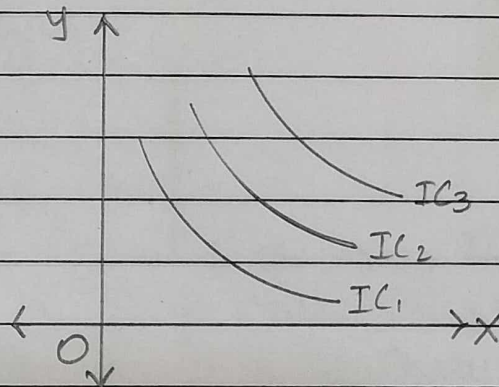


## \* Properties of IC

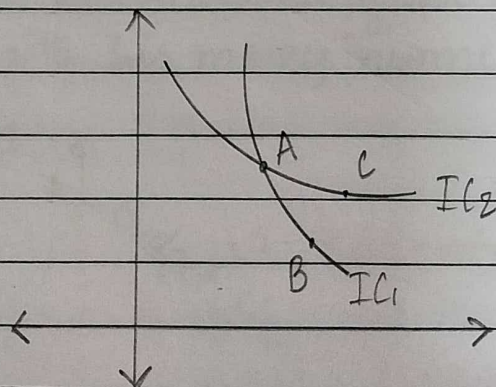
1. IC is downward sloping and convex



2. Higher IC gives higher satisfaction



3. Two IC will never intersect each other



$$A = B$$

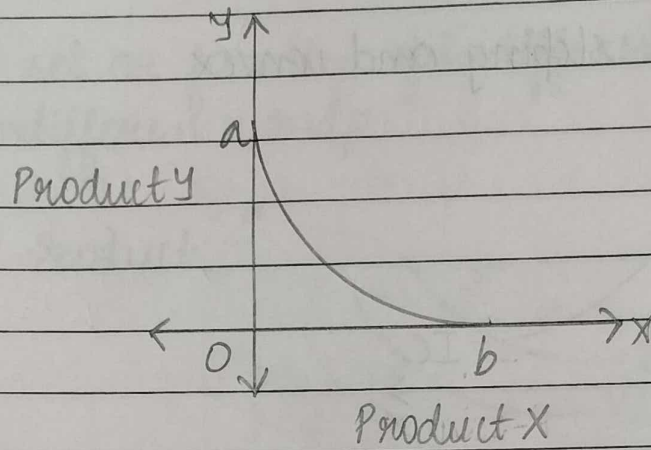
$$A = C$$

$$B \neq C$$





4. IC will never touch the axis

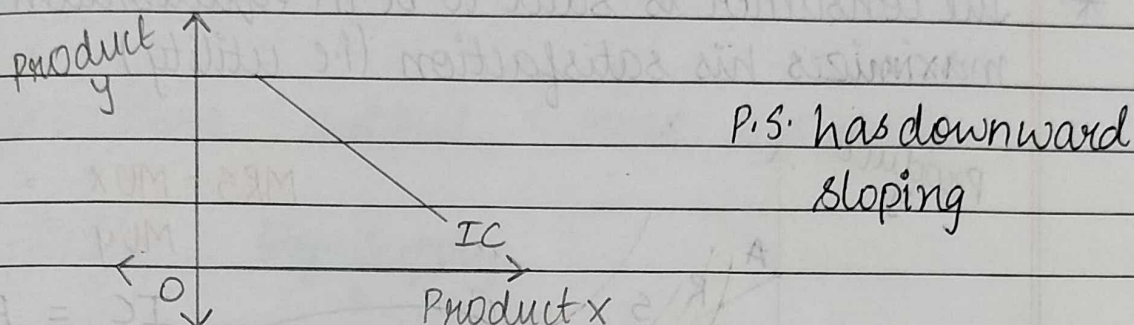




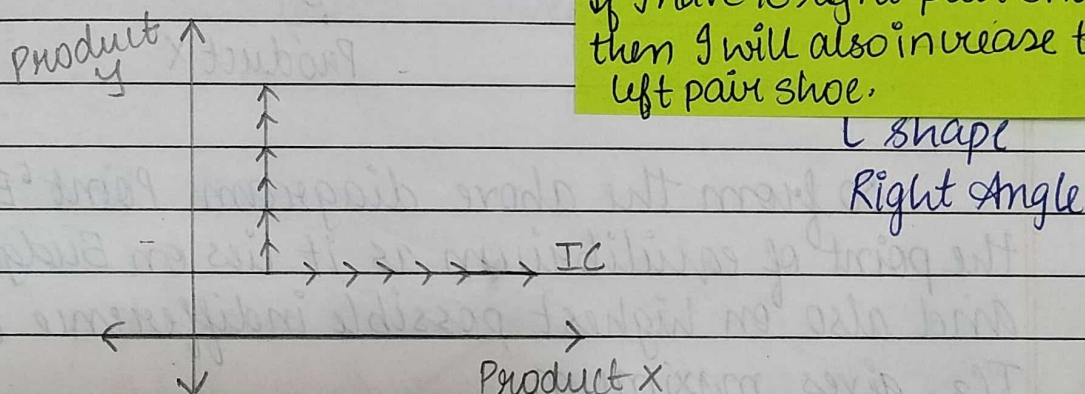


## \* EXCEPTIONS TO IC (Unrealistic)

1. Perfect substitutes MRS is constant

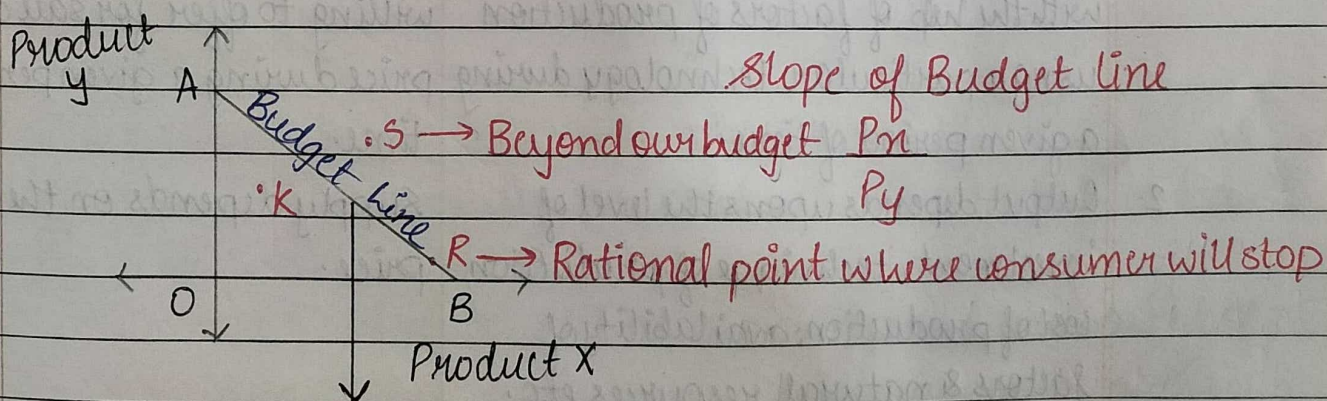


2. Perfect Complementary MRS is zero



## \* BUDGET LINE / PRICE LINE

Various combinations of two goods which a consumer can buy with his money income



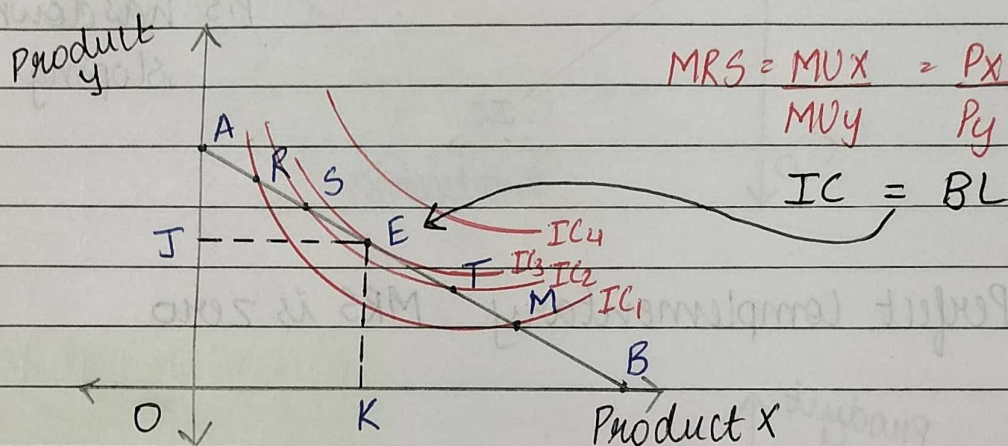
This line is called as -  
Downward sloping constant  
budget line touching both axis.





## CONSUMER EQUILIBRIUM

- \* It is a point where satisfaction is equal to budget.
- \* The consumer is said to be in equilibrium when he maximizes his satisfaction (i.e. utility)



So from the above diagram Point 'E' is the point of equilibrium as it lies on Budget line and also on highest possible indifference curve.  $IC_4$  gives maximum.

Output	Stock
1. Output refers to the total quantity of a commodity that a producer produces with the help of factors of production using a particular technology during a given period of time.	Supply refers to the quantity of a commodity which producers are willing to offer for sale at a given price during a given period of time.
2. Output depends upon the level of investment, technique of production, cost of production, availability of factors & natural resources, etc.	Supply depends on the stock & price.
3. Output forms the basis of stock.	Stock forms the basis of supply.
4. Output is a function of input.	Supply is a function of stock.





Anything which is available with seller to sell is called **Stock**.

Flow concept

Demand Supply Income

Date : \_\_\_\_\_

Page No.: 49

Anything which is offer for sale in the market at a given price at a given point of time.

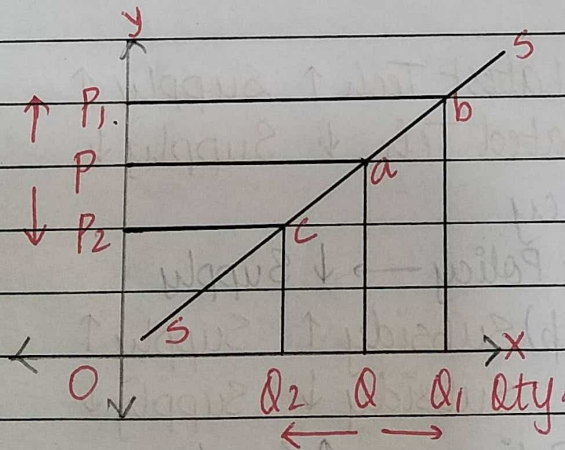
**SUPPLY** →

\*

- Relative concept :- Price, Time
- Flow concept
- Production < output < stock < supply

Price      Qty. Supply  
↑            ↑  
↓            ↓

- Direct Relationship between Price and Quantity Supply.
- Upward Slope



Upward / Positive slope

### \* DEFINITION

- \* Supply is defined as a Qty. of a commodity which is offered for sale in the market at a given price at a point of time.
- \* "Producer's plan to sell at a given price at a point of time."
- \* Producer is able and willing to offer.





## \* Factors / Determinants Affecting Supply

1. Price of a commodity

$\uparrow P \rightarrow \uparrow S$   
 $\downarrow P \rightarrow \downarrow S$

2. Price of Related goods

Shirt	T-shirt
$\downarrow$ 500	400 $\uparrow$
550	600

complementary goods

When price of pen  $\uparrow$   
supply of ink  $\uparrow$   
(Direct relation)

substitute goods

When price of related commodity  $\uparrow$   
supply of main commodity  $\downarrow$   
(Inverse relation)

3. Cost of Production

$\uparrow \text{COP} \rightarrow \downarrow S$   
 $\downarrow \text{COP} \rightarrow \uparrow S$

4. Technology

Latest Tech  $\rightarrow \uparrow$  Supply  $\uparrow$   
Outdated Tech  $\rightarrow \downarrow$  Supply  $\downarrow$

5. Government Policy

Unfavourable Govt. Policy  $\rightarrow \downarrow$  Supply

Tax  $\uparrow$  S  $\downarrow$

(help) Subsidy  $\uparrow$  Supply  $\uparrow$

Tax  $\downarrow$  S  $\uparrow$

Subsidy  $\downarrow$  Supply  $\downarrow$

Favourable Govt. Policy  $\rightarrow \uparrow$  Supply

6. Time

Short Period  $\rightarrow$  Less supply

Long Period  $\rightarrow$  More supply

7. Number of firms

Monopoly  $\rightarrow$  Less supply

Competition  $\rightarrow$  High supply





## 8. Natural Factors

Favourable N.F  $\rightarrow$   $\uparrow$  Supply  
Unfavourable N.F  $\rightarrow$   $\downarrow$  Supply

### \* LAW OF SUPPLY (Qualitative relation)

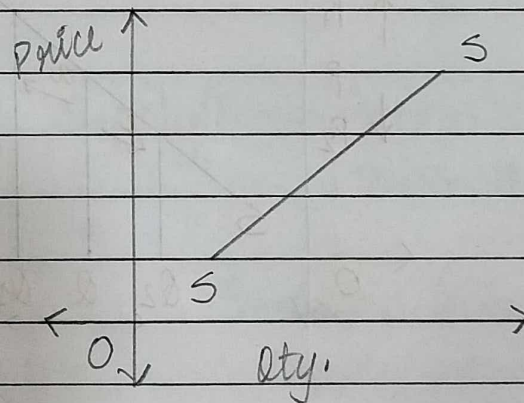
- o Alfred Marshall POE (1890)
- o Direct Relationship between Price and Qty. Supply

#### STATEMENT

Other things being constant

"More quantity will be supplied at higher price and less quantity will be supplied at lesser price."

Price	Qty.
10	60
20	70
30 $\uparrow$	80 $\uparrow$
40	90
50	100



Gompati Bappa Moriya  
Mangal Murti Moriya

Higher the price higher the supply, lower the price lower the supply. This is called as Law of Supply (2)

Ceteris Paribus higher the supply, ceteris Paribus lower the supply. (2). This is called as Law of supply (2). Direct relation upward slope, Direct relation positive slope (2). This is called as Law of supply (2)

Alfred Baba ki Tai!!





## VARIATION IN SUPPLY

Expansion  
in supply

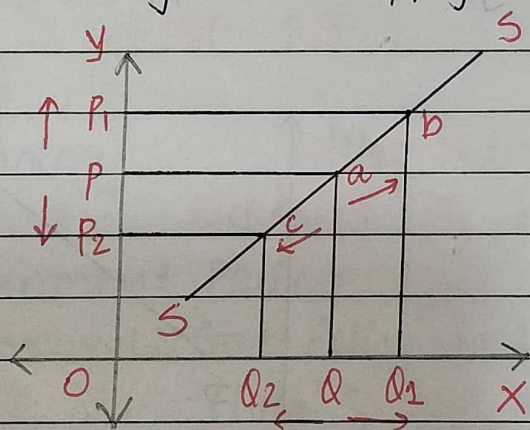
More qty. is supplied  
at high price

Contraction in  
supply

Less qty. is supplied  
at low price.

{ when supply changes due to Price only other factors  
are kept constant.

{ change in qty. supplied or movement  
along same supply curve }



Upward movement

Expansion ( $a \rightarrow b$ )

Downward movement

Contraction ( $a \rightarrow c$ )





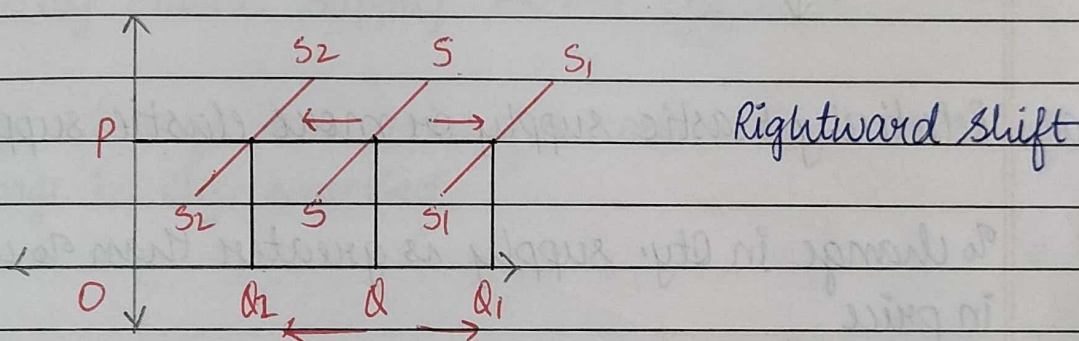
## CHANGE IN SUPPLY

Increase in supply

Decrease in supply

{ When supply changes due to other factors, Price }  
{ will be constant }

### Shift in Supply Curve



\*

Elasticity Of Supply / Responsiveness to change in supply due to price

Elastic If I am able to supply produce more →  
Elastic supply

Inelastic If I am able to supply produce less →  
Inelastic supply

Price elasticity of supply =  $\frac{\% \text{ change in Qty. Supply}}{\% \text{ Change in Price}}$

$$EC = \frac{\Delta Q}{Q} \times \frac{P}{\Delta P}$$

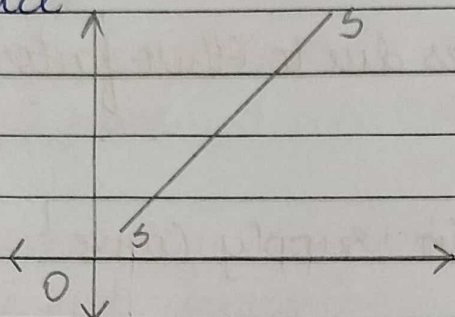




## \* TYPES OF PRICE ELASTICITY OF SUPPLY

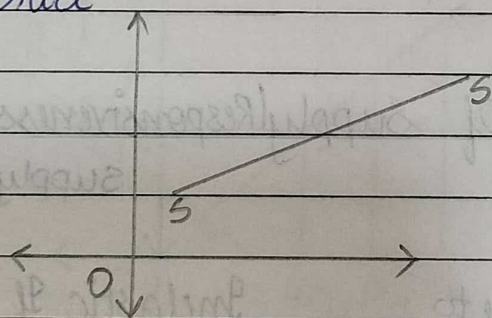
### 1. Unitary Elastic Supply $es = 1$

% change in Qty. supply is equal to % change in price



### 2. Relatively Elastic supply or more elastic supply

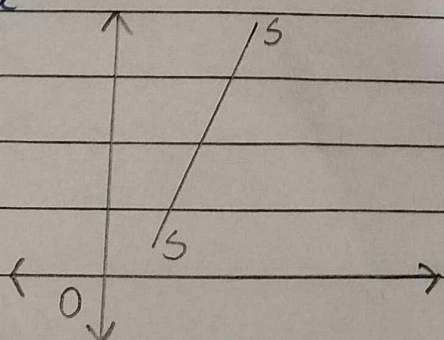
% change in Qty. supply is greater than % change in price



Flatter slope

### 3. Relatively Inelastic supply / Less elastic supply $es < 1$

% change in Qty. supply is lesser than % change in price.



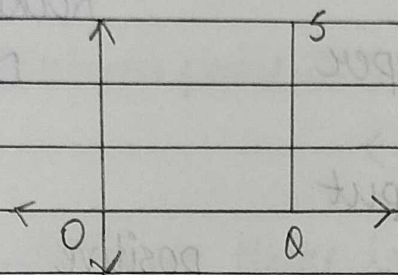
Steeper slope





#### 4. Perfectly Inelastic supply $es = 0$ (no change)

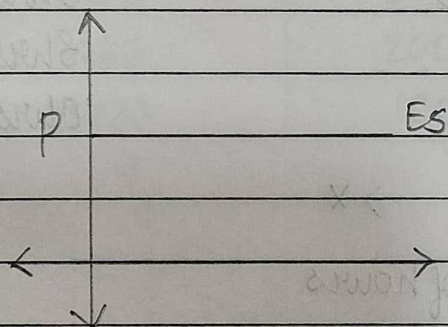
Slight change in price leads to no change in Qty. supplied.



Eg: Land,  
Perishable goods,  
Rare articles

#### 5. Perfectly Elastic Supply $Es = \infty$

Slight change in a price of a commodity leads to infinite change in Qty. supplied



Horizontal line

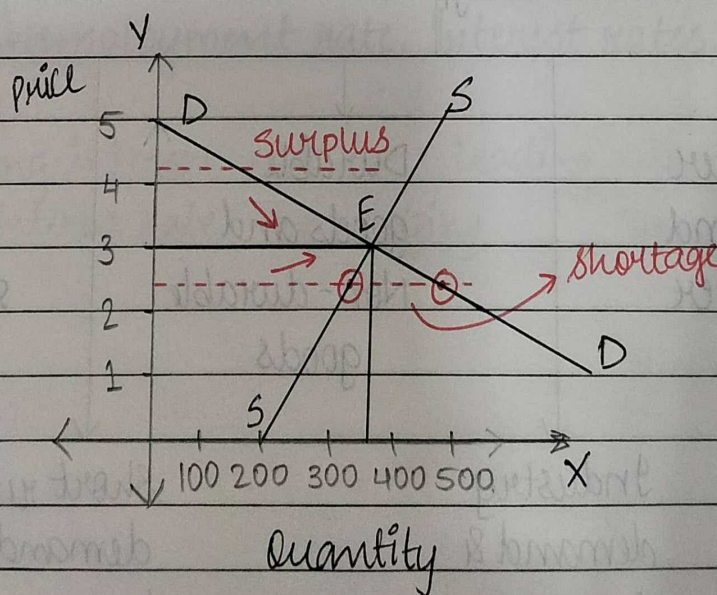




## \*\*\* (V.V.IMP) EQUILIBRIUM PRICE

- \* It is that price where quantity demand = Quantity supply.
- \* Equilibrium price is also known as Market clearing price.
- \* In equilibrium there is neither shortage nor surplus.

Price	Qty. Demand	Qty. Supply	Effect on price
5	100	500	↓ Price
4	200	400	↓ (falls)
3	300	300	Equal
2	400	200	↑ Price
1	500	100	↑ (Rises)

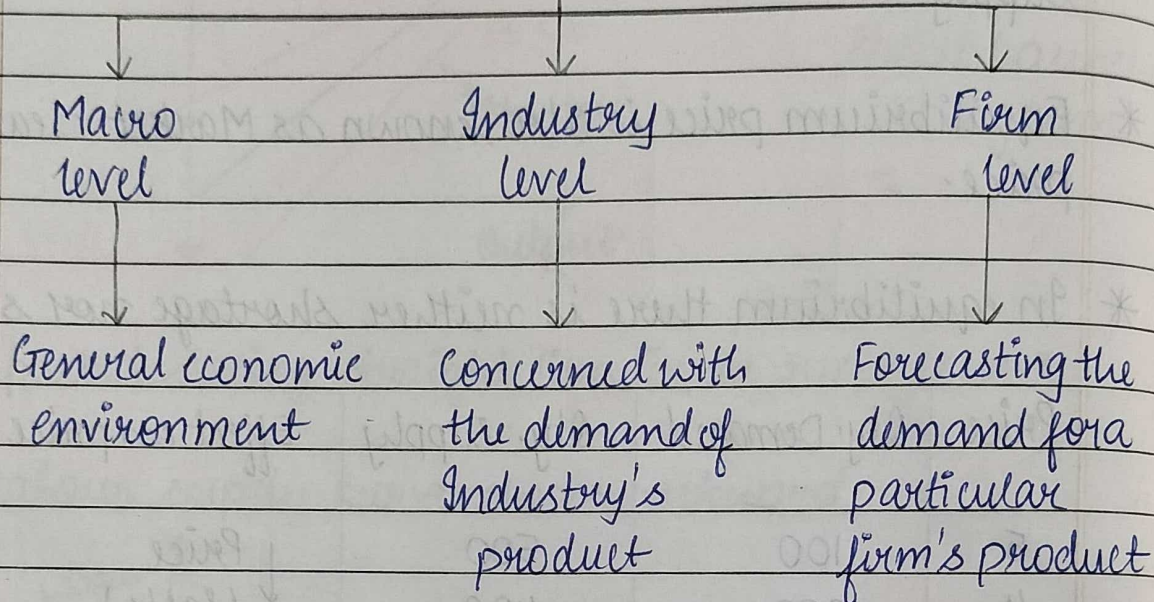






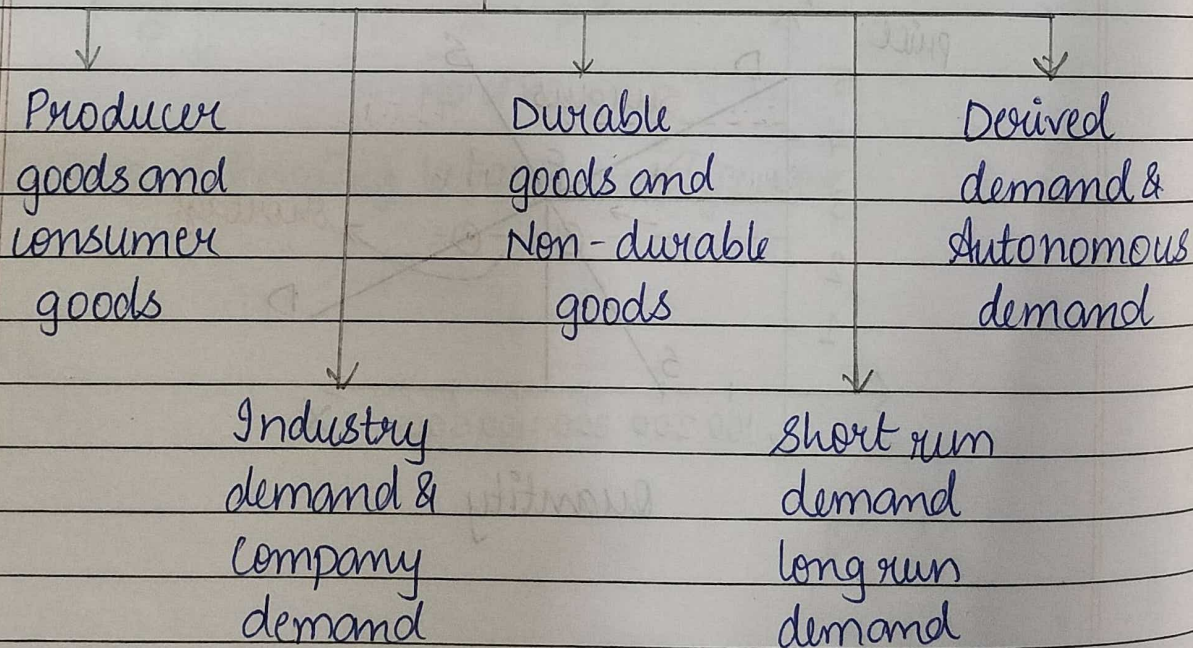
## \* DEMAND FORECASTING

### TYPES OF FORECASTS



## \* DEMAND DISTINCTIONS

### Types







Concurrent

### \* COINCIDENTAL INDICATOR

It has a direct relation. They will change along with the economic changes (simultaneously)

Eg:- GDP, Inflation, Retail sales, Personal Income, Industrial Production

### \* LEADING INDICATORS

All those indicators which will change before the economy changes.

Eg:- Stock Price, Profit margin, Residential investment.

### \* LAGGING INDICATOR

All those indicator which will change after the economy changes.

Eg:- Unemployment rate, Interest rates,

Housing interest rate → Leading

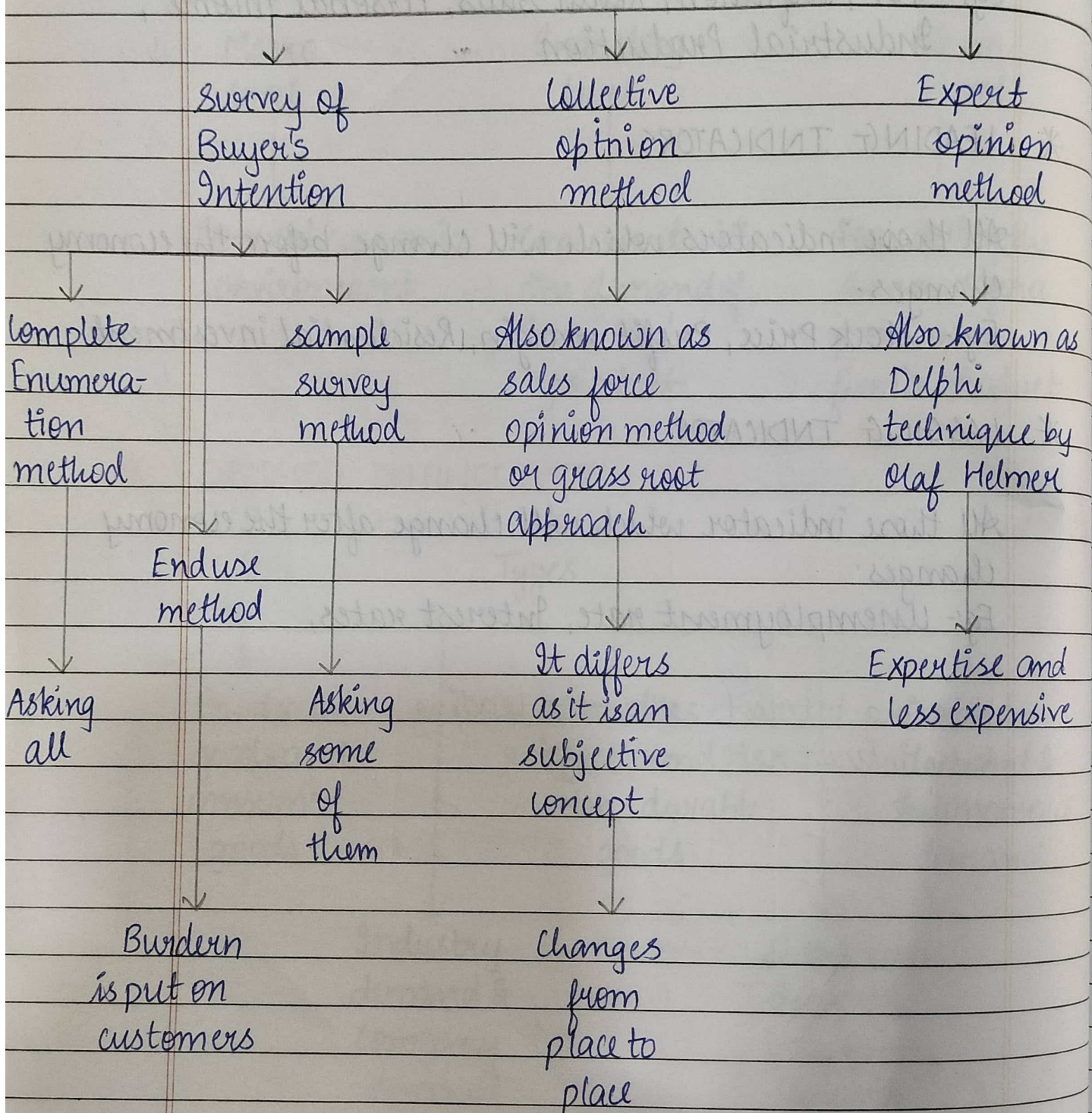
Only interest rate → Lagging





## \* DEMAND FORECASTING

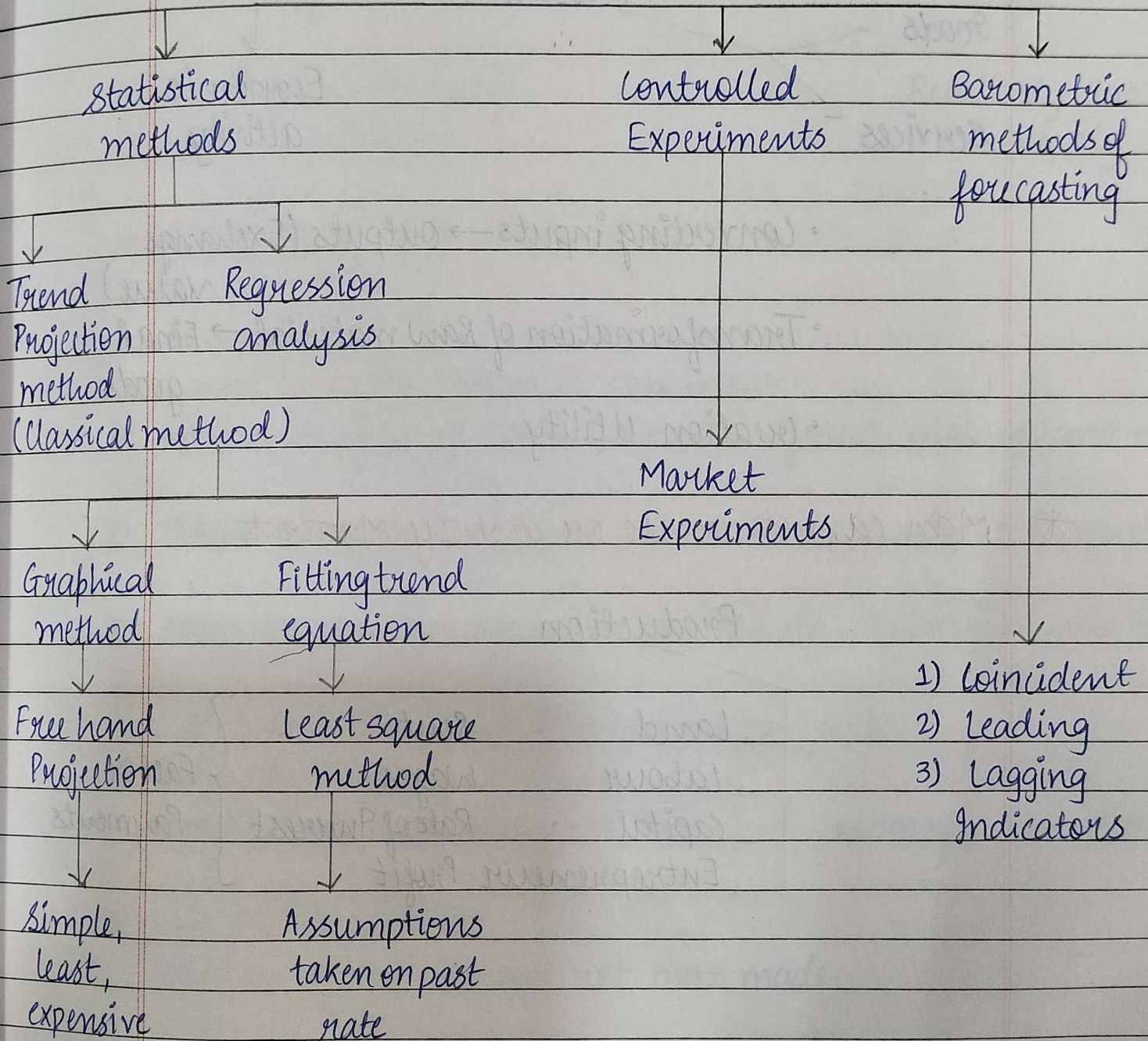
# METHODS OF







# DEMAND FORECASTING







## Ch4 | Price Determination In Different Markets

- Perfect competition
  - Monopoly
  - Monopolistic competition
  - Oligopoly
- } Imperfect competition

Market :-

It is a place where

- buyers and sellers come together and strike a bargain.
- Arrangement between buyer and seller.

Market :-

- Buyers and sellers
- Goods and services
- Price
- Market knowledge

Classification of Markets :-

- Local Market :-  
Perishable goods  
eg:- Milk, eggs



• Regional Market:-  
Semi-durable goods  
eg:- Shoes, shirts

• National Market:-  
Industrial goods  
eg:- Plant and Machine

• International Market:-  
High value goods  
eg:- Gold / silver

• Very Short Period Market:-  
Supply cannot be changed

• Short Period Market:-  
Supply can be changed but limited

• Long Period Market:-  
Supply can be changed unlimited

• Very long Period Market:-  
Also known as Secular Period Market

• Spot Market:-  
Transaction done on the spot

• Future / Forward Market:-  
Transaction done in near future  
eg:- credit sales





- Retail Market :-  
Goods sold to ultimate consumers
- Wholesale Market :-  
Goods sold in bulk quantity
- Regulated Market :-  
Government control  
eg:- Stock Market
- Unregulated Market :-  
No government control  
eg:- Crypto Market

Concept of time  
element



Alfred Marshall



## Revenue

### 1. Total revenue [TR]

$$TR = \text{Price} \times \text{Qty.}$$

### 2. Average Revenue [AR]

$$AR = \frac{TR}{Q}$$

$$\text{Average Revenue} = \text{Price}$$



known as Demand

### 3. Marginal Revenue

Additional revenue earned selling one additional unit

$$MR_n = TR_n - TR_{n-1}$$

OR

$$MR = \frac{\Delta TR}{\Delta Q}$$





Calculate MR when elasticity is given

$$MR = AR \times \frac{e-1}{e}$$

$e = 1$  MR is zero

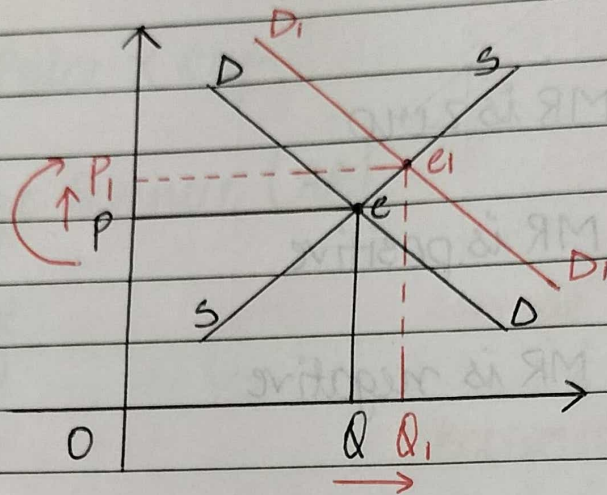
$e > 1$  MR is positive

$e < 1$  MR is negative



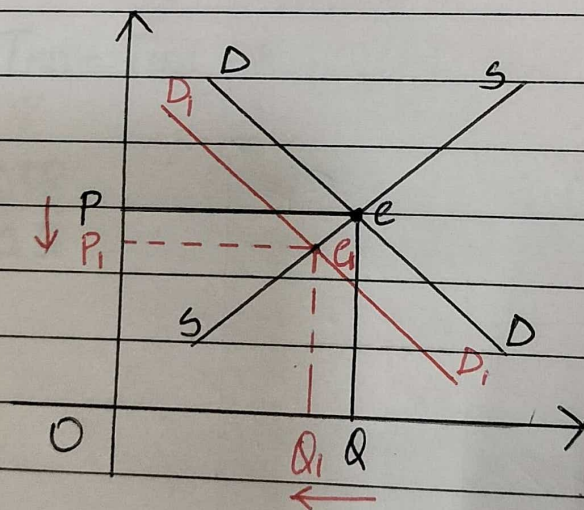
## \* Equilibrium Price

Case 1: When demand  $\uparrow$  supply constant



Qty Demand  $\uparrow$  Price will rise

Case 2: When demand  $\downarrow$  supply constant

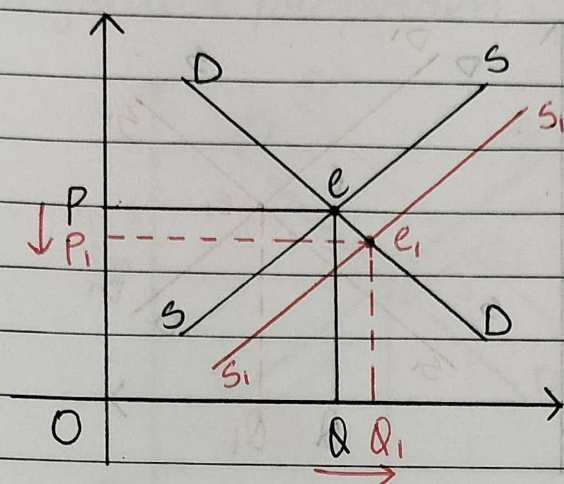


Qty demand  $\downarrow$  Price will fall



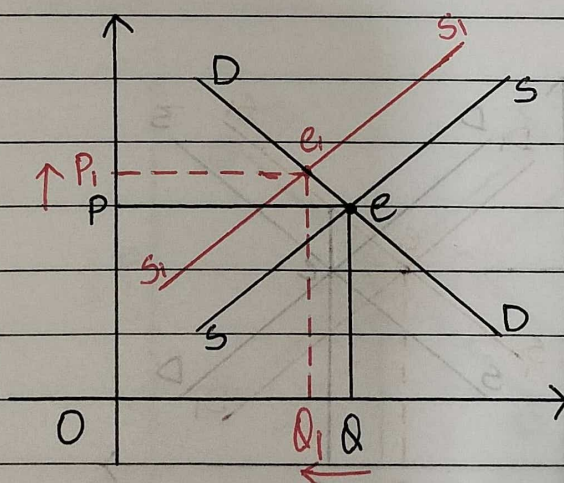


Case 3: When Supply  $\uparrow$  demand constant



Qty Supply  $\uparrow$  Price will  $\downarrow$

Case 4: When Supply  $\downarrow$  demand constant

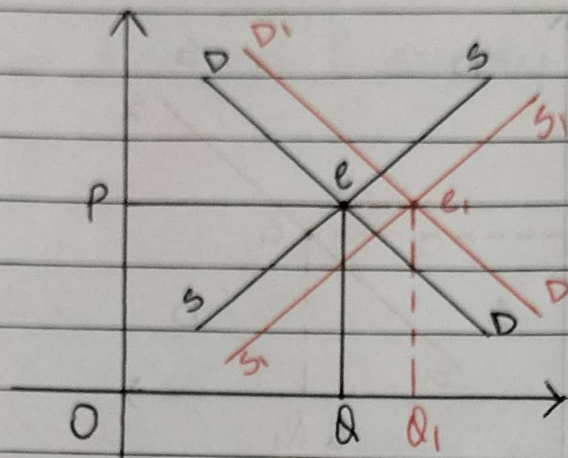


Qty Supply  $\downarrow$  Price will  $\uparrow$



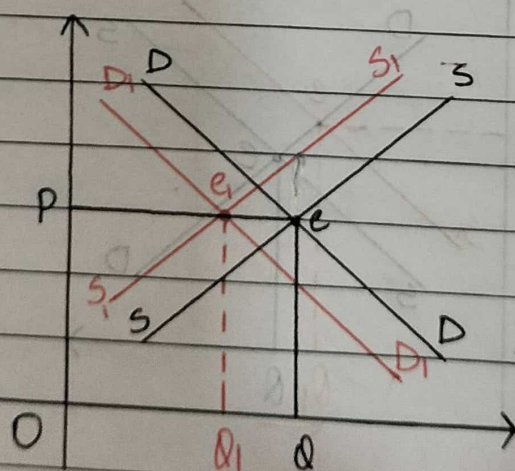


Case 5: When demand  $\uparrow$  & supply  $\uparrow$  in same proportion



Qty demand & supply  $\uparrow$  Price constant

Case 6: When demand  $\downarrow$  & supply  $\downarrow$  in same proportion

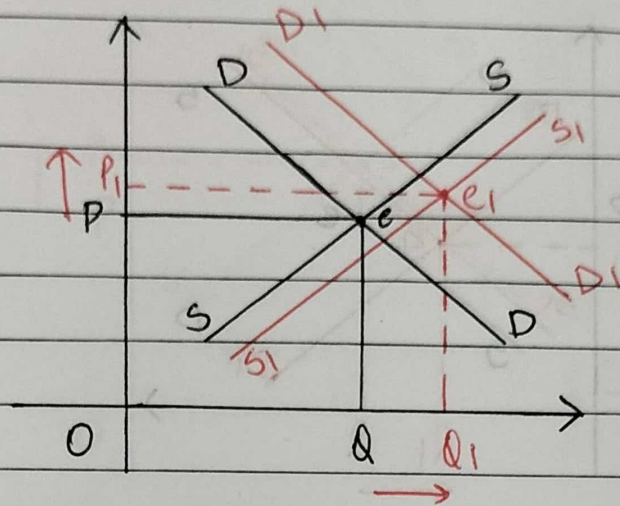


Qty demand & supply  $\downarrow$  Price constant



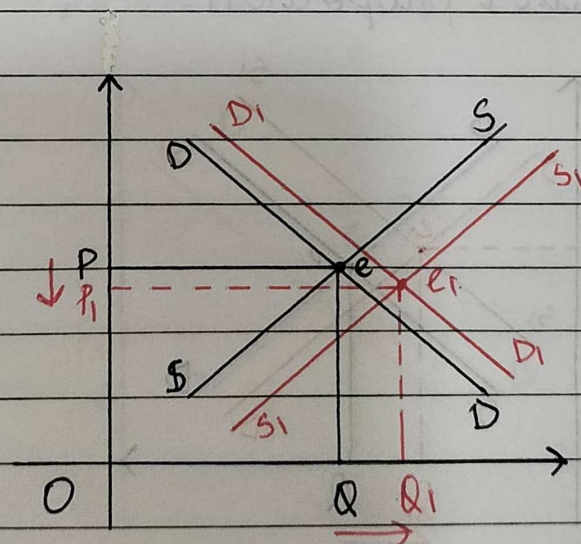


Case 7: When both demand and supply  $\uparrow$  but demand  $\uparrow$  in greater proportion



Qty demand & supply  $\uparrow$  & slight  $\uparrow$  in price

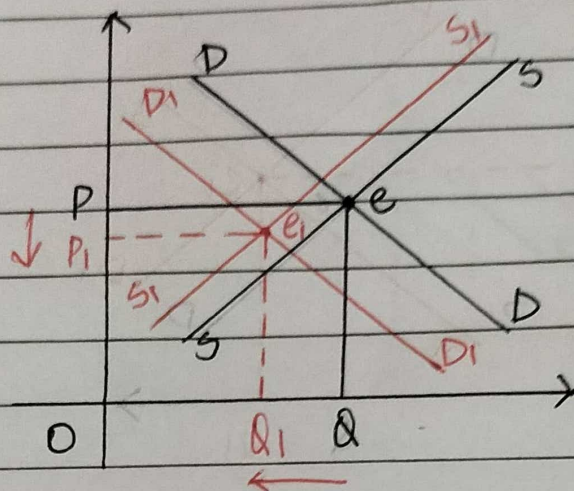
Case 8: When both demand and supply  $\uparrow$  but supply  $\uparrow$  in greater proportion



Qty demand & supply  $\uparrow$   
slight fall in Price

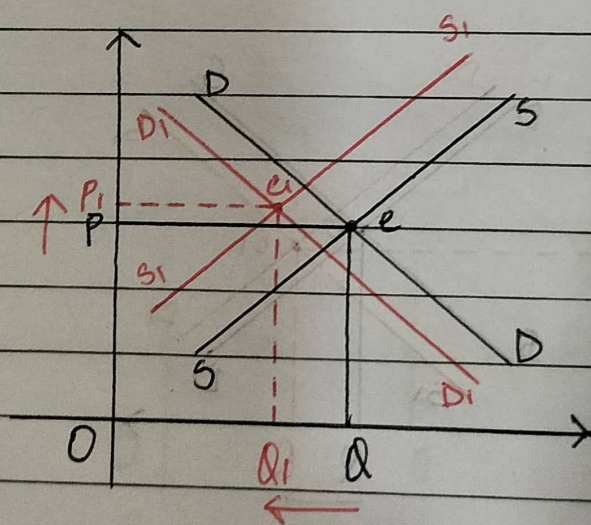


Case 9: When both demand and supply  $\downarrow$  but demand  $\downarrow$  in greater proportion



Qty demand & supply  $\downarrow$   
Slight fall in price

Case 10: When both demand and supply  $\downarrow$  but supply  $\downarrow$  in greater proportion

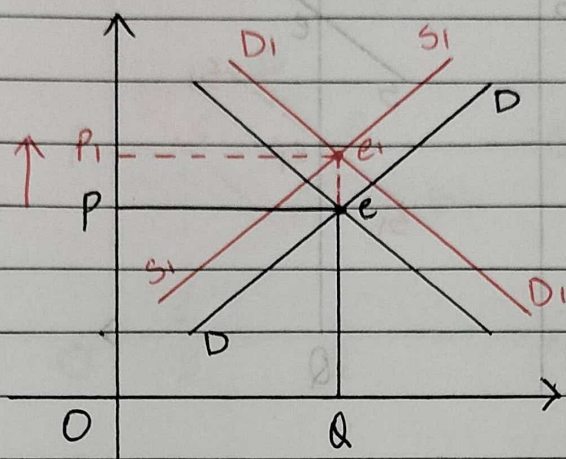


Qty demand & supply  $\downarrow$  Slight Rise in Price



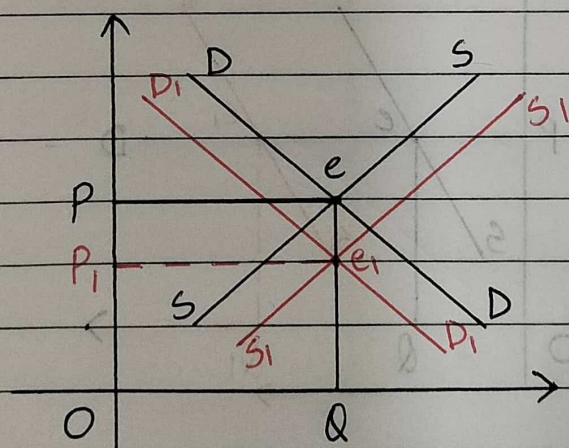


When 11: When demand  $\uparrow$  and supply  $\downarrow$  in same proportion



Qty demand & supply constant.  
Slight  $\uparrow$  in Price

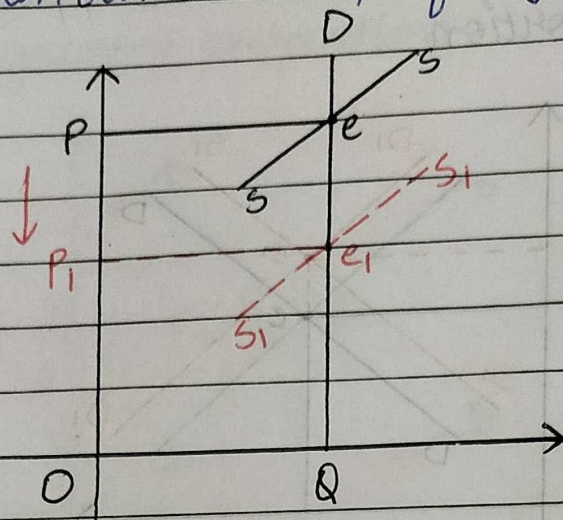
Case 12: When demand  $\downarrow$  and supply  $\uparrow$  in same proportion



Qty demand & supply constant  
Price falls

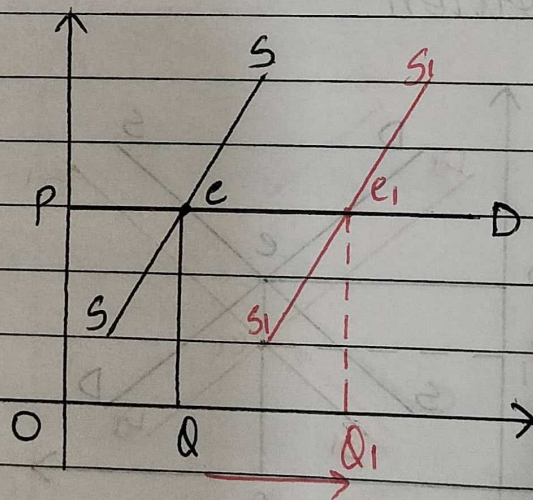


Case 13: when demand is perfectly inelastic and supply



Qty remains constant price falls

Case 14: when demand is perfectly elastic and supply  $\uparrow$

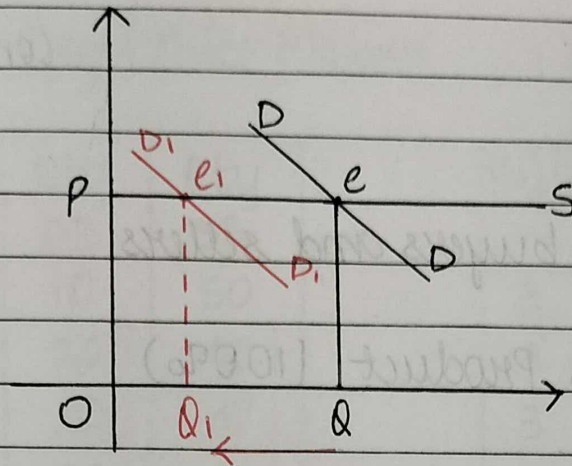


Qty increases & price remains constant





Case 5: When supply is perfectly elastic and demand falls



Qty decreases and price remains constant





## Perfect competition

↓  
Competitive  
Market

1. Large no. of buyers and sellers
2. Homogeneous Product (100%)
3. Free entry and exit \*
4. Uniform Price \*
5. Perfect Mobility
6. Perfect Knowledge

Firm under perfect competition cannot decide price but they can definitely decide the quantity.

