Macroeconomics

Unit 1: National Income And Related Aggregates – 10 marks

- Some basic concepts: consumption goods, capital goods, final goods, intermediate goods; stocks and flows; gross investment and depreciation.
- Circular flow of income; Methods of calculating National Income - Value Added or Product method,
- Expenditure method, Income method.
- Real and Nominal GDP. GDP and Welfare

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Unit 2: Money and Banking – 6 marks

- Money - its meaning and Supply of money - Currency held by the public and net demand deposits held by commercial banks.
- Money creation by the commercial banking system.
- Central bank and its functions (example of the Reserve Bank of India): Bank of issue, Govt. Bank, Banker's Bank, Controller of Credit through CRR, SLR, Reverse Repo, Open Market Operations, Margin requirement.

Unit 3: Determination of Income and Employment – 12 Marks

- Aggregate demand and its components.
- Propensity to consume and propensity to save (average and marginal).
- Short-run equilibrium output; investment multiplier and its mechanism. Meaning of full employment and involuntary unemployment. Problems of excess demand and deficient demand; measures to correct them - change in government spending, availability of credit.

Unit 4: Government Budget:- 6 Marks

- Government budget - meaning, objectives and components.
- Classification of receipts - revenue receipts and capital receipts; classification of expenditure - revenue expenditure and capital expenditure.
- Measures of government deficit - revenue deficit, fiscal deficit, primary deficit their meaning.

Unit 5: Foreign Exchange And Balance Of Payments: 6 Marks

- Balance of payments account - meaning and components; balance of payments deficit-meaning.
- Foreign exchange rate - meaning of fixed and flexible rates and managed floating. Determination of exchange rate in a free market.

NATIONAL INCOME

What is macro-economic?

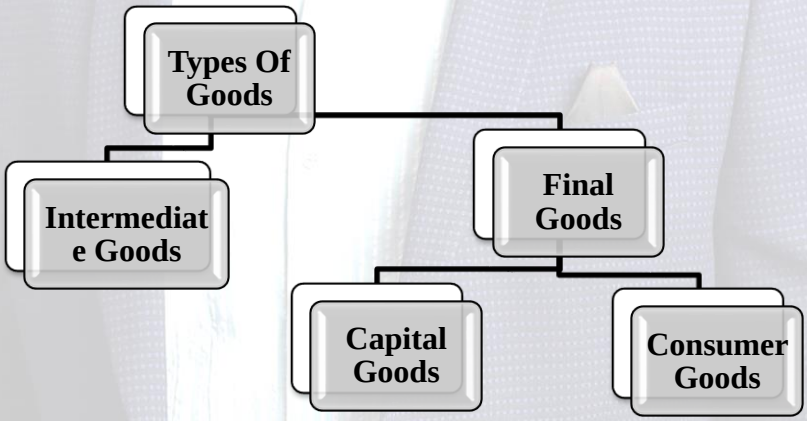
- Branch of economics which studies economic activities at the level of economy as a whole
- Aggregate saving, aggregate demand, Theory of employment

Difference between Micro and Macro Economics

Basis	Micro Economics	Macro Economics
Purpose	Study of individual economic units of an economy	Study of economy as a whole and its aggregates.
Basis Objective	The central problem of micro economics is price determination and allocation of resources.	The central problem of macro economics is determination of level of income and employment.
Tools	Its main tools are demand and supply of the particular commodity	Its main tools are aggregate demand and aggregate supply of the whole economy.
Example	Examples are individual demand, per capital income, etc.	Examples are aggregate demand, national income, unemployment etc

GDP: - The total market value of all final goods and services produced by all productive enterprises in the domestic territory of a country in a year.

Types of goods



Intermediate Goods

- Refer to those goods which are used either for resale or for further production in the same year.
  Intermediate Goods include:
  a. Goods purchased for resale (like milk purchased by a Dairy Shop).
  b. Goods used for further production (like milk used for making sweets).
- Intermediate goods are used up in the same year. If they remain for more than one year, then they are treated as final goods.