Price taker, Firm Price taker \*

8. No Advertisement and selling cost \*
9. No transport cost
10. No Government intervention





## Perfect Competition

↓  
Competitive  
Market

1. Large no. of buyers and sellers
2. Homogeneous Product (100%)
3. Free entry and exit \*
4. Uniform Price \*
5. Perfect Mobility
6. Perfect Knowledge
7. Industry Price Maker, Firm Price taker \*
8. No Advertisement and selling cost \*
9. No transport cost
10. No Government intervention





Slope of demand curve industry under Perfect competition.  
**DOWNWARD SLOPE**

Shape of demand curve firm under Perfect competition  
**HORIZONTAL**

Shape of the demand curve under Perfect competition  
**HORIZONTAL**

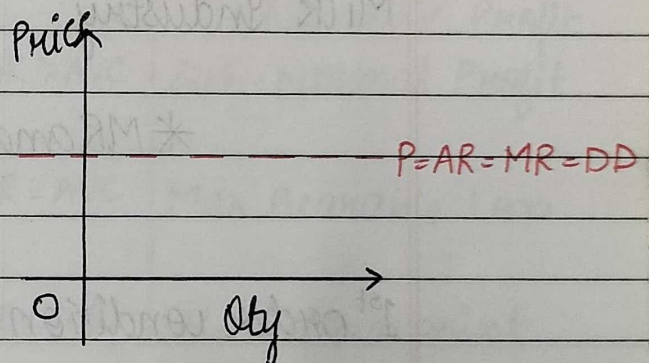
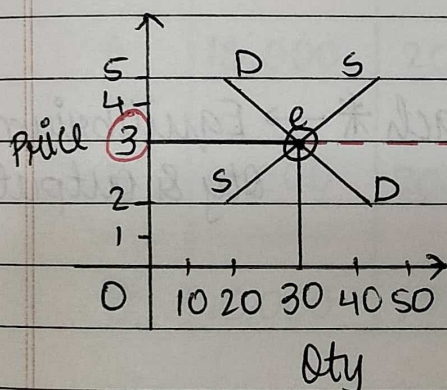
Concept Under PC

Industry [Price Maker]

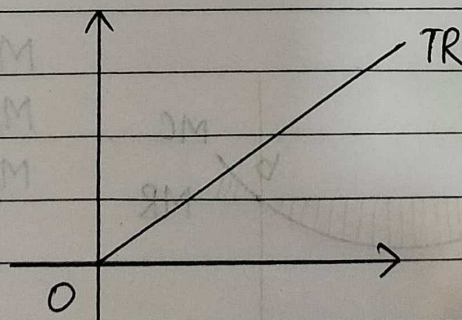
Firm [Price Taker]

Price	Qty DD	Qty SS
5	10	50
4	20	40
3	30	30
2	40	20
1	50	10

Price	Qty	TR	AR	MR
3	1	3	3	-
3	2	6	3	3
3	3	9	3	3
3	4	12	3	3
3	5	15	3	3



TR under PC



\* Shape of TR when firm is price taker \*  
Upward sloping straight line starting from origin



Slope of demand curve industry under Perfect competition.  
**DOWNWARD SLOPE**

Shape of demand curve firm under Perfect competition  
**HORIZONTAL**

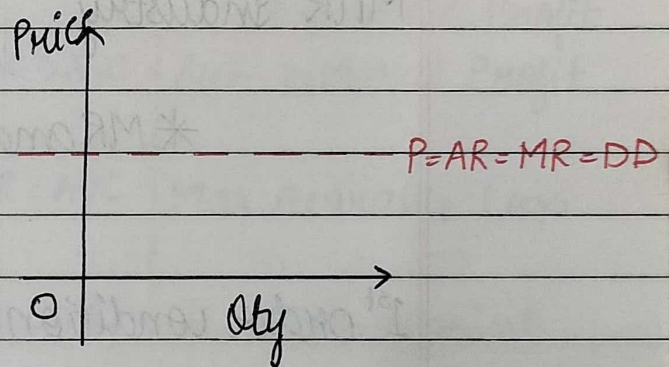
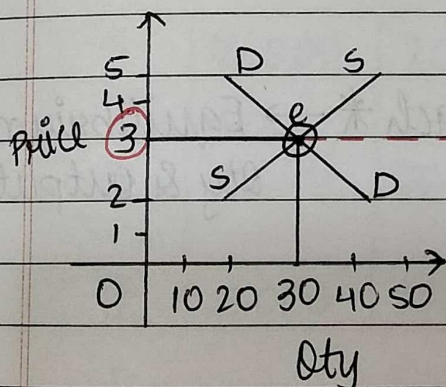
## Revenue Concept Under PC

Industry [Price Maker]

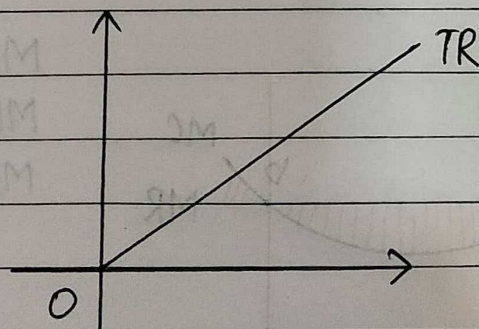
Firm [Price Taker]

Price	Qty DD	Qty SS
5	10	50
4	20	40
3	30	30
2	40	20
1	50	10

Price	Qty	TR	AR	MR
3	1	3	3	-
3	2	6	3	3
3	3	9	3	3
3	4	12	3	3
3	5	15	3	3



TR under PC



\* Shape of TR when firm is price taker \*  
Upward sloping straight line starting from origin





Came from Perfect Competition  
\* Pure competition \*

1. Large no. of buyers and sellers
2. Homogenous Product (98%)
3. Free Entry and Exist

Examples: Food grains & agricultural  
Stock Market  
Foreign Exchange Market  
Milk Industry

} Related to PC also

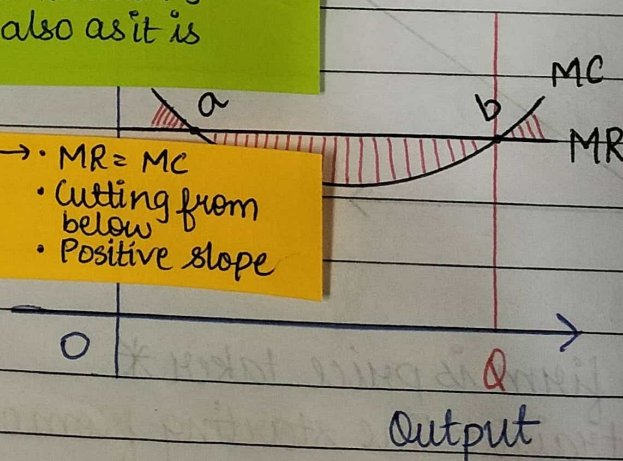
\* MR and MC approach \*  $\rightarrow$  Equilibrium  
Qty & output

1<sup>st</sup> order condition :  $MR = MC$

2<sup>nd</sup> order condition : MC curve should cut MR from  
below. [MC has positive slope]

Before point a  $\rightarrow$  lost  $\uparrow$  Revenue  $\downarrow$  ?  
After point b  $\rightarrow$  lost  $\uparrow$  Revenue  $\downarrow$  } loss  $\times$   
Not on point a also as it is  
above.

Will produce till  $\rightarrow$  point b  
 $\bullet$   $MR = MC$   
 $\bullet$  Cutting from below  
 $\bullet$  Positive slope



$MR > MC \rightarrow$  Output  $\uparrow$   
 $MR < MC \rightarrow$  Output  $\downarrow$   
 $MR = MC =$  Stop

Profit Max  
level



### \*AR and AC Approach\*

$$\text{Average cost (AC)} = \text{AFC} + \text{AVC}$$

$$20,000 = 8,000 + 12,000$$

↓  
Profits &  
losses

Stage	AR	AC	Relation	Name
1	30,000	20,000	$AR > AC$	Super-Normal Profit/ Abnormal Profit
2	20,000	20,000	$AR = AC$	Normal Profit / Zero Economic Profit
3	15,000	20,000	$AC > AR > AVC$	Sub-Normal Profit
4	12,000	20,000	$AC > AR = AVC$	Max Bearable Loss
5	10,000	20,000	$AC > AR < AVC$	Shut down point

Shut down point

$$AR < AVC$$

$$AR = AVC$$

$$P < AVC$$

$$P = AVC$$

$$TR < TVC$$

$$TR = TVC$$

$$\text{Loss} = \text{AFC}$$

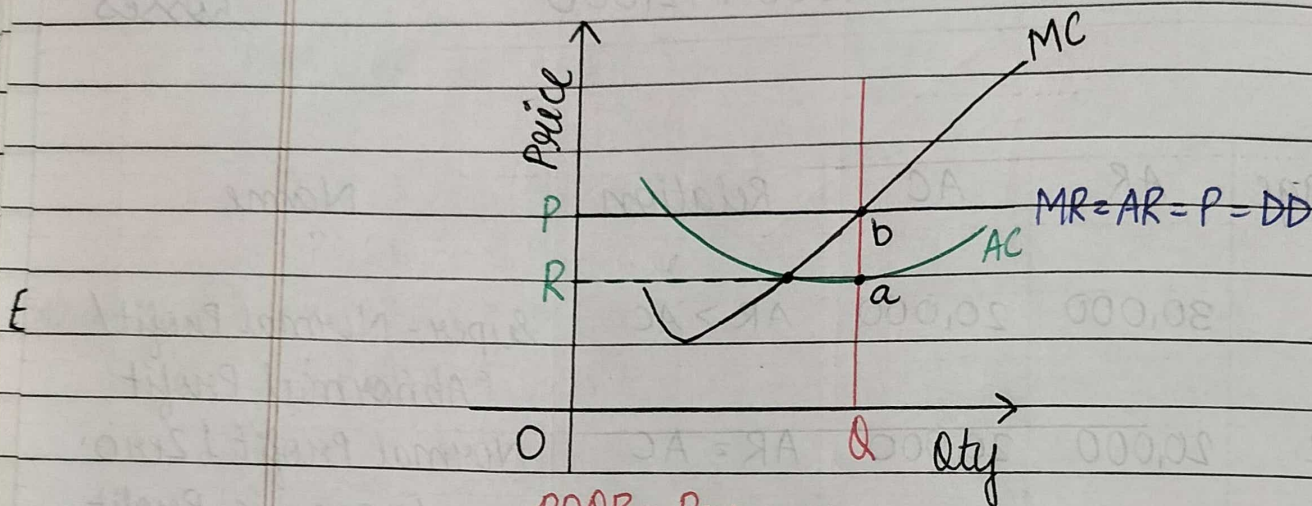
$$\text{Loss} = \text{TFC}$$





## Short Run Equilibrium Under Pc

### \* Super-Normal Profit [ $AR > AC$ ]

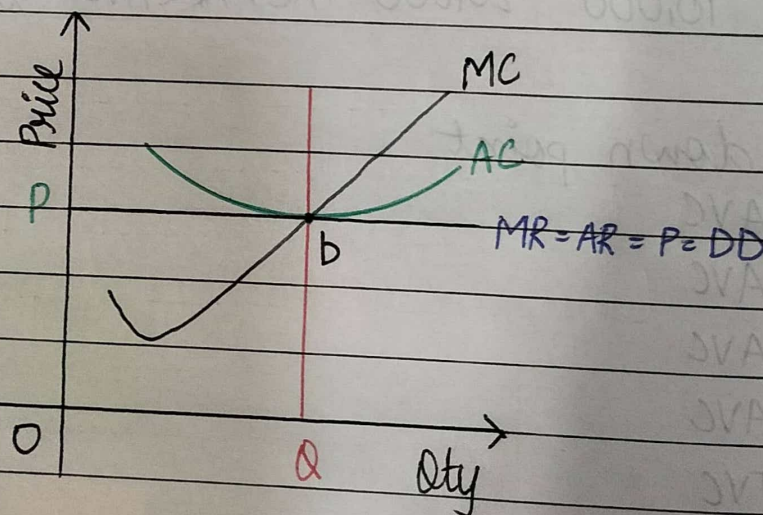


$POQB$  = Revenue

$ROQA$  = Cost

$PRAB$  = Super-Normal Profit

### \* Normal Profits [ $AR = AC$ ]



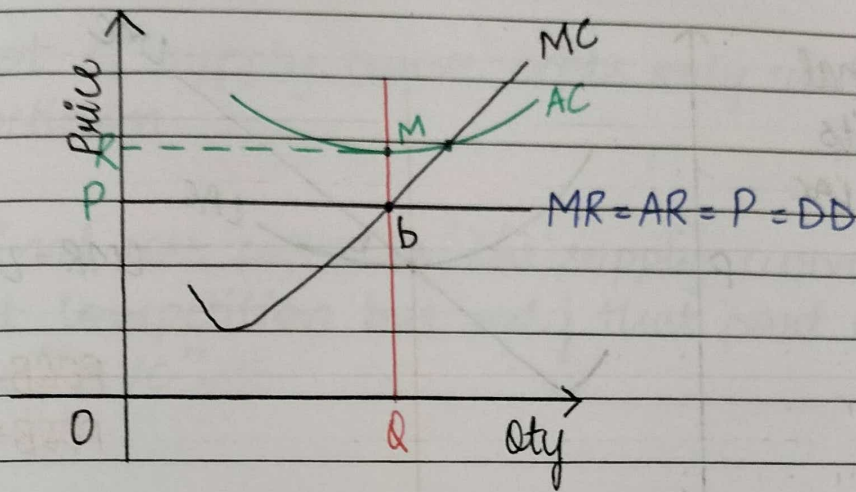
$POQB$  &  $POQB$

= Revenue = Cost





### \* Losses $[AR < AC]$



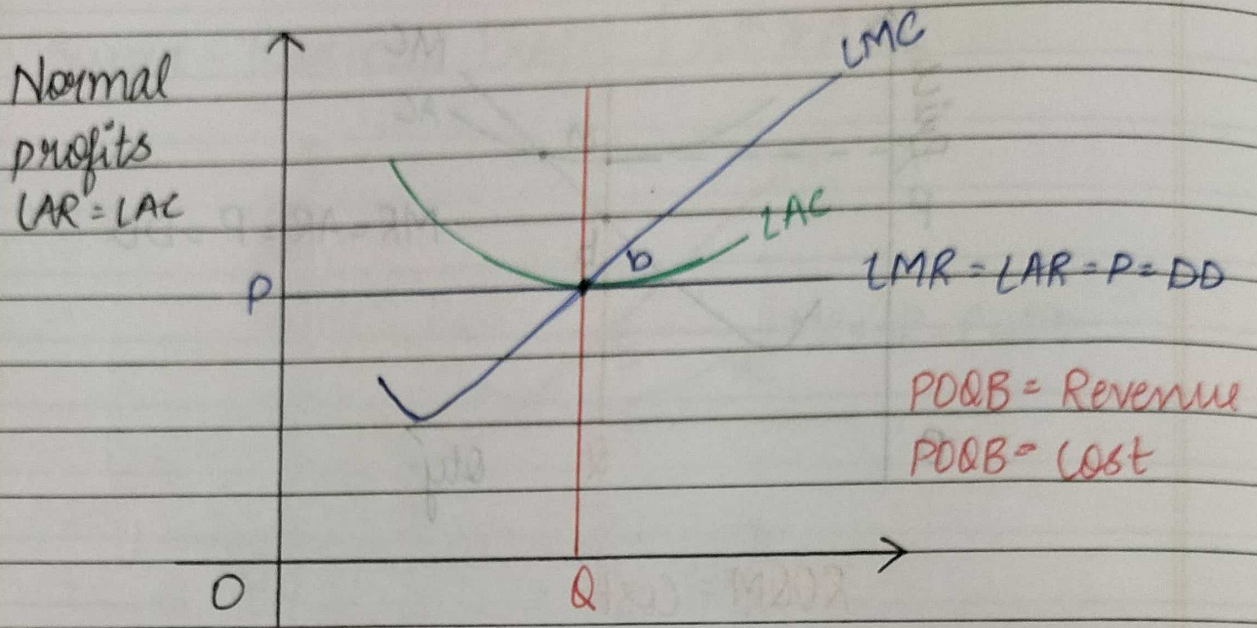
ROQM = Cost

POQB = Revenue

RPBM = Loss



## Long Run Equilibrium PC



In long run under competitive market firm enjoys normal profit due to free entry and exit. (In long run number of sellers increases price falls due to increase in supply)

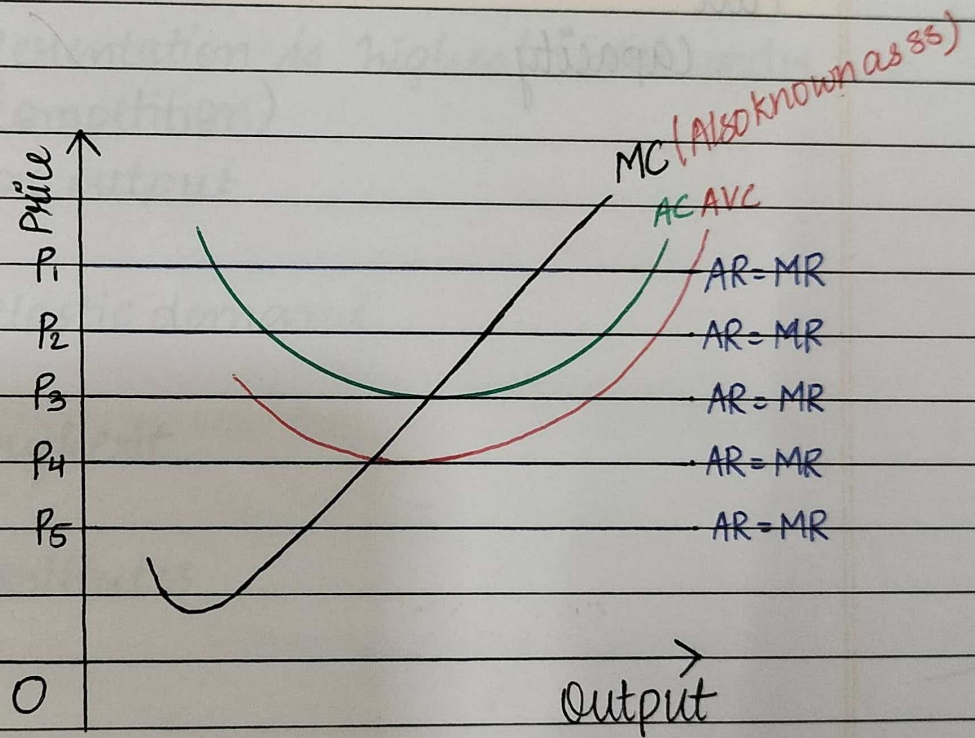
In long run under competitive market firm operates at least cost point (minimum point of AC)  $\therefore$  there is no selling cost and transport cost. (Found only under perfect competition long run)





## Supply Curve Under Perfect competition

- \* Concept of supply curve exists only under Perfect competition.
- \* Marginal cost curve is the supply curve under Perfect competition but only that part which is above "AVC".





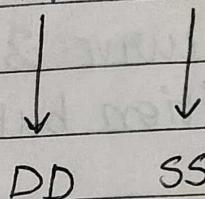


Productive  
efficiency

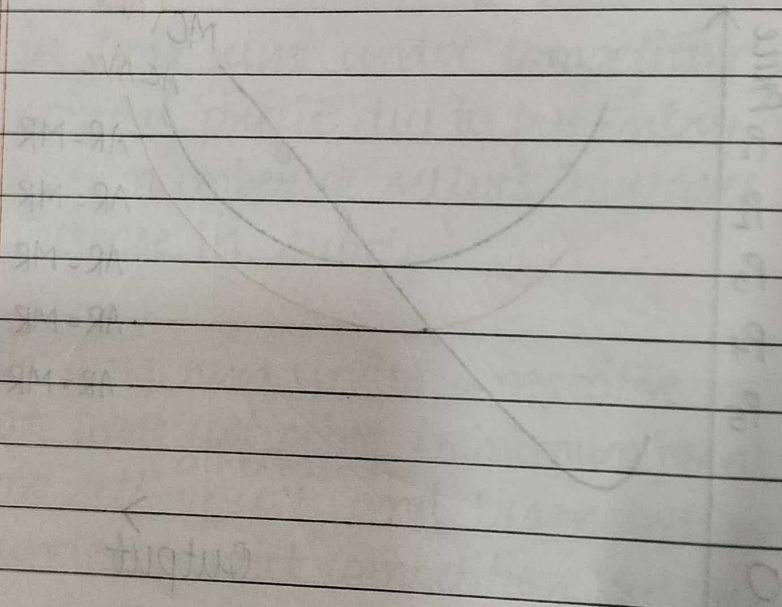
$$: AC = MC$$

Allocative  
efficiency

$$: AR = MC$$



↓  
Full  
capacity







## Monopoly

1. Single seller, many buyers

2. Price maker

3. Firm and industry same

4. Price discrimination

Different prices are charged to different people for the same product.

5. Product differentiation is highest (Exist under monopolistic competition)

6. Either Price or output

7. Relatively inelastic demand

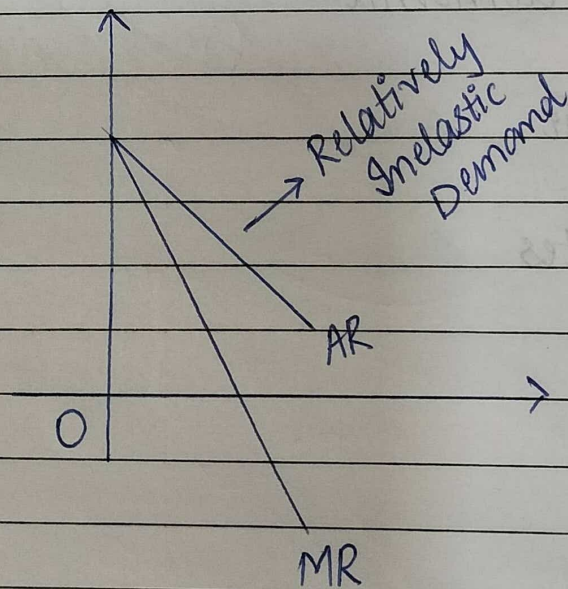
8. No Free entry & exit

9. No close substitutes



## Revenue concept under Monopoly

Price	Qty	TR	AR	MR
10	0	0	0	-
9	2	18	9	9
8	3	24	8	6
7	4	28	7	4
6	5	30	6	2
5	6	30	5	0
4	7	28	4	-2
3	8	24	3	-4



Every additional unit I am selling on discount  
MR ↓

Buy 1 Get 1

loss (to create entry bearers)

1. Shape of DD curve under monopoly.

→ Downward Slope

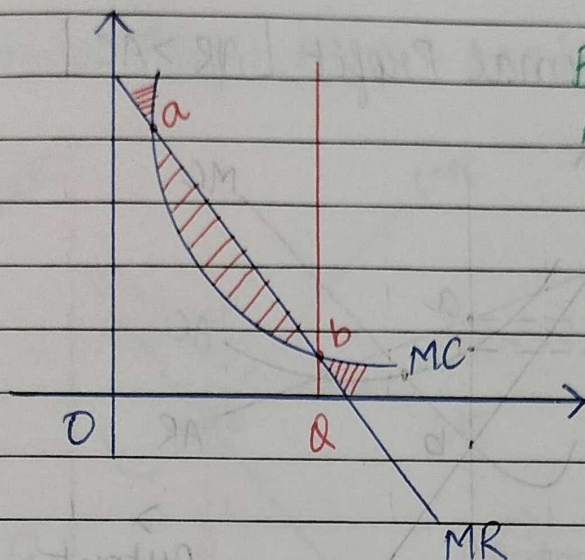
2. Shape of DD curve industry under monopoly.

→ Downward slope (as industry & firm is same)





## MR & MC Approach



Before 'a'  $\rightarrow$  Cost  $\uparrow$  Revenue  $\downarrow$

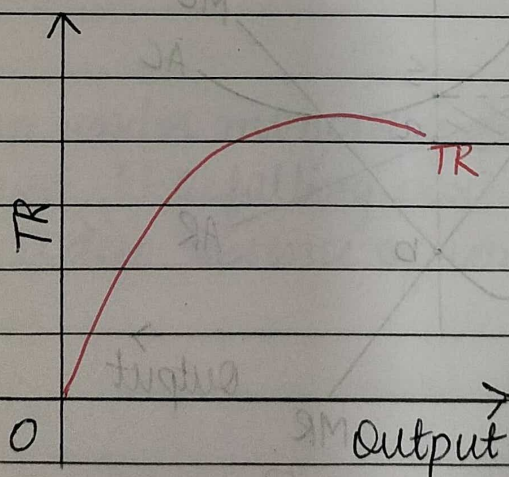
After 'b'  $\rightarrow$  Cost  $\uparrow$  Revenue  $\downarrow$

Between a & b  $\rightarrow$  Yes

MR = MC

MC curve cuts MR from below.

## TR Under Monopoly



Inverted 'U'

OR

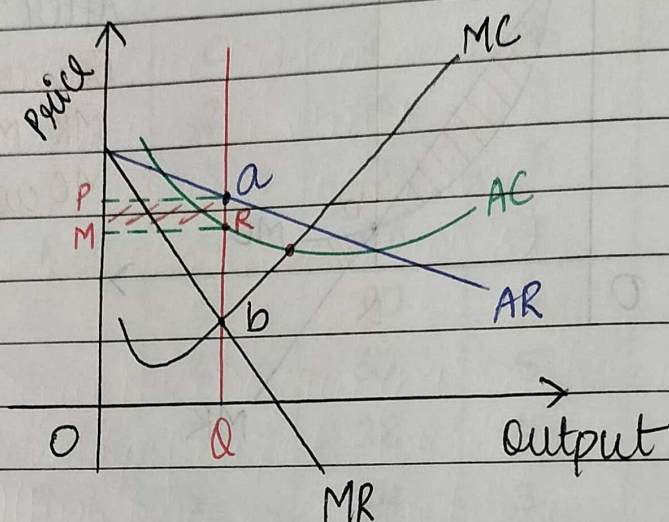
Dome Shape





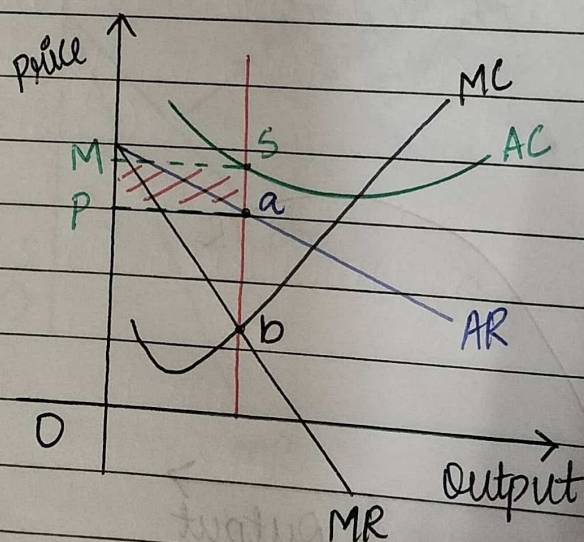
## Short Run Equilibrium

### \* Super-Normal Profit [ $AR > AC$ ]



$POQA = \text{Revenue}$  }  $PMRA = \text{Super-Normal Profit}$   
 $MOQR = \text{Cost}$

### \* Losses [ $AR < AC$ ]



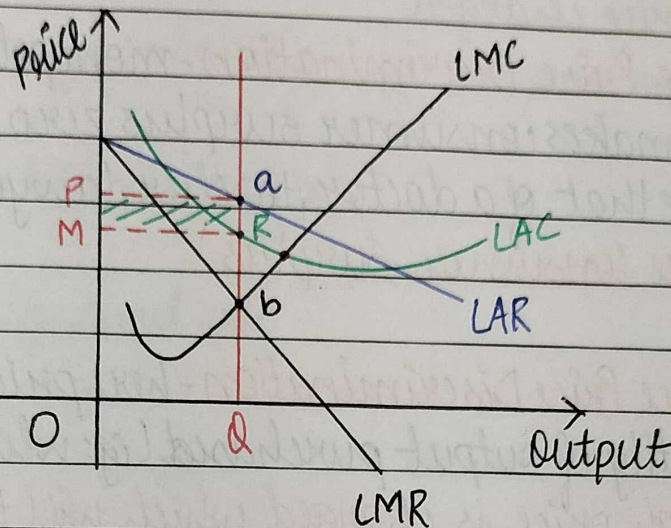
$MOQS = \text{Cost}$  }  $MPAS = \text{Loss}$   
 $POQA = \text{Revenue}$





## Long Run Equilibrium

\* Super-Normal Profit [ $LAR > LAC$ ]



POQA = Revenue } PMRA = Super-Normal Profit  
MOQR = Cost }

In long run under monopoly market they enjoy super normal profit since there is no free entry and exit

In long run under monopoly firm operates at sub optimal level (i.e falling part of LAC on equilibrium line) this is due absence of competition.





## Price Discrimination

- Prof. Pigou's three-way classification of Price Discrimination-  
very high price charged

1. **First Degree Price Discrimination** - monopoly fixes a very high price which makes consumer surplus zero (eg: personalized services like that of a doctor, teacher, lawyers, etc.) (Takes away entire consumer surplus)

completely  
loot liya

2. **Second Degree Price Discrimination** - here price varies according to the quantity of output purchased (eg: wholesaler & retail buying) (High price is charged which will take away a part of consumer surplus)

location / submarkets

3. **Third Degree Price Discrimination** - market is divided into different segments on the basis of age, use, gender, etc. and a different price is charged from each segment of the market (eg: railways, electricity etc.) (Different price in different submarkets) When different prices are charged to different consumer location to location different price are charged to

Ghatkoper  
Valkashwar

\* **Objectives of Price Discrimination** different consumer having different elasticity

- To maximise Profit
- To sell off surplus stock
- To enjoy economies of scale (to reduce cost of production)
- To capture foreign market Dumping → China
- To secure equity through pricing (equitable distribution of income)





## Monopolistic Competition



## Perfect Competition + Monopoly

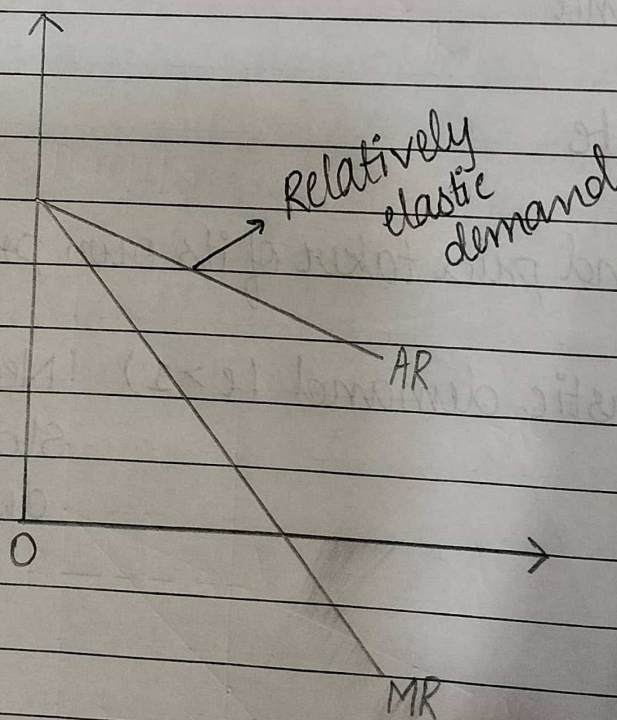
1. Fairly large number of buyers and sellers
2. Product differentiation
3. Free entry and exit
4. Selling cost
5. Concept of Group
6. Concept of Brand
7. Close substitute
8. Price maker and price taker of its own product
9. Relatively elastic demand ( $e > 1$ ) (Negative / Downward slope highly elastic demand)





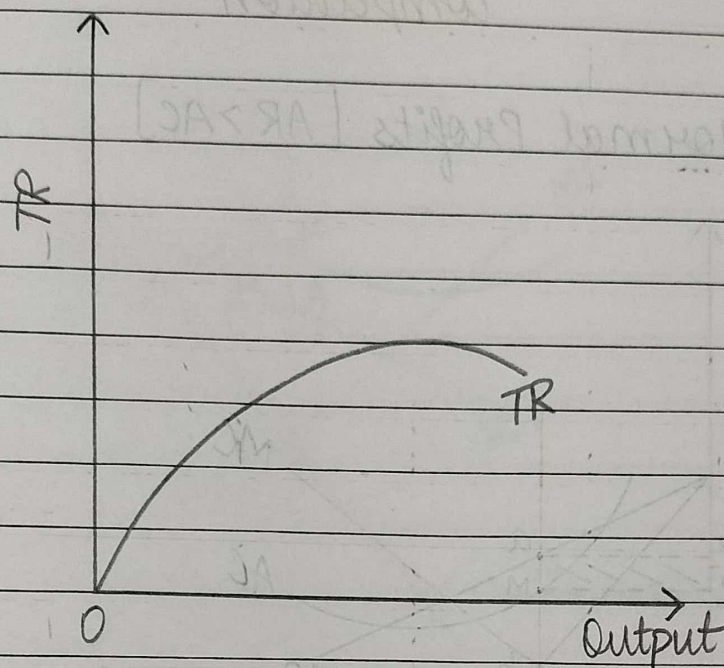
## Revenue concept under Monopolistic Competition

Price	Qty	TR	AR	MR
10	0	0	0	-
9	2	18	9	9
8	3	24	8	6
7	4	28	7	4
6	5	30	6	2
5	6	30	5	0
4	7	28	4	-2
3	8	24	3	-4





TR under monopolistic competition



Inverted  
'U'

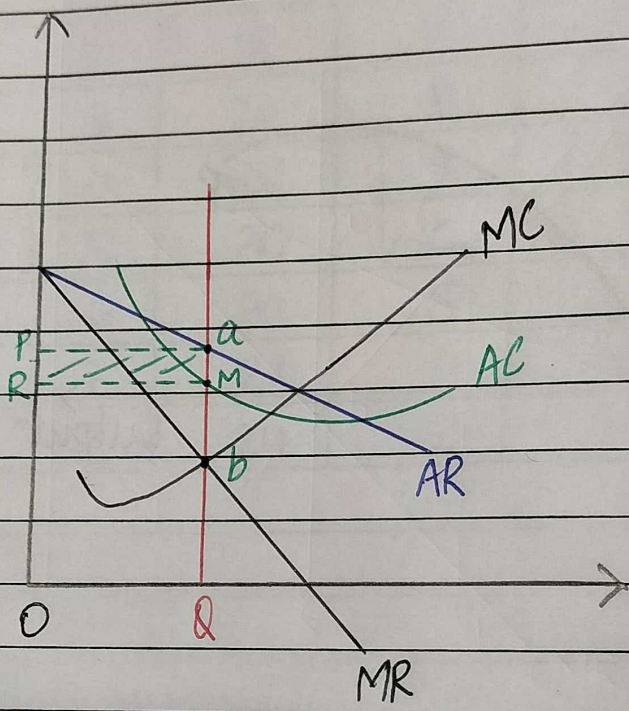
Dome Shaped



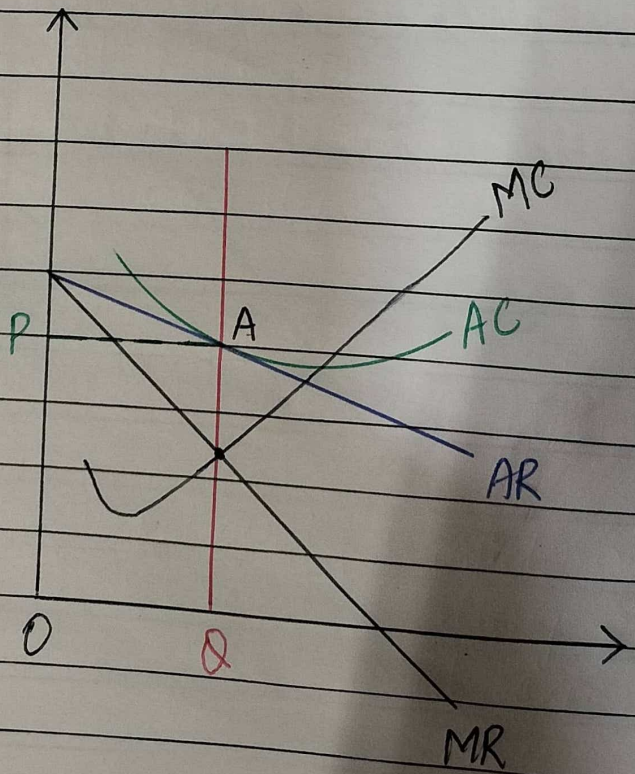


# Short Run Equilibrium under Monopolistic competition

Super Normal Profits [ $AR > AC$ ]



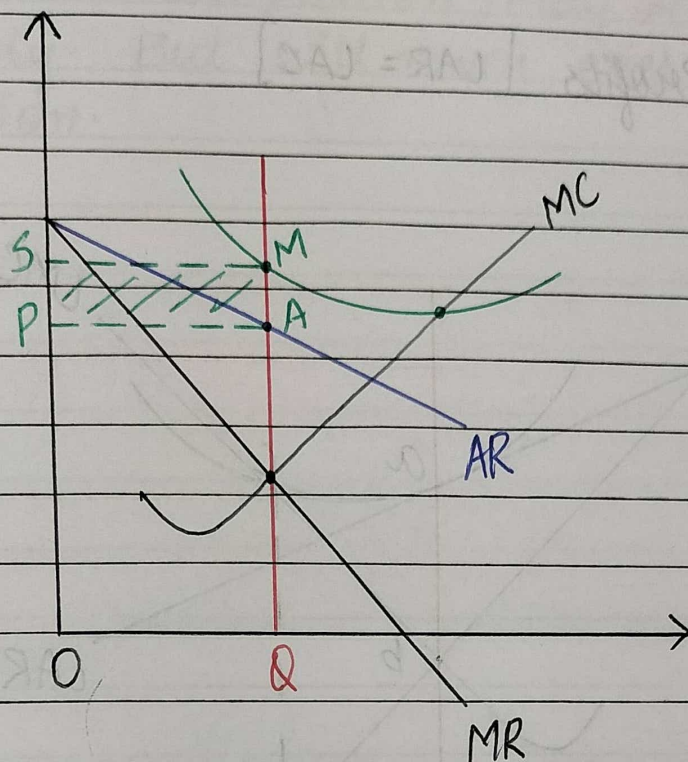
Normal Profits



POQA  
↓  
Revenue  
&  
cost



Losses



$SQQM = \text{Cost}$

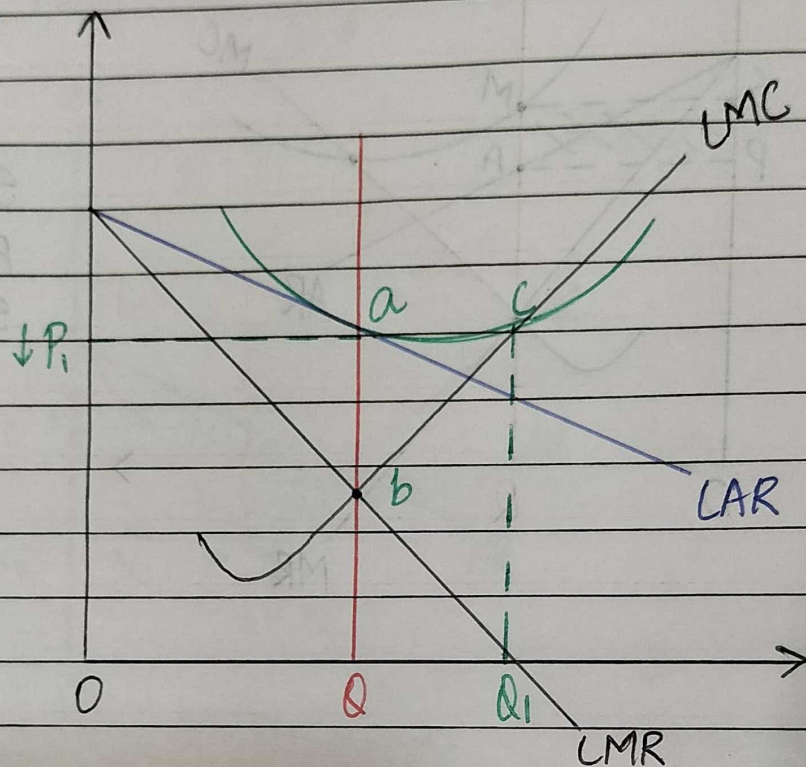
$POQA = \text{Revenue}$

$SPAM = \text{Loss}$



# Long Run Equilibrium under Monopolistic Competition

Normal Profits [ $LAR = LAC$ ]



Excess Capacity

least cost output - Profit Maximising Output

$OQ_1 \rightarrow$  least cost output

$OQ \rightarrow$  Profit Max output

$OQ_1 \rightarrow$  Excess Capacity

1. In long run under monopolistic competition firm enjoys normal profit due to free entry and exist
2. In long monopolistically competitive market operates at suboptimal level i.e falling part of LAC this is due to heavy advertisement expenditure.



3. Concept of Excess capacity definitely exist under monopolistic competition. May or may not under monopoly. But will never exist under Perfect competition.





## ⑤ Oligopoly

1. Few and countable seller (competition among few)
2. Inter dependence
3. Homogeneous or differentiated
4. Selling cost
5. Concept of group
6. No free entry no blocked entry
7. Price Rigidity





## Types of Oligopoly

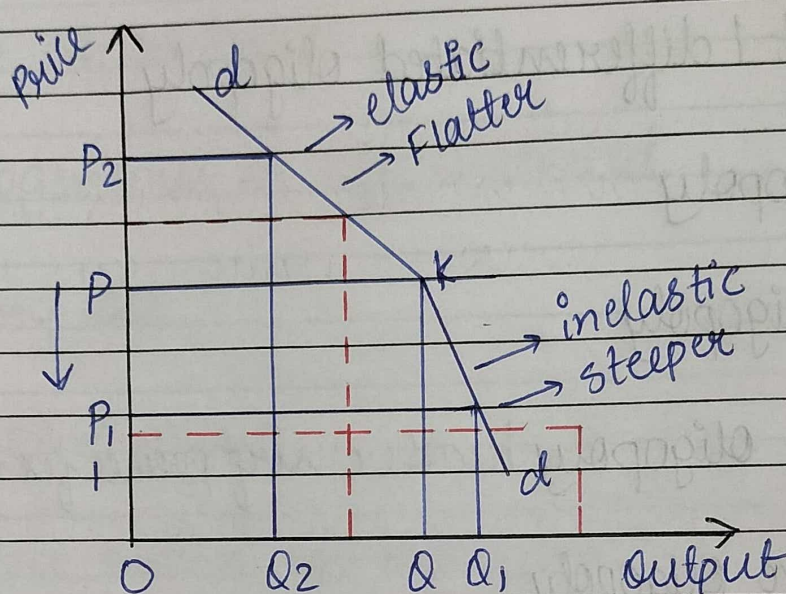
1. Pure and Perfect Oligopoly
2. Imperfect / differentiated oligopoly
3. Open Oligopoly
4. Closed Oligopoly
5. Collusive Oligopoly leader sirf price fix karta hai
6. Competitive Oligopoly
7. Partial Oligopoly follow the leader constant
8. Full Oligopoly No leader in group
9. Syndicated Oligopoly 5 seller milke litiga (regulatory body) → eg: OPEC
10. Organised Oligopoly

→ More producer concept than organised



## Kindred Demand Curve

Paul Sweezy      Price Rigidity



Case 1: Price ↓

Case 2: Price ↑

1. In Kinked Demand Curve Analysis response of consumer is more in case of rise in price
  2. Oligopoly may charge less price compare to monopoly and more price compare to Perfect competition
- \* Duopoly: It is a market situation in which there are only two firms in the market.
  - \* Monopsony: It is a market which has only one single buyer of a Product or Service.
  - \* Oligopsony: It is a market which has small number of large buyers.
  - \* Bilateral Monopoly: In this market there is only a single buyer and single seller.  
(Monopoly market + Monopsony market)



## CH-6 :- Determination of National Income

earned income

Nation

CSO NSO

→ National Income (- Depreciation)

• National Income is a money value of all final goods & services produced in a domestic economy during a Financial year + NFIA.

→ GDP (+ Depreciation)

• GDP is a money value of all final goods & services produced in a domestic economy during a F.Y.

\* Precautions while calculating National Income.

1) All earned income to be added in national income.

2) All unearned income like Gift, Grant, charity, donations, scholarship, pension, etc to be ignored since they are transfer payments & transfer income.

3) Anything produced for self consumption to



be added in national income.

4) Any kind of financial investment where money is invested in shares, bonds, FD's, not to be recorded. However interest & dividend earned over it to be added in National Income.

(National Debt interest not to be recorded in National Income).

5) Any kind of second hand transaction or old product where production is done in P.Y. not to be added in C.Y.

6) Any kind of illegal income where money is earned via smuggling, black marketing, hawala transaction, not to be added in national income.

7) Any kind of windfall gains or losses not to be added in national income since neith-



- er good nor service are produced

8) Foreign Company goods in India value of goods produced to be added profit to be excluded.

9) Rent, Wages, Intrest, profit, commision, brokerage mixed income to be added in national income since they all come under national income.

10) Value of only final goods to be added raw material, Intermediate goods, work in progress, semi finished goods not to be recorded since it will lead to double counting.

11) All exports & Receipts are added & all imports & payments are deducted.

12) Change in stock, inventory investment, business stock, Stock of govt. goods to be



added in national income.

→ Transaction done in same year take net value

Profit - Entrepreneur,

Gain - Personal.

\* Formulas \*

$(R - P) = \text{Receipts} - \text{Payments}$

$x = \text{export}$

$m = \text{import}.$

$D = \text{Demand}.$

$IT = \text{Indirect Tax}$

$S = \text{Subsidy}$

$(x - m) = \text{export} - \text{import}$

$C = \text{consumption}$

$MP = \text{Market Price}$

$I = \text{Investment}$

$FC = \text{Factor Cost}.$

$G = \text{Government}$

→ Concept of National Income.

i)  $GDP_{MP} :- C + I + G + (x - m)$

$GDP_{FC} :- C + I + G + (x - m) - IT + S$



$$2) \text{GNP}_{MP} : C + I + G + (X - M) + (R - P)$$

$$\text{GNP}_{FC} : C + I + G + (X - M) + (R - P) - IT + S$$

$$3) \text{NDP}_{MP} : C + I + G + (X - M) - D$$

$$\text{NDP}_{FC} : C + I + G + (X - M) - IT + S - D$$

$$4) \text{NNP}_{MP} : C + I + G + (X - M) + (R + P) - D$$

$$\text{NNP}_{FC} : C + I + G + (X - M) + (R + P) - IT + S - D$$

### \* Shortcuts \*

$$\rightarrow \text{GNP}_{MP} = \text{GDP}_{MP} + \text{NFIA}$$

$$\rightarrow \text{GDP}_{MP} = \text{GNP}_{MP} - \text{NFIA}$$

$$\rightarrow \text{Net} = \text{Gross} - \text{Depreciation}$$

$$\rightarrow \text{NDP}_{MP} = \text{GDP}_{MP} - \text{NFIA}$$

$$\rightarrow \text{Net} = \text{Gross} - \text{Depreciation}$$



$$\rightarrow \text{Gross} = \text{Net} + \text{Depreciation.}$$

$$\rightarrow \text{NNP}_{\text{mp}} = \text{GNP}_{\text{mp}} - \text{Depreciation.}$$

$$\rightarrow \text{NNP}_{\text{mp}} = \text{GDP}_{\text{mp}} + \text{NFIA} - \text{Depreciation.}$$

$$\rightarrow \text{Factor Cost} = \text{Market Price} - \text{IT} + \text{S}$$

$$\rightarrow \text{Market Price} = \text{Factor Cost} - \text{IT} - \text{S}$$

### \* Income Method

$$\begin{aligned} \text{NNP}_{\text{Fc}} : & \text{Compensation of employees [Salary + Wages]} \\ & + \\ & \text{Operating Surplus [Rent + Interest + Profit]} \\ & + \\ & \text{Mix Income} \\ & + \\ & \text{NFIA,} \end{aligned}$$

$$\rightarrow \text{Personal Income} = \text{National Income.}$$



Wages + Interest + Profit + Dividend + NFIA + Rent  
+ Mixed Income - Undistributed Corporate Profit  
- Corporate Profit tax - Social Security contribution.

\* Personal Income (Acc to ICNII)

Personal Income = National Income + Income  
Received but not earned  
- Income earned but not  
Received.

\* Private income

Factor income from net domestic product

+

NFIA

+

Current transfer from Government.

+

Other net transfer from rest of the world.



National GDP   NI	Real GDP   NI
→ Basis of Price	→ Basis of Output
→ Current Price	→ Constant Price
→ False Growth	→ True Growth.

Pen .	Case 1	Case 2
Output : 100,000	Output : 100,000	Output : 200,000
Price : 2 ₹	Price : 4 ₹	Price : 2 ₹
Value : 200,000	Value : 400,000	Value : 400,000

GDP deflator → Price Index.

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



→ GDP deflator helps us to measure changes in price that is inflation.

→ It takes into consideration both nominal GDP as well as Real GDP.

→ The word deflator means to deflate or to take inflation out of GDP.

→ It is a price index used to convert nominal GDP into real GDP.

→ The deflator means to deflate or to take inflation out of GDP.

→ It is a price index used to convert nominal GDP into real GDP.

→ The deflator measures the changes in the price that has occurred b/w base year & the current years.



## \* Sums

① Real GDP = 4700

Nominal GDP = 3000

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

$$= 63.62 < 100$$

= Prices have fallen.

② Nominal GDP = 1200

Real GDP = ?

Price Index = 110

$$110 = \frac{1200}{?} \times 100$$

$$= 1090.90$$

③ Nominal GDP = ?

Real GDP = 450



$$\text{GDP deflator} = 120$$

$$120 \text{ €} \xrightarrow{?} \text{US\$} \xrightarrow{\div} 100$$

$$= 540$$

\* Calculate inflation in C.Y.

$$\text{Inflation for. C.Y.} = \frac{\text{GDP deflator C.Y.} - \text{GDP deflator P.Y.}}{\text{GDP deflator P.Y.}} \times 100$$

\* Sums

Year      GDP deflator

2018      100

2019      113.63

2020      130.25

for 2019

$$= \frac{113.63 - 100}{100} \times 100$$



$$= 13.36 \%$$

for 2020

$$= \frac{130.26 - 113.83}{113.83} \times 100$$

$$= 14.63 \%$$

\* methods of calculating National Income.

GDP  $\leftarrow$  GVAmp : Value of Output — Value of intermediate consumption.

GVAmp : Sales +  $\downarrow$  change in stock — intermediate consumption

$$\left[ \begin{array}{cc} \text{Closing} & \text{Opening} \\ \text{Stock} & \text{Stock} \end{array} \right]$$

\* Sums (Pg no 303)

$$1) C + I + G + (sc - m)$$

$$= 750 + 250 + 100 + (100 - 200)$$



$$= 1000$$

2) GDP<sub>mp</sub>

Personal consumption (+)	6500
State gouv. con. & inv. exp (+)	2000
Central gouv. con & inv. exp (+)	500
Change in Inventory (+)	100
GDP, domestic fixed inv. (+)	1200
(Export - Import) (+)	<u>(300)</u>
	<u>10,000</u>

+ NAA	100
(-) Dep.	(100)
(-) Net	<u>(150)</u>
	<u>9750</u>

3) GDP<sub>mp</sub> & NI

Inventory Mgm	100
(Export - Import)	100
Personal consumption exp	3500
Gross residential inv.	300
Stock Govt. purchased	1000



Gross Public inv. 200

Gross business fix inv. 300

NI 5500

- FI 50

- Dep. 50

- IT 100

5300

5) Value of output in primary sector 500

Value of output in Tertiary 700

Value of output in secondary 900

2100 (A)

Intermediate consumption in tertiary 300

" " " primary 250

" " " secondary 300

850 (B)

= A - B

= 2100 - 850

= 1250

NEFA -(20)

1230



15) Private final consumption expenditure	290
Govt. " " "	50
Gross Domestic F.C. information.	105
Net addition to stock.	<u>15</u>
	460
(-) Net export	<u>(5)</u>
	455
- Consumption of F.C.	(45)
IT	(70)
NFIA	(5)
Subsidies	<u>20</u>
	<u>355</u>

14)

Sales	1000
+ Change in stock (CL-OP)	(100)
(-) Intermediate consumption	<u>300</u>
GDP <sub>mp</sub>	600
(-) Depreciation	<u>150</u>
NDP <sub>mp</sub>	450
(+) NFIA	10



(+) S

10

(-) IT

50

420

12)

Gross investment

90

Net export

10

PEE

350

GP of G/S

100

550

-IT

(5)

545

19)

Wages

10,000

Rent

5,000

Int.

400

Div.

3,000

Mixed Income

400

UID profit

200

SSC

400

CPT

400



(+) NFI

19,800

1,000

20,800

4) GDP<sub>mp</sub>

6000

(R-P)

(75)

(-) Dep.

(800)

(-) IT

(700)

NI

4425

(-) Retained earnings

(600)

(+) Transfer Payment

1300

PI

5125

(-) Personal IT

(1500)

PDI

3625

11) a) NDI

= Mixed income + Operating Surplus + Compensation  
of employees -

= 28000 + 10000 + 24000

= 62000



$$b) \text{ GDI}$$

$$= \text{NDI} + \text{Depri.}$$

$$= 62000 + 1700$$

$$= 63700$$

$$c) \text{ NNI}$$

$$= \text{NDI} + \text{NFI}$$

$$= 62000 + \text{NFI}$$

$$= \begin{array}{r} 62000 \\ (300) \\ \hline 61700 \end{array}$$

$$\text{NNP}_{FC} = 61700$$

$$9,000$$

$$\underline{1,800}$$

$$\text{NNP}_{MP} \quad \underline{68,900}$$

$$d) \text{ PI} = \text{NDP}_{FC}$$

$$9000$$

$$+ \text{NFI}$$

$$\underline{200}$$

$$\text{NDP}_{FC}$$

$$8200$$

$$- \text{Undistributed Profit}$$

$$\underline{(1000)}$$

$$7200$$



- Corporate tax

500

6700

TI

300

7000

Tax

- 500

6500 PI.

16)  $NOP_{mp}$

$GDP_{mp} = 1100$

NFIA (+) 100

1200

$NVP_{wp} = NVP_{Fc} - Net\ IDT$

$= 850 + 150 = 1000$

$GMP - NNP = 1200 - 1000 = 200$

Unit - 2

(11-6 Keynesian theory of determination of NI

Consumption



← Aggregate demand function (ADF)



Maximum Sales Processed.

JM Keynes

2 sector

$$AD = C + \bar{I} \quad (\text{consumption} + \text{Investment (constant)})$$

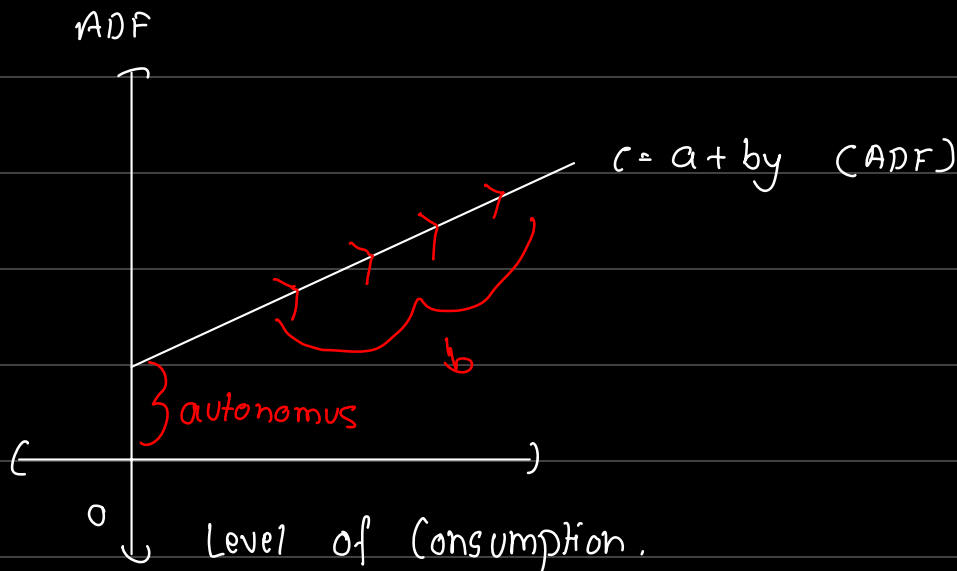
→ Autonomus consumption exp. (a)

→ Induced consumption exp. (b)

Not dependent

on others

$$C = a + by$$



→ Consumption Function / Psychological function.

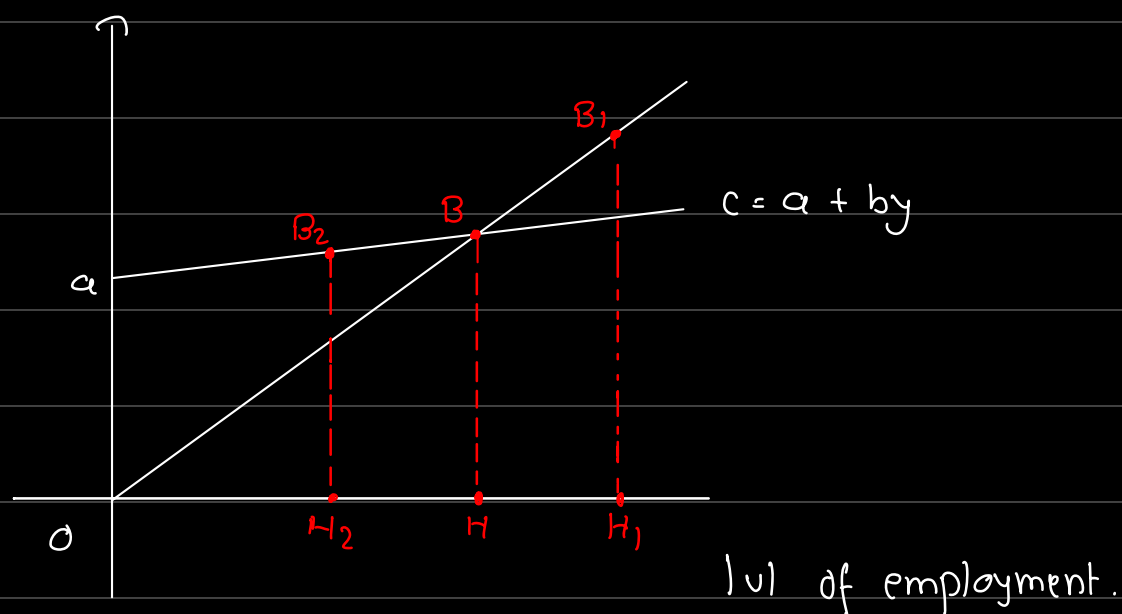
Agg income

Agg consumption

Savings [ $S = Y - C$ ]



0	500	500	] Dis savings
1000	1200	200	
2000	2000	0 → zero	
3000	2600	400	] Savings
4000	3300	700	
5000	4000	1000	



→ Acc to Keynes with increase in income both consumption & savings increase however consumption increase at diminishing rate, savings increase at increasing rate.

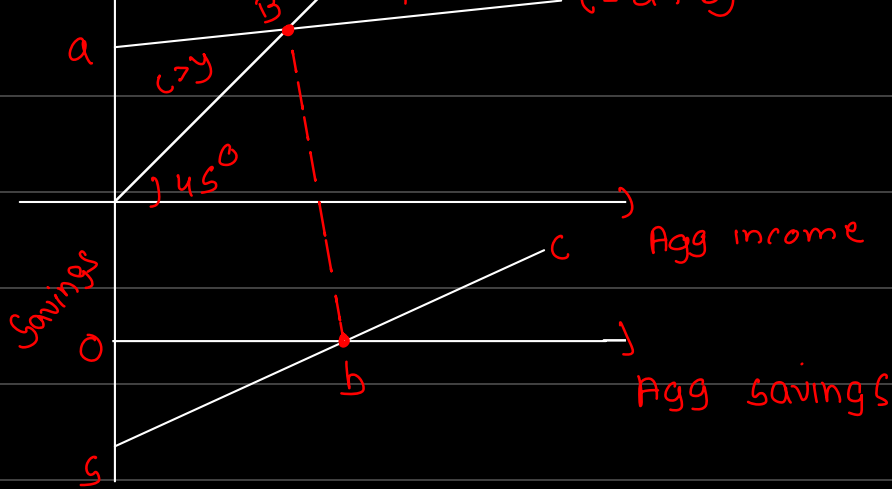
\* Saving function  $S = F(y)$ .

$$y = C + S$$

$$C = y$$

$$C = a + by$$





• Savings is a counter part of consumption function  
income left after consumption is savings that  
is  $S = Y - C$

• The above diagram shows the level of savings at  
each lvl of disposable income.

• In the above diagram the gap blw income &  
consumption measure savings. This gap after point  
b goes on increasing with rising income. This  
indicates that savings rises with rising income  
S curve represent saving function.

\* Average Propensity to consume [APC]

$$APC = \frac{\text{Consumption}}{Y} = \frac{C}{Y}$$



Income

\* Marginal Propensity to consume [MPC]

$$MPC = \frac{\text{change in consumption}}{\text{change in Income}}$$

$$\boxed{\frac{\Delta C}{\Delta Y}}$$

\* Average Propensity to Save [APS]

$$APS = \frac{\text{Savings}}{\text{Income}}$$

$$\boxed{\frac{S}{Y}}$$

\* Marginal Propensity to Save [MPS]

$$MPS = \frac{\text{Change in Savings}}{\text{change in Income}}$$

$$\boxed{\frac{\Delta S}{\Delta Y}}$$

$$MPS = 1 - MPC$$

OR

$$1 - b$$

$$MPC = 1 - MPS$$

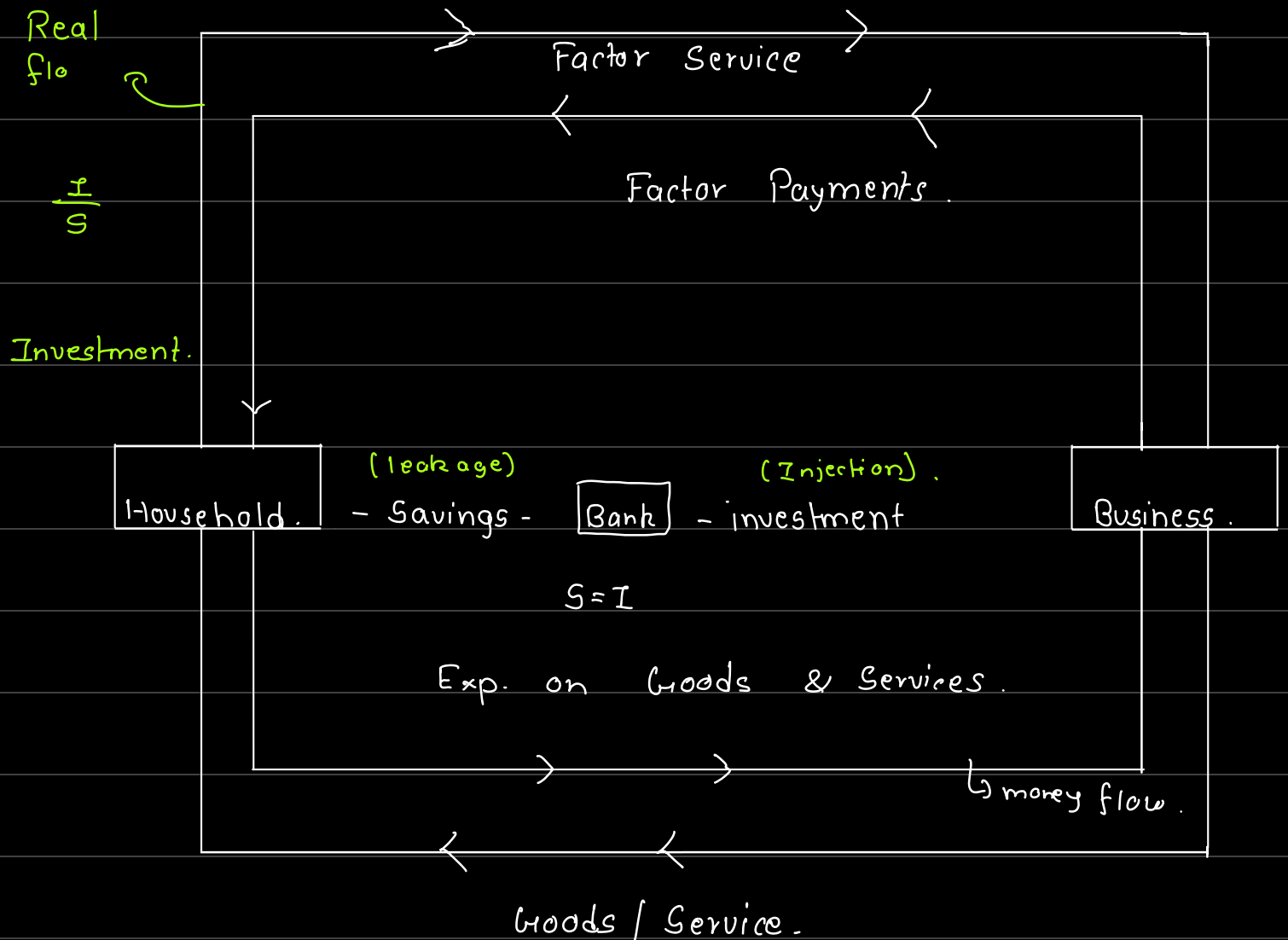






is called as value added.

### \* Circulation flow of national income [C+I]

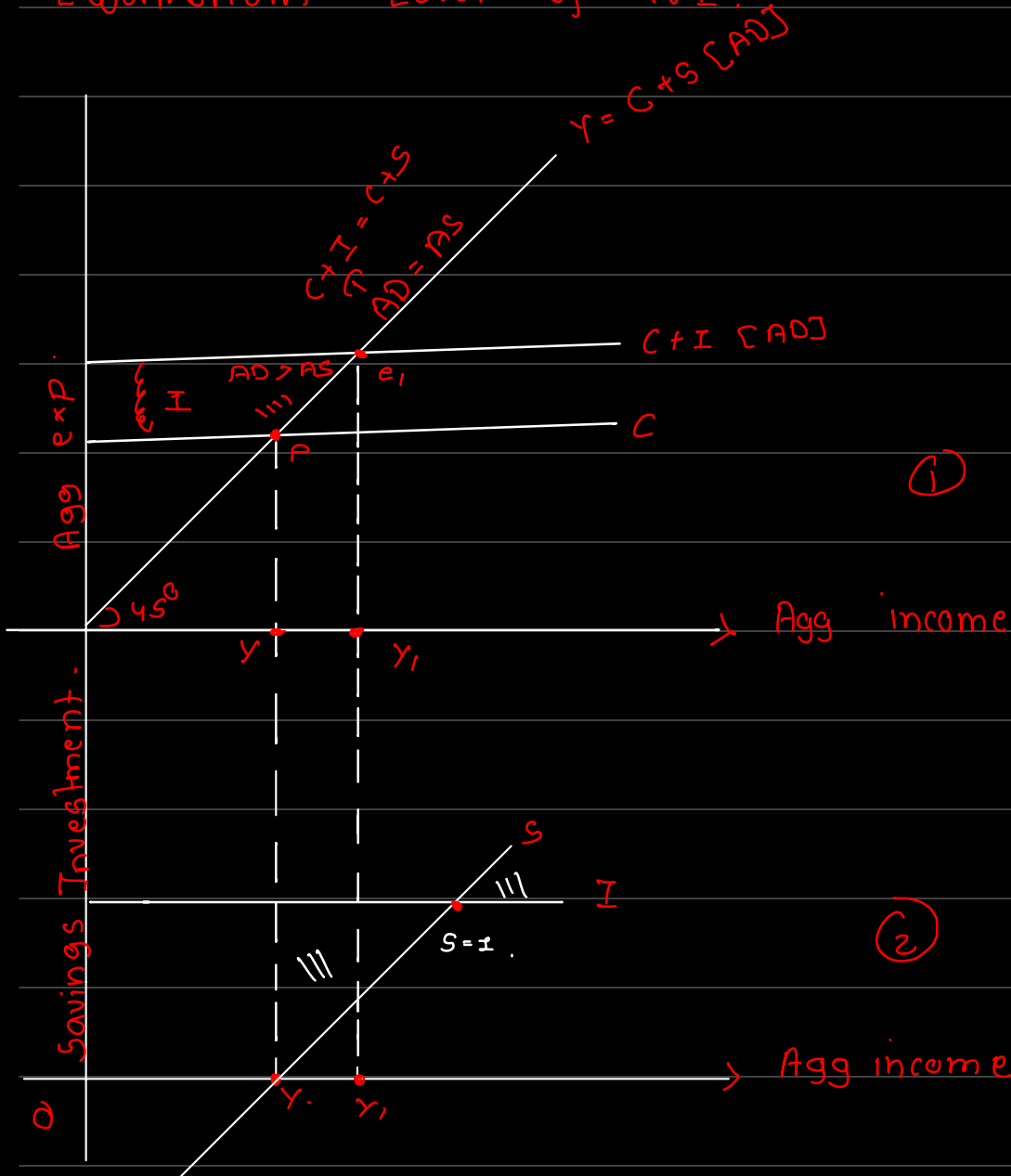


- The outer circle of the diagram shows real flow that is flow of factor services from household to business & flow of goods from business to household.
- The inner circle shows money flow that is flow of factor payment from business to household & consumption expenditure from household to business.



Savings are considered as leakages & investment are considered as injection.

→ Equilibrium Level of NI.



$$AD = C + I$$



AD



$C + I$

=

=

$$AS = C + S$$



AS

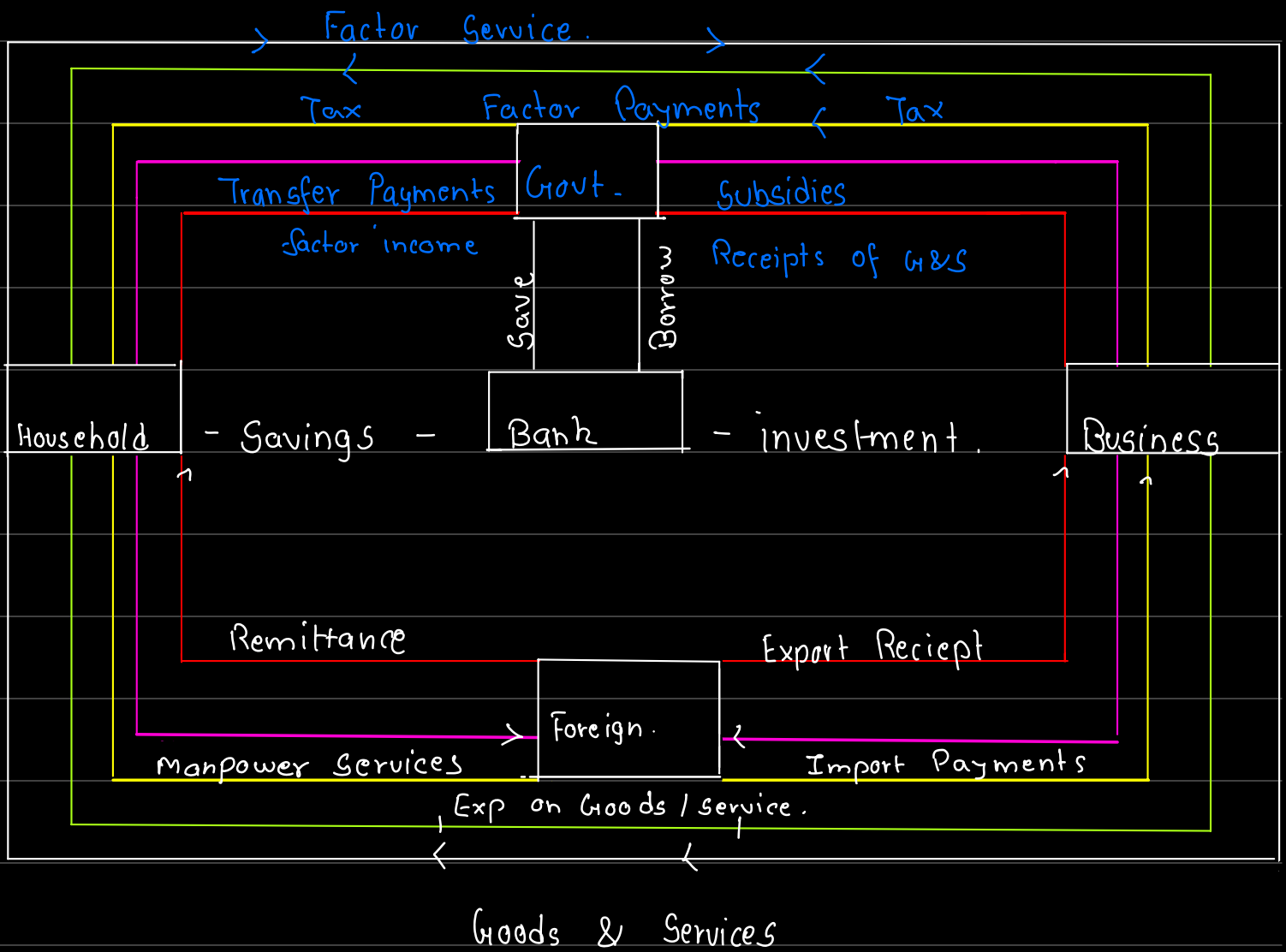


$C + S$

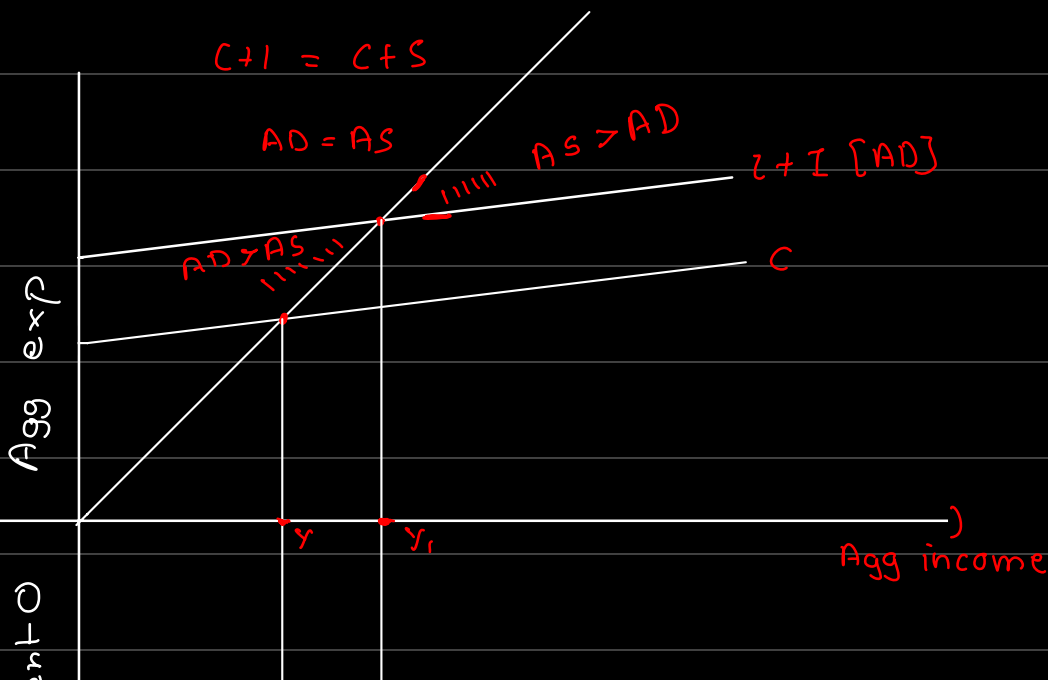
(1)



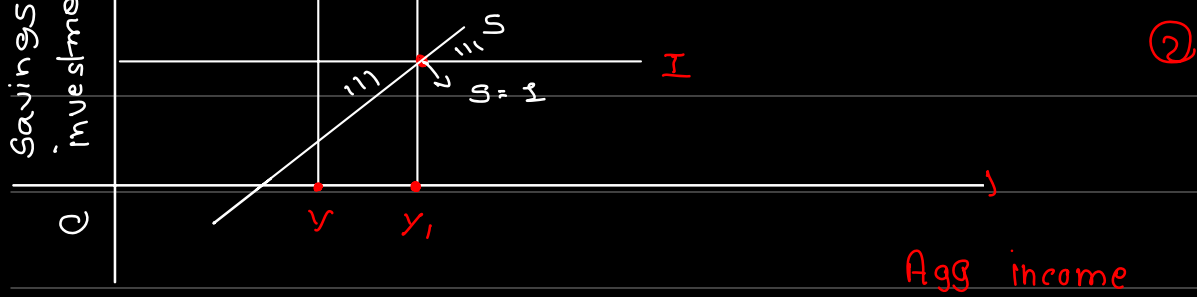
$$S = I = (2)$$



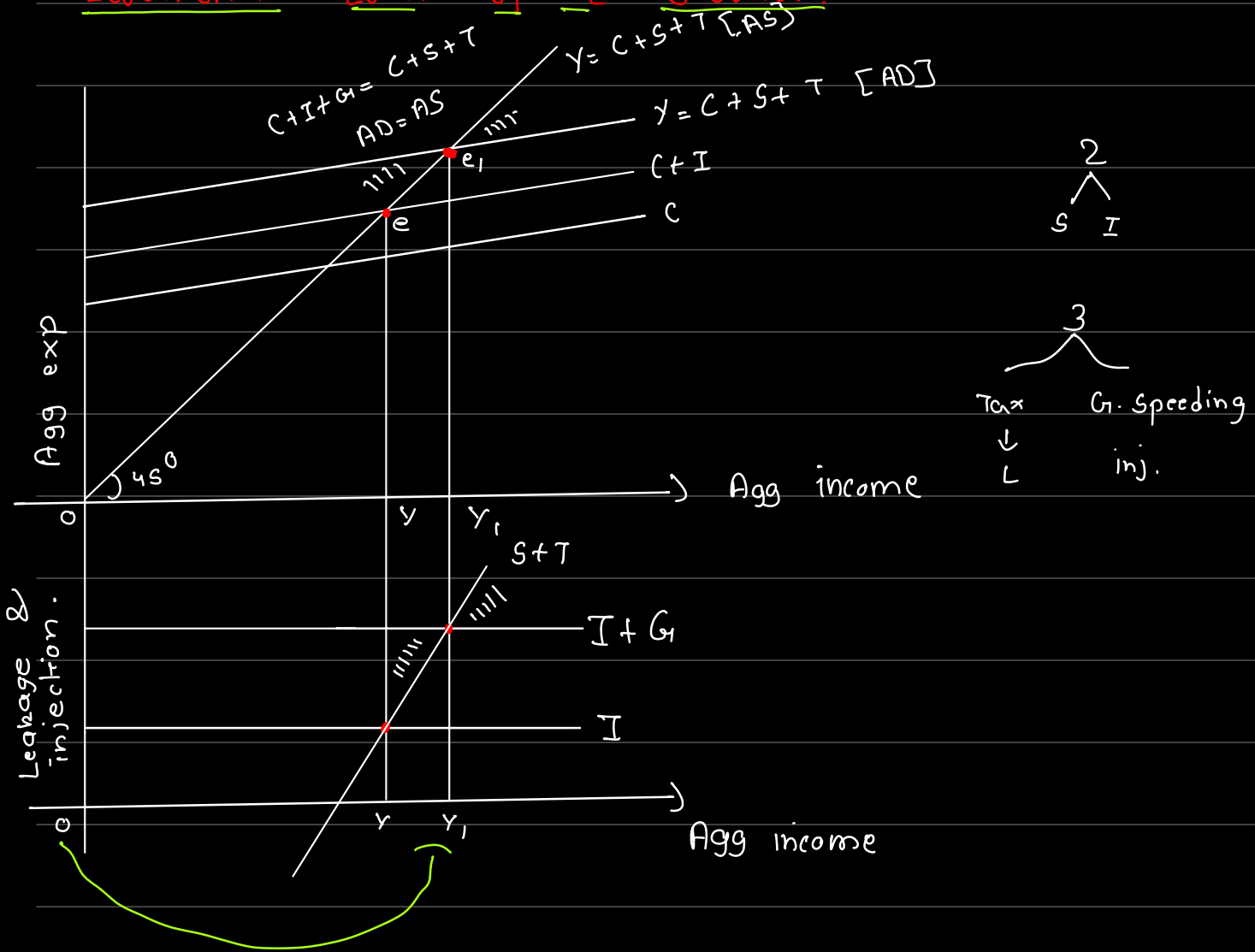
Equilibrium Level of NI 2 Sector.





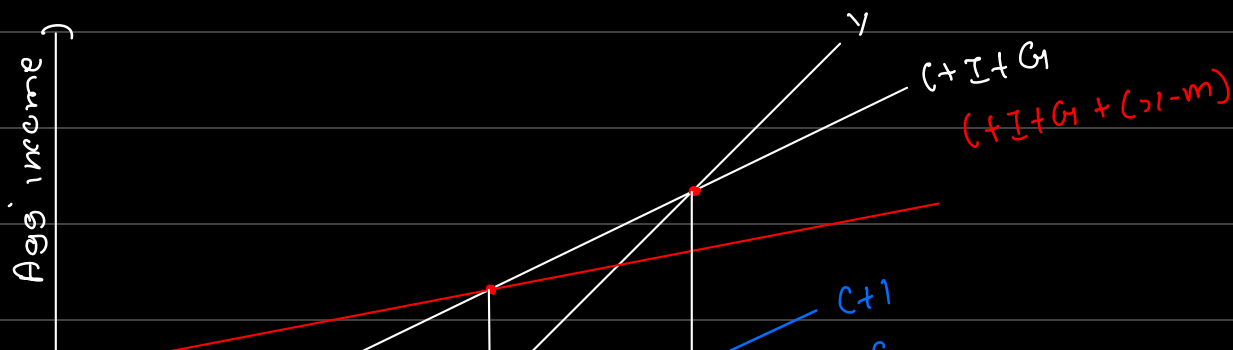


### → Equilibrium Level of NI 3 Sector

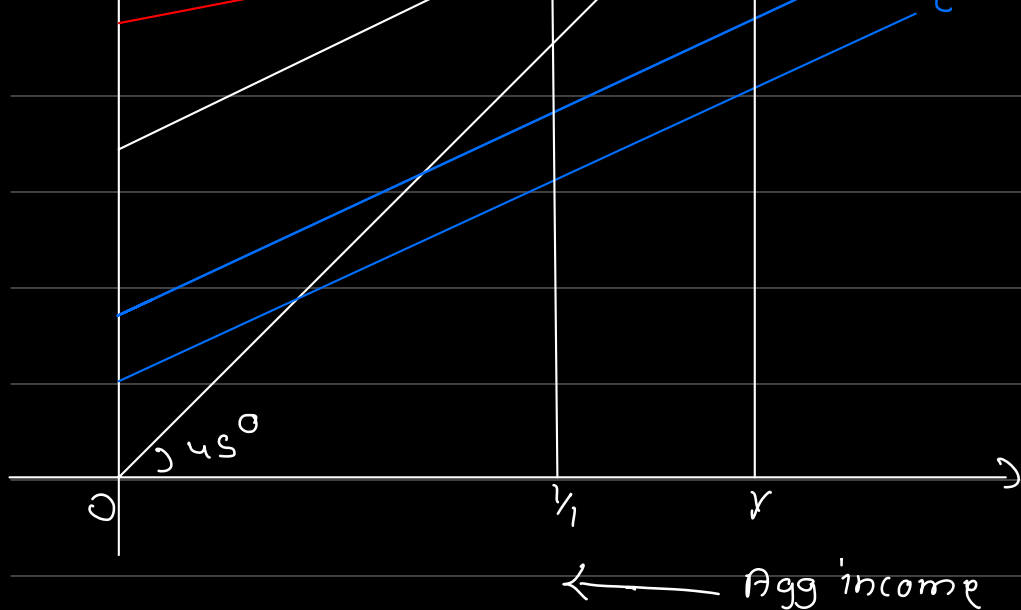


### \* Equilibrium level of NI 4 Sectors

When imports > exports.

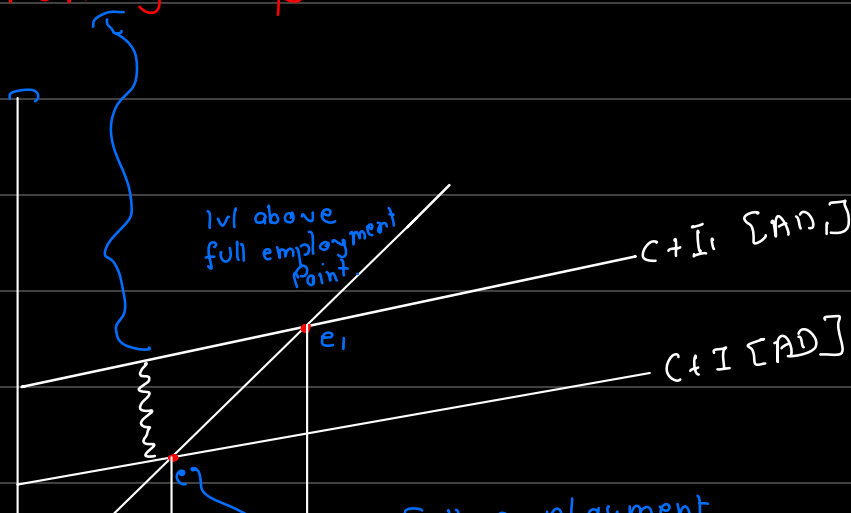




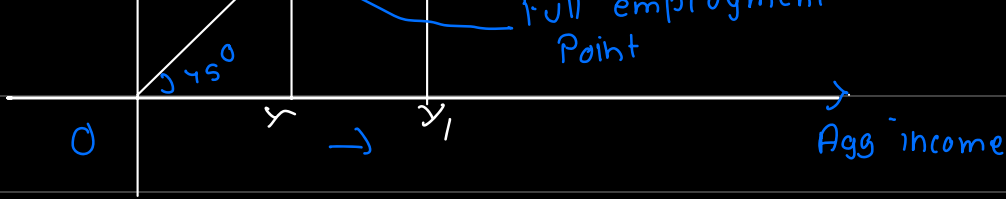


- An increase in demand for exports of a country is an increase in aggregate demand for domestically produced goods whereas imports per unit of income when increases constitute a additional leakage form, the circular flow of income in summary an increase in demand for countries exports has an expansionary effect on equilibrium income whereas an autonomous increase in imports has a contractionary effect on equilibrium income.