Final Goods: - Final goods refer to those goods which are used either for **consumption or for investment**

1. Goods purchased by consumer households as they are meant for final consumption (like milk purchased by households).
2. Goods purchased by firms for capital formation or investment (like machinery purchased by a firm).

Note: - Final goods are neither resold nor used for any further transformation in the process of production

Final goods	Intermediate goods
These are ready for final use by consumer for consumption or By producer for investment.	they are for resale or used for further production.
These are:- (a)Consumer goods used for satisfaction of wants. They may change during use. (b) Capital goods which help in production process. They do not transform during use.	These are purchased by one firm from another for following purpose:- (a) Resale during the year (b) *Use as raw material in production process*. So they may change during production process
These are included in national income	These are not included in national income.

Consumer goods or consumption goods

These are **final goods** (Durable goods, Semi durable goods, Non-durable or perishable goods, Services) directly used by ultimate **consumer** household for **satisfaction** of wants. For example: - sugar if used by consumer to make biscuits is consumer good.

Consumption goods

1. **Non-durable goods**: Goods use in a single act of consumption Example:- coke, ice-cream
2. **Semi-durable goods** Use for some longer period of time Example:- tooth-paste
3. **Durable goods** Can be used for several years Example:- furniture, television
4. **Services:** - an Intangible thing which directly satisfies human wants Example: - doctor service, mobile service.

Capital goods these are ***durable final goods*** used by the **producers** in the **production process**. They do not change during production process. For example fixed assets like machines, plants and equipment used in production process.

Consumer goods or consumption goods	Capital goods
These are directly used by ultimate *consumer* household *for satisfaction* of wants.	These are fixed assets used by the producers in the production process.
They are not used in production by producer.	. They help in production of other goods.
They may be changed during use by consumer like tea leaves are used to make tea.	They do not change during production process.
.e.g.: Durable goods- car, washing machine	e.g.: machines, plants and equipment used in production process.

CONCEPT OF STOCK AND FLOW

Difference between stock and flow

Basis	Stock	Flow
Meaning	Stock variables are measured at a particular point in time	Flow variables are measured over a period of time,
Time	Stock has no time dimension	Flow has time dimension like per hour, per day, per month and per year
Concept	Stock is a static concept	Flow is a dynamic concept
Example	Examples Wealth, Balance sheet	Examples Investment, Profit and loss account. GPD

Concept of investment

Investment:-Investment is defined as the additional to capital stock which raises the productive capacity of the economy.

Two types

1. Gross capital formation
2. Net capital formation

Gross capital formation/investment:-The total capital formation in a given period in an economy is termed as gross investment and before making allowance for depreciation.

1. Gross fixed capital formation
2. Stock investment
3. Residential construction

Depreciation or consumption of fixed capital.-It is the loss in the value of fixed assets during use *due to*

(a) Normal wear and tear and
(b) Expected obsolescence

It does not include capital loss due to unexpected obsolescence like natural calamities, theft or accident

Net capital formation/investment:-Gross capital formation – depreciation / consumption of fixed capital

Consumption of fixed capital	Capital Loss
It is loss in the value of fixed assets due to normal wear and tear and expected obsolescence	It is loss in the value of fixed assets due to natural calamities and unexpected obsolescence.
It is expected loss in the value of asset	It is unexpected loss in the value of asset.
Provision for depreciation is by maintaining depreciation reserve fund.	Provision for capital loss is by getting insurance done.