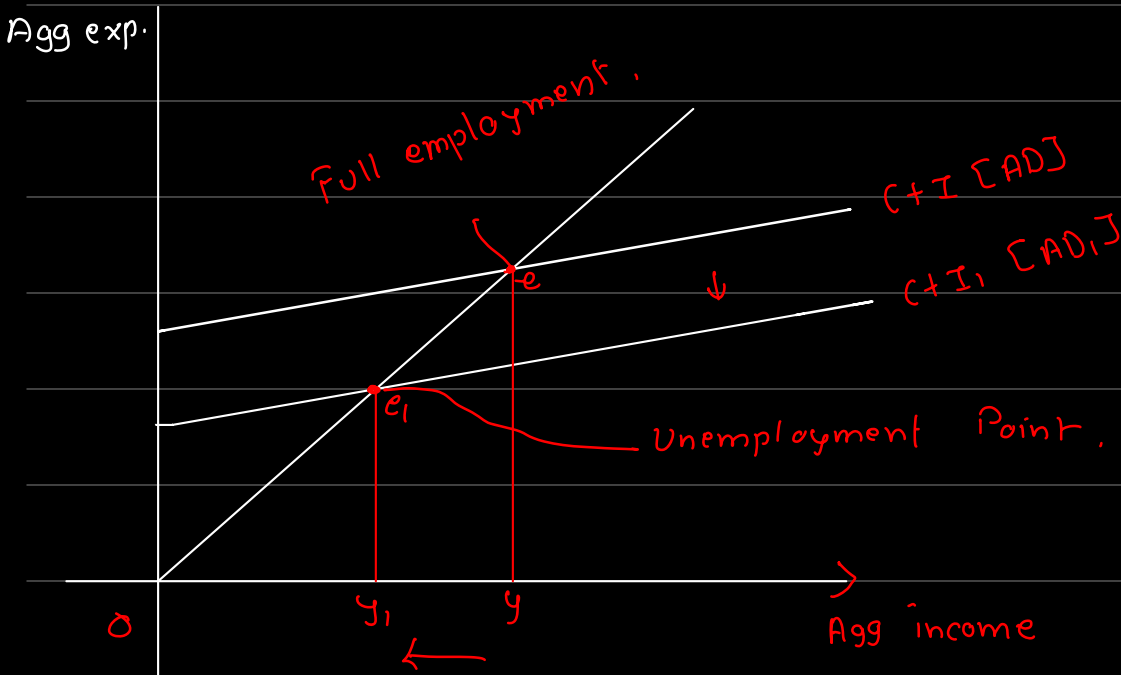
### \* Inflationary Gap.







\* Deflationary Gap.



Investment multiplier.

J.M. Keynes

1930

[GTEI]

R.F. Khan

1931

[Employment Multiplier]

{ Relationship b/w change  
in investment & change  
in income. }



### → Defination.

- Defined as a Ratio of final change in income to initial change in investment.

$$K = \frac{\Delta Y}{\Delta I}$$

OR

$$K = \frac{I}{1 - MPC}$$

OR

$$K = \frac{1}{MPS}$$

### \* Assumption.

- MPC constant
- Closed economy
- One man's expenditure another man's income.

### \* Working of Multiplier.

Suppose govt spends 100 cr on Factory expense



Income of employers 100 cr  $S = I$



$$100 \times \frac{75}{100} = 75 \text{ cr} \rightarrow [\text{Goods / Service}]$$

Income of Producer 75 cr.



$$\frac{75 \times 75}{100} = 56.25 \text{ cr.}$$

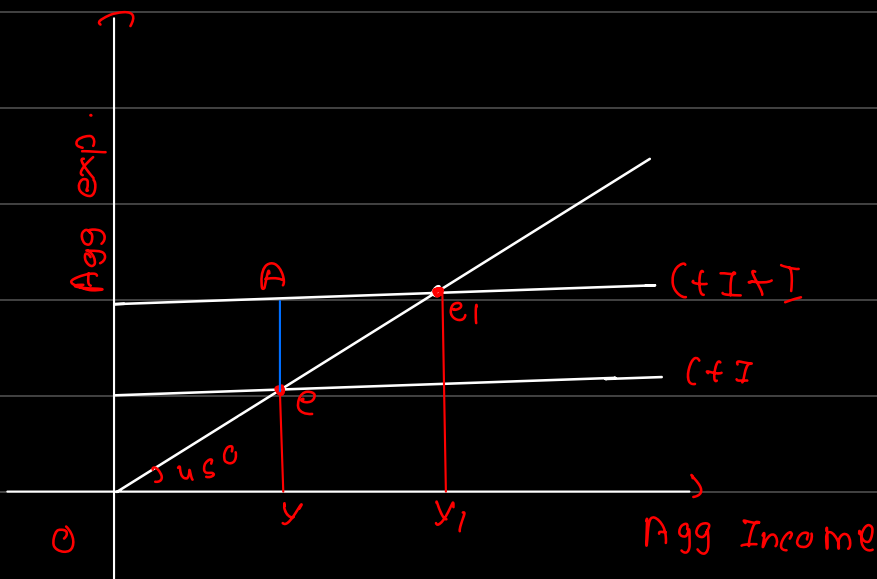
Stages	$\Delta I$	$\Delta Y$	$\Delta C$	$\Delta S$
1	100	100	75	25
2		75	56.25	18.75
3		56.25	42.18	14.06
4		42.18	31.64	10.55
Total	100	400	300	100

$$K = \frac{\Delta Y}{\Delta I}$$

$$K = \frac{1}{MPS}$$

$$K = \frac{1}{25\%}$$

= 4 times



Numerical sums Unit-2.



① National income  $Y = 2500$

Autonomous Cons.  $a = 300$

Investment  $I = 100$

Calculate MPC & MPS

$$Y = C + I$$

$$2500 = C + 100$$

$$2500 - 100 = C$$

$$C = 2400$$

$$C = a + by$$

$$2400 = 300 + b \cdot 2500$$

$$2400 - 300 = b \cdot 2500$$

$$2100 = b \cdot 2500$$

$$b = \frac{2100}{2500}$$

$$MPC / b = 0.84$$

② Autonomous Consumption  $a = 100$

$$MPS \quad b = 0.2$$

$$Investment \quad I = 200$$



→ Calculate NI

$$Y = C + I$$

$$Y = 100 + 0.8Y + 200$$

$$Y = 300 + 0.8Y$$

$$Y = \frac{300}{0.2} = 1500$$

$$MPS = 1 - MPC$$

$$0.2 = 1 - MPC$$

$$0.2 - 1 = MPC$$

$$0.8 = MPC$$

③ Calculate NI

$$C = 20 + 0.6Y$$

$$I = 10 + 0.2Y$$

$$Y = C + I$$

$$Y = 20 + 0.6Y + 10 + 0.2Y$$

$$Y = 30 + 0.8Y$$

$$Y = \frac{30}{0.2} = 150$$

④  $S = (-10) + 0.2Y$

Autonomous Consumption  $I = 50$  cr

Investment increases by  $= 5$  cr.

→ Calculate Income & Consumption Also New Income &



consumption.

$$-10 + 0.2y = 50$$

$$0.2y = 50 + 10$$

$$y = \frac{60}{0.2}$$

$$y = 300$$

$$y = C + I$$

$$300 = C + 50$$

$$250 = C$$

$$y_1 = C_1 + I_1$$

$$325 = C_1 + 55$$

$$C_1 = 270$$

⑤ Investment increases by 40 cr

$$MPC = 0.8$$

Calculate  $\Delta Y$  &  $\Delta S$

⑥  $\Delta I = 400 \text{ cr}$



$$\Delta Y = 1500 \text{ cr}$$

Calculate MPC

$$K = \frac{1600}{400} = 4$$

$$MPC = \frac{1}{MPS} = \frac{1}{4} = 0.25$$

$$MPS = 1 - MPC$$

$$MPS = 1 - 0.25$$

$$MPS = 0.75$$

\* Points to remember.

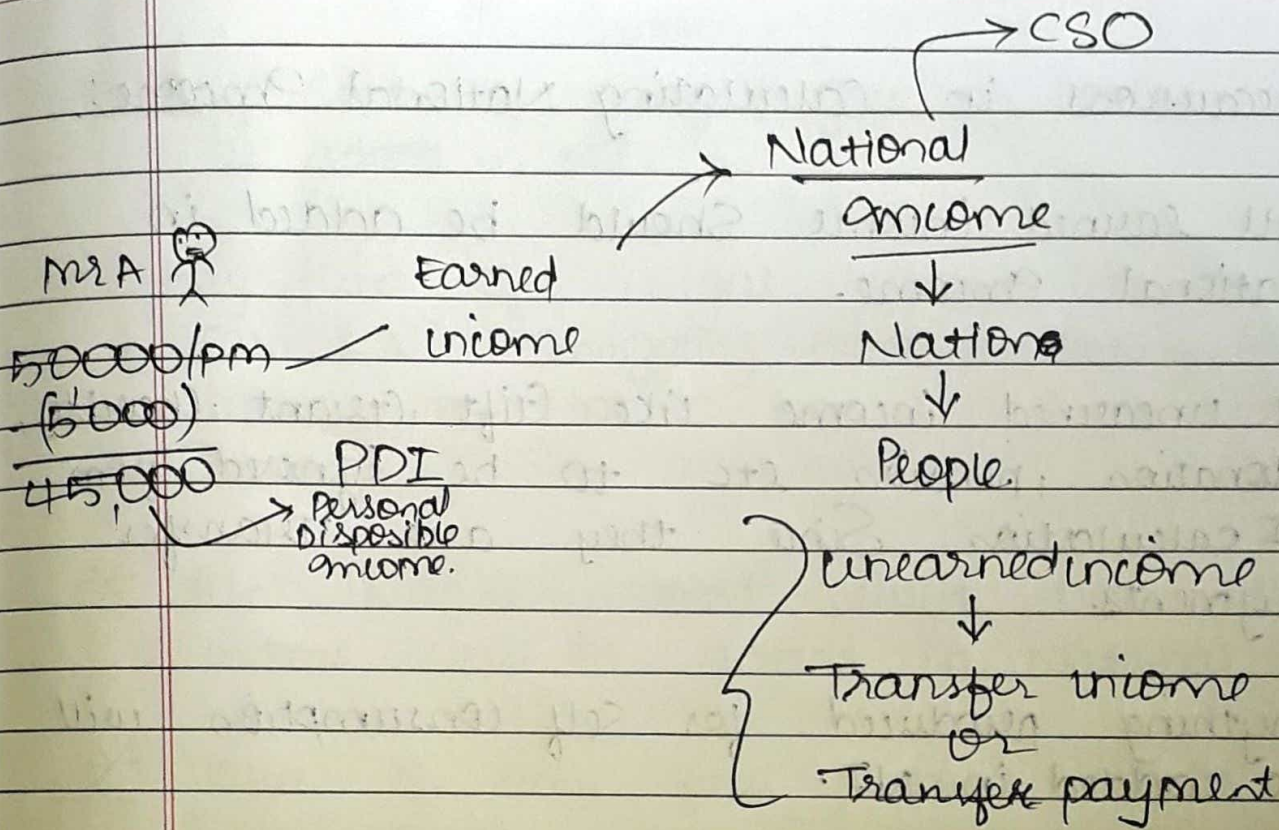
- Economy attend equilibrium level of output below the full employment lvl. of output.
- The value of increment to consumer expenditure per unit to income is called as "MPC".
- More powerful the leakage smaller the value of multiplier.







# Chapter 1 National Income.



## Meaning:

National Income is a <sup>Price (MRP)</sup> money value of all final goods & services produced in domestic economy during a financial year (NFIA).

INDIA

1<sup>st</sup> Apr to 31<sup>st</sup> Mar.

+ Net factor income from abroad (+R - P)



## Precautions in Calculating National Income:

- \* All earned income should be added in National Income.
- \* All unearned income like Gift, Grant, Charity, donation, pension etc to be ignored from NI calculation since they are transfer payments.
- \* Anything produced for self consumption will be added in NI.
- \* Any kind of financial investments where investment is done on Shares, Bonds, FD'S etc not be added in NI.  
[But income earned over it eg: Dividend/interest will be added]
- \* Any kind of Second hand product or transaction where goods are produced in previous year not to be added in current year National Income.
- \* Income earned by foreign companies in India.
  - (i) Value of Goods produced will be added
  - (ii) Profits will be excluded.



(Sudden)

\* Any Kind of windfall gain or losses not to be added in NI.

\* Any kind of illegal income like money earned via Smuggling, Black marketing, Hawala money etc. Not to be added in National Income.

\* Rent, Wages, interest, profit, Dividend, Mixed income will be added in National Income.

\* Value of only final product to be taken  
Raw material, intermediate goods, WIP, Semi finished goods to be excluded.

\* All exports & Receipts are added.

&  
all Imports & Payments are deducted.

\* Depreciation to be deducted from NI and also indirect taxes are deducted.

(\* Indirect taxes are unearned income.)

\* Change in Stock, Business Stock, Inventory investment to be added in NI.



## Concepts of National Income:

1.)  $GDP_{mp} = C + I + G + (X - m)$

$GDP_{fc} = C + I + G + (X - m) - IT + S$

2.)  $GNP_{mp} = C + I + G + (X - m) + (R - P)$

$GNP_{fc} = C + I + G + (X - m) + (R - P) - IT + S$

3.)  $NDP_{mp} = C + I + G + (X - m) - D$

$NDP_{fc} = C + I + G + (X - m) - IT + S - D$

4.)  $NNP_{mp} = C + I + G + (X - m) + (R - P) - D$

$NNP_{fc} = C + I + G + (X - m) + (R - P) - IT + S - D$

National income

(\*)  $GNP_{mp} = GDP_{mp} + NFIA$

(\*)  $GDP_{mp} = GNP_{mp} - NFIA$

(\*)  $National = Domestic + NFIA$

(\*)  $NDP_{mp} = GDP_{mp} - Dep^n$

(\*)  $NDP_{mp} = NNP_{mp} - NFIA$

(\*)  $Gross = Net + Dep^n$



$$(*) \text{ Net } = \text{Gross} - \text{Dep}^n.$$

$$(*) \text{ NNP}_{mp} = \text{GNP}_{mp} - \text{Dep}^n.$$

$$(*) \text{ NNP}_{mp} = \text{GDP}_{mp} + \text{NFIA} - \text{Dep}^n.$$

$$(*) \text{ Market Price} = \text{Factor cost} + \text{IT} - \text{S}$$

$$(*) \text{ Factor cost} = \text{Market Price} - \text{IT} + \text{S}.$$

$$\begin{aligned} \text{GDPEFC} = & \text{Compensation of employees (Cash \& kind)} \\ & + \\ & \text{Operating Surplus [Rent, interest, profit]} \\ & + \\ & \text{Mixed income} \end{aligned}$$

Depreciation.  $\rightarrow$  [You will add only when you go from NI to GDPEFC.]

$$\begin{aligned} \text{NDPEFC} = & \text{Compensation of employees} \\ & + \\ & \text{Operating Surplus [R + I + P]} \\ & + \\ & \text{Mixed income} \end{aligned}$$



Personal Income

=

Retained earnings = (1000 cr)  
 = Corporate Profit (-) 500 cr.  
 Dividend.

National income

Rent	Less: (i.) Undistributed corporate tax
+	
Wages	(ii.) Corporate tax
+	
Profit	(iii.) Social Security Contribution (Employee benefits which are yet to be received)
+	
Dividend	
+	
NFIA	Add: Transfer Payments. (unearned income eg dowry)
+	
Mixed Income.	

Personal Income = National income

+

Income received but not earned

(-)

Income earned but not received.

★  
(Module)



## Private Income:

Private income is a measure of the income [both factor income & transfer income] which accrues to Private Sector from all sources within & outside the country.

Private income

=

Net factor income from abroad (NFIA)

+

Factor income from Net domestic Product

+

National debt interest (Govt Bond interest)

+

Current transfers from the Govt. (Subsidies given to corporates)

+

Other Net transfers from rest of the world.

Personal disposable income (PDI)

PDI = Personal income

-

Personal income tax.

Per Capita income (PCI)

PCI =  $\frac{\text{National income}}{\text{Total Population}}$



NOMINAL GDP

Real GDP.

Price

Output (Qty.)

Current Price

Constant Price

(2011-12)

(False info)

(True info.)

Eg: Pen Output = 1 lakh.

Price = 2/-

Value = 2 lakh.

Case 1

Case 2

Output = 1 lakh

Output = 2 lakh

Price = 4/-

Price = 2/-

Value = 4 lakh

Value = 4 lakh.



NGDP

RGDP.



## GDP Deflator $\rightarrow$ Price Index.

- (\*) It is a measure of general price i.e. inflation
- (\*) It takes into consideration both Nominal GDP & Real GDP
- (\*) The word deflator indicates to "deflate" or to take inflation out of GDP.
- (\*) It is a Price index used to convert Nominal GDP into Real GDP
- (\*) The deflator measures the changes in Price that has occurred between base year & current year.

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

2m | 1 Question

Eg: 1 Real GDP = 4700 Rs.

Nominal GDP = 3000 Rs

Calculate GDP deflator

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

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

$$= \boxed{63.82}$$



Eg: 2  $\text{Nominal GDP} = 1200$

$\text{Price Index} = 110$

$\text{Real GDP} = ?$

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

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

$$\therefore \text{Real GDP} = \underline{1090.90}$$

Eg: 3  $\text{Real GDP} = 450$

$\text{GDP deflator} = 120$

$\text{Nominal GDP} = ?$

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

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

$$\therefore \text{Nominal GDP} = \underline{540}$$



Calculate Inflation Rate in the current year: (%)

$$\text{Inflation Rate in Current year} = \frac{\text{GDP deflator}_{\text{current year}} - \text{GDP deflator}_{\text{Previous year}}}{\text{GDP deflator}_{\text{Previous year}}} \times 100$$

Year	GDP deflator.	Calculate GDP deflator for 2020.
2018	100	
2019	113.63	$\rightarrow \frac{130.25 - 113.63}{113.63} \times 100$
2020	130.25	

$$= 14.62\%$$

Inflation for 2019  $\rightarrow \frac{113.63 - 100}{100} \times 100$

$$= 13.63\%$$

(3m)

Calculate GDP deflator and Interpret it. Please show calculation compulsory  
Billions (£)

Year	NOMINAL GDP	Real GDP.	GDP deflator. Calculation
2014	500	500	$\frac{500}{500} \times 100 = 100$
2015	800	650	$\frac{800}{650} \times 100 = 123.08$
2016	1150	800	$\frac{1150}{800} \times 100 = 143.75$
2017	1300	950	$\frac{1300}{950} \times 100 = 136.84$
2018	1550	1190	$\frac{1550}{1190} \times 100 = 130.25$
2019	1700	1240	$\frac{1700}{1240} \times 100 = 137.10$



### Interpretation:

- (\*) From the above table we will take 2014 as a base year where deflator is 100
- (\*) From 2015 to 2019 GDP deflator is greater than 100
- (\*) GDP deflator above 100 indicates prices have risen.
- (\*) If GDP deflator is greater than 100 then Nominal GDP is > than Real GDP.
- (\*) If GDP deflator next year is less than the GDP deflator current year then prices have fallen.

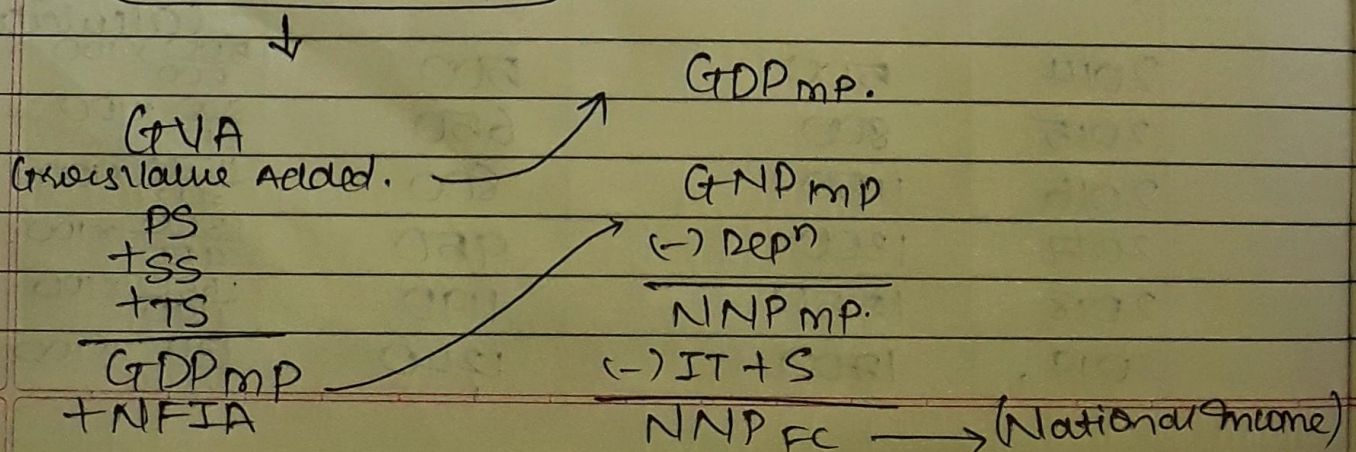
### Methods for Calculating National Income:

1. Product method / Output method / Elementary method / Value added approach / Final goods method.

(3m)

Final ~~Output~~ Output

"Industry origin method"





Eg: Bread

Stages	Value of Output	Input	Value Added
Farmer	700	0	700
Flour mill	1000	700	300
Bakery	1300	1000	300
Retailer	1400	1300	1000
			→ (NF) → 1400 (GDP in aggregate)

### Product Method

- |    |             |
|----|-------------|
| 1. | $GVA = GDP$ |
| 2. | $NVA = NDP$ |

(1.)  $GVA_{mp} = \text{Value of Output} - \text{Value of Intermediate Consumption}$

(2.)  $GVA_{mp} = \text{Sales} + \text{Change in Stock} - \text{Intermediate Consumption}$   
 $(\text{C. Stock} - \text{OP Stock})$

(3.)  $GVA_{mp} - Dep^n = NVA_{mp}$

(4.)  $NVA_{mp} - IT + S = NVA_{fc}$

(5.)  $NVA_{fc} + NFIA = \text{National Income}$



## 2.) Income method / Factor cost method: [used in developed countries]

NI  $\rightarrow$  Calculated  $\rightarrow$  from Distribution side  
Brokerage +

NI = Rent + Wages + Salary + Commission +  
Dividend + Interest + Mixed Income + NFIA  
(Only Earned Income.)

## 3.) Expenditure method / Outlay method:

National Expenditure = National Income

NE = Consumption Expenditure + Investment Expenditure + Govt Expenditure + (X-M)

Hint:

(1.) Koi bhi type ka expenditure must be added.

(2.) Koi bhi type ki investment must be added

Except: "Financial Investment" which is not considered.

Eg: St. Govt Construction Expenditure  $\rightarrow$  Added.

Eg: St. Govt Inventory Investment  $\rightarrow$  Added



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PAGE No.	15.
DATE	/ /

Q:1)

Consumption	750
+ Investment	250
+ Govt. Purchase	100
+ $(X - M)$ $(100 - 200)$	(100)
National Income (NI)	1000

$$NI = ₹1,000$$

Q:2)

Personal consumption Expenditure	6500
Add: State Government Expenditure	2000
Add: Central Government Expenditure	500
Add: Change in Inventory	100
Add: Govt. private domestic fixed investment	1200
Add: $(X - M)$ $(900 - 1200)$	(300)
GDPmp	10000

GDPmp	10000
less: Indirect taxes - Subsidaries	(150)
less: Net factor payment to abroad	100
less: Depreciation	(200)
NI	9750

GDPmp	=	₹10000
NI	=	₹9750



Q:3)	Amueentary Amueestment.	100.
	Add: $(X - M) - (200 - 100)$	100
	Add: Personal Consumption Expenditure	3500
	Add: Gross Residential construction investment	300
	Add: Stock Govt. purchased.	1000
	Add: Gross public investment	200
	Add: Gross business fixed investment	300
	GDPmp.	5500

	GDPmp.	5500
	Less: Indirect taxes.	(100)
	Add: Net factor income from abroad.	(50)
	Less: Depreciation	(50)
	NI	5300

GDPmp	= ₹ 5500
NI	= ₹ 5300

HW Pg 442.

(in crores)

Q:19)	Item	Amt(₹)
	Gross Amueestment	90
	+ $(X - M)$	10
	+ Private consumption Expenditure.	350
	+ Government purchases of goods & Services.	100.
	GDPmp.	550
	GDPmp	550
	Indirect taxes - Subsidies (Net)	(5)
	GDPfc	545

GDPmp	= ₹ 550 crores
GDPfc	= ₹ 545 crores



(₹ in crores)

Q:20) Gross Domestic fixed Investment	10000
+ Inventory Investment	5000
(-) Depreciation	(2000)
(-) Indirect Taxes.	(1000)
+ Subsidies	2000
+ Consumption Expenditure	20000
NDP <sub>FC</sub>	34000

$$\boxed{\text{NDP}_{FC} = ₹ 34,000 \text{ crores}}$$

Q:5) Value of Output in Primary Sector	500
+ Value of Output in Secondary Sector	900
+ Value of Output in Tertiary Sector	700
Value of Output (A)	2100

Intermediate consumption in primary sector	250
Intermediate consumption in Secondary Sector	300
Intermediate consumption in tertiary sector	300
Value of Intermediate Consumption (B)	850

$$\begin{aligned} \text{GVA}_{mp} &= \text{Value of Output} - \text{Value of Intermediate consumption.} \\ &= 2100 - 850 \end{aligned}$$

$$\boxed{\text{GVA}_{mp} = 1250}$$

$$\text{GVA}_{mp} = \text{GDP}_{mp} = 1250.$$

$$\begin{aligned} \text{GNP}_{mp} &= \text{GDP}_{mp} + \text{NFIA} \\ &= 1250 + (20) \end{aligned}$$

$$\boxed{\text{GNP}_{mp} = 1230}$$



Q:6)

Private final consumption Expenditure	290
+ Govt. final consumption Expenditure	50
+ Gross Domestic fixed Capital formation	105
+ Net Exports.	(-5)
+ Net addition to Stock	15
GDP <sub>MP</sub>	<u>455</u>

GDP <sub>MP</sub>	455
+ Subsidies	20
(-) Indirect Taxes	(70)
GDP <sub>FC</sub>	<u>405</u>

GDP <sub>FC</sub>	405
(-) Depreciation/Consumption of fixed capital.	(45)
+ NFIA	(5)
NI	<u>355</u>

$GDP_{MP} = 455; GDP_{FC} = 405; NI = 355$
--

Q:4)

GDP <sub>MP</sub>	6000
+ (R-P) (150 - 225)	(75)
(-) Depreciation	(800)
(-) Indirect Taxes.	(700)
National Income	<u>4425</u>

National Income	4425
(-) Retained Earnings	
(Corporate profit - Dividend) (1200 - 600)	(600)
+ Transfer payment	1300
Personal Income	<u>5125</u>
(-) Personal Income Tax	(1500)
Personal Disposable Income	<u>3625</u>



$$\begin{array}{l} \text{NI} = 4425 \\ \text{PDI} = 2625 \end{array}$$

Q:7)

Sales	1000
+ Change in Stock (100 - 200)	(100)
• (-) Intermediate Consumption	(300)
(-) Depreciation	(150)
<b>NDPmp</b>	<b>450</b>

NDPmp	= 450
+ NFIA	= 10
(-) Excise Tax	= (50)
+ Subsidies	= 10
<b>NNPfc</b>	<b>420</b>

Q:10)

Net Domestic Product at factor cost	= 8000
+ NFIA	= 200
<b>NNPfc</b>	<b>8200</b>
(-) Undistributed Profit	(1000)
(-) Corporate tax	(1500)
+ Transfer <del>Payment</del> Payment	300
<b>Personal Income</b>	<b>7000</b>

Personal Income	7000
(-) Personal Tax	(500)
<b>Personal Disposable Income</b>	<b>6500</b>

Personal Income	=	7000
-----------------	---	------

Personal Disposable Income	=	6500
----------------------------	---	------



Q:18)	Wages.	10000
	+ Rent	5000
	+ Interest	400
	+ Dividend	3000
	+ Mixed Income	400
	+ Undistributed Profit	200
	+ Social Security Contribution.	400
	+ Corporate Profit Tax	400
	NDPmp.	19800

$$\begin{aligned}
 & \text{NDPmp} = 19800 \\
 & + \text{NFIA} = 1000 \\
 & \boxed{\text{NI}} = \text{₹ } 20800 \quad \text{[Gross]}
 \end{aligned}$$

Q:8)

Particulars	Industry A	Industry B	Industry C
Sales.	400 + 200 + 1000 = 1600	500 + 800 = 1300	600 + 500 = 1100
(-) Intermediate Consumption	(100)	(400)	200 + 500 = 700
GVAmp.	1500	900	400

$$\text{GDPmp} \longrightarrow 2800$$

$\text{GDPmp} \longrightarrow \text{GNPmp.}$   
 [Since NFIA is not given].



$$\begin{aligned}
 (a) \quad \text{GNPmp} &= 2800 \\
 (-) \text{IT} &= (100) \\
 + S &= 50 \\
 \hline
 \text{GNPfc} &= 2750
 \end{aligned}$$

$$(-) \text{Dep}^n = (100)$$

$$\begin{aligned}
 (c) \quad \text{National Income (NNPfc)} &= 2650 \\
 + \text{IT} &= 100 \\
 - S &= (50) \\
 \hline
 \text{NNPmp.} &= 2700
 \end{aligned}$$

$$(d) \quad \text{NNPmp.} = 2700$$

Q:17) (a) Net Domestic Income: (NDPmp)

$$\begin{aligned}
 \text{Mixed Income} &= 28000 \\
 + \text{Operating Surplus} &= 10000 \\
 + \text{Compensation of employees} &= 24000 \\
 \hline
 \text{NDPmp.} &= 62000
 \end{aligned}$$

(b) Gross Domestic Income: (GDPmp)

$$\begin{aligned}
 \text{NDPmp} &= 62000 \\
 (+) \text{Depreciation} &= 1700 \\
 \hline
 \text{GDPmp.} &= 63700
 \end{aligned}$$

(c) Net National Income: (NNPmp.)



## Net National Income (NNP<sub>FC</sub>)

Net domestic income 62000

+ NFIA (300)

Net National Income 61700

## Net National ~~Income~~ <sup>Product</sup> (at Market Price)

NNP<sub>FC</sub> 61700

+ IT 9000

(-) Subsidies (1800)

NNP<sub>(mp)</sub> 68900-

HW.

8:13

Particulars	Firm A	Firm B
Sales.	100 <del>160</del>	200 <del>100</del>
(-) Purchases.	<del>40</del> (40)	<del>60</del> (60)
+ Change in Stock (Cl. Stock - Op. Stock)	(5)	(10)
@ Value Added.	55	130
Total Value Added =	55 + 130 = 185	
(-) Indirect Taxes	<del>30</del>	(30)
GDP <sub>FC</sub>	<del>155</del>	155



## Unit 2 : The Keynesian theory of determination of National income.

Aggregate demand Function.  
(ADF)

Maximum Sales Proceeds.  $GDP = AD$   
 $\uparrow \quad \uparrow$   
 $\downarrow \quad \downarrow$

TWO Sector Economy.

$AD = C + I$  (Base) i.e. Investment should remain constant

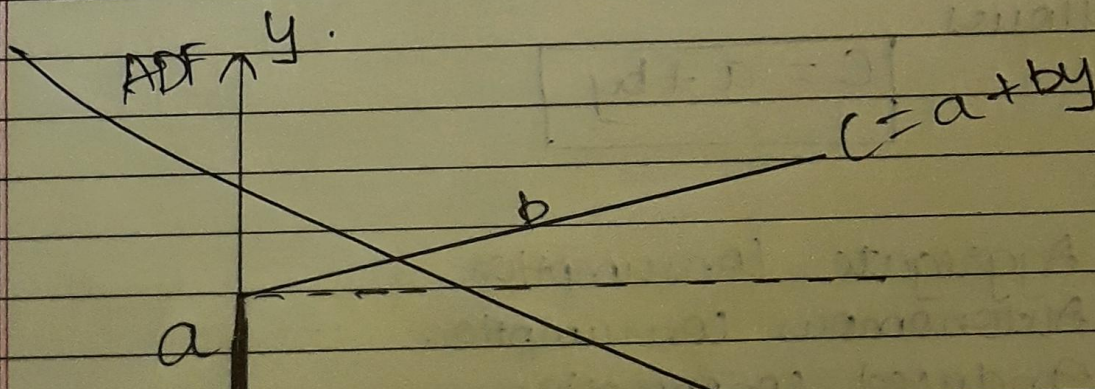
Autonomous Consumption Exp. (a)

{ consumption cannot become zero  
Never  
Eg Food (like students)

Induced Consumption Exp. (by)

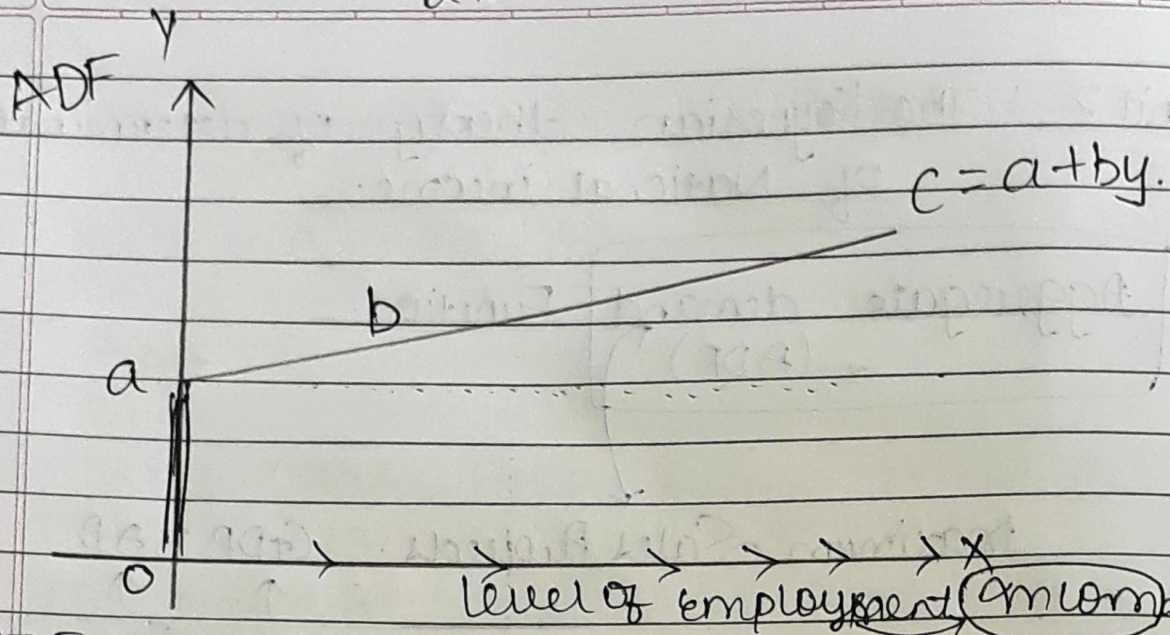
{ Can become zero  
Eg luxury Expenditures.

$$C = a + by$$





2 marks ke liye itna likhna



- (\*) Explains the positive relation between consumption and disposable income.
- (\*) Expressed as  $C = F(Y)$
- (\*) As per Keynes  
"Total Volume of Private expenditure in an economy depends on the total current disposable income of the people and proportion of income which they decide to spend."
- (\*) Consumption - income relation is as follows.

$$C = a + by$$

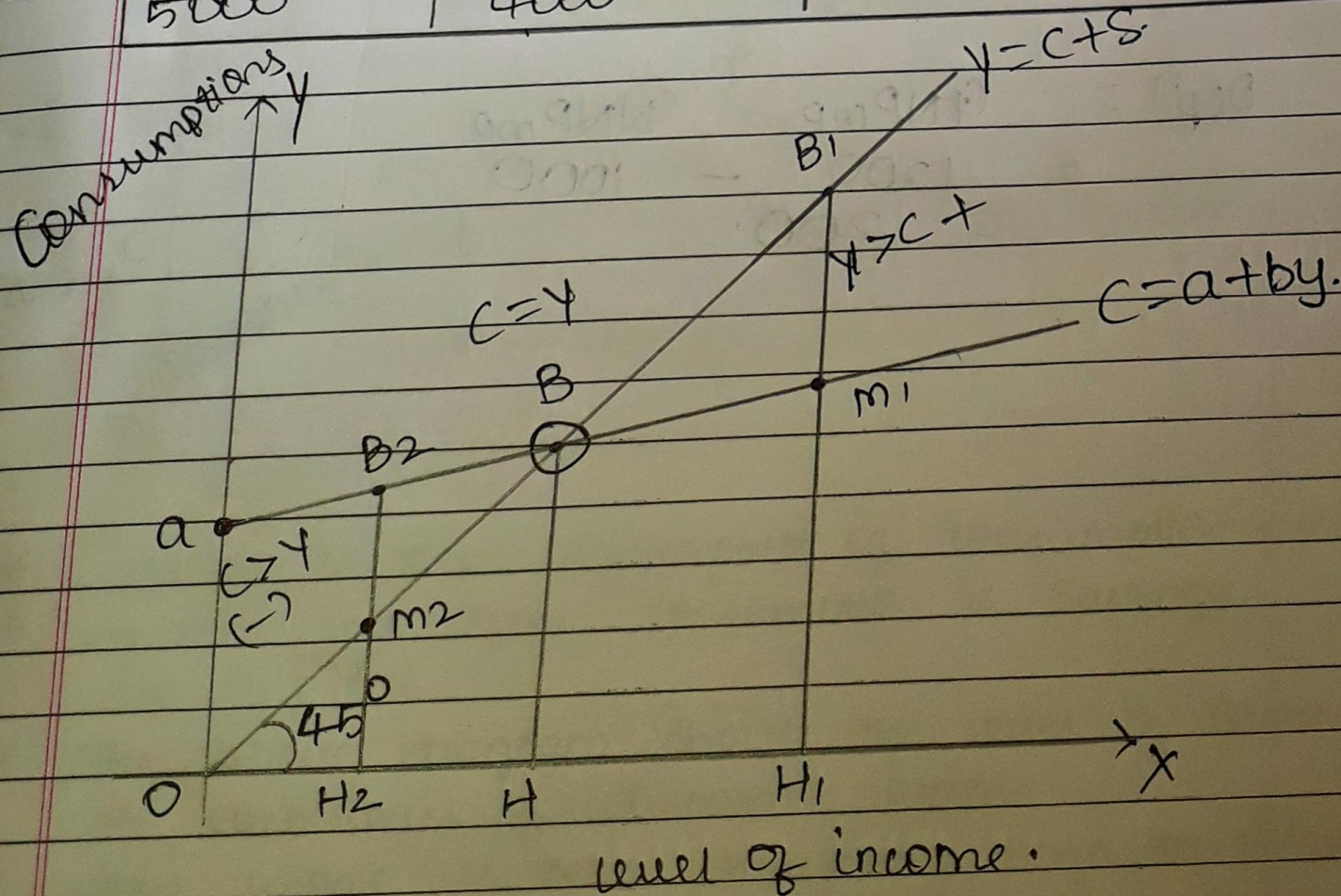
- C - Aggregate consumption.
- a - Autonomous consumption.
- b - Induced consumption.
- Y - Total disposable income.



Explain Consumption function. with table & diagram NOV 19 (3m)

$$C = F(Y)$$

Aggregate income $Y$	Aggregate consumption $C$	Savings $S = Y - C$
0	500	-500
1000	1200	-200
2000	2000	0
3000	2600	+400
4000	3300	+700
5000	4000	+1000





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Q: 9)  $GDP_{mp} = 1100$   $NNP_{fc} = 850$

$NFIA = 100$

$Net\ I\ Tax = 150$

$Dep^n = 9$

$GNP = 9$

$GDP = 1100$

$+ NFIA = 100$

1200

$NNP_{mp} = 9$

$NNP_{fc} = 850 \leftarrow 1100 - 100 - 150 \rightleftarrows$

$+ I\ Tax = 150$

$NNP_{mp} = 1000$

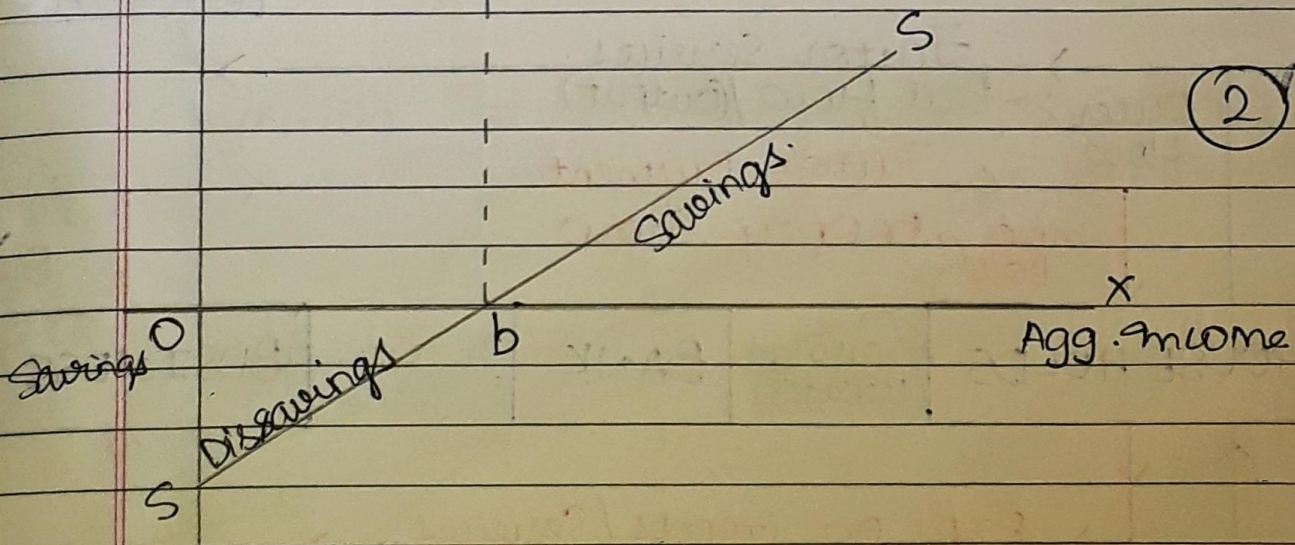
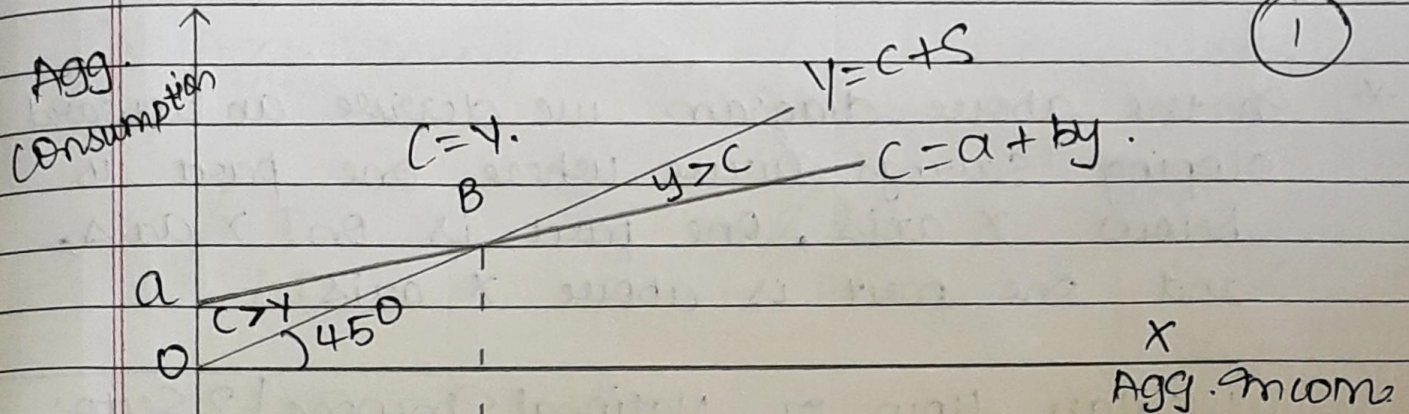
$Dep^n = GNP_{mp} - NNP_{mp}$   
 $= 1200 - 1000$   
 $= 200$



## Savings Function

Same table remains same as Consumption function

$$S = F(Y) \quad (2 \text{ marks})$$

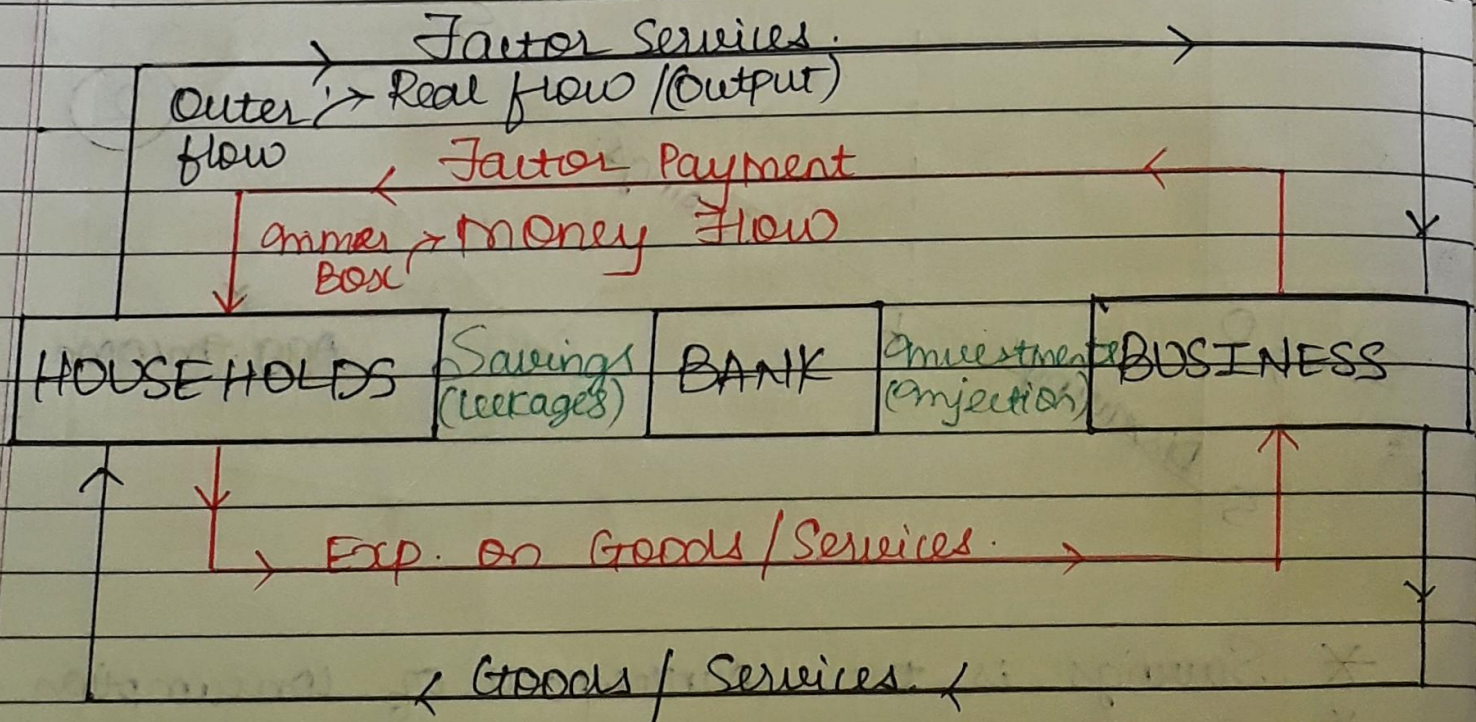


- \* Savings is the counterpart of consumption function.
- \* Income left after consumption is Savings  
i.e.  $S = Y - C$
- \* The above diagram shows the level of Savings at each level of disposable income.
- \* When income is zero, household tend to dissave to meet their consumption needs. So savings at that point are Negative.