Circular Flow Of Income

Circular flow of income: -It implies the flow of income across different sectors of the economy

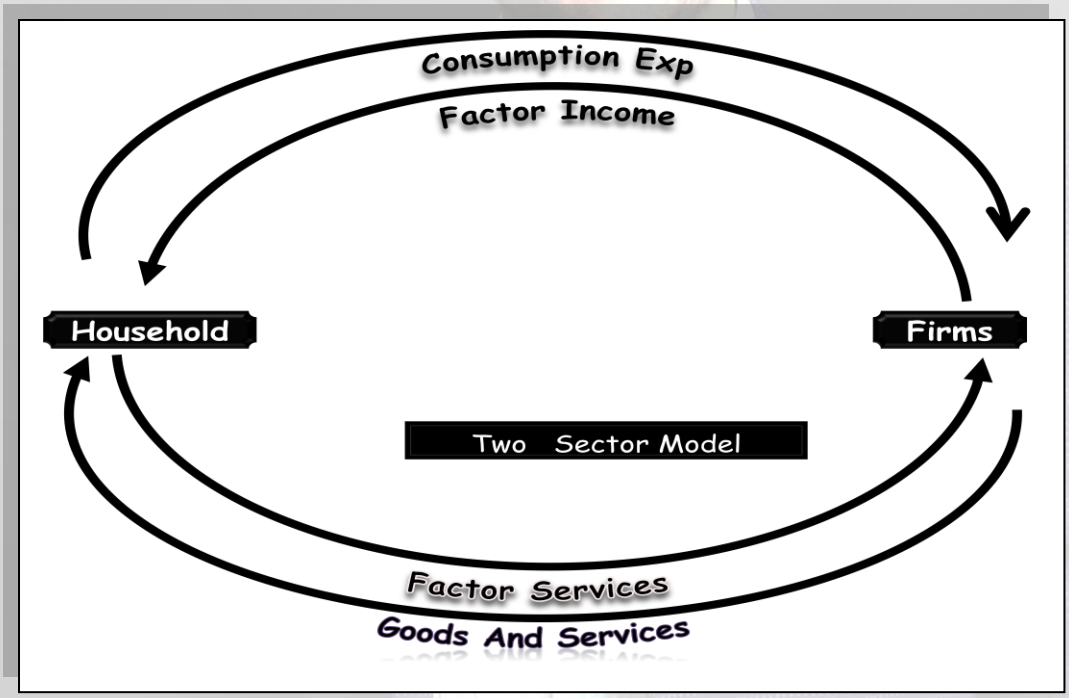
Circular flow with two sector economy

A simple economy assumes the existence of only two sectors i.e. household sector and firm sector. Households represent the owner of all factors of production and the consumers of goods and services. On the other hand, firms produce and sell goods and services to the households.

Assumptions:

1. There are only 2 sectors in the economy. Households and Firms.
2. There are no savings in the economy, i.e., neither the households save from their incomes, nor do the firms save from their profits.
3. There is no government.
4. It is a closed economy.

The entire amount of money, which is paid by firms to the factor owners (households), is paid back by factor owners to the firms. So, there is a circular and continuous flow of money income. In the circular flow of income, production generates factor income which is converted into expenditure.



REAL GDP VS NOMINAL GDP

Nominal GDP

- It is the monetary value of all goods and services produced in an economy during a financial year estimated using **current market prices**.

Real GDP

- It is the monetary value of all goods and services produced in an economy during a financial year, estimated using **base year prices**.

Price index/ GDP deflator A Price index is a number showing the changes in the overall level of prices. It shows a change in the general price level of an economy.

Price index/GDP deflator = Nominal GDP / Real GDP * 100

How Real GDP is derived?

Ans : Real GDP = Nominal GDP/Price Index X 100

Real GDP or GDP at constant prices	Nominal GDP or GDP at current year prices
It is the monetary value of all goods and services produced in an economy during a financial year estimated using **current market prices**	It is the monetary value of all goods and services produced in an economy during a financial year, estimated using **base year prices**.
Base year price is taken as constant.	Market prices do not remain constant.
This GDP changes only due to change in output of the economy. So it is a reliable measure of economic growth.	It changes due to change in both price and output of the economy. So it is not a reliable measure of economic growth.

Consumer price index:- Calculated by dividing the price of the basket of goods and services in a given year by the price of the same basket in the base year multiplied by 100.

Consumer price index = Cost of Market Basket of Current Year / Cost of Market Basket of Base Year * 100

Consumer price index	GDP deflator
The goods purchased by consumers do not represent all the goods which are produced in a country	GDP deflator takes into account all such goods and services.
CPI includes prices of goods consumed by the representative consumer, hence it includes prices of imported goods	GDP deflator does not include prices of Imported goods.

Factor Income vs Transfer Income

Factor Income: - Income received by factors of production in return for rendering productive (factor) services is called factor income or factor payment. e.g. rent, wages, interest and profit.

Transfer Income: - is the earning for which no contribution is made to the flow of goods and services. e.g. gift, donation, scholarship etc. In other words it is income received without anything provided in return

Difference between factor income and transfer income

Factor income or Factor payment	Transfer Income or Transfer payment
It is the income received in return for rendering factor services by the factors of production.	It is the income received without any corresponding services.
These are included in national income.	These are not included in national income
Example: Rent, wages, interest, and profit. Retirement pension.	Example: old age pension, scholarship of students, unemployment allowance, **remittances from abroad, financial help to earthquake victim,**

Resident vs Citizenship

A normal resident is said to be a person: A resident, whether a person or an institution, is one whose centre of economic interest lies in the economic territory of the country in which he lives. The 'centre of economic interest' implies two things:

1. The resident lives or is located within the economic territory
2. The resident carries out the basic economic activities of earnings, spending and accumulation from that location

Citizen: - Citizenship is a legal concept based on the place of birth of the person or some legal provision allowing a person to become a citizen.

Problem: - Will the following be treated as resident of India or other country?

1. An Indian citizen living in Singapore for business
2. An Indian citizen working in U.S.A embassy located in India
3. A student from Japan for education in India
4. Indian student living in Australia for two years for the studies
5. British employee working in Indian embassy located in London

Solution

1. Resident of Singapore (economic interest lies in Singapore)
2. Resident of India
3. Resident of Japan
4. Resident of India
5. Resident of England

Economic territory

Economic Territory: - Geographical Territory Administered By A Government within Which Persons, Goods And Capital **Circulate Freely** And Includes

- Political Frontiers Including Territorial Waters And Air Spaceships Aircrafts
- Fishing Vessels , Oil And Natural Gas Rights
- Embassies, Consultants , Military Bases **Etc**

- Those parts of the political frontiers of a country where the government of that country does Not enjoy the above "freedom" are not to be included in economic territory of that country. One Example is "**Embassies".**
- Government of India does not enjoy the above freedom in the foreign Embassies located within India. So, these are not treated as a part of economic territory of India.
- They are treated as part of the economic territories of their respective countries.
- For example the U.S. embassy in India is a part of economic territory of the U.S.A. similarly; the Indian embassy in Washington is a part of economic territory of India**.**

GDP- Reliable Measure of Economic Growth

Limitations of GDP as a measure of economic welfare)
GDP Is An Important But Not A Perfect Measure Of Countries Economic Well Being Into Account The Following ……

1. ***Non-monetary transactions***-
   - GDP remains underestimated as non-monetary transactions like services of housewife, barter exchanges, enjoyment from hobbies like gardening, painting etc. are not included in GDP. Although they increase economic welfare.
   - These activities may be left out from estimate of national income due to the non-availability of data. But these activities do contribute to welfare of the people.
   - Since GDP may not account for such activities, it may be underestimated. As a result welfare of the people is also underestimated.
2. **Distribution of GDP** – If the GDP of the country is rising, the welfare may not rise as a consequence. This is because the rise in GDP may be concentrated in the hands of very few individuals or firms. For the rest, the income may in fact have fallen. In such a case the welfare of the entire country cannot be said to have increased
3. **Externalities.** Externalities refer to the benefits (or harms) a firm or an individual causes to another for which they are not paid (or penalized). Externalities do not have any market in which they can be bought and sold

   Positive Externalities
   - The social benefits are referred to as positive externalities.
   - For example, construction of a highway or flyover reduces transport costs & journey time to those who have not contributed towards the cost of construction.
   - This is not reflected in GDP, & thus welfare is underestimated.