- \* When consumption is equal to income Savings are zero
- \* When consumption is less than income Savings are positive.
- \* In the above diagram we derive an upward sloping Savings Curve where one part is below X axis, one part is on X axis, and one part is above X axis.

## Circular flow of National Income | 2 Sector Economy (C+I)





# Determination of Equilibrium income in two Sector.

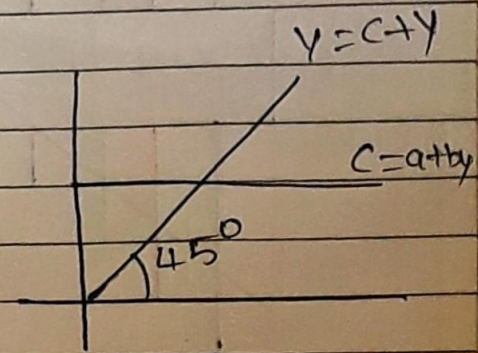
$C+I$   
 $\downarrow$   
 (AD) Agg. Demand

$Y = [C+S]$   
 $\downarrow$   
 AS (Agg. Supply)

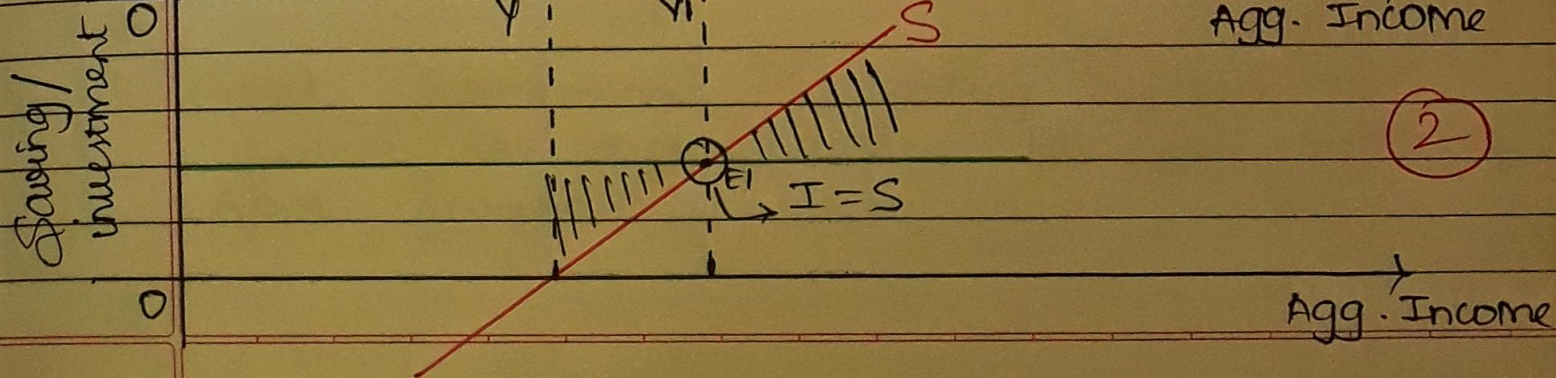
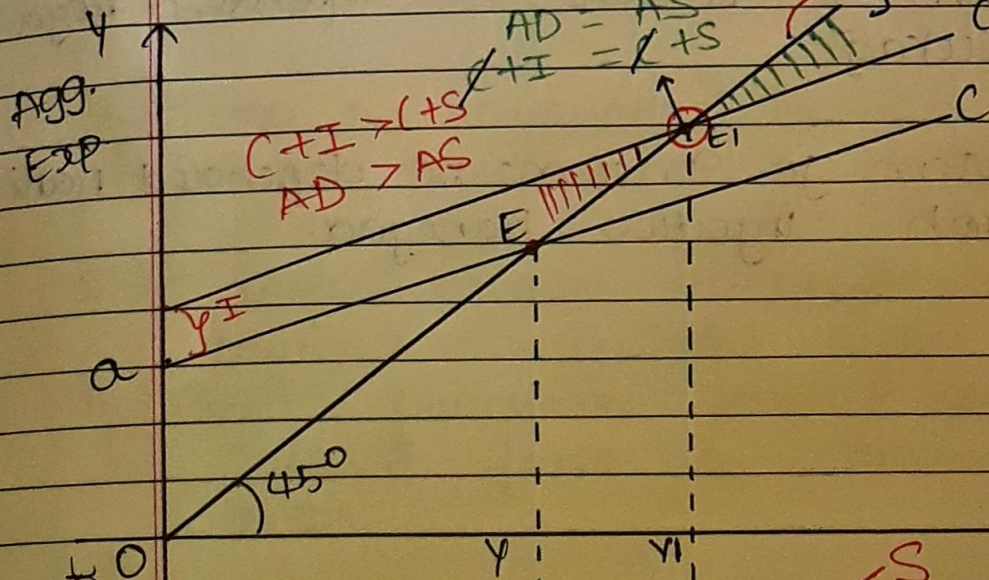
$$C+I = C+S$$

$$AD = AS$$

$$I = S$$



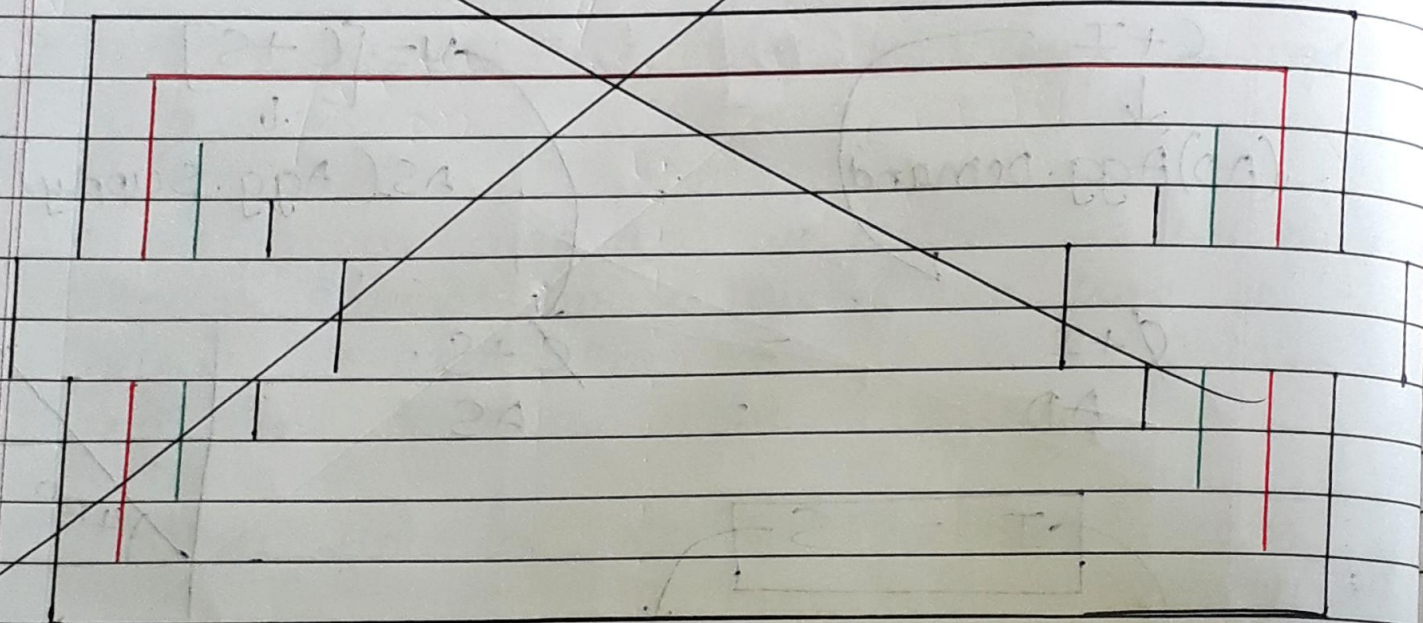
Injection = Leakages  $\times S$   $AS > AD$   
 $C+S > C+I$





# Circular flow of National Income

3 sector Economy  
GDP



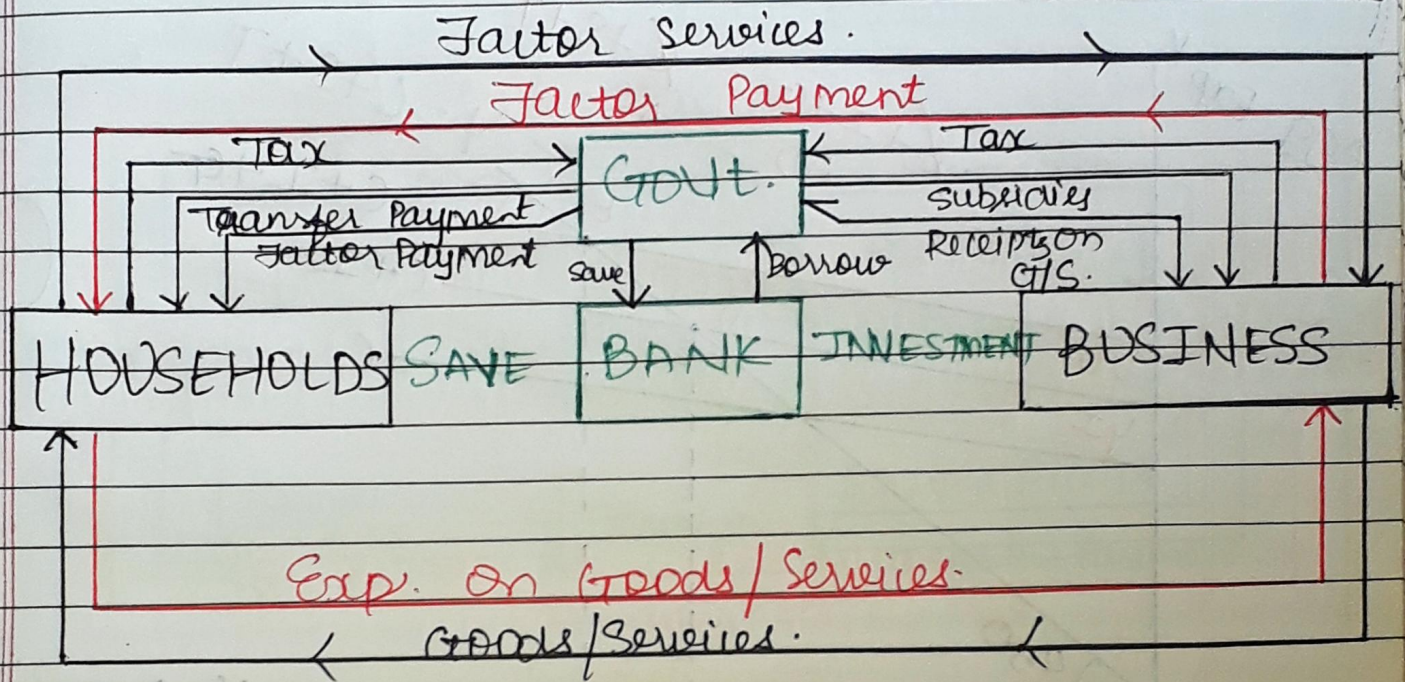
## Principle

Koi aisa item jo income pe dependend hoga  
voh leakage

Koi aisa item jo income pe dependend nahi  
hoga voh injection banega



## Circular flow of National Income [3 Sector Economy (C+I+G)]

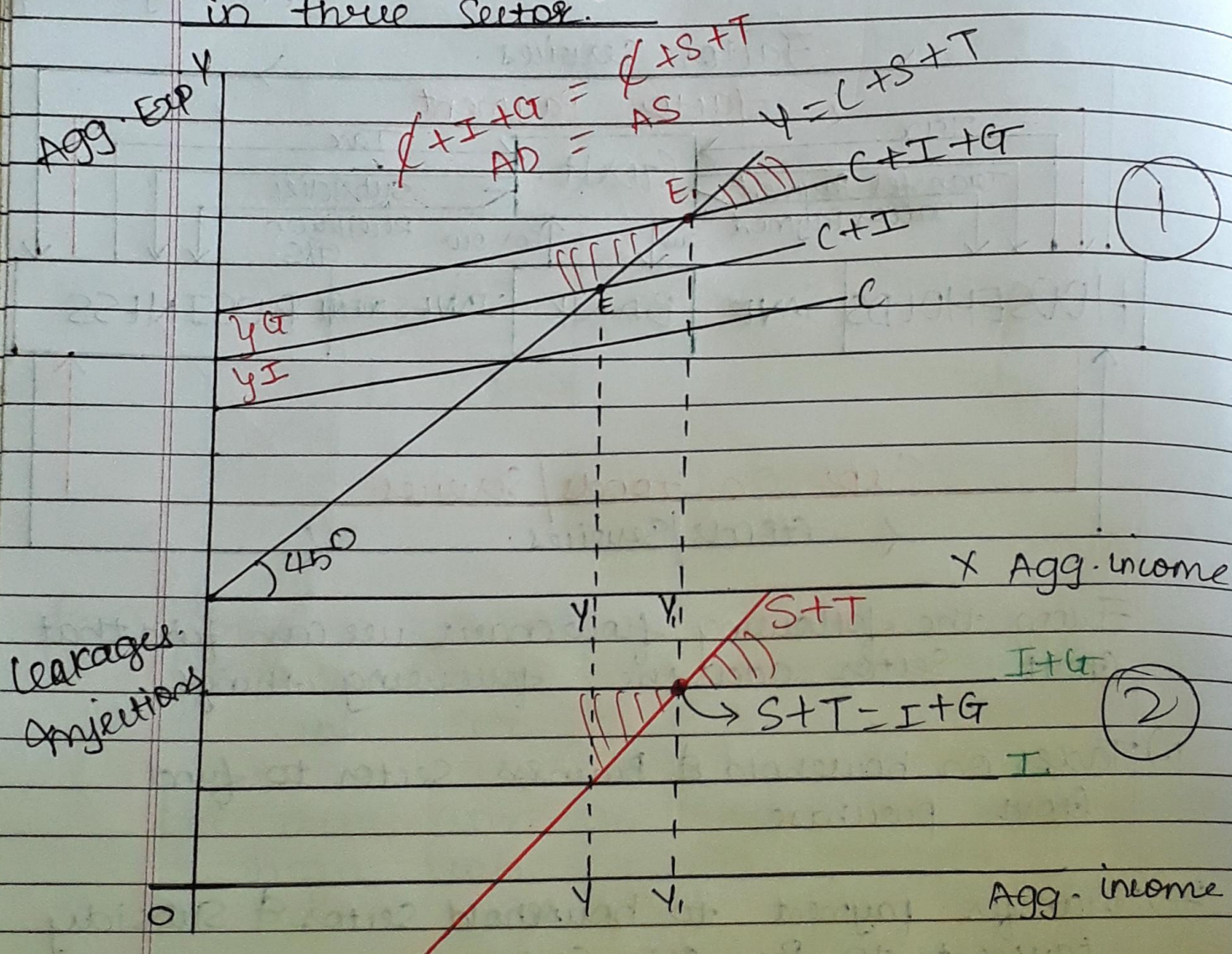


From the following flow chart we can find that Govt. Sector adds the following things:

- 1.) Taxes on household & Business Sector to fund Govt. purchase
- 2.) Transfer payment to household sector & Subsidy payment to Business Sector.
- 3.) Govt. purchases goods & services from Business Sector & factor of Production from household Sector.
- 4.) Govt. Borrowings in Banking System to finance the deficit when tax fall short of Govt. Purchase.

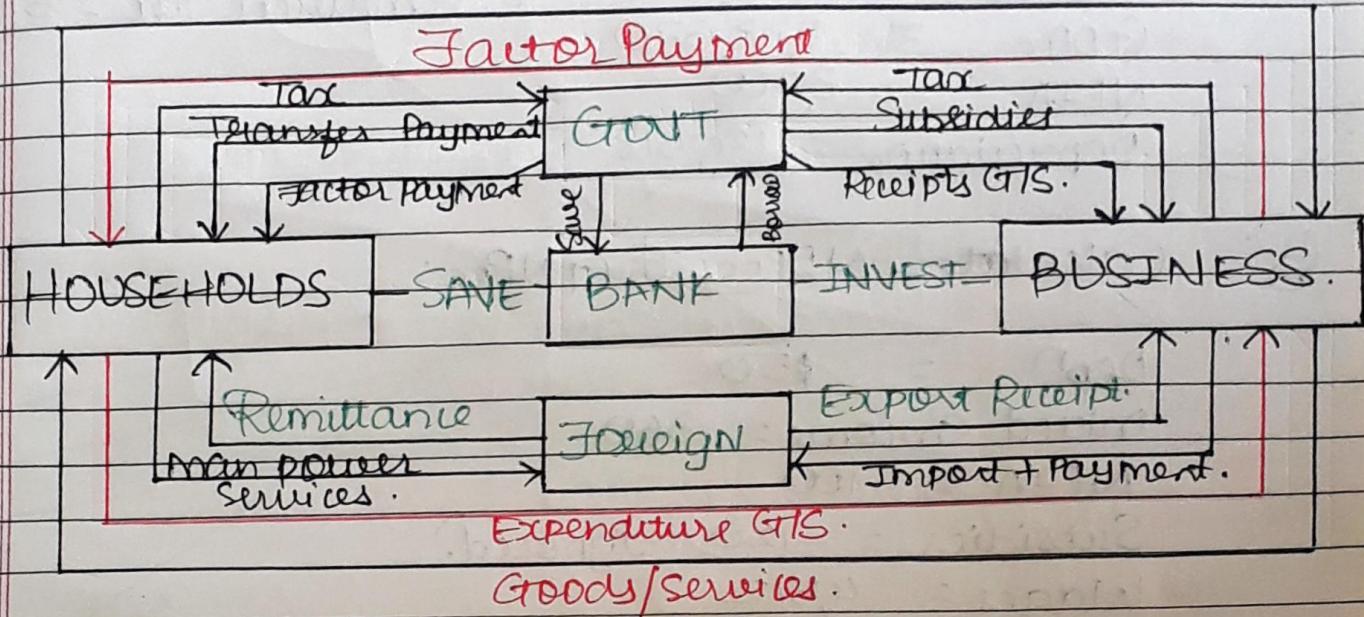


## Determination of Equilibrium level of income in three sector.

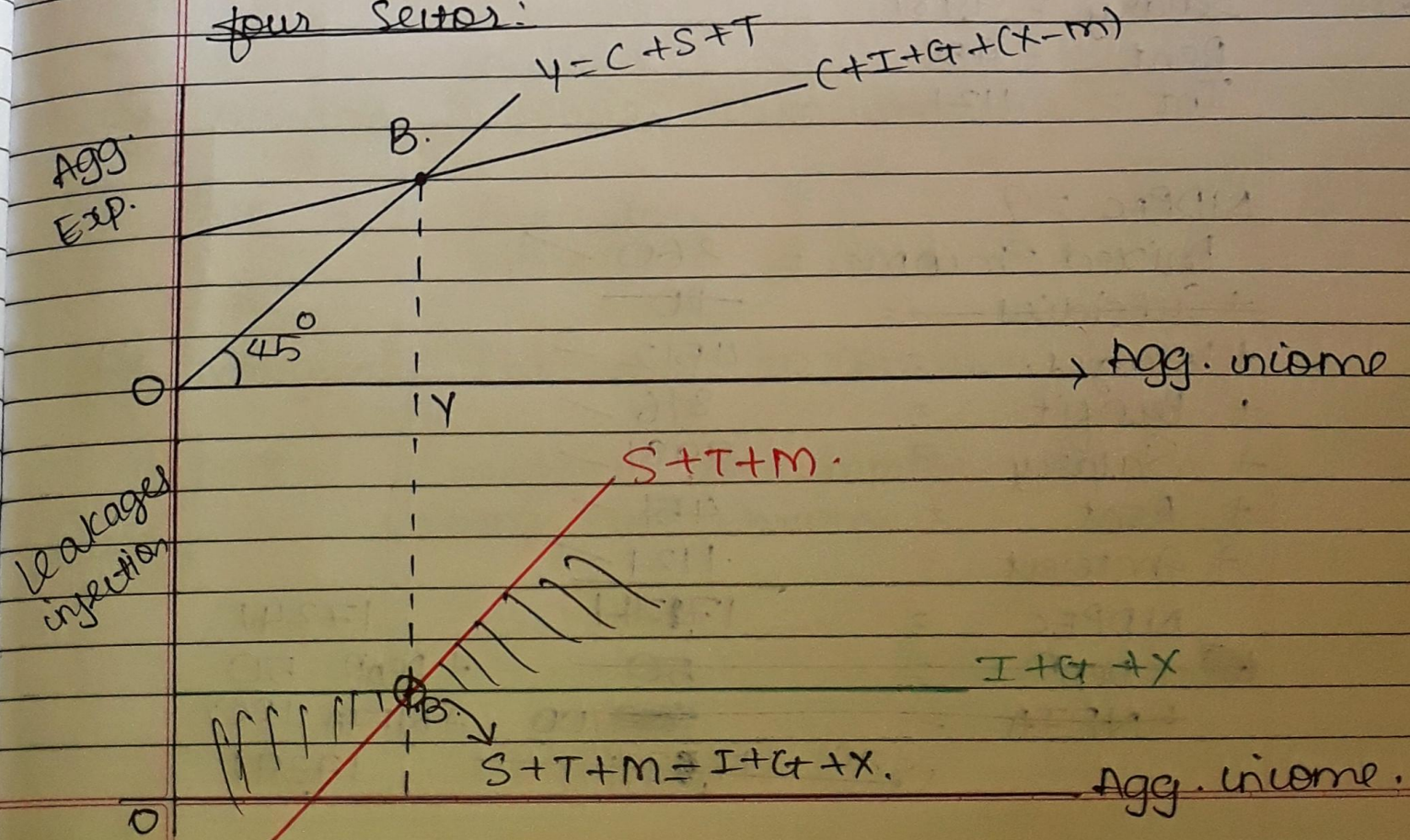




# Circular flow of National Income 4 Sector $[C + I + G + (X - M)]$



## Determination of Equilibrium level of income in four Sectors:





Q. Calculate Net Indirect Taxes:

$$\begin{aligned}
 1. \text{ GDP}_{mp} &= 875600 & \therefore \text{Indirect Tax} &= 351930 \\
 \text{GDP}_{fc} &= 523670 \\
 \text{NFIA} &= 3500 \\
 \text{Depreciation} &= 120518
 \end{aligned}$$

Q. Calculate NDP<sub>FC</sub> & GNP<sub>FC</sub>:

$$\begin{aligned}
 \text{Depn} &= 150 \\
 \text{Mixed Income} &= 360 \\
 \text{NFIA} &= 100 \\
 \text{Subsidies} &= -120 \text{ (Ignored)} \\
 \text{Wages} &= 4512 \\
 \text{Profit} &= 816 \\
 \text{Salary} &= 9981 \\
 \text{Rent} &= 451 \\
 \text{Int} &= 1121
 \end{aligned}$$

$$\text{NDP}_{FC} = 9$$

$$\text{Mixed Income} = 360 \checkmark$$

$$+ \text{Subsidies} = \underline{-120}$$

$$+ \text{Wages} = 4512 \checkmark$$

$$+ \text{Profit} = 816 \checkmark$$

$$+ \text{Salary} = 9981 \checkmark$$

$$+ \text{Rent} = 451 \checkmark$$

$$+ \text{Interest} = 1121 \checkmark$$

$$\text{NDP}_{FC} = 17241$$

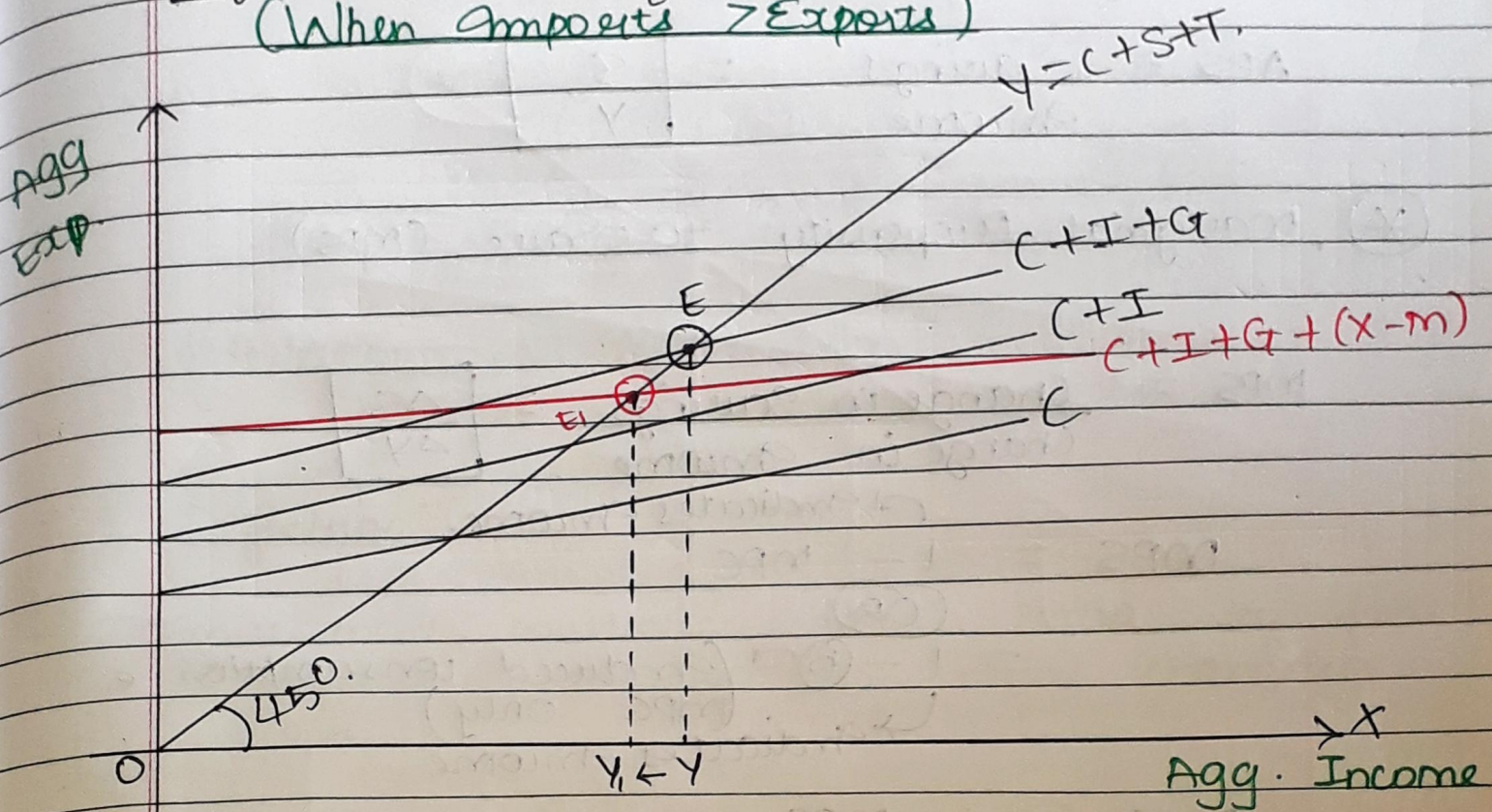
$$+ \text{Depn} = 50 \quad + \text{Depn} = 50$$

$$+ \text{NFIA} = 100 \quad + \text{NFIA} = 100$$

$$18741 \quad 17391 \quad 17391$$



Equilibrium level of National income (4 Sector)  
(When Imports > Exports)



(\*) Average Propensity to Consume (APC)

$$APC = \frac{\text{Consumption}}{\text{Income}} = \frac{C}{Y}$$

(\*) Marginal Propensity to Consume (MPC)

$$MPC = \frac{\text{Change in consumption}}{\text{Change in Income}} = \frac{\Delta C}{\Delta Y}$$

Other  
constant



### (\*) Average Propensity to Save (APS)

$$APS = \frac{\text{Savings}}{\text{Income}} = \frac{S}{Y}$$

### (\*) Marginal Propensity to Save (MPS)

$$MPS = \frac{\text{Change in Savings}}{\text{Change in Income}} = \frac{\Delta S}{\Delta Y}$$

↪ indicates income.

$$MPS = 1 - MPC$$

(OR)

$$= 1 - \text{⑤} \Rightarrow \text{⑤} \Rightarrow \text{induced consumption i.e. (MPC only)}$$

↪ indicates income

$$MPC = 1 - MPS$$

Income	Consumption	APC	MPC	MPS. (1-MPC)
0	500	-	-	-
1000	1250	1.25	0.75	0.25
2000	2000	1	0.75	0.25
3000	2750	0.92	0.75	0.25
6000	5000	0.83	0.75	0.25
10000	8000	0.8	0.75	0.25



(Income Multiplier)  
Investment Multiplier

J.M. Keynes.

R. F. Kahn.  
1931.

1936.

[G + TE + Im].

(K)

4 times

$\frac{4000}{1000}$

~~4000~~  
1000

[Relationship between change in investment & change in income]

Definition:

Investment multiplier is a ratio of final change in income to initial change in investment

$$K = \frac{\Delta Y}{\Delta I} \quad \text{(OR)} \quad K = \frac{1}{1 - MPC} \quad \text{(OR)} \quad K = \frac{1}{MPS}$$

(400)   
 4 times   
 (100)

Assumptions

- \* MPC is kept constant
- \* closed economy
- \* One man's exp. is another man's income



## Working of Multiplier

Suppose Govt. invest 100 Cr in expansion of factory.

↓  
Income of the Employees 100 Cr.

[MPC Constant]  $100 \times \frac{75}{100} = 75 \text{ Cr} \rightarrow \text{[Goods/Services]}$

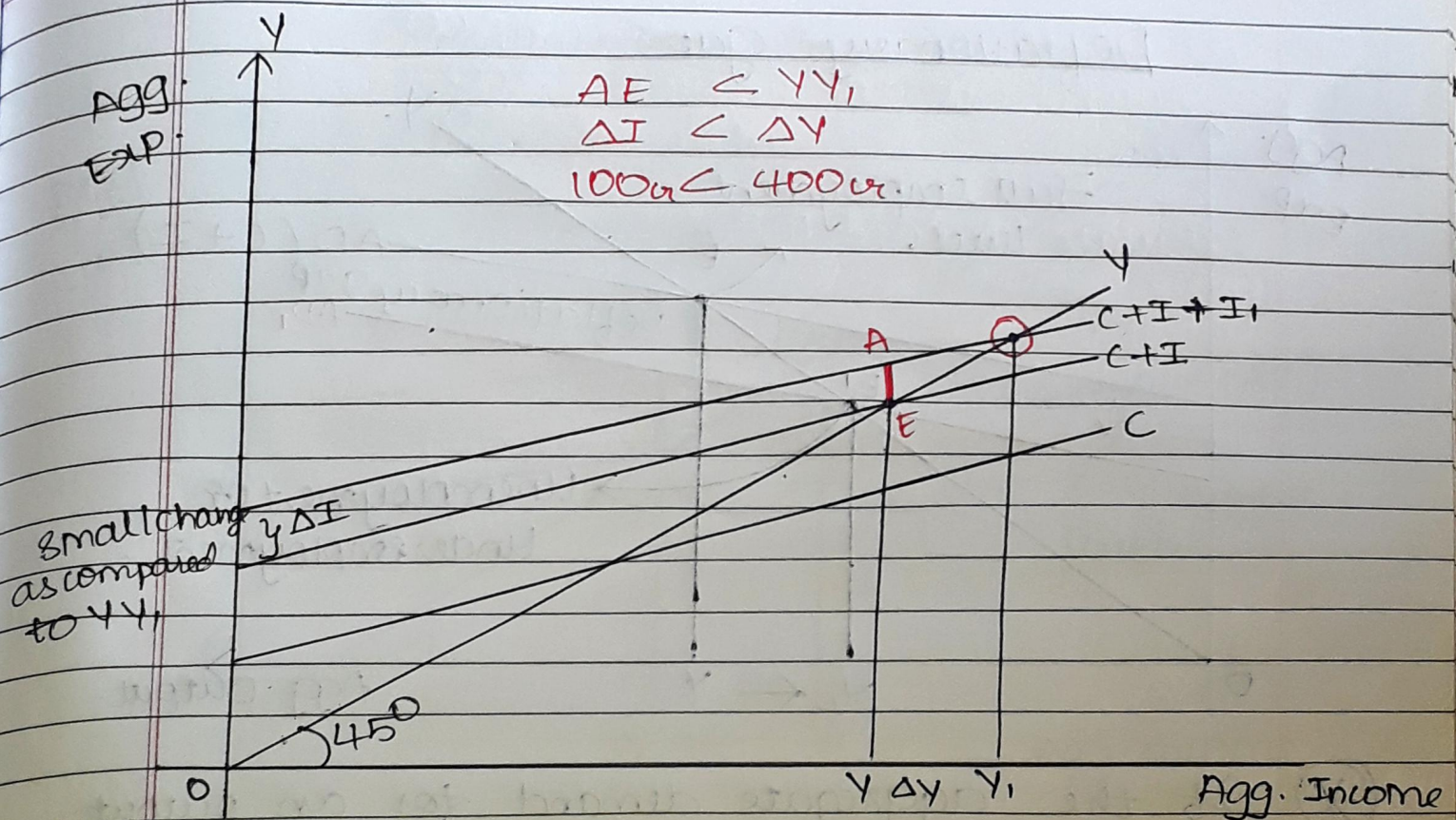
[MPC Constant] Income of Producers 75 Cr  
 $75 \times \frac{75}{100} = 56.25$  ..... empt!  
 MPC = 75% MPS = 25%

Stages	$\Delta I$	$\Delta Y$	$\Delta C$	$\Delta S$
1	100	100	75	25
2		75	56.25	18.75
3		56.25	42.18	14.06
4		42.18	31.63	10.54
				.....
Total	100	400	300	100

$$k = \frac{1}{MPS} = \frac{1}{25\%} = \boxed{4 \text{ times}}$$

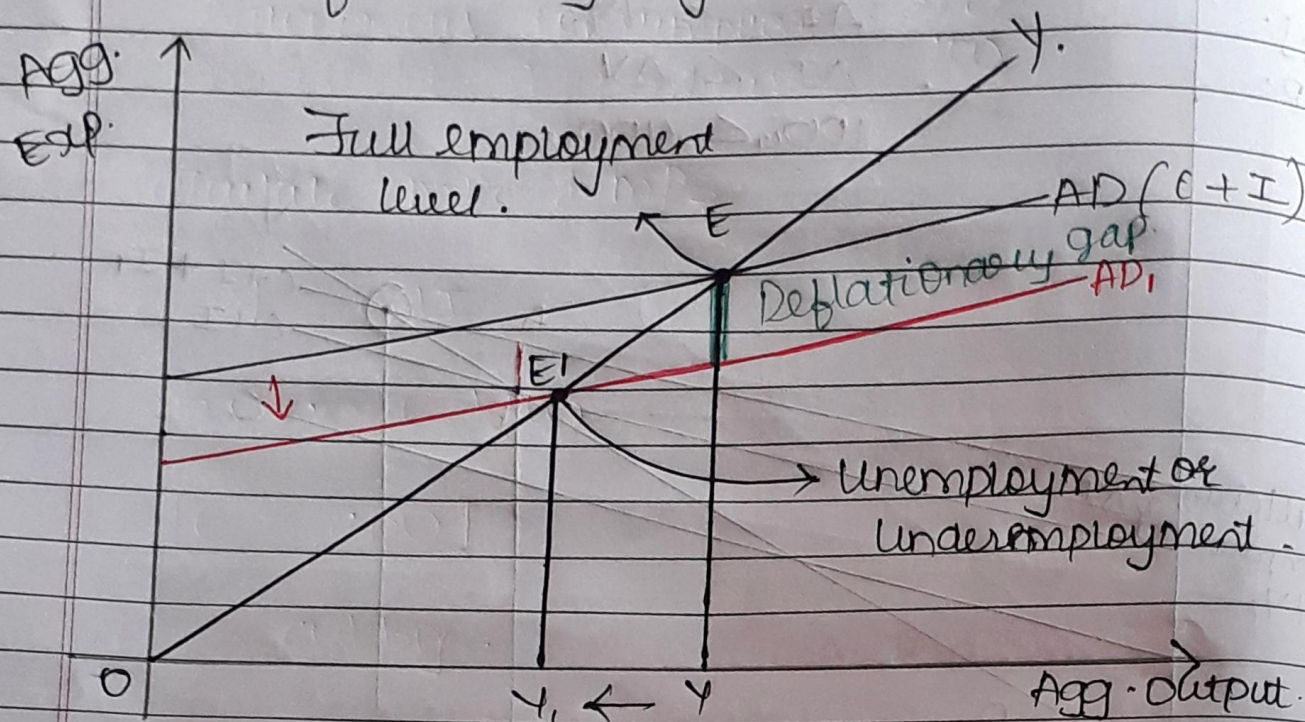
$$k = \frac{\Delta Y}{\Delta I} = 4 = \frac{\Delta Y}{100} \quad \boxed{\Delta Y = 400}$$







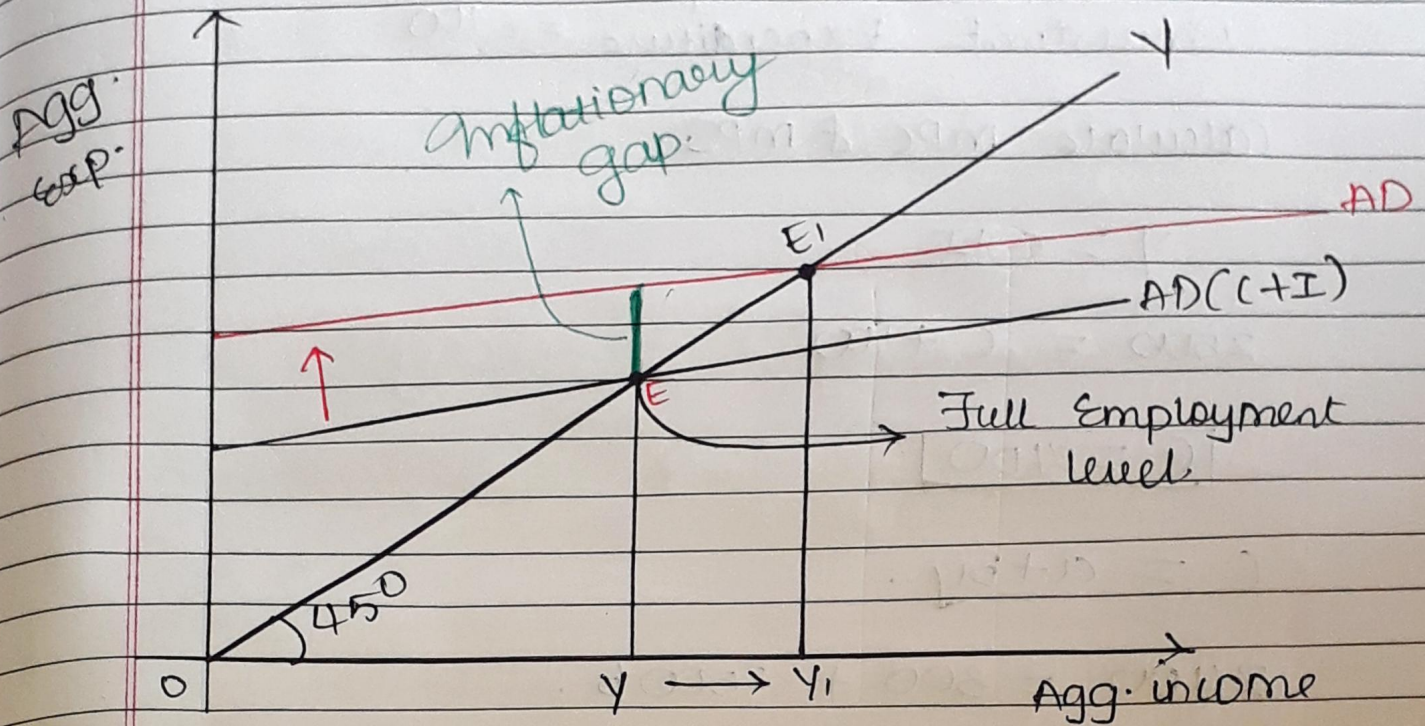
## Deflationary gap.



- (\*) It is the aggregate demand for an output is less than the full employment level of output then it is called deficient demand.
- (\*) Deficient demand gives rise to deflationary gap or Recessionary gap.
- (\*) It happens when equilibrium level of aggregate production is less than full employment output.
- (\*) Deflationary gap is thus a measure of the extent of deficiency of aggregate demand and thus it leads to income, output and employment to decline thus pushing the economy into unemployment.



## Inflationary Gap



- (\*) If the aggregate demand for an output is greater than full employment level of output then it leads to excess demand.
- (\*) Excess demand gives rise to inflationary situation or inflationary gap.
- (\*) This situation occurs during expansion phase of business cycle which leads to demand pull inflation.
- (\*) Inflationary gap which is the amount by which aggregate demands exceeds the level of aggregate demand required to establish the full employment equilibrium.



Q. 1)  $I=S$   $S=I$   
"I given" S is also given

(NOV 18 3M)

National Income. = 2,500

Autonomous Consumption = 300

Investment Expenditure = 100.

Calculate MPC & MPS.

$$Y = C + I$$

$$2500 = C + 100$$

$$C = 2400$$

$$C = a + by.$$

$$2400 = 300 + 2500b.$$

$$b = \frac{2400 - 300}{2500}.$$

$$b = 0.84$$

$$\text{i.e. } MPC = 0.84$$

$$MPS = 1 - MPC$$
$$= 1 - 0.84$$

$$= 0.16$$



Q:2)

Autonomous consumption = 100

MPS = 0.2

Investment = 200

Calculate = NI ?

~~$$Y = C + I$$~~

~~$$Y = 100 + 0.8Y + 200$$~~

$$Y = C + I$$

$$Y = 100 + 0.8Y + 200$$

$$Y = 300 + 0.8Y$$

$$Y = \frac{300}{0.2} = 1500$$



Q:3)

Calculate NI 9.

$$C = 20 + 0.6y.$$

$$I = 10 + 0.2y$$

$$Y = C + I$$

$$= 20 + 0.6y + 10 + 0.2y.$$

$$= 30 + 0.8y$$

$$0.2y = 30.$$

$$\boxed{y = 150}$$

Q:4) Savings Function

$$\text{Savings } S = -10 + 0.2y.$$

autonomous. = 50 cr.  
Investment

\* Investment increase by 5 cr.

Calculate : income & consumption.  
also

New income & consumption.



Sol<sup>n</sup>

$$S = I$$

$$-10 + 0.2y = 50$$

$$0.2y = 60$$

$$y = 300$$

$$~~C = I + S~~ \quad C = Y - I$$

$$= 300 - 50$$

$$C = 250$$

$$\text{New Annuity} = 55$$

$$-10 + 0.2y = 55$$

$$0.2y = 65$$

$$y = 325$$

$$C = Y - I$$

$$= 325 - 55$$

$$C = 270$$



## Investment Multiplier

Q.5)

Investment exp. increase by ₹400.  
MPC = 0.8.

Calculate Increase in income  $\Delta Y$ .  
Increase in Savings.

MPC = 0.8.       $\Delta I = 400$ .

$$K = \frac{1}{1 - MPC} = \frac{1}{1 - 0.8} = \frac{1}{0.2} = 5 \text{ times}$$

$\Delta Y = ?$

$$K = \frac{\Delta Y}{\Delta I}$$

$$5 = \frac{\Delta Y}{400} \quad \Rightarrow \quad \Delta Y = 2000$$

~~MPS = 1 - MPC~~  
~~= 1 - 0.8~~  
~~= 0.2~~

$$\Delta S = 400$$



Q.6)

 $\Delta \text{Investment} = 400 \text{ crore}$  $\Delta \text{NI} = 1600 \text{ crore}$ 

Calculate MPC

$$K = \frac{\Delta \text{NI}}{\Delta I} = \frac{1600}{400} = \boxed{4\text{-times}}$$

$$K = \frac{1}{\text{MPS}} \quad \therefore 4 = \frac{1}{\text{MPS}} \quad \boxed{\text{MPS} = 0.25}$$

$$\therefore \text{MPC} = 1 - \text{MPS} \quad \therefore \boxed{\text{MPC} = 0.75}$$

H.W.

Q.1) Per capita income increases from 42300 to 50000 and per capita consumption increases from 35400 to 42500

Calculate Multiplier (K).

12.5 times  
MPC = 0.92

$$K = \frac{\Delta \text{NI}}{\Delta I} \quad \boxed{K = \frac{\Delta \text{NI}}{\Delta I}}$$

$$I_1 = 42300 - 35400 = 6900$$

$$I_2 = 50000 - 42500 = 7500$$

$$\boxed{\Delta I = 600}$$

$$\therefore \Delta \text{NI} = 50000 - 42300 = 7700$$

$$K = \frac{7700}{600}$$



## Chapt. 2 Public Finance

(Unit 1)

It is the study of finance related to Govt.

Local

State

Central

Basically Public finance is a study of Principles of income and Exp. of the Govt.

## (Unit 4 same) Structure of Public Finance

Public Revenue

Public Exp.

Public Debt

Budget.

Public Revenue

Tax

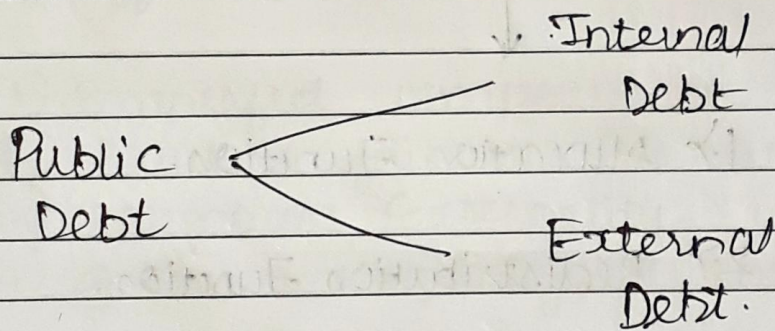
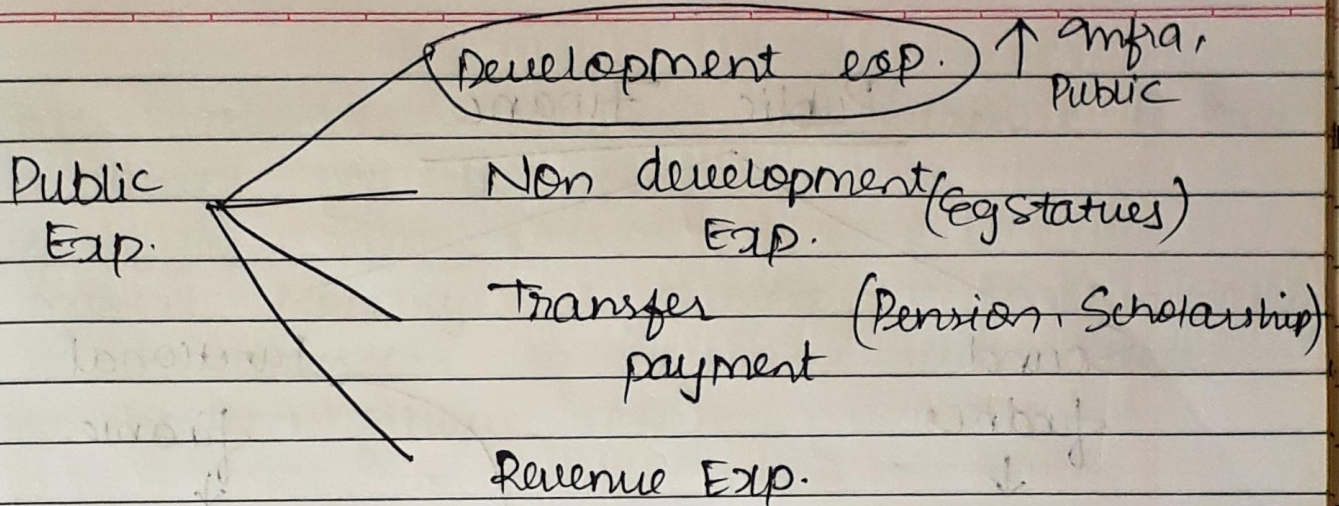
DT

IDT

Non Tax

Eg. ~~Challan~~ Challan, Penalty





Revenue  
Exp.

→ A - (12)

Budget

↓

Annual Financial



## Public Finance

Sound  
finance



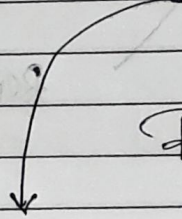
Adam Smith.

Functional

finance.



Richard Musgrave



1. Allocation Function.

2. Redistribution Function.

3. Stabilization Function.

Qm) (2-times)

1.) Allocation Function!

Govt

Private sector/entrepreneur

(Externalities)

\* Resource allocation refers to way in which available factors of production are put to best use.

\* One of the most important function of economic system is optimum allocation of resources without wastage.

\* Private sector resources allocation is based on market demand and supply price mechanism, consumer preference & Profit motive.



\* State allocation is based on revenue & exp activities of Govt. Budget.

(Private entrepreneurs)  
\* Market economy is subject to malfunctioning & misallocation of resources which leads to market failure (less).

\* Inefficient allocation is due to following.

- (1) Imperfect competition & Presence of monopoly
  - (2) Markets fail to produce collective goods.
  - (3) Negative externalities which affects people.
  - (4) Income inequality & imperfect information
- (Electricity, Railways, Water supply)

Conclusion: According to Musgrave Govt. is a medium by which needs and concerns of the citizens are fulfilled which will lead to optimum allocation of Resources.

2. Redistribution Function:

(1.) The distribution function of Budget is related to a Basic Question for whom should an economy produce goods & Service

(2.) It mainly focus on Equity fairness & justice.



(3.) Distribution function of Govt. aims at advancing well being to those members of Society who suffer from absolute Poverty.

(4.) Providing income wealth & opportunity and ensuring minimum standard of living.

(5.) The distribution function performed by Govt. are as follows:

- (i) Progressive taxation & giving Subsidy to Poor
- (ii) Financing public services that Benefit low income households. (Aayushman Bharat)
- (iii) Employment Reservation.
- (iv) Special Scheme for Backward areas.
- (v) Regulate & ban certain harmful products.

Conclusion: The distribution function of Government aims at providing security to people who have hardships. In other words Redistribution should be achieved by carefully balancing Equity & efficiency objective.



Govt - Fiscal  
Activity  
for welfare

RBI - Monetary  
Activity

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### 3.] Stabilization Function:

Recession

Public Exp  $\uparrow$

Tax  $\downarrow$

PP  $\uparrow$

Spend  $\uparrow$

AD  $\uparrow$

RBI

ROI  $\downarrow$

Loan  $\uparrow$

Fiscal

Inflation

Public Exp  $\downarrow$

Tax  $\uparrow$

PP  $\downarrow$

E  $\downarrow$

V  $\downarrow$

PP  $\downarrow$

AD  $\downarrow$

RBI

ROI  $\uparrow$

Loan  $\downarrow$



yaha pe govt. Nahi aayega Sir Ne bola hath kr  
assume karne kaa.

## Unit 2 Market Failure

Market failure is the situation when Free <sup>Private Entrepreneur</sup> Market leads to misallocation of Society's Scarce resources which either leads to

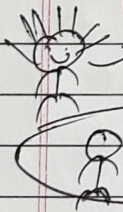
Overproduction OR Underproduction  
of goods and Services leading to  
less Optimal Outcome.  
(Below efficiency level)

Who is creating Problem is Imp't, who is faulting it is not Imp't

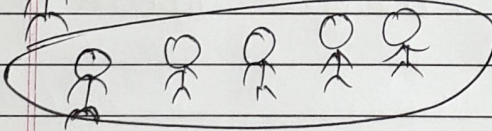
Market Failure

Demand Side (Individual is Responsible)  
Failure

Do not take into account full willingness of consumers to pay



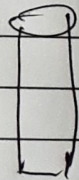
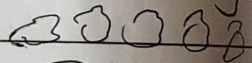
Producer of tyres



→ customer

Supply Side failure (Producer is Responsible)

Do not incorporate full cost of producing the production.



Mfg Cost + External cost  
5000 ↑ + 2000 eg. ↑  
= 7000 Cost ↑

Price ↑

Demand ↓ ∴ Pollution ↓



## Market Failure

(2m)  
Market power

### Externalities

Public Goods

Incomplete information.

- Negative Production Externality
- Positive Production Externality
- Negative Consumption Externality
- Positive Consumption Externality

### Market power (Monopoly power)

Market power is a ability of firm to profitably raise the market price of goods & services over its marginal cost

\* Market power causes market to be inefficient because it keeps price higher & output lower. This leads to less benefit to consumers.

\* Excessive market power causes the single producer or small number of producers to produce & sell less output than would be produced in competitive market.



## Externalities:

Anything that one individual does at the margin have some effect on others

Eg: If individual decides to shift from consumption of ordinary vegetables to consumption of ~~organic~~ organic vegetables this would lead to increase in the price of organic vegetables & reduce the welfare of consumer. Such cost or benefit which are not accounted by market price are called as externalities.

Externalities are also known as spillover effect, Neighbourhood effect, third party effect or side effect.

### \* Negative production Externalities:

They occur when action of one party imposes cost on another party.

Eg: discharge of medical waste into rivers & lakes which leads to Health Hazards.

### \* Positive production Externalities:

They occur when action of one party imposes benefit on another party.

Eg: When an individual or a firm raises an attractive garden and people who are walking by enjoying the garden.



## \* Negative Consumption externalities:

They are extensively experienced by people in day to day life having negative impact.

Eg: Active Smokers creating Problem to passive Smokers

Throwing Garbage and creating litter.

## \* Positive Consumption Externalities:

They impose external Benefit on others may be received on consumption or Production.

Eg: A person getting Sterilized against contagious disease which will prevent others from getting infected.

\* Marginal Private Benefit (MPB):

\* Marginal Social Benefit (MSB)

\* Marginal Private Cost (MPC)

↓

Cost of Manufacturing

\* Marginal Social Cost (MSC)

$$MSC = MPC + \text{External Cost.}$$

↓

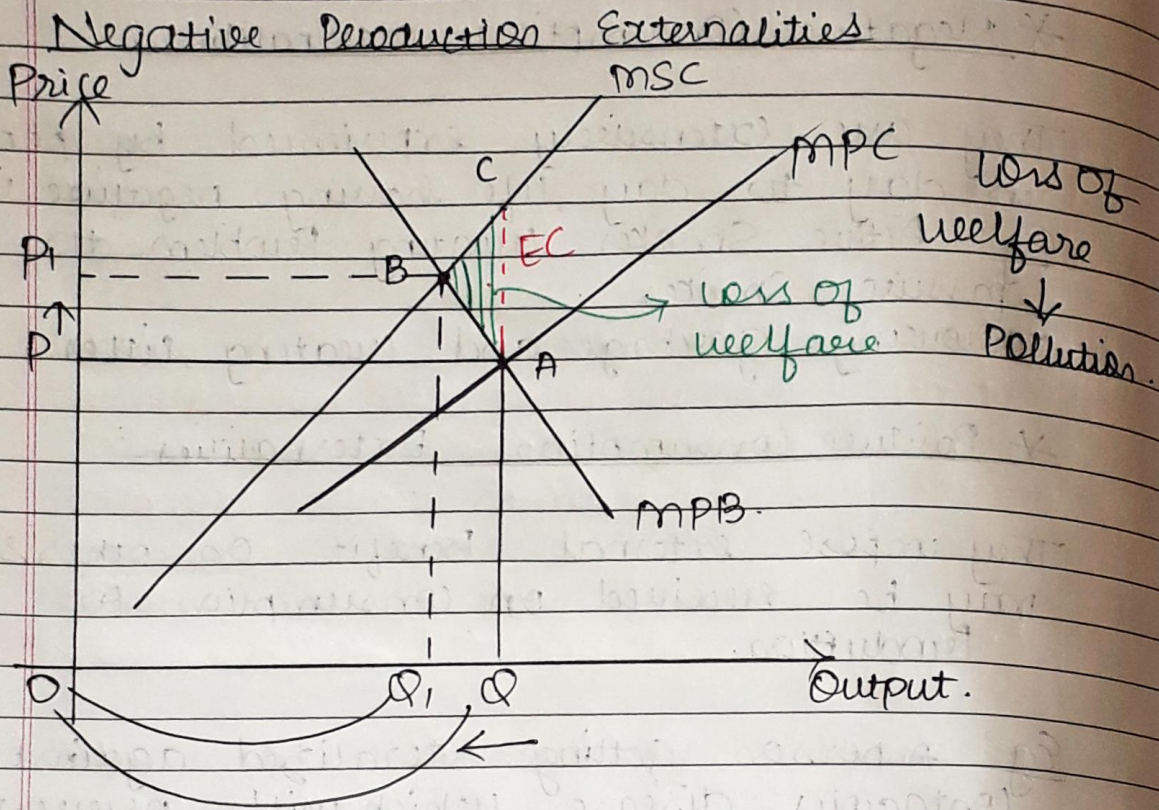
$$= 5000 + 2000$$

$$= 7000$$



Any Shaded area in diagram will be loss of welfare

(3m)



- \* The Equilibrium level of output that would be produced by Free market is  $OQ$  at which  $MPC = MPB$
- \*  $MSC$  represents full or true cost to the Society. Since it includes both  $MPC$  & External cost.
- \* Social efficiency occurs at  $Q_1$  level of output where  $MSC = MPB$  at point "B".
- \* The shaded triangle  $ABC$  represents loss of welfare. It indicates the area of overproduction.
- \* Thus we conclude that there is Negative externality in a competitive market.



## Public Goods

### \* Characteristics of Private Goods

- Private Goods refers to those goods that yield utility to people. Anyone wants to consume must purchase them.
- Owners of private goods can exercise private property rights.
- Consumption of Private Goods is rivalrous in Nature. Simultaneous consumption by more than one person will give reduced Benefits.
- Private goods can easily be distributed or parceled out.
- Private goods can be rejected if person's Preference & Budget changes.
- Private goods do not have problem of Free riders.
- Private goods are excludable in Nature. It is possible to prevent others from using it.



## \* Characteristics of Public Goods:-

- Public goods yield utility to ~~pub~~ people whose consumption is essentially collective in Nature.
- Public goods are Non Rivalrous in Nature.  
Eg: If you walk in a street light, other person too can walk without any reduced Benefits from street light.
- Public goods are characterised by ~~indivisible~~ (cannot be distributed).
- Public goods do have a Problem of Free riders.
- Public goods are Non Excludable in Nature. One individual cannot ~~deny~~ deny other from using it.
- When Public goods are Provided the additional resource cost of another Person consuming it is Zero.



## Public Goods

→ Pure & Impure public goods.

→ <sup>(Mixed)</sup> Quasi public goods.

~~Ampt~~ → common access resources | Tragedy of Common

→ Global Public goods

~~Ampt~~ → Free Rider Problem.

## Incomplete information

Asymmetric information      Adverse Selection      Moral Hazard.

### Incomplete Information

It is that situation in a competitive market where people are not aware about many matters, generally they have inaccurate & incomplete data consequently makes wrong choice or decision.

#### 1. Asymmetric information:

Asymmetric information occurs when there is imbalance information between buyers & sellers i.e. when buyer knows more than seller or seller knows more than buyer.

Eg: Landlord knows more about property than tenant.



There are situations where one party purposely hides certain material facts from the other party.

### Adverse Selection.

Adverse Selection is the situation in which asymmetric information about quality eliminates high quality goods from the market. Good quality goods disappear. Eventually market may offer nothing but lemons.

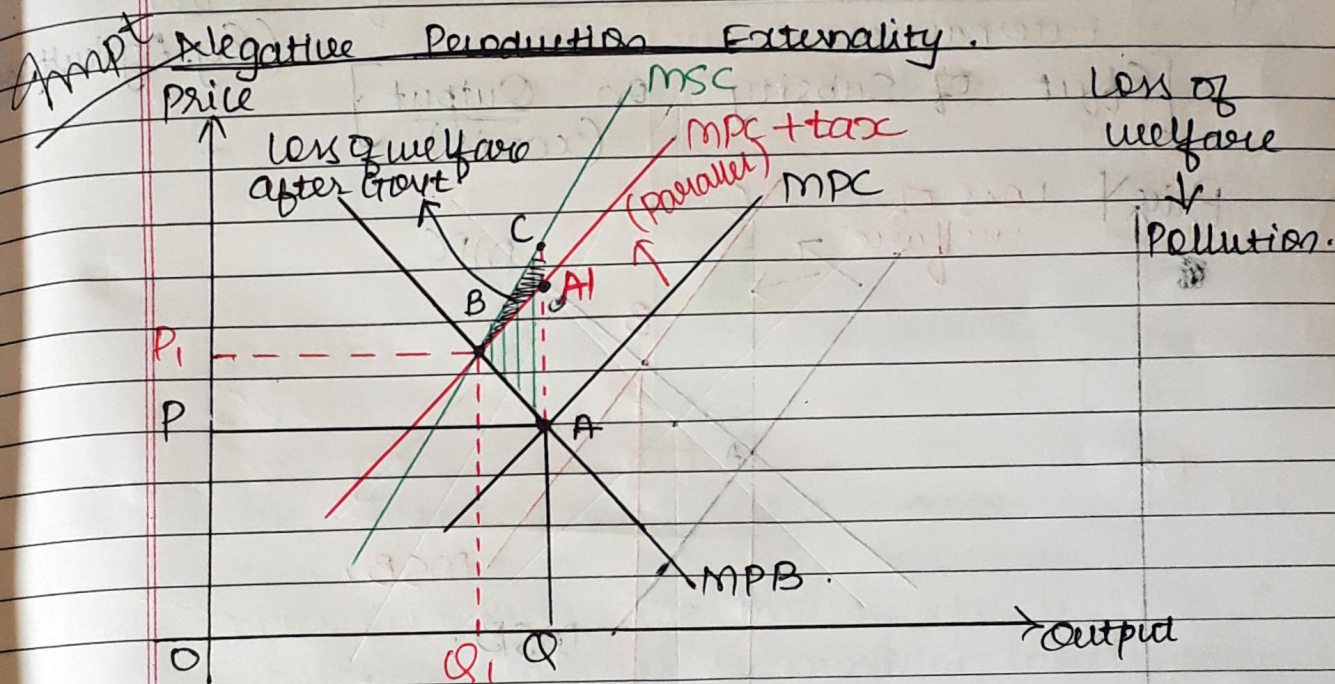
### Moral Hazard.

It is a situation where by a well informed person taking advantage of less informed person. This situation takes place when an individual knows more about his or her action than others.



### Unit 3. Government Intervention in case of market failure

- \* Govt intervention in case of "market Power"
- \* Govt intervention in case of Negative Production Externality.



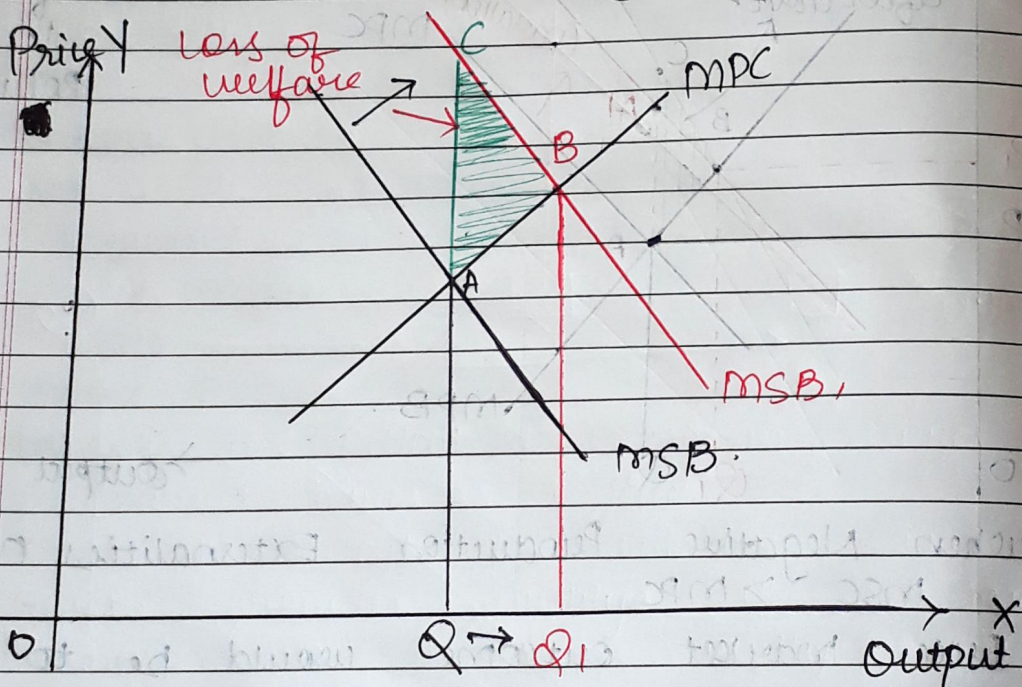
- \* when Negative Production Externalities Occur  $MSC > MPC$
- \* Free market outcome would be to produce socially Non optimal output i.e.  $OQ$ .
- \* When externalities are present the welfare loss to Society would be shaded area ABC
- \* The tax imposed by the Govt. i.e. the vertical distance  $AA_1$  would shift MPC curve upwards by the amount of tax charged i.e.  $MPC + tax$



- \* Price will rise to  $OP$ , output will decrease to  $OQ$  which reduces the loss of welfare due to overproduction.
- \* So current loss of welfare after Govt intervention is  $BCA$ .

## # Govt. intervention in case of Positive Externalities (Eg. Agriculture)

### [Effect of Subsidy on Output] (x-axis)



Subsidies involve Govt. paying part of the cost to the firms in order to promote production of goods having positive externalities.



\* A Subsidy on a product which has Substantial positive externalities would reduce the cost & consequently the price & will shift the Supply Curve to the right (Supply increases) & increase the Output.

\* A higher output would equate MSB, & MPC at point B which will give Socially optimal output & leading to reduction in loss of welfare.

# Govt. intervention in case of Merit goods  
(Diagram & Explanation is omitted) [Healthcare]  
[Education]

\* Merit goods are those goods which are deemed to be Socially desirable therefore Govt encourages its consumption.

\* Substantial positive Externalities are involved in consumption of merit goods Eg: Healthcare

\* In contrast to public goods merit goods are excludable in Nature, rival in consumption limited in supply & rejected by those unwilling to pay & involves positive marginal cost.

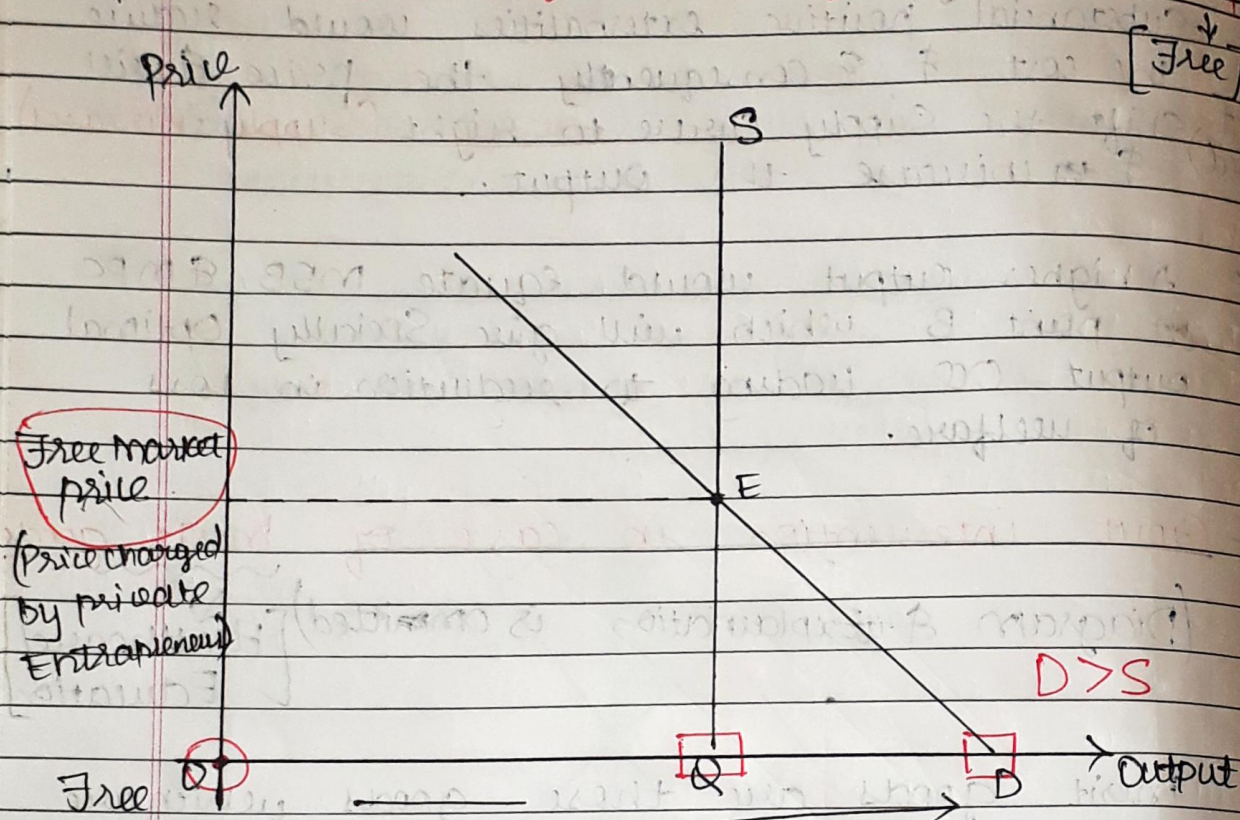
\* Merit Goods can be provided through market mechanism but are likely to be underproduced & under consumed.

\* When Government provides merit goods it may give rise to large Economies of Scale which will generate substantial positive Externalities overcoming the problem of under production.



(2 marks question)

# # Consumption of merit goods at zero price



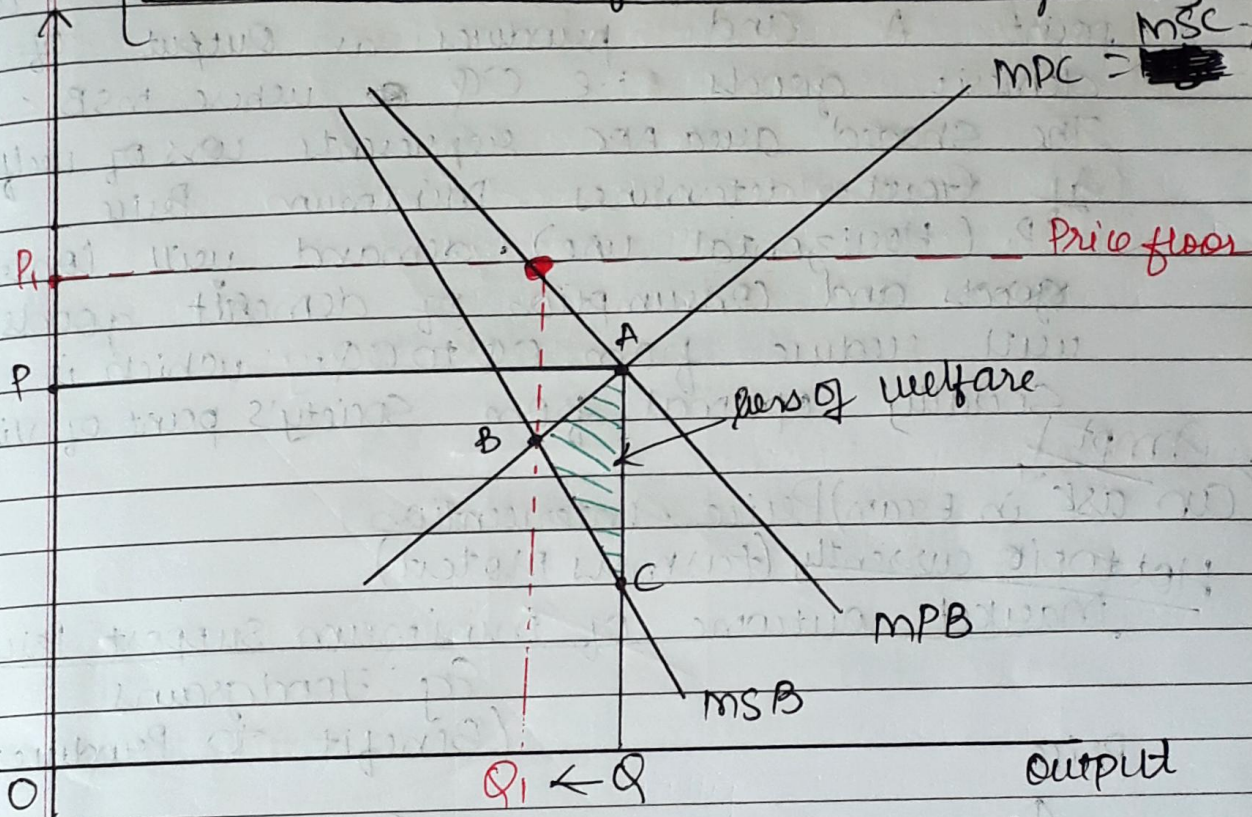
- \* OQ is the output of healthcare services when free market prices is charged.
- \* OD is the output of healthcare services when Govt. provides facilities at zero price.
- \* When merit goods are directly provided free of cost there will be substantial demand for the same.
- \* From the above diagram if people are required to pay market price they will consume only OQ Qty of Healthcare if provided free of cost i.e. at zero price. Demand increases to OD which will exceed Supply.



(3 marks) Ampt

GOVT intervention in case of Demerit goods.  
[eg. alcohol]

[Minimum Price for a demerit goods]



- \* Demerit Goods are those goods which are deemed to be Socially Undesirable eg: alcohol.
  - \* The consumption of demerit goods imposes Significant Negative externalities on the Society.
  - \* The production and consumption of demerit goods are likely to be more than optimal under Free market.
  - \* The price that consumer pays for a packet of cigarettes is market determined & does not include social cost.
- From the above diagram:

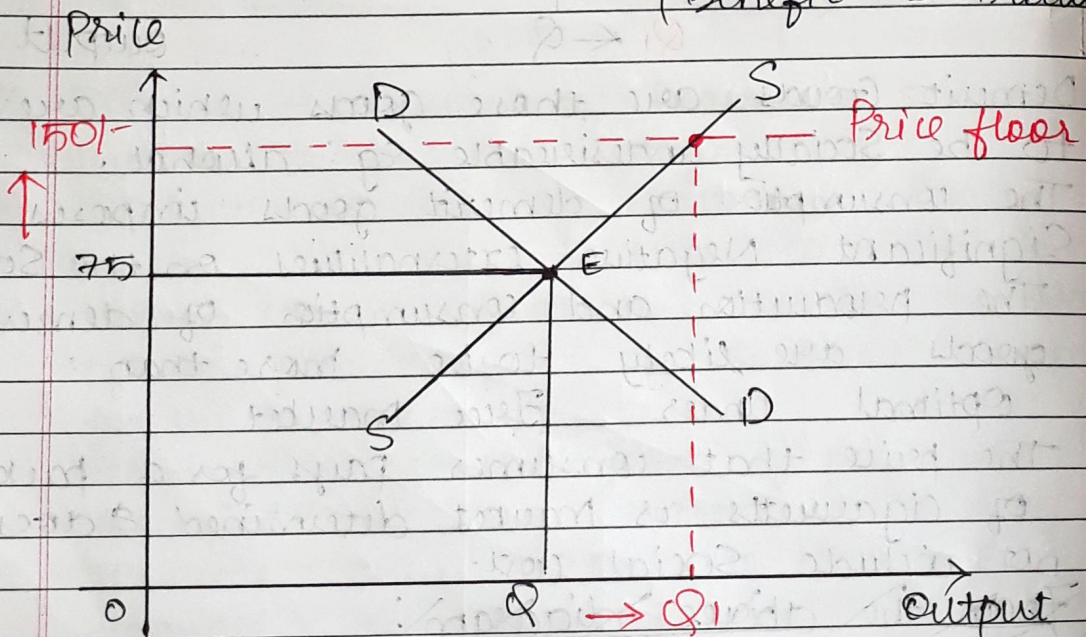


From the above diagram,

Free market equates MPC with MPB at point A and produces an output of demerit goods i.e.  $OQ$  where  $MSB < MPB$ . The shaded area ABC represents loss of welfare. If Govt. determines minimum price  $P_1$  (Horizontal line), demand will contract ~~goods~~ and consumption of demerit goods will reduce from  $OQ$  to  $OQ_1$ , which is socially optimal from society's point of view.

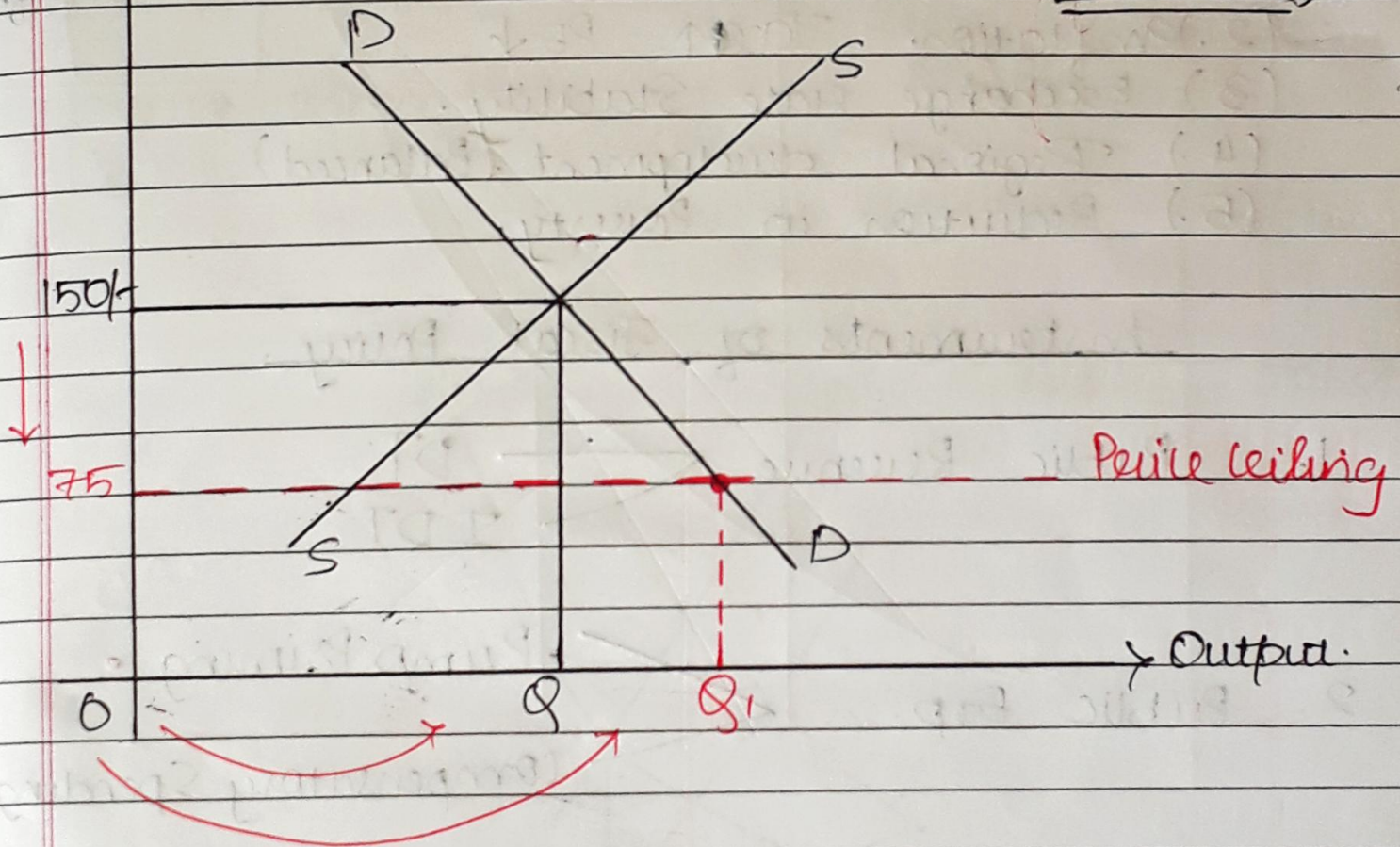
Anspt  
(Can ask in Exam) Price Intervention  
Hot topic currently (Farmers protest)

Market outcome of minimum support price (MSP)  
Eg: Foodgrains  
(Benefit to Producers)





Market outcome of Price ceiling [eg: Life Saving drug]  
(Benefit to consumers)





Fiscal Policy  
By (Govt)Monetary Policy  
By (RBI)

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Unit 4: Fiscal Policy# Objectives of Fiscal Policy.

- (1.) Economic Growth. Public Exp $\uparrow$  Tax $\downarrow$  (Deficit Budget)
- (2.) Inflation. Tax $\uparrow$  PE $\downarrow$
- (3.) Exchange Rate Stability.
- (4.) Regional development (Balanced)
- (5.) Reduction in Poverty.

Instruments of Fiscal Policy.

1. Public Revenue  $\begin{cases} \text{DT} \\ \text{IDT} \end{cases}$

2. Public Exp.  $\begin{cases} \text{Pump Priming} \\ \text{Compensatory Spending} \end{cases}$

3. Public Debt  $\begin{cases} \text{Internal} \\ \text{External} \end{cases}$

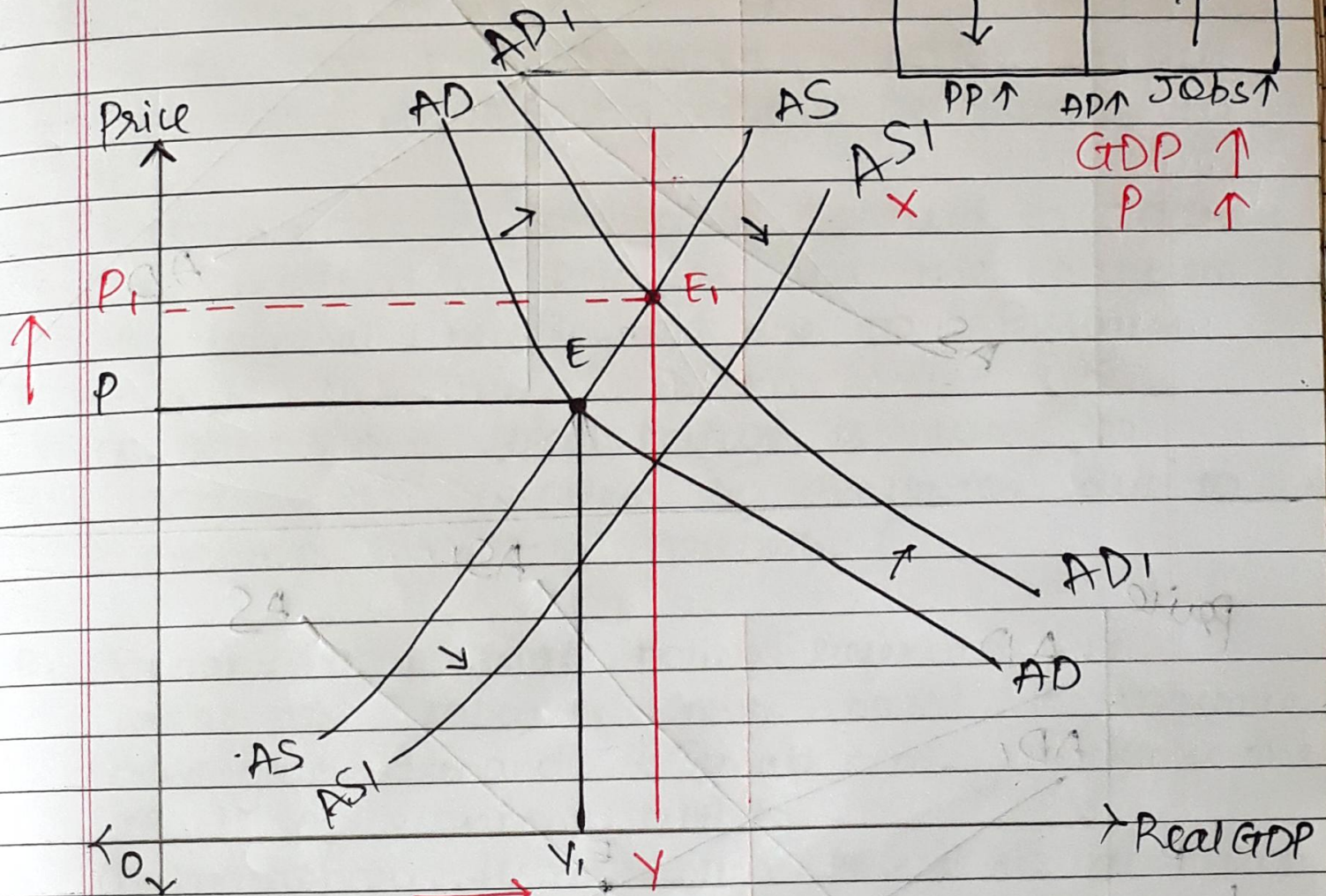
4. Budget  $\begin{cases} \text{BB} \\ \text{SB} \\ \text{DB} \end{cases}$



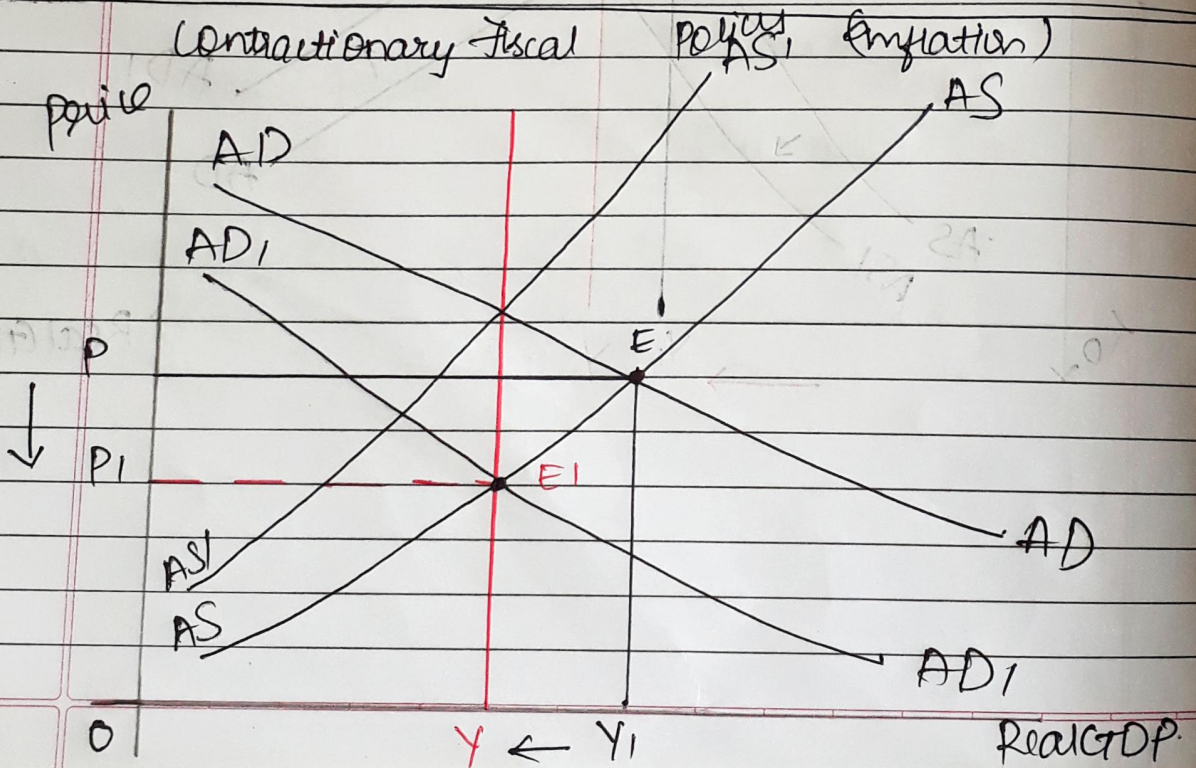
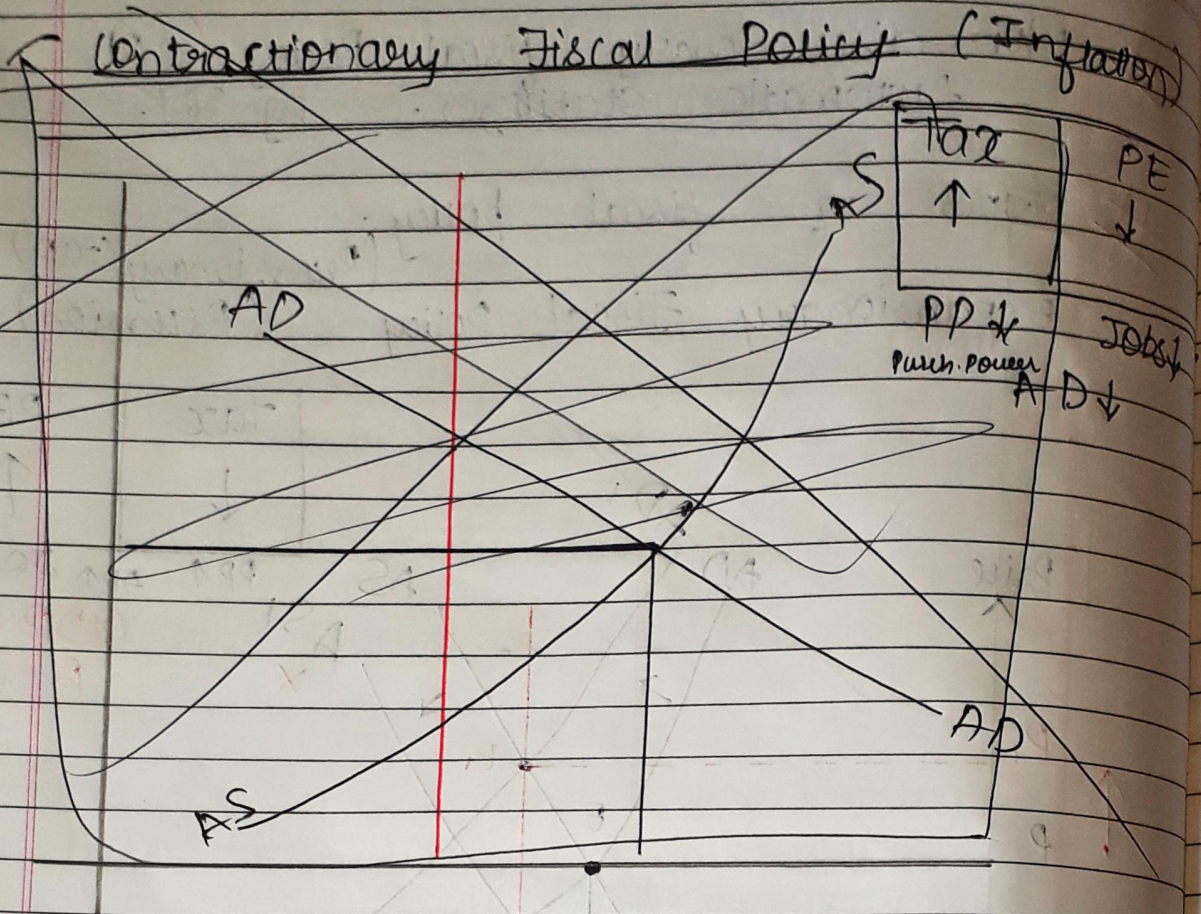
~~##~~ Non discretionary fiscal Policy. (OR)  
Automatic Stabilizers. pg 369.

~~##~~ Types of fiscal policy:  
Expansionary Fiscal Policy (Recession)  
Contractionary Fiscal Policy (Recessionary Gap)

Tax	PE
↓	↑









## Distinguish Between Expansionary & Contractionary Fiscal Policy.

1. Expansionary fiscal policy is defined as increase in Govt. Exp. or decrease in taxes that causes Govt. Budget deficit to increase or its budget Surplus to decrease.  
Contractionary Fiscal policy is defined as decrease in Govt. exp. or increase in taxes that causes Govt. budget deficit to decrease or its budget ~~Surplus~~ Surplus to increase.
2. Expansionary fiscal policy is used to address the problem of Recession and the problem of General unemployment due to Business cycle.  
Contractionary fiscal policy is used to address the problem of Inflation due to extreme high GDP Growth.
3. Expansionary fiscal policy refers to the deliberate policy of Govt. applied to increase aggregate demand & Simultaneously increase the level of economic activity.  
Contractionary fiscal policy refers to deliberate policy of Govt. to reduce aggregate demand and Simultaneously reduce the level of economic activity.



4. Expansionary fiscal policy is aimed at eliminating recessionary Gap.  
Contractionary fiscal policy is aimed at eliminating inflationary Gap.
5. Draw diagram of both the aspects.



# Chapter 3 Money market

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## Financial market

Money market

Capital market

[Market for Short  
term instrument]  
1 year

[Market for long term  
instrument]  
> 1 year

Money market

Static functions  
of money

Medium of Exchange

Measure of Value  $\approx$  \$

Standard of deferred Payment

Store of Value

How to Remember

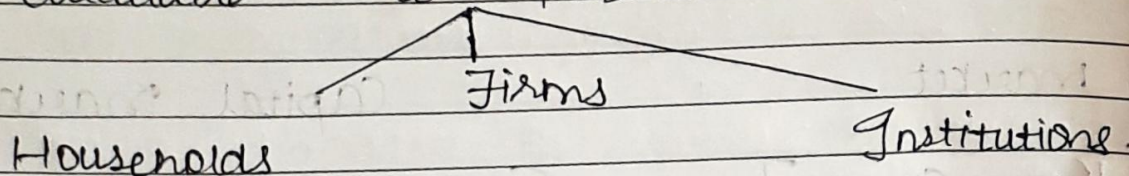
→ Money is a matter of function 4  
A medium, A measure, A Standard, A store

for Banks its 364 days in a year.