   Negative externality
   - Is referred as social cost harms.
   - Polluting river by oil refinery reduces welfare through negative effect on Health..
   - Welfare is less than what is indicated by GDP.
   - GDP overstates welfare

Classify the following into factor income and transfer receipt. Give reason for your answer.

1. **Employer's contribution to social security schemes.**
   - It is a factor income as it is earned because employees are rendered corresponding services to the employer.

2. **Scholarship given to students by the government.**
   - It is transfer receipt as it is unearned because students are not rendered any corresponding services to the government.

3. **Old age pension given by the government.**
   - It is transfer receipt as it is unearned because pensioners are not rendered any corresponding services to the government.

4. **Bonus given to employees by employer.**
   - It is a factor income as it is earned because employees are rendered corresponding services to the employer

Examples of transfer payments

1. **Old age pension**:-No, it will not be included in the national income as it is a transfer payment made by the government and a transfer income for the receiver. Old age pension must not be confused with retirement pension. Old age pension is not included in national income as it is a transfer payment. On the other hand, retirement pension is included in national income as it is a part of COE.
2. **Financial help received by flood victims**.-No, it will not be included in the national income as it is a transfer income.
3. **Money received by a family in India from relatives working abroad**.-No, it will not be included in the national income as it is a transfer receipt.
4. **Insurance money received from Oriental Insurance due to destruction of factory due to fire**.-No, it is not included in the national income because it is a transfer receipt.
5. **Scholarship given to Indian students studying in India by a foreign company**. **OR Expenditure by the Government on scholarships to students.-**No, it will not be included in the national income as it is a transfer payment.

Whether the following items are:-

1. Purchase of refrigerator is a capital goods:- **False:-** Is a durable consumption goods
2. Services of lawyer is a consumption goods:- **True: -** directly satisfied a human wants

Whether the following items are intermediate goods or final goods

1. **Wheat flour:-**
   a. Final goods for a household
   b. Intermediate goods for bakery
2. **Machine:-**
   a. Final goods if used for production
   b. Intermediate goods if it is bought by dealer for resale
3. **Books for a library**
   a. Final goods: - result in final consumption
4. **Cement and brick**
   a. Intermediate goods used in the construction of building etc

Give reason whether the following items is final goods or intermediate goods

1. **Expenditure on improvement of a machine in a factory**:- Intermediate consumption because machine will be used for several years
2. **Mobile sets purchase by a mobile dealer**:-Intermediate goods will be sold to final customer
3. **Paper purchased by a publisher**.- It is an intermediate product as paper is used for further production during the same year.
4. **Furniture purchased by a school**.-It is a final product because it is purchased for investment.
5. **Milk purchased by households.-I**t is a final product as it is used by households for final consumption.
6. **Purchase of rice by a grocery shop.-**These are intermediate products because these are purchased for resale.
7. **Coal used by manufacturing firms:-**It is an intermediate product as coal is used for further production during the same year.
8. **Computers installed in an office.-**It is a final product because it is purchased for investment.
9. **Coal used by consumer households**.-It is a final product as it is used by households for final consumption.
10. **Mobile sets purchased by a mobile dealer**.-These are intermediate products because these are purchased for resale.
11. **Purchase of pulses by a consumer**.-It is a final product as it is used by a consumer for final consumption.
12. **Chalks, dusters, etc. purchased by a school**:-These are intermediate products because these are taken to be used up completely during the same year
13. **Fertilizers used by the farmers**:-These are intermediate products because fertilizer is used for further production during the same year.
14. **Printer purchased by a lawyer**.-It is a final product because it is purchased for investment.
15. **Wheat used by the flour mill**:-It is an intermediate product as wheat is used for further production during the same year or is meant of resale.
16. **Unsold coal with trader at year end**:-It is a final product as the unsold coal is an investment for the trader.
17. **Cotton used by a cloth mill**.-It is an intermediate product as cotton is used for further production during the same year.
18. **Wheat used by households.-I**t is a final product as it is used by households for final consumption.
19. **Refrigerator installed by a firm**:-It is a final product because it is purchased for Investment.
20. **Sugar used by a sweet shop**:-It is an intermediate product as sugar is used for further production during the same year.

Following items are stock or flow

1. **Income of a teacher**:- **Flow**: - Related to period of generally one month
2. **Machinery :- Stock**: - Relates to point of time
3. **Production of sugar**:- Flow: - Relates to a period of time
4. **Investment:- Flow:** - Relates to a period of time
5. **Money supply**:- **Stock:** - Relates to point of time
6. **Wealth**: - **Stock: -** Relates to point of time
7. **Cement production**: - **Stock:** Relates to point of time
8. **Saving of a household**:- **Flow:** - Relates to a period of time
9. **Income of household.** :- **Flow:** - Relates to a period of time
10. **Profit:- Flow: - Relates to a period of time**
11. **Exports:- Flow:** - Relates to a period of time
12. **Capital formation:- Flow:** - Relates to a period of time
13. **Expenditure on food by households Flow:** - Relates to a period of time.
14. **Depreciation of machinery:- Flow:** - Relates to a period of time

Concept of

1. Net factor income from abroad
2. Factor cost and market price
3. Gross and net

Net factor Income from Abroad

Net factor Income from Abroad is the difference between the factor income earned from abroad by the normal residents of a country and income paid for the factor services rendered by non-residents within the domestic territory of the country. The concept of Net factor Income from Abroad is used to differentiate between national income and domestic income.

Net factor Income from Abroad = Factor Income from abroad by the Normal residents – Factor Income of Non-residents in the domestic territory

Components of Net factor Income from Abroad

(i) *Net compensation of employees*: - It is the difference between the compensation of resident employees working temporarily in foreign countries and the compensation of non-residents foreign employees working temporarily in domestic territory of the country.

(ii) *Net income from property and entrepreneurship* :- It is equal to the difference between the income received by way of interest, rent and dividend by the residents of the country and similar payments made to the rest of the world.

(iii) *Net retained earnings of resident companies abroad* :- It is the difference between the retained earnings of the resident companies located abroad and retained earnings of foreign companies located in a country.

Net factor Income from Abroad = Net compensation of employees + Net property and entrepreneurship income from abroad + Net retained earnings of residents companies abroad

Significance: National Income = Domestic income + NFIA

Relation between national product and Domestic product.

Domestic product concept is based on the production units located within domestic economic) territory, operated both by residents and non-residents.

National product concept based on resident and includes their contribution to production both within and outside the economic territory.

National product = Domestic product + Residents contribution to production outside the economic territory (Factor income from abroad) - Non- resident contribution to production inside the economic territory (Factor income to abroad)

Question: Can gross domestic product be greater than gross national product?

Ans:- Domestic product can be greater than national product if factor income paid to the rest of the world is greater than the factor income received from the rest of the world is i.e. when net-factor income received from abroad is negative.

National product	Domestic product
It is the value of all final goods and services <u>produced by</u> Normal Residents of a country within or outside domestic territory in a financial year It includes Factor income from abroad It does not include Factor income to abroad National product = Domestic product +Factor income from abroad	It is the value of all final goods and services produced within domestic territory of a country by all producers during a financial year It does not include Factor income from abroad It includes Factor income to abroad Factor income from abroad Domestic product =National product- Net Factor income from abroad

Will the following be included or net in the domestic factor income of India? Give reasons for your answer.