## Unit 2 Money Supply

Total Qty. of money available to people in an economy i.e. stock of money available to Public.



Except Govt & Central Bank (RBI)

M77

Monetary aggregate  
(RBI Working Group)

$M_1$

$M_2$

$M_3$

$M_4$

$M_1 =$  (Currency + Coins with Public + Demand deposits with R.B.I. + Other deposits with R.B.I.)

*Narrow money*

$M_2 = M_1 +$  Post office Savings deposit

$M_3 = M_1 +$  Time deposits with public.

*Broad money*

$M_4 = M_3 +$  Total Post office deposits - NSC (National Savings certificates.)



1998 : RBI Working Group.

New Monetary aggregates.

NM<sub>1</sub> = Currency & coins with Public + Demand deposits + other deposits with RBI.

NM<sub>2</sub> = NM<sub>1</sub> + Time liabilities portion of Saving + Certificate of deposit. + Term <sup>FD/RD</sup> deposits maturing within one year (→ FCNR(B) deposits Foreign Currency Non Residential (Bank) ←

NM<sub>3</sub> = NM<sub>2</sub> + Term deposits maturing over one year + Call Borrowings of Banking System.

#

Reserve Money / High Powered Money

Monetary Base.

(1) RM = Currency in Circulation

+ Bankers' deposit with RBI

+ Other deposits with RBI.

(2) RM = Net RBI credit to Govt.

+ <sup>(loan)</sup>

RBI credit to commercial sectors

+

RBI claim on Banks. +  
+ RBI Net Foreign assets.  
+ Govt. currency liability to Public

(→) RBI Net Non monetary liability



Liquidity aggregates  $\rightarrow$  NBFC

$L_1 = NM_3 + \text{All deposits with the Post Office Savings bank} - \text{NSC}$

$L_2 = L_1 + \text{Term deposits with term lending institutions or FI'S} \rightarrow \text{NBFC}$   
 $+ \text{Term borrowing by FI'S} + \text{Certificate of deposit by FI'S}$

$L_3 = L_2 + \text{Public deposits of NBFC}$

## # Sums

Q: Calculate

- (i) Narrow money.
- (ii) Net time deposits with bank

(1)	Long term deposits	848.15
(2)	<del>Net</del> Demand deposits with bank	163,374.5
(3)	RBI Claim on bank	4,16,025
(4)	Other deposits of RBI	756.1
(5)	Currency with Public	215,342
(6)	$M_3$	= 517,990.

$\rightarrow$  Narrow money =  $215,342 + 163,374.5 + 756.1$   
 = 237,472.6



$$M3 = M1 + \text{Net time deposit with bank/publ}$$

$$517990 = 379,472.6 + \text{Net time deposits.}$$

$$= 138,517.4 \text{ Cr.}$$

Q: Calculate High Powered Money.

RBI Monetary Liability	780
currency in circulation	15,230.40
Short term deposits	8924.
Bankers deposit with RBI	3618.18
Other Deposit with RBI	653.30.
Long term deposits.	4300.

$$RM = 15230.40 + 3618.18 + 653.30.$$

$$= 19,501.88$$



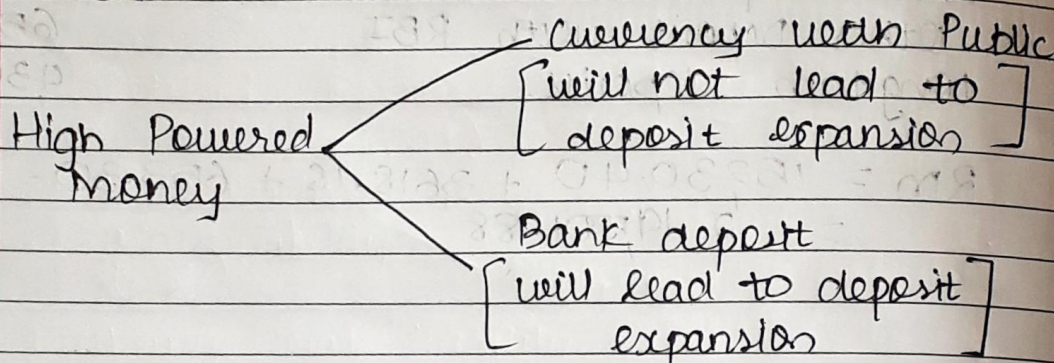
## Money Multiplier

Milton Friedman

Anna Schwartz  
1963

$$\text{Money Multiplier} = \frac{\text{Money Supply}}{\text{Monetary Base}}$$

Definition: "Money Multiplier is defined as a ratio that relates to changes in Money Supply to given change in Monetary Base."



## Working of Multiplier.

Assume that Reserve Ratio in India is 10%.  
Suppose you deposit 1000/- in HDFC Bank

$$\downarrow$$

$$1000 \times 10\% = 100$$

$\downarrow$   
Bank will lend 900/- to Mr 'A'

$\downarrow$   
Mr A will deposit 900/- in his bank (Axis).

$$900 \times 10 = 90/-$$

Axis Bank will lend 810 to Mr 'B' .....



Q. I Suppose initial deposit = ₹ 5200  
Req. Res. Ratio

(i) Calculate Credit Multiplier if  $RRR = 0.015$

(ii) Calculate Credit Creation if  $RRR = 0.06$

→ (i) Credit Multiplier =  $\frac{1}{RRR} = \frac{1}{0.015} = 66.66$  times

(ii) Credit Creation =  $5200 \times \frac{1}{0.06} = 86,666$

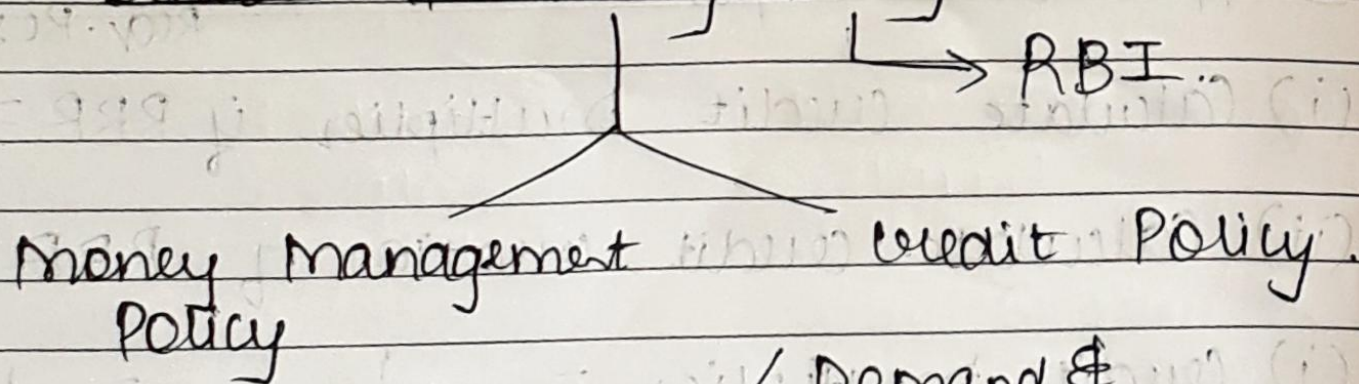
Q. II) Calculate Credit Multiplier as well as total credit created if  $RRR = 0.02$  initial deposit = ₹ 4000.

→ Credit Multiplier =  $\frac{1}{RRR} = \frac{1}{0.02} = 50$  times

Credit Created =  $4000 \times \frac{1}{0.02} = 2,00,000$



## Unit 3 : Monetary Policy



\* Availability of money.

\* Cost of money

\* Use of money.

### \* Objectives of Money Policy.

1. GDP Growth. (GDP)
2. Price Stability (RBI)
  - Inflation
  - Deflation
3. Exchange Rate Stability
4. Equal distribution of income to weaker section
5. Encourage investment in Govt. Securities.
  - long term (Bonds)
  - (10 yrs)
  - (15 yrs)



# # Operating Procedures & Instruments

(RBI) primary operating target  
 ↳ (Inflation.)

(Govt) primary intermediate target  
 ↳ (Economic growth & Stability)

## # Instruments of Monetary Policy.

1.) CRR → fraction of → NDTL → Net demand & Time Liability  
 (CASA + FD + TD) ↳

2.) SLR

3.) Liquidity adjustment facility (LAF) ↳ 2000

Benchmark

Interest Rates

Repo auction

Reverse repo auction

4.) Marginal Standing facility (MSF) (Emergency Window)

5.) Market stabilization Scheme (MSS) ↳ 2004

6.) Bank Rate

7.) Open market operation.

As per April 2021

CRR = 3%

SLR = 18%

Repo rate = 4%

Reverse repo rate = 3.35%

Bank rate = 4.25%

MSF = 4.25%



## Monetary transmission mechanism

Interest Rate Channel	Exchange Rate Channel	Asset price channel	Quantum Channel.
-----------------------------	-----------------------------	------------------------	---------------------

### Interest Rate Channel.

Monetary policy.	Interest Rate	Impact
Contractionary Monetary Policy.	ROI ↑ (Borrowings will fall)	Decline in AD and fall in investment, output & employment.
Expansionary Monetary Policy.	ROI ↓ (Borrowings will rise)	Rise in AD and rise in investment, output & employment.

### Exchange Rate channel:

Exchange Rate	Impact on Export & import	Impact on Economy.
$1\$ = 60 \rightarrow 1\$ = 55$ { Appreciation of £ }	Import ↑ Export ↓ [Domestic goods will become expensive for foreigners]	Fall in domestic output & employment.



$1\$ = 60 \rightarrow 1\$ = 65$	Import $\downarrow$	Domestic output will rise
$\downarrow$ Dep <sup>n</sup> of $\pounds$	Export $\uparrow$	& also employment.
	[Domestic goods will be cheaper for foreigners]	

### Asset price channel:

- \* Asset Price respond to monetary policy changes and consequently affect output employment & inflation.
- \* With raise in interest rates, investments in debt instruments become attractive and hence investment in Equity tends to fall.
- \* This causes fall in Equity Prices and thereby leads to reduction in household financial wealth.
  - { ultimately leads to fall in consumption, }  
 { Output & employment }



## Quantum Channel

Bank lending  
channel.

Balance Sheet  
channel.

## Unit 1 : Demand for Money

~~Classical~~ Classical approach.



Cash transactions approach.



Qty theory of money.



George Fisher (Yale University)

1911 { Purchasing Power of Money }

{ Use of Money only as a medium of Exchange }

## Equation of Exchange

$$MV = PT$$

$MV$  = Supply of money.

$PT$  = Demand of money

$M$  = money Supply.

$V$  = Velocity in Circulation of money

$P$  = Price level

$T$  Volume of transactions.



Extended Version of Equation.

$$MV + m_1 V_1 = PT$$

→ CASA

$m_1$  = Total Qty of credit money.

$V_1$  = Velocity in circulation of credit money.

# Neo-classical approach.

↓  
Cash balance approach.

↓  
Pigou / Marshall [Cambridge approach]

↓  
1917.

↓  
{ Use of Money (only) as a Store of Value }

Equation of Exchange

↓  
(Save)

$$M^d = kpy$$

$M^d$  = Demand of money

$y$  = Real National income

$P$  = Price level (inflation)

$PY$  = Nominal National income

$k$  = Portion of National income people want to hold as cash.



## Factors determining individual for holding cash.

- 1.) Prevailing interest rates. (FD.)
- 2.) Wealth owned by individuals
- 3.) Expectation about future Price.

\* The Neo-classical theory of demand for money is put forward by Cambridge Economist Marshall & Pigou

\* The Neo classical approach of demand for money is ~~also~~ also called as cash balance approach.

\* The Cash balance theory of demand for money emphasis on store of value function of money.

\* The Cambridge Version holds that money gives utility in two ways.

- 1.) Possibility of Split up of Sale & purchase (Transaction motive but in future.)
- 2.) money acts as a hedge against uncertainty



According to Marshall Demand for money depends partly on income and partly on other factors of which important



#

Keynesian approach.



Liquidity Preference approach.



JM Keynes 1936



(GTEIM)

General Theory of Employment Interest money.

{ Demand of money both as a  
medium of exchange & store of value }

Keynes approach.

Transaction  
Motive

Precautionary  
Motive  
(Cash in hand - savings)

Speculative  
Motive.  
(Stock market,  
Bonds, Deb<sup>t</sup>)

Level of income  
Time interval  
Price level



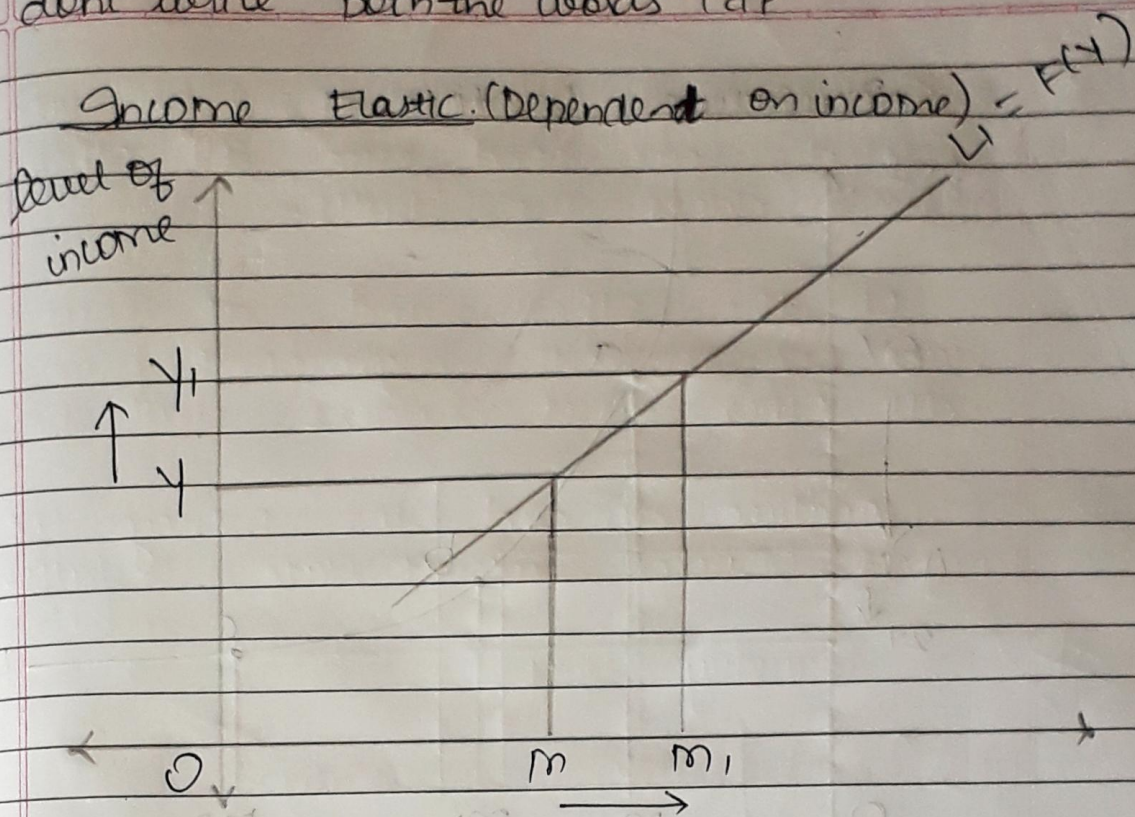
Income  
motive  
(Salaried  
people)

Business  
motive  
(Business  
men)

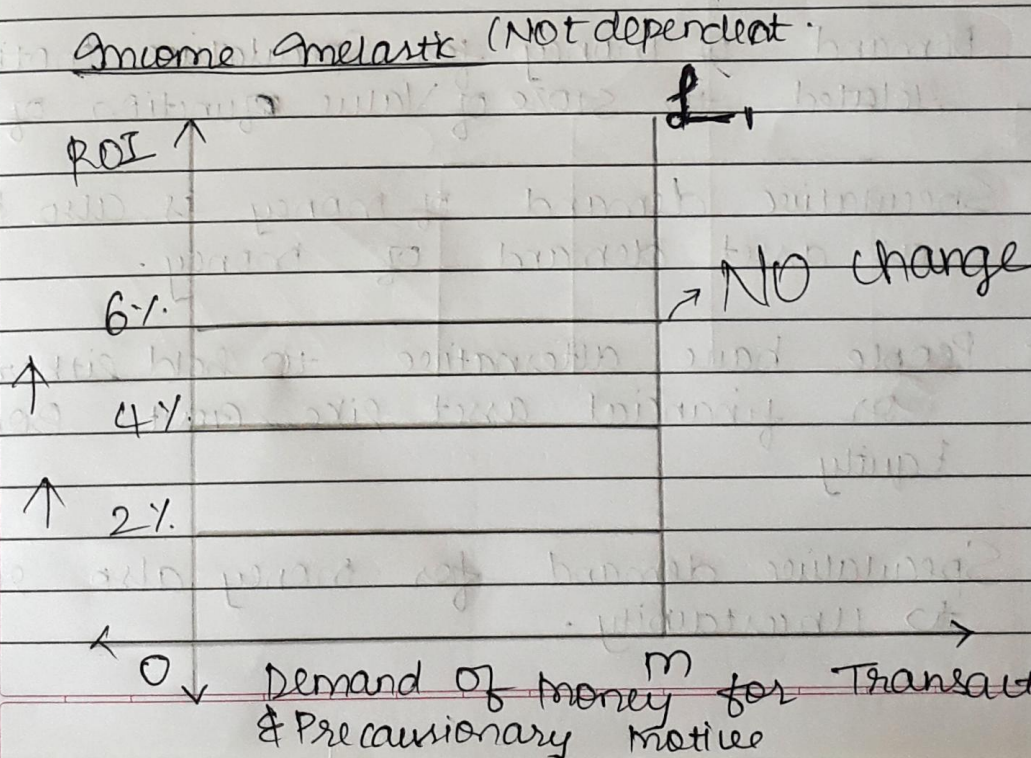


NOTE The below diagrams are common for both Transaction & precautionary.  
 So if either of is asked in Exam  
 dont write both the words T&P

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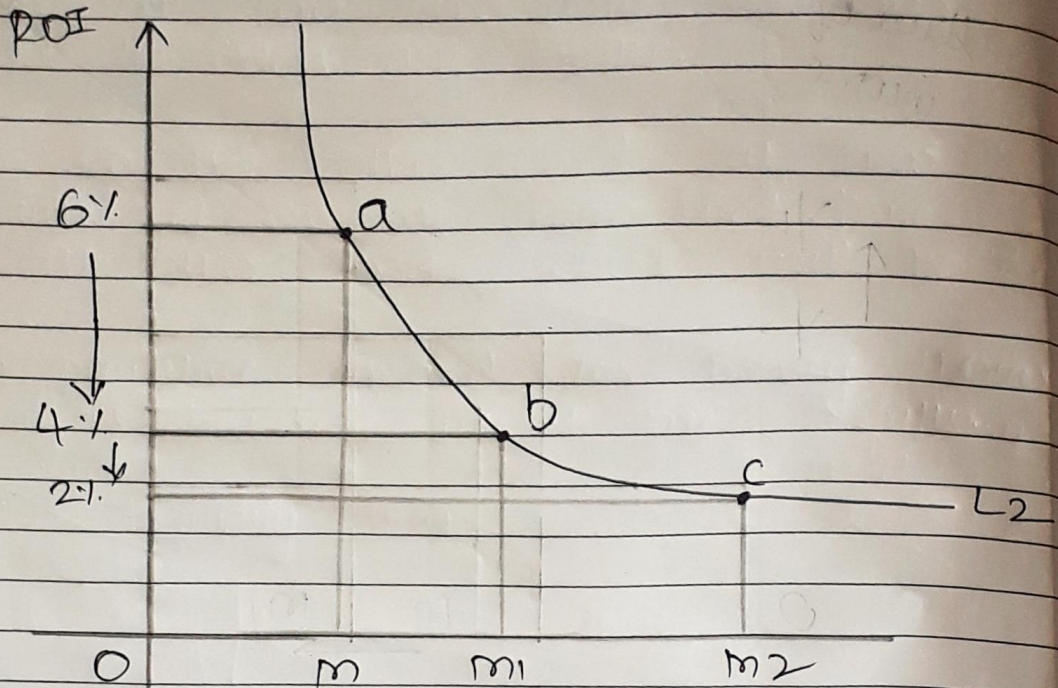


Demand for money for transaction & Precautionary motive.





## Speculative Motive.



## Demand of money.

- \* Demand of money for Speculative motive is related to store of value function of money.
- \* Speculative demand of money is also known as asset demand of money.
- \* People have alternative to hold either cash or financial asset like Govt. Bonds or Equity.
- \* Speculative demand for money also relates to uncertainty.

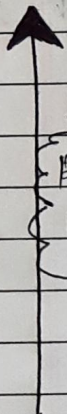


\* The Cash held under this motive is used to make Speculative gains by dealing in bonds.

\* If bonds prices are expected to fall ~~business~~ businessman will sell bonds & if bond prices are expected to rise businessman will buy Bonds.

\* However Market interest rate is expected to fall businessman will buy Bonds & if interest rates are expected to rise then they will sell bonds.

This implies that bond price & market rate of interest are inversely related to each other.

Bonds	M R I	
1000 X 5%.	10%.	 R.R. Repo Rate
= 50/-	8.5%.	
	7%.	
	6%.	
	5.5%.	
	500 X 10%.	
	= 50/-	

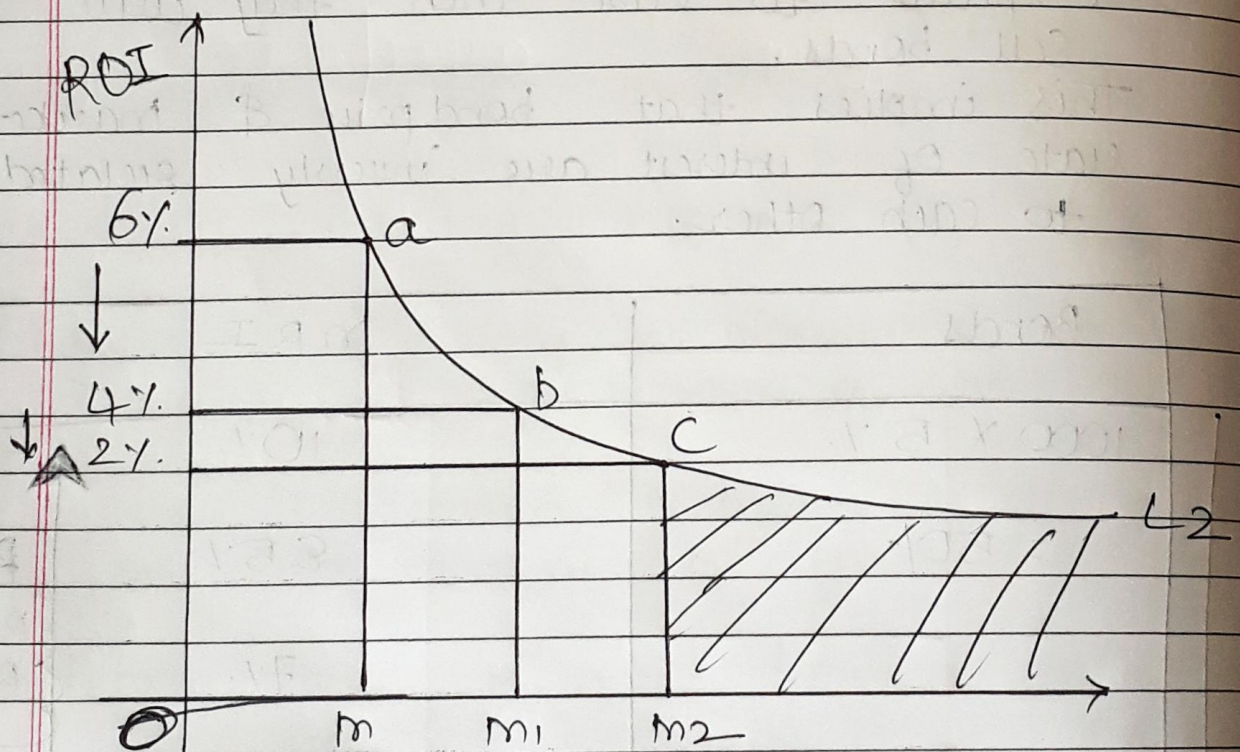


\* Keynes assumes that at high rate of interest low bond price, all other assets holders are Bulls:

On the other hand at low rate of interest, high bond price, all other asset holders will be Bears.

Speculative demand for money increases as market interest rate falls.

### # Liquidity Trap.





# ## Post Keynesian approach.

\* Milton Friedman theory.

\* Monetary approach.

\* Behaviour towards Risk.

Post Keynesian approach.



Friedman Qty theory of money



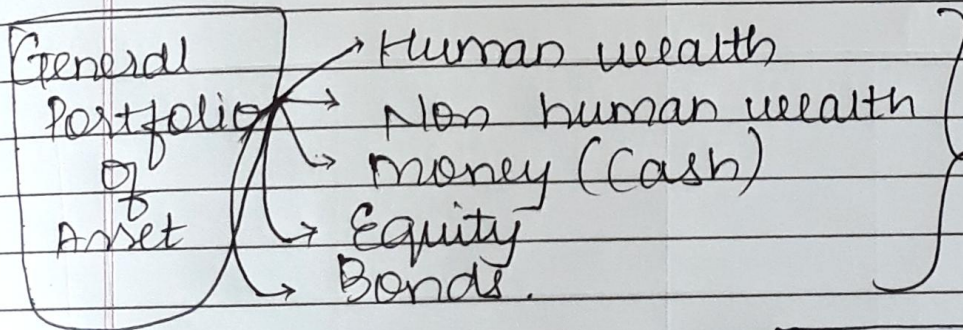
Restatement theory.

Chicago School of Economics

money is an asset.



Role of money → Creating asset → Keynesian Capital theory.



Returns

$$m^d = F(W^{\text{wealth}})$$



Not so important

Baumol & Tobin

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Inventory

Approach

Behaviour towards

Risk

Permanent income

Monetary Asset

Currency

CASA / FD / RD

Non Monetary asset

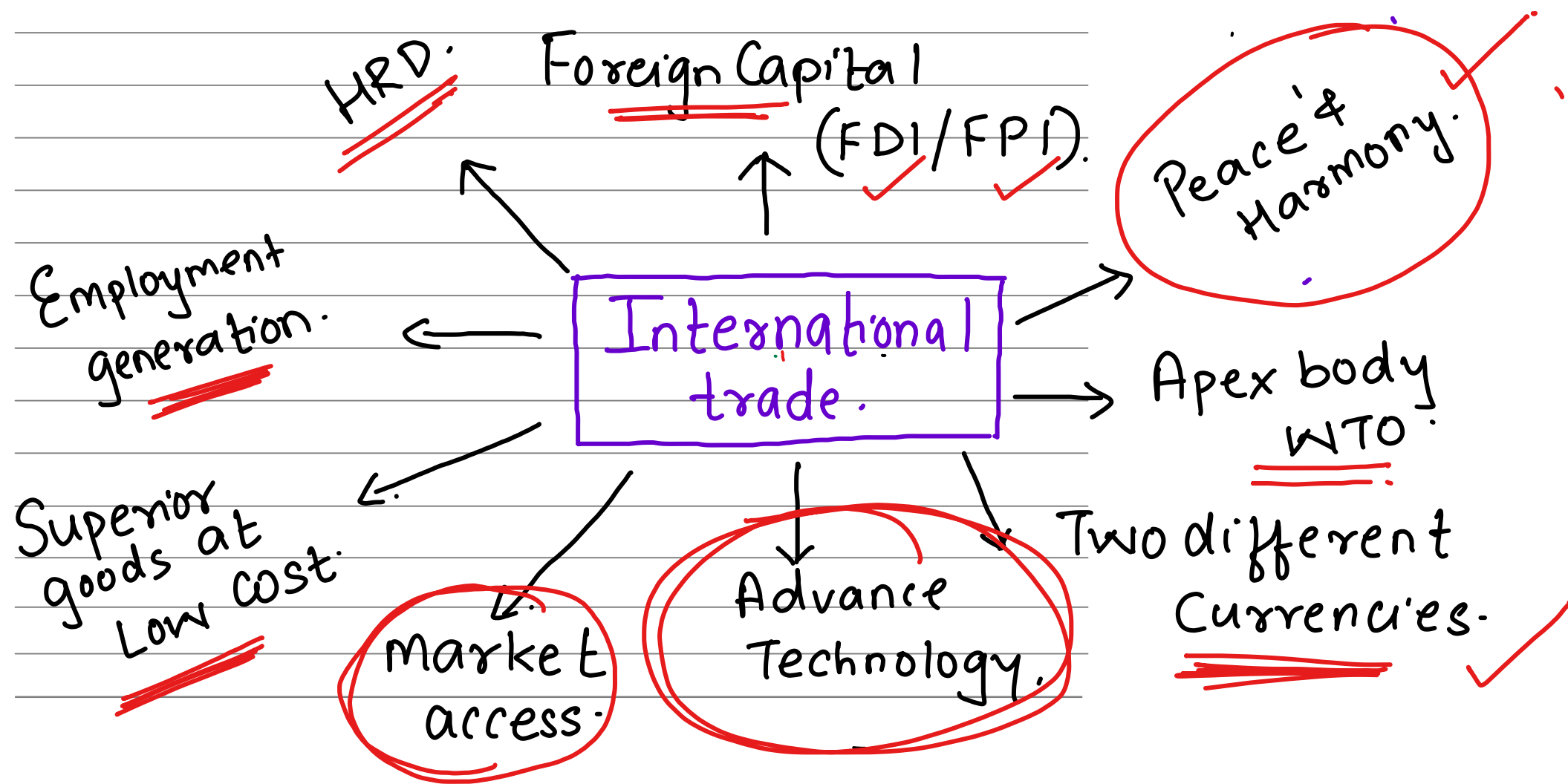
Equity

Bonds



## Chap 4: International trade.

### unit 1: Theories of international trade.





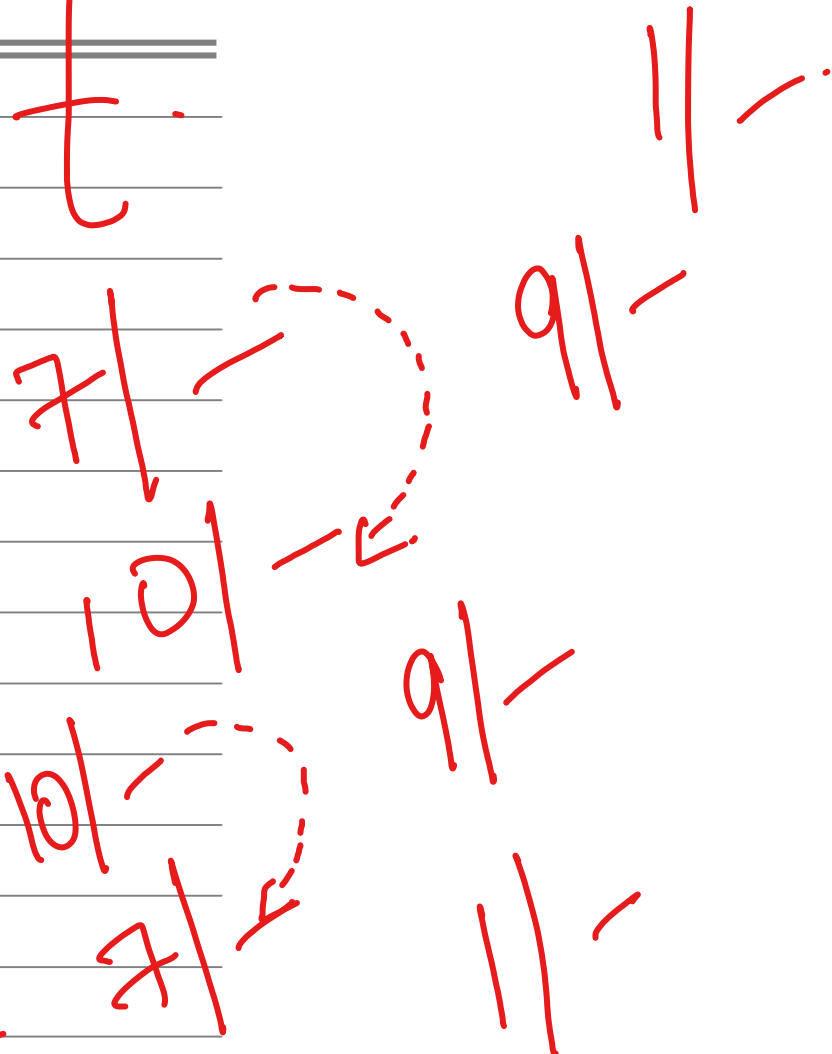
# Cost.

China =

India =

China =

India =





## unit 1.

### Merits of international trade.

- 1.) International trade provides Stimulus to economic efficiency and Contributes to economic growth and development.
- 2.) International trade enhances Mechanization, Specialization, automation and greater investment in R&D.



3.→ It Stimulates growth by Creating Jobs Which will reduce Poverty and unemployment.

4.→ It encourages FDI & FPI improvement in Quality of Output of goods & Services.

5.→ International trade provides Peace & Harmony among Nations.



## Demerits of International trade.

- 1.→ Possibility of Negative Labour Market Outcome, Less demand for unskilled Labour.
- 2.→ Economic exploitation of underdeveloped Countries due to growing Political Power of MNC's
- 3.→ Substantial environmental damage & exploitation of Natural resources.



4.→ Welfare of People may be

ignored due to Sake of Profits.

5.→ Shift in Consumer Culture in Favour  
of Foreign goods which may have  
adverse effect on domestic industries.



Explain Absolute Cost theory & Comparative Cost theory.

↓  
Adam Smith.

↓  
David .  
Ricardo.

{ International trade is Not a "ZERO - SUM GAME" }

Assumptions:

↳ 2 Country, 2 Commodity and 1 Factor theory.

[2-2-1 Model]



2.) Cost of Production is measured  
in Labour days.

3.) Same Currency is used in both  
the Countries

4.) Trade is Free From Restriction.

Absolute Cost theory.

	Canada	India.	Cost Ratio.
Wheat	10 ✓	20 ✓	0.50 (10/20).
Jute.	20 ✓	10 ✓	2.00 (20/10).



## Comparative Cost theory.

0.34.

	Canada	India	Cost Ratio.
Wheat	10 ✓	15 ✓	$10/15 = \underline{0.66}$
Jute.	20 ✓	25 ✓	$20/25 = \underline{0.80}$

India { wheat : 1.50 (15/10).  
Jute : 1.25 (25/20).

0.20



# Heckscher - Ohlin theory.



[Also known as Heckscher - Ohlin  
Samuelson theory].



## Assumptions:

1.) 2 Country, 2 Commodity, 2 Factor  
[ 2 - 2 - 2 model ].

2.) Other assumptions are same as  
Classical theory.

Country differs in Factor endowments

Country 1 → Capital abundant. **US.**

Country 2 → Labour abundant. **India.**



Commodity 'A' uses 3 units of Capital  
and 1 unit of Labour.

Commodity 'B' uses 1 unit of Capital  
and 5 units of Labour.



Commodity 'A' ✓



Uses Capital

Intensive techniques

→ Country 1 ✓

[Capital abundant  
Country]

Commodity 'B'



Uses Labour

Intensive techniques

Country 2 ✓

[Labour abundant  
Country].



Reward for Capital (interest) P

$P_1 \rightarrow$  Country 1

$P_2 \rightarrow$  Country 2.

Reward for Labour (wages) W.

$W_1 \rightarrow$  Country 1

$W_2 \rightarrow$  Country 2.

Before trade.

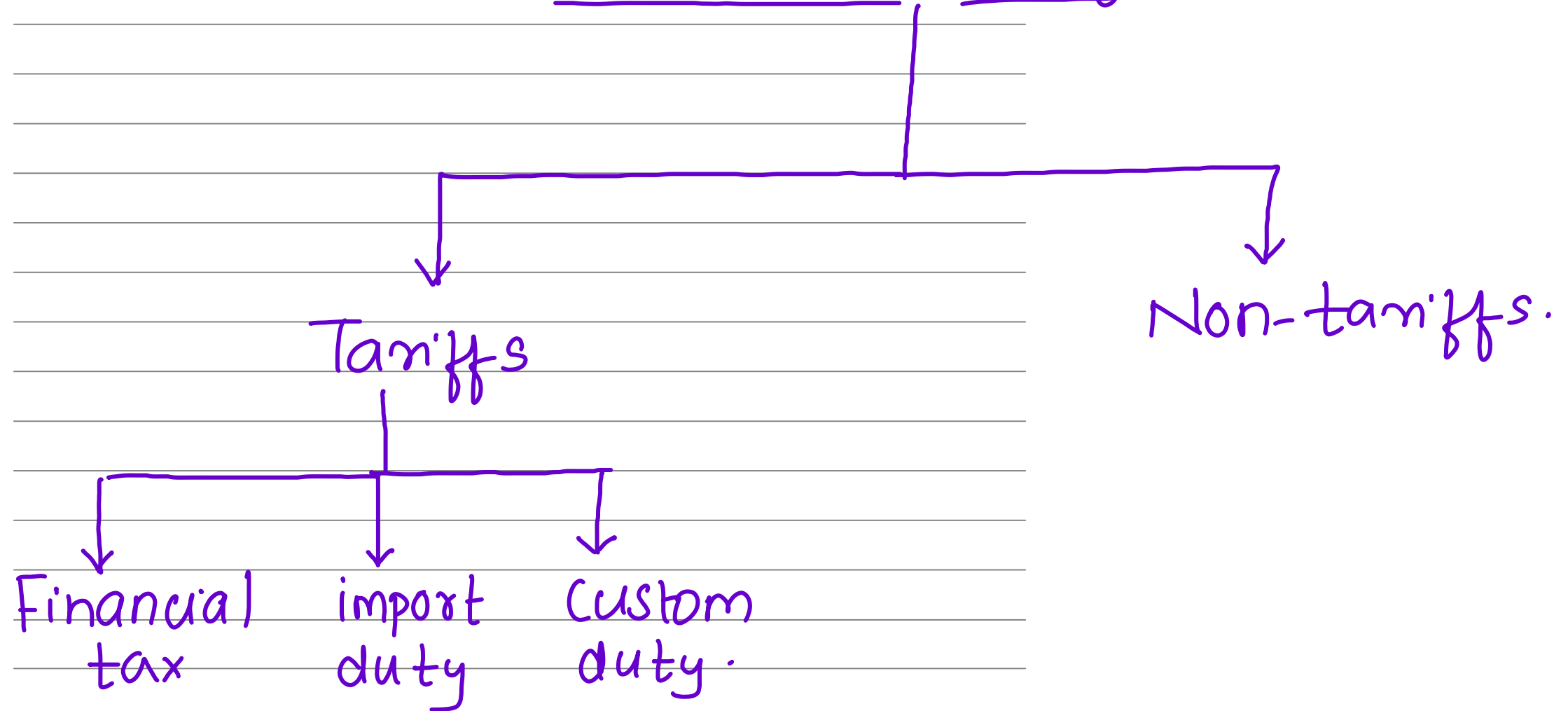
$P_1 < P_2.$



$W_1 > W_2$ .



## unit 2 Instruments of Trade Policy.





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A series of horizontal lines for writing, consisting of a double line at the top followed by 20 single lines.



## Unit 2. Instruments of Trade Policy.

"Trade policy are those instruments which will either encourage import and export or discourage import and export."

### Trade policy.

Tariffs

Non-tariffs. ✓

Tax  
import duty.  
Custom duty.



## Types of Tariffs.

### 1. > Specific tariff.

It is an import duty that assign a fixed Monetary tax on per Physical unit of the Commodity imported. Calculated on the Basis of unit per Measure

e.g: ₹ 2000 tariff charged on import of each Laptop [per Qty].



## 2.) Advalorem tariff.

This tariff is Levied as a Constant percentage of Monetary value of imported goods

eg: MRP of Laptop ₹ 50,000  
tariff 10% i.e 5000/-



### 3.→ Mixed tariff

Mixed tariff is charged either on value of imported goods or on the basis of per physical unit either specific tariff or advalorem tariff whichever is higher.



4-→ Compound tariff. It is a combination of advalorem tariff and specific tariff. This tariff is calculated on the basis of both the value of imported goods and unit of measure.

Specific tariff + Advalorem tariff.



### 5) Technical tariff.

Technical tariff is calculated on the basis of Specific Contents, Components, Spareparts, imported from abroad along with the Main product but Separately.

Eg: Rs 3000/- tariff Charged on import of solar panel and ₹ 500 for the battery.



→ ROQ.

## 6.) Tariff rate Quotas

Tariff rate Quotas combine two policy instruments Quotas and tariff. Import above Quota limit higher tariff will be charged. And imports upto Quota limit Lower tariff will be charged.



7. > Variable tariff.

Variable tariff is charged to keep the Price of imported goods at a higher Level in Order to Protect domestic industries.

8. > MFN tariff. [Most Favoured Nation  
tariff]  
It is a tariff without discrimination. , MFN tariffs



are what Countries promise.  
to impose on imports of

Other Countries, MFN tariffs are  
highest and Most Restrictive in Case  
of Non-Member Countries, applicable.  
only to 164 Member Countries.

### 9. > Preferential tariff

Nearly all Countries are part of  
one Preferential trade agreement  
where they charge very low tariffs



on other Countries product -  
within the Group eg:

SAARC / NAFTA etc.

## 10.1) Bound tariff

Bound tariff is a tariff which  
WTO Members binds itself with a.

Legal Commitment not to Raise it

Above a Certain Level. They are.

Specific to individual products.

Helps to bring Transparency



among Countries.

11.→ Escalated tariff.

It is that tariff where higher tariff is charged when country imports manufactured goods and lower tariff is charged when country imports R.M.



12.→ Applied tariff.

Applied tariff is a duty which is actually charged on the imports of Most Favoured Nation.

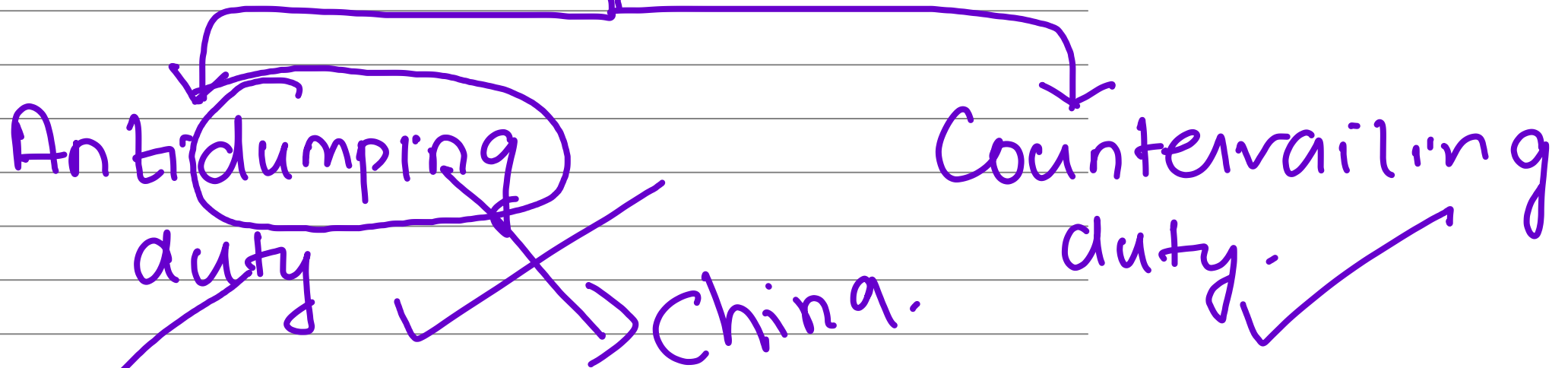
13.→ Prohibitive tariff 736%

A prohibitive tariff is that tariff which is set so high that no imports shall enter



the Country.

14) Tariff as Response. / Tigger Price Mechanism.



89

Bata.

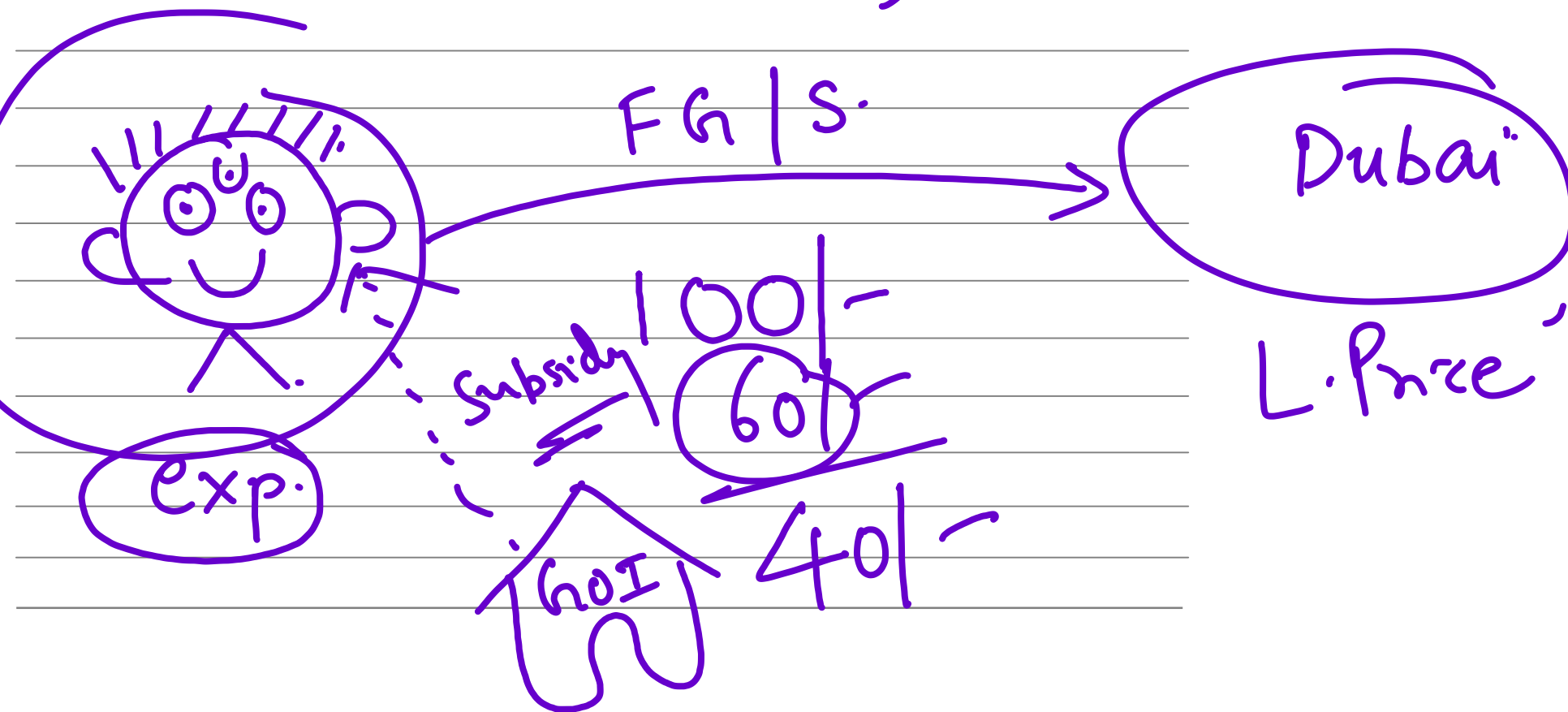
2012-13

(1251)



~~32/-~~ → 60/-

11/- → 90/-





## Antidumping duty.

Dumping occurs when Foreign Country sells a product at higher price in its home market & same products are sold at lower price in Foreign Market. So in order to protect domestic market anti-dumping is charged.



## Countervailing duty.

It is a tariff which aims to OFF-Set Artificial Low price charged by exporters who enjoys export subsidy and tax concessions offered by Govt in home Market.



## Effects of tariffs

1. > Tariff Barriers create obstacles to trade decrease the volume of import and export and affect international trade.
2. > By Making imported goods more expensive tariff discourage domestic Consumers from Consuming imported foreign goods.



- 3.) Producers in importing Country experience an increase in Well-being due to tariff.
- 4.) Tariff increases Govt revenue of importing Country.
- 5.) Tariff discourage efficient production in Rest of the World



and encourage inefficient  
production in Home Country.

Non-tariffs.

Technical  
measures

Non-technical  
measures.

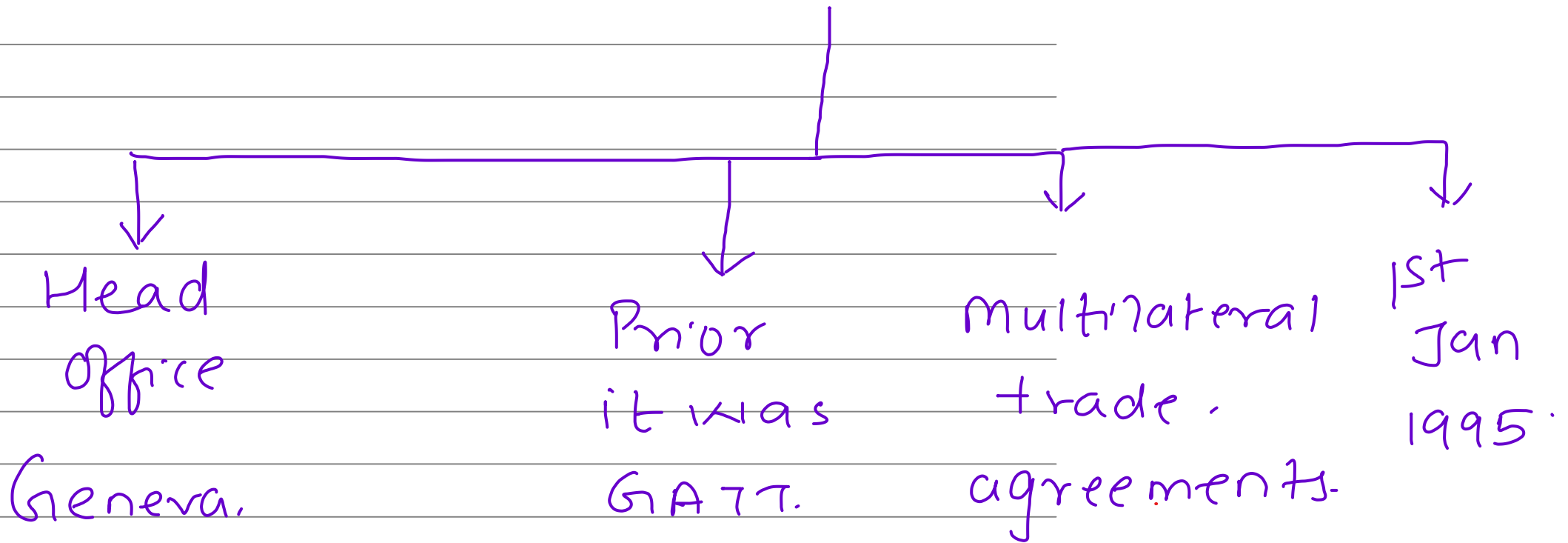
- Sanitary & Phytosanitary measures.
- Technical Barriers to trade.



This image shows a full page of blank, lined paper. It features approximately 20 evenly spaced horizontal grey lines across its entire width, providing a template for writing or drawing. The margins are consistent on all sides.



World trade Organisation.



164 members → 117 are  
developing



Countries.  
[WTO accounts for 95% of World trade].

## Objectives of WTO.

- 1.→ Raising the Standard of Living
- 2.→ Full Employment & increase in.  
National income
- 3.→ Optimum utilization of World.  
Resources.



Ngozi - Okonjo - Iweala.

## Structure of WTO.

WTO activities are supported by  
Secretariat headed by Director  
General.

Three tier system under WTO.

Level 1: Ministerial Conference.

They are responsible for decision  
making related to all multilateral,  
trade agreements.



Level 2 : General Council.

They are Responsible For trade,  
Policy Review and act as a  
dispute Settlement Body.

Level 3 : Goods Council / Service Council /  
intellectual Property Council.



Responsible for implementation  
of all trade agreements.

## Guiding Principles of WTO.

- 1.) Trade without discrimination.
- 2.) National treatment Principle.
- 3.) Freer trade.
- 4.) Predictability.



5. Principle of General prohibition of Quota.

6. Greater Competitiveness.

7. Tariff as a Measure to Protect domestic Market.

8. Transparency in decision making.

9. Progressive Liberalization.

10. Market access.



11.) Special Benefits to Less developed Countries.

12.) Protection of Health and Environment.

13.) Transparent dispute settlement.



Explain WTO Challenges and Concerns.

- 1.→ Progress on Multilateral Negotiation.  
On trade is very slow, members  
act as a constrain and creates  
Rigidity in the System.
- 2.→ Regional agreements are complex  
and creates uncertainty



3.) Doha development round have,  
run into problem and.  
Success is doubtful.

4.) Developing Countries are facing  
number of issues in implementing  
present agreements.



5.) Developing Countries face exceptionally high tariff on selected goods which affects their export eg: Textile.

6.) Developing Countries Feel that there is Lack of Willingness to Provide access among developed countries.



## Short note GATT.

- GATT was a Multilateral instrument which governed international trade.
- Referred as Provisional agreement along with IMF & World Bank.
- GATT provided rules for



international trade for  
47 years. (1948-1994).

Types of RTA's [Regional trade  
agreements]

1. > Unilateral trade agreements.
2. > Bilateral agreements.
3. > Regional Preferential trade agreement.
4. > Trading Bloc.



5. Free trade area.

6. Customs union.

7. Economic and Monetary Union.

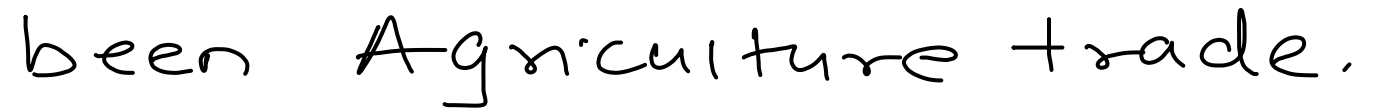
Doha Round.

★ Officially Launched at WTO's 4<sup>th</sup>  
Ministerial Conference in Doha.  
Nov 2001.



- ★ Ninth WTO round, since the 2<sup>nd</sup> World War.
- ★ Formally known as Doha development Round.
- ★ Aims to accomplish Lower trade barriers and revised trade rules.
- ★ Most controversial topic is yet to Conclude Doha Agenda has







[illegible]





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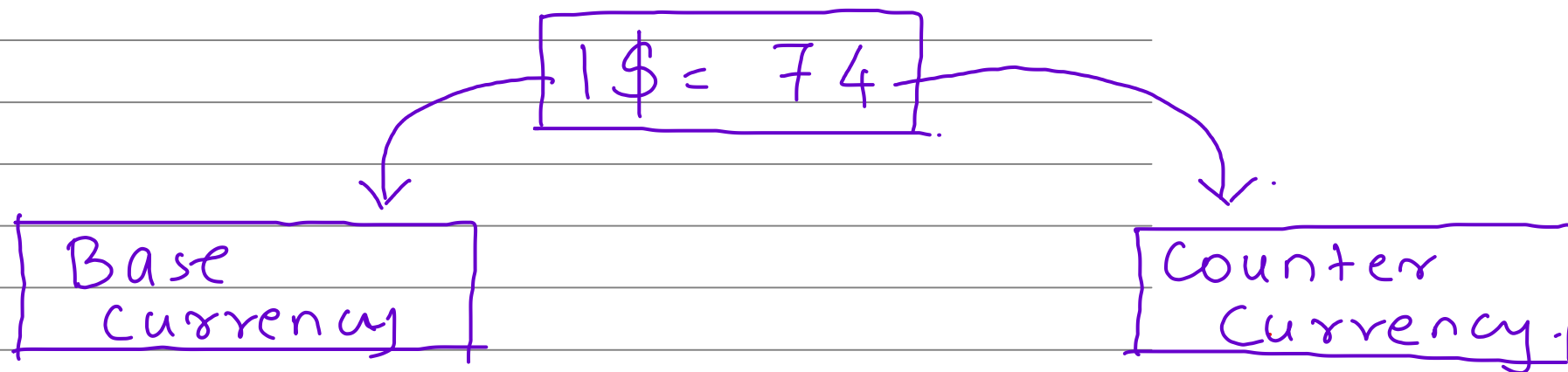
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" Foreign Exchange Refers to a Money denominated in a Currency other than domestic Currency

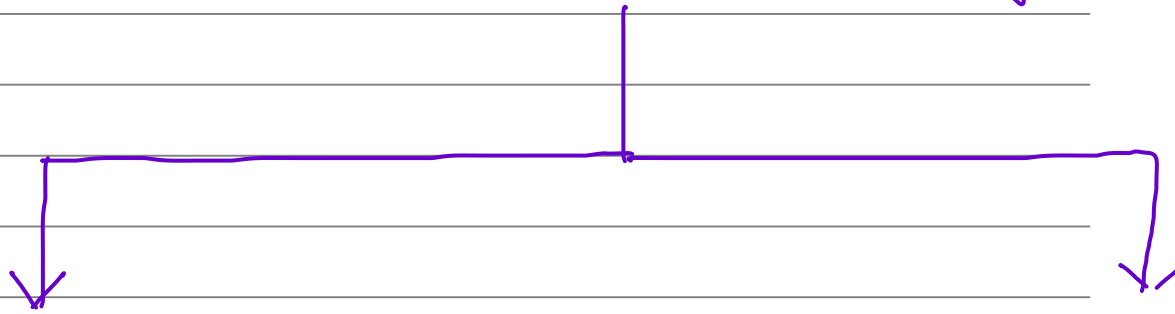


Base Currency: It is a Currency Considered as base while Quoting exchange Rate.

Counter Currency: It is a Currency used as



## Nominal exchange rate.



Direct  
Quote



European  
Currency Quotation.

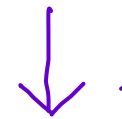


$1\$ = 66.$

Indirect  
Quote.



American  
Currency Quotation



$1 \text{ rupee} = 0.015\$.$



## CROSS Rates.

The Cross rate refers to exchange Rate between two Currencies, each of which has a exchange rate Quoted against a Common Currency.

<u>Pair 1</u>	<u>Pair 2.</u>
X, Y	X, Z

When we  
Calculate For  
 $Y \neq Z$ .



USD/JPY / USD/AUD.

When JPY/AUD is calculated,

Foreign exchange Market-

1. It is Market where Currency trade takes place
2. It is an Organisational and.





institutional setting which  
Facilitates buying and

Selling of Currencies.

3.→ It Operates World wide and  
by far one of the Largest Market.  
in the World.

4.→ It is Over the Counter Market.  
Decentralised Market. having no  
Physical Place.



5. It Operates Round the Clock  
due to different time Zones.

6. Participants in Foreign exchange  
Market

Central Bank, Commercial bank, NIBFC,  
MNC's, AMC, Insurance Company,  
Foreign exchange dealers,  
Speculators, households, Arbitragues.



## Functions of Foreign exchange Market.

- 1.) Transfer of Purchasing Power.
- 2.) Credit Function.
- 3.) Hedging.



Fixed exchange Rate.

or

Pegged exchange Rate.

Soft  
Peg.

Hard  
Peg.

Flexible exchange Rate

or

Floating exchange Rate.



# Determination of Nominal exchange Rate.

Demand For \$

Supply of \$.

Imports of goods

Export of goods.

Import of Services

Export of Services.

Unilateral payments

Unilateral Receipts.

Investment

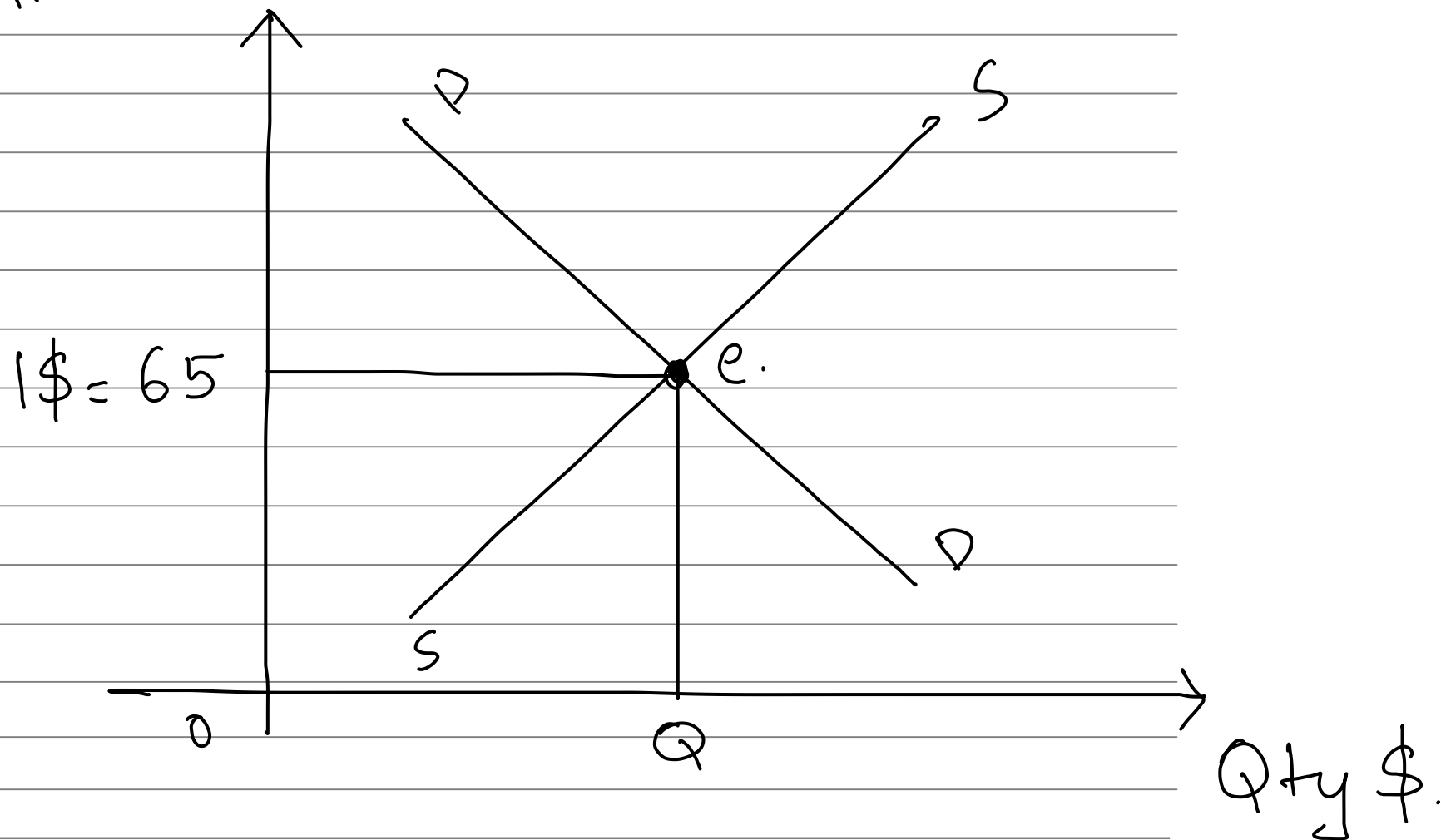
abroad.

FDI/FPI.



# Equilibrium Level of Exchange Rate.

RoE.

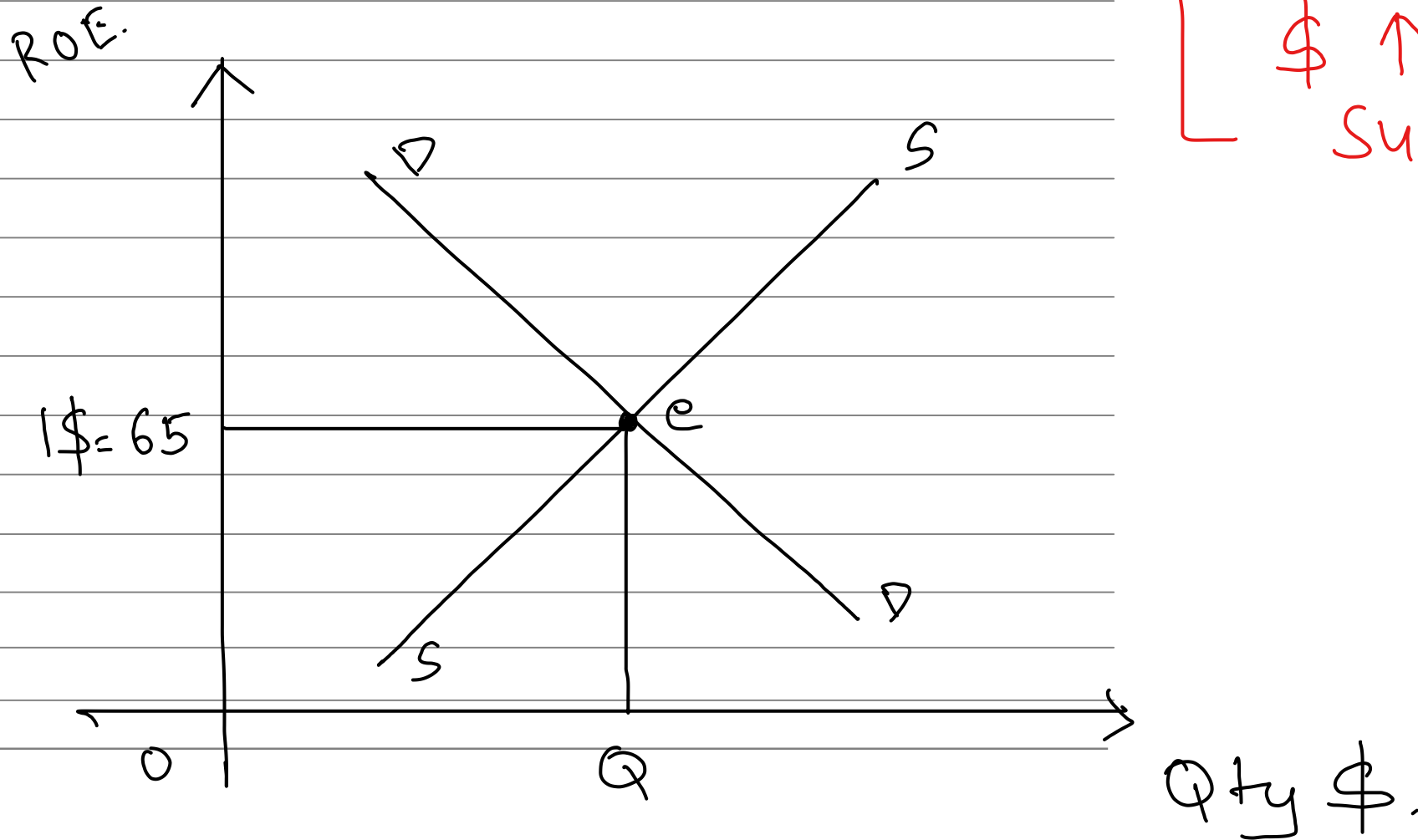




# Depreciation of home Currency under.

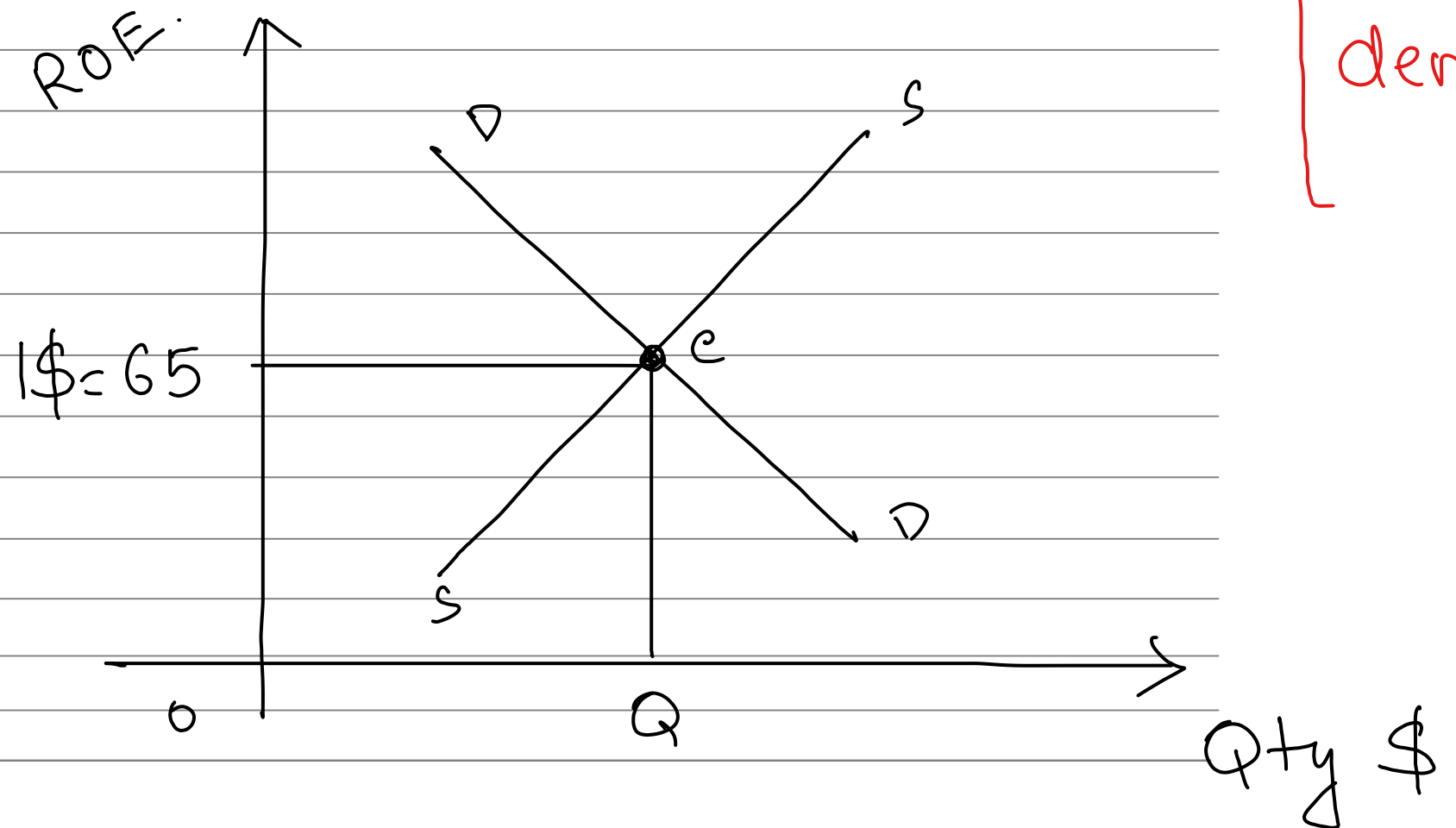
## Floating rate.

[ Demand For  
\$ ↑  
Supply Constant.





## Appreciation of home Currency



[Supply of \$ ↑  
demand  
constant.]



Devaluation	Depreciation
$1\$ = 65$	$1\$ = 70$

Revaluation	Appreciation
-------------	--------------

$1\$ = 65$	$1\$ = 60$
------------	------------

Devaluation: The deliberate downward adjustment in the official exchange rate reduces the currency's value.



Revaluation. : It is an upward change in the Currency value.

### Devaluation (Revaluation)

- Deliberate downward (upward) adjustment in the value of Currency

- It is Followed under Fixed exchange rate

### Depreciation (Appreciation)

It is decrease (increase) in Currency's value due to Market Forces.

It takes place under Flexible exchange

Regime

rate regime

• It involves Govt /  
Central Bank's  
intervention.

It does not involve.  
Central bank / Govt.  
intervention.



[illegible]







A series of horizontal lines for writing, consisting of a double line at the top followed by 20 single lines.

[illegible]



This image shows a full page of white paper with horizontal grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The top edge of the paper has some faint, dark marks, possibly from a scanner or binding. The overall appearance is that of a clean, unused sheet of notebook paper.

Equal Qty.

Iso-quant.

Equal Product  
Curve

★

Iso-product  
Curve.

★

Production  
indifference  
Curve ★.

1000  
units.

Statement: Various combinations  
of two variable inputs that  
gives same level of output.

Assumptions:

1. Two inputs (Labour / Capital).

L

K.

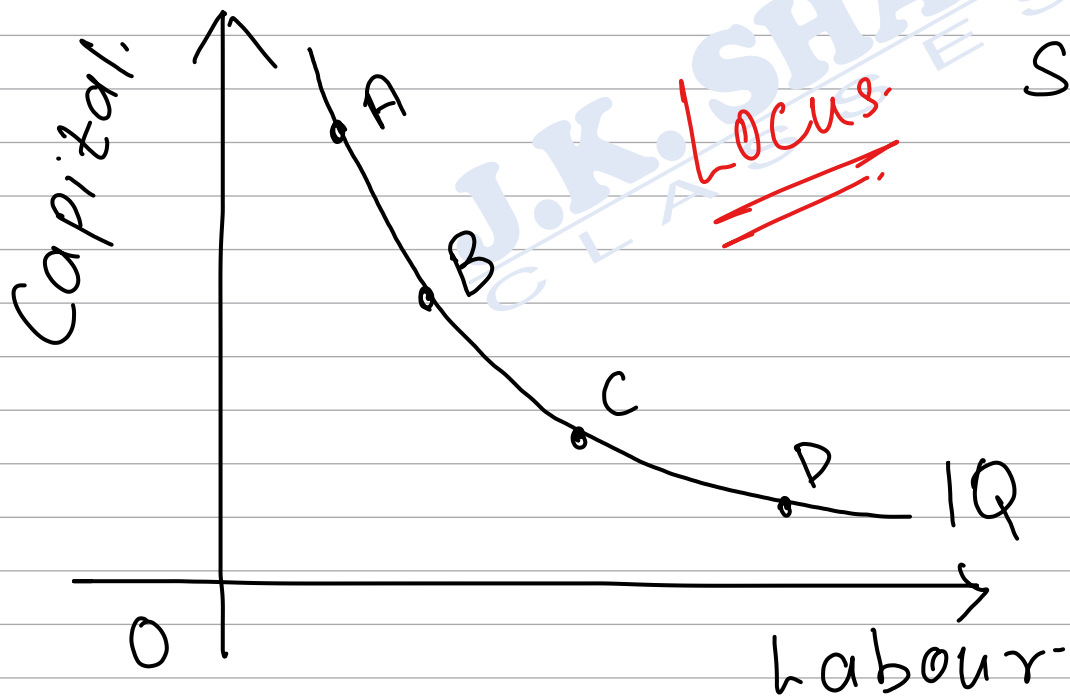
2. Diminishing Marginal Rate of  
Technical Substitution.

MRS

DMRT(S)



Combinations	Labour	Capital	DMRTS (L,K)
A	1 ✓	12	—
B	2 ✓	6	6 ✓
C	3 ✓	4	2 ✓
D	4 ✓	3	1 ✓



Slope of IQ

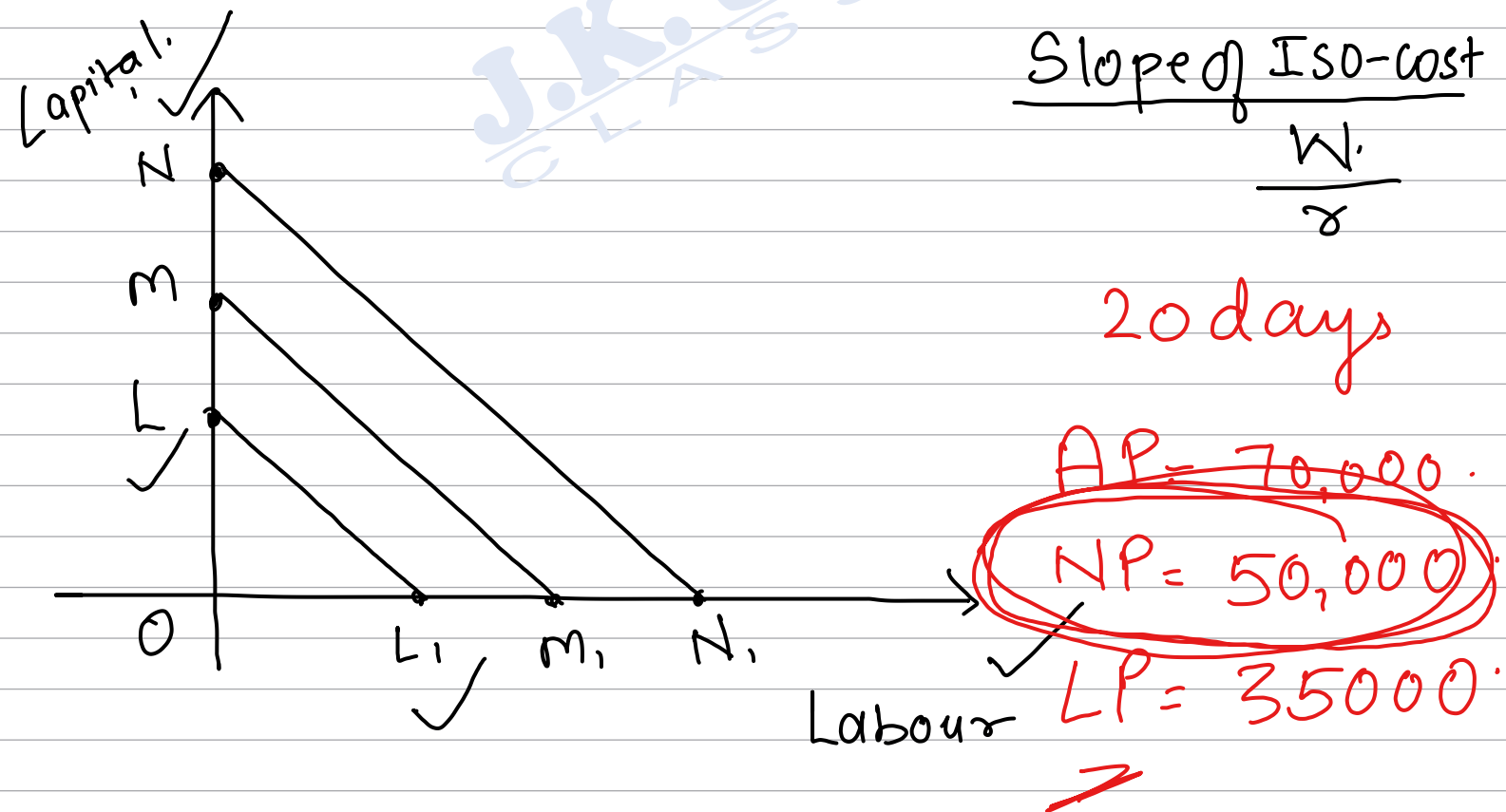
$$\frac{MPL}{MPK}$$



## Iso-Cost line or Equal Cost line.

[Price line / Outlay line / Factor Price line]

"Various combinations of two inputs which the Firm can purchase with a given Outlay (i.e budget) and at given Prices of two inputs."





Producer's Equilibrium.  
or

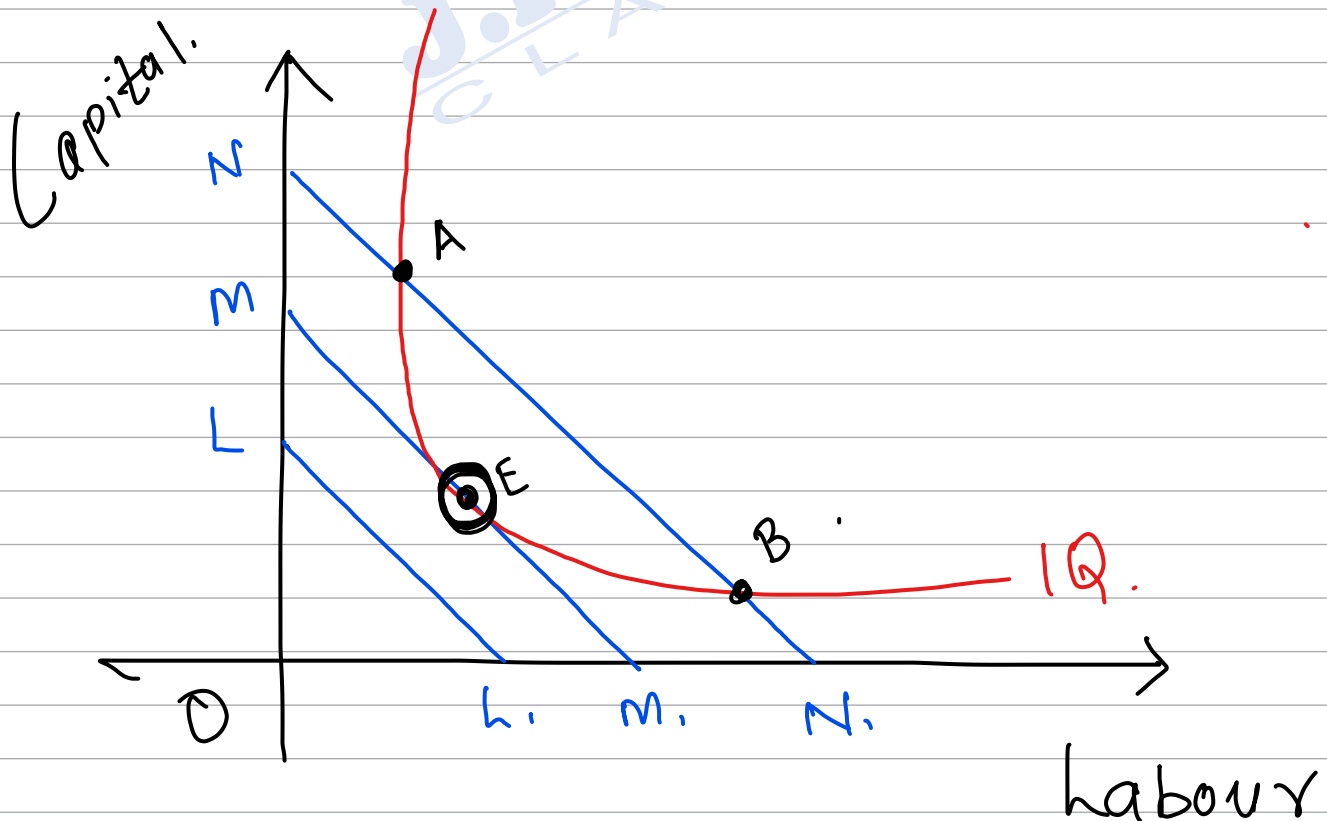
Product Optimization.  
or

Least Cost Combination.  
or

Cost Minimization

Iso-quant

Iso-cost lines.



$$DMRTS_{(L,K)} = \frac{MPL}{MPK} = \frac{W}{r}$$

## unit 5 International Capital Movements

### FDI [Foreign direct investment]

- i) Investment 10% & above.
- ii) Long term investments.
- iii) Employment generation.
- iv) Technology transfer
- v) Creation of Physical assets
- vi) Difficult to withdraw.
- vii) No Speculation
- viii) Management Voice.

FCB  
IKEA

MCD.  
1994-96

Feb 2018

### Components of FDI

- 1. Equity Capital
- 2. Reinvested earnings
- 3. Direct Capital



## Categories of FDI

1. > Horizontal FDI
2. > Vertical FDI
3. > Conglomerate.
4. > Greenfield FDI
5. > Brownfield FDI.

## Reasons for FDI

1. > Expectation of higher Returns than home country.
2. > Internationalization of Production and Investment by MNC's
3. > To hold direct Control of Knowledge regarding Production and Complete Control over trade Patents.
4. > Desire to acquire Promising Foreign Firm so as to avoid Future

# Competition.

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CLASSES

- 5.) Risk diversification So that economic downturns will have Reduced impact.
- 6.) Existence of Relative Low Wages in the host Country. india.
- 7.) Lower Environmental Standards and Stable Political Environment.
- 8.) Overall Favourable investment Climate & better infrastructure.

## Merits of FDI

- 1.) Stimulates Competition and creates competitive environment resulting into lower cost.
- 2.) FDI brings in Foreign Capital, technology, management and \$



## Marketing Skills.

3. > FDI helps to generate Direct employment Opportunities
4. > FDI is likely to result in Relatively higher Wages For Skilled Labour.
5. > Favourable impact on BOP. (F) and better international relations.  $E \uparrow I \downarrow$

## Demerits:

1. > FDI tends to implement Capital techniques which will impact our Labour Market
2. > FDI will Lead to Regional disparity and income ~~incomplete~~ inequality

- 3.→ Exploitation of Natural resources and environmental degradation.
- 4.→ Adverse impact on domestic Firms due to unethical and antiCompetitive Practices.
- 5.→ Misuse of excessive Political Power by Few Big MNC's which may Lead to Loss of tax Revenue to the host Country.

**FPI**

- Investment 10% and below.
- Transfer of Funds
- No impact on Employment
- No technology transfer.



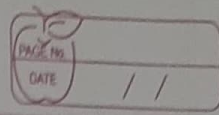
→ Short term nature

→ Speculative in nature

→ Easy to Withdraw

→ No Management Voice.

# Ch:10 Indian Economy



## Status of Indian Economy : Pre Independence.

- 1) India has believed to have largest Economy of the Ancient world controlling between  $\frac{1}{3}$ rd and  $\frac{1}{4}$ th of world's wealth.
- 2) British ruled from 1757 to 1947 (Rule of East India Company).
- 3) In British Era collapse of manufacturing sector felt heavily on Agriculture problems like overcrowding of farms (disguised unemployment) subdivision and fragmentation of farms and lower income and poverty.
- 4) Hindu growth rate i.e lower rate of Economic Growth of India from 1950 to 1980 was around 3.5%.
- 5) Nehruvian Model Planning Commission of India was established, 5 year plans were developed, rapid industrialization was a central theme of development strategy.
- 6) MRTP Act (Monopolies & Restrictive Trade Practices) 1969  $\rightarrow$  (Restrictions on Expansion)
  - i) To ensure that oppressions of Economic System doesn't result into concentration of Economic Power in the hands of few.
  - ii) To provide far greater control of Monopoly.



## Green Revolution

- 1) Innovative Farm Technology
- 2) High Yield variety Seeds.
- 3) Intensive use of Water, Fertilizers and Pesticides

## British Govt. in India : 1858 - 1947

- 4) At the end of 19th Century, India's Jute Mill industry was the largest in the world.
- 5) Just before Great Depression, India was ranked as the 12th largest Industrialized Country

## Indian Economy : Post Independence

- 1) Major reforms in 1918 including delicensing of 25 Industries providing broad banding facility and increase MRTP limit from 20 crore to 100 crore ~~or~~
- 2) 1988 SEBI was established and became Statutory Body in 1992
- 3) Introduction of MODVAT (Modified Value Added Tax)
- 4) Reasons for launching Economic Reforms.
  - i) Extremely large Fiscal deficit
  - ii) Huge internal & external debt
  - iii) Extremely high Interest payment
  - iv) All time low Foreign Exchange Reserves
  - v) Collapse of Soviet Union
  - vi) Tough conditions put by IMFbecause of all this New Industrial Policy was announced  
24th July 1991

- 5) opening of Private Sector Banks
- 6) Reduction in CRR & SLR (as per Narasinha Committee Report)
 

4%	18.5%
RBI	Every Bank

CRR is given once in every 2 fortnight  
 $2 \times 14 \text{ days} = 28 \text{ days}$
- 7) Deregulating Interest rates  
 ↳ Every bank is allowed to charge interest rate as per their will → RBI will only give upper and lower limits.
- 8) As per the New Industrial Policy only 5 Industries are under compulsory licensing
  1. Arms & Amunitions
  2. Atomic Energy
  3. Narcotics and Drugs / Hazardous Chemicals.
  4. Alcoholic Drinks
  5. Cigarettes & Cigars
- 9) **Post 1991** rupee was devalued by **18%** against dollar.
- 10) On 1st Jan 2015 Apex Policy making body Planning Commission was replaced by **NITI Aayog**
- 11) **APEDA** (Agriculture Processed Food Export Development Authority)
 

→ Responsible for Export of Agricultural Products.
- 12) PMFBY (Pradhan Mantri <sup>Former</sup> Fasal Beema Yojana)
- 13) PKVY (Parampara Gat Krishi Vikas Yojana)
- 14) Sale of Portion of Government Share Holding of Public Sector is called as disinvestment.
- 15) Institutional Reforms such as Land Reforms, was conducted in India before Green Revolution.



- 16) Role of Market v/s State (Prvt & Govt) was discussed in New Economic Policy 1991
- 17) Industrial Policy 1948

Expanded Role of Public Sector

Licensing to Private Sector.

- 18) FIPB (Foreign Investment Promotion Board) does not exist anymore and got replaced by Foreign Investment facilitation Portal
- 19) FAME INDIA SCHEME promotion of manufacturing of electric and hybrid vehicles
- 20) Ease of doing business India ranks **63rd**
- 21) Merchandise Export from India Scheme got replaced by remission of duties and taxes on Export products in 2021
- 22) First wave of liberalization started in India **1980**
- 23) ENAM
- Setting up PAN INDIA Electronic Trading Portal for APMC (Agriculture Produce Market Company)
  - KISAN RAIL to provide logistic
  - National Agriculture Product for Agriculture commodity
- 24) Indirect Tax for entire country was introduced in **2017** (GST)
- 25) Service Sector is the largest sector of India and accounts for **53.89%** of total GVA → GDP
- 26) DPIIT (Department for Promotion of Industry and Internal Trade)
- 27) 100% FDI in marketing of Food Products & E-commerce

- 28/ 100% Foreign Participation permitted in tele-communication service.
- 29/ India's Service Exports (Software, Business and Travel Service) 27 billion dollars - Nov '22
- 30/ Industrial Sector contributes 30% to GVA

### Post 2015 : Reforms.

- 1/ Reduction in Corporate Tax
- 2/ Make In India
- 3/ Vocal for Local
- 4/ Ease of Doing Business
- 5/ National Single Window System
- 6/ PM GATI SHAKTI PLAN (Transport related)
- 7/ PLI (Production Linked Incentives)
- 8/ Industrial Corridor Programme
- 9/ FAME INDIA (Electric Vehicles)
- 10/ <sup>A</sup>UDYMI BHARAT
- 11/ Start Up India
- 12/ Emergency Credit Line Scheme
- 13/ Programme for Public Procurement
- 14/ Foodgrain Production has reached 315.7 million tons in 2021-22



**“UNCLE GANG”**

1. Science of wealth	<u><a href="#">Adam Smith</a></u>
2. Science which deals with Wealth of Nations	<u><a href="#">Adam Smith</a></u>
3. Science which deals with Wealth	<u><a href="#">J.B. Say</a></u>
4. Welfare definition / Study of Mankind	<u><a href="#">Marshall</a></u>
5. Growth definition	<u><a href="#">Samuelson</a></u>
6. Queen of Social Science	<u><a href="#">Samuelson</a></u>
7. Cobweb theory	<u><a href="#">Nikolas Kaldor</a></u>
8. Effective demand	<u><a href="#">J.M. Keynes</a></u>
9. Innovation	<u><a href="#">Schumpeter</a></u>
10. Money Supply / Monetary phenomenon	<u><a href="#">Hawtrey</a></u>
11. Optimism / Pessimism	<u><a href="#">AC Pigou</a></u>
12. Strive for Profit	<u><a href="#">H.A. Simon</a></u>
13. Sales maximization	<u><a href="#">Baumol</a></u>
14. Management is separate from Ownership	<u><a href="#">Berle &amp; Means</a></u>
15. Business Economics	<u><a href="#">Joel dean</a></u>
16. Delphi Method	<u><a href="#">Olaf Helmer</a></u>
17. Income effect & substitution effect	<u><a href="#">Hicks and Allen</a></u>
18. Risk & Uncertainty	<u><a href="#">F.H. Knight</a></u>
19. Profit Maximization	<u><a href="#">Williamson</a></u>
20. Positive science	<u><a href="#">Robbins</a></u>
21. Normative science	<u><a href="#">Alfred Marshall</a></u>
22. Functional goal production, Inventory sales, Market	<u><a href="#">Cyert &amp; March</a></u>
23. Socialist economy	<u><a href="#">Karl Marx &amp; Fredric engels</a></u>

Leading indicators	Lagging indicators	Coincidental indicators
<ul style="list-style-type: none"><li>• Stock price</li><li>• Profit margin</li><li>• Manufacturing activity</li><li>• New order for Plant &amp; Equipment</li><li>• Slower deliveries</li><li>• Residential investment</li></ul>	<ul style="list-style-type: none"><li>• Unemployment rate</li><li>• Corporate profits</li><li>• Interest rates</li><li>• Commercial Lending activity</li></ul>	<ul style="list-style-type: none"><li>• GDP</li><li>• Inflation</li><li>• Industrial production</li><li>• Personal income</li><li>• retail sales</li><li>• Financial Markets trends</li></ul>

1. Economics is what economist do and every individual is an economist – **Jacob Viner**
2. Labour  $\frac{3}{4}$ <sup>th</sup> contri, Capital- $\frac{1}{4}$ <sup>th</sup> contri linear homogenous function - **Cobb Douglas**.
3. Conspicuous goods/ prestige goods –  
**Thorstein Veblen**
4. Aim is to create and retain customer- **Peter Drucker**
5. Politics to policy relationship, feedback or black box model- **David Easton**
6. Theory of Marginal Productivity- **J.B Clark**
7. Study of Population – **Malthus**
8. Monopolies are sacrifices of the many to the few –  
**James Madison**
9. Concept of Pure Monopoly- **E.H Chamberlien**
10. Management goal of stability and growth-  
**R.L Marris**
11. Group Behaviour, Difference of Opinion on selling cost, and production cost – **Chamberlien**
12. Production is the organised activity of transforming resource into finished goods and services and objective of production is to satisfy the demand of such transformed resources-  
**James Bates and J.R. Parteinson**