1. **Salaries of non-residents working in India Embassies in Russia.**
   - Yes it will be <u>included</u> because Indian embassy is a part of domestic territory of India.
2. **Salaries to Indian residents working in Indian embassy in Russia.**
   - Yes it will be <u>included</u> in the domestic factor income as the Indian embassy is a part of domestic territory of India**.]**\
3. **Salaries to Russian residents working in Indian embassy in Russia.**
   - Yes it will be <u>included</u> in the domestic factor income as the Indian embassy is a part of domestic territory of India.
4. **Salaries to Indian residents working in Russian Embassy in India.**
   - No it will <u>not be included</u> in the domestic factor income as the Russian embassy is not a part of domestic territory of India.
5. **Salaries received by Indian workings in American Embassy in India.**
   - No it will not be included in the domestic factor income as the American embassy is not a part of domestic territory of India.
6. **Salaries paid to non-resident Indians working in Indian Embassy in America.**
   - Yes it will be <u>included</u> because Indian embassy is a part of domestic territory of India.
7. **Salaries paid to Koreans working in Indian Embassy in Korea.**
   - Yes it will be included in the domestic factor income as the Indian embassy is a part of domestic territory of India.
8. **Salaries to India working in Japanese embassy in India.**
   - No it will not be included in the domestic factor income as the Japenese embassy is not a part of domestic territory of India
9. **CEO to the residents of Japan working in Indian Embassy in Japan.**

- Yes it will be included in the domestic factor income as the Indian embassy is a part of domestic territory of India.

10. Profit earned by an Indian company from its branch in Singapore.

- No it will not be included in domestic factor income of India because Singapore is not a part of domestic territory of India.

11. Rent received by an Indian from his building in London.

- No, it will not be included in the domestic factor income as the rent is earned outside the domestic territory of India.

12. Rent paid by the embassy of Japan in India to a resident Indian.

- No, it will not be included in the domestic factor income as the Japenese embassy is not a part of the domestic territory of India.

Factor Cost & Market Price

Explain the concept of indirect Tax

Ans : It refers to the difference between Indirect Tax paid by the enterprises to the Govt. & the Subsidies paid by the Govt. to some of the enterprises. This concept is used to obtain the national income at factor cost or factor prices. The NIT is deducted from market price (MP) to get factor cost (FC).**Indirect Tax** is the amount of burden whose impact falls on one person or a group and the incidence falls on other person or group**. Subsidies** refer to the financial assistance or aid provided by the state to the weak & sick units

(i) Factor cost refers to all factor payments made by the producing unit to the factors of production for rendering productive services in the production of goods and services.

(ii) Market price is the price at which a commodity is sold and purchased in the market.

Subsidies: These are the cash grants given by the government to the enterprises to encourage production of certain commodities or to promote exports or to sell goods at prices lower than the free market prices.

Significance: Market price = Factor cost + Indirect taxes – Subsidies.

Product at Factor Cost	Product at Market Price
It is the **Income earned by** all the **factors of production** in a financial year.	It is the Market Value of **all final goods and services produced** in a financial year
It does not include Indirect taxes	It includes Indirect taxes
It includes subsidies	It does not include subsidies
Product at Factor Cost= Product at Market Price – Net Indirect taxes	Product at Market Price =Product at Factor Cost +Net Indirect taxes

Consumption of Fixed Capital: *Fall in value of fixed assets due to normal wear and tear, and expected obsolescence is called consumption of fixed capital.* Its two reason are (i) Normal wear and tear (ii) Expected Obsolescence () loss of value to change in technology.

Significance: Net Product = Gross product – Depreciation

How to Calculate National Income from GDP at Market Price

GDP at Market Price

- Deprecation

+ Net factor income from abroad

- Net indirect taxes

National Income (**NNP AT Factor Cost**)

NUMERICALS PROBLEMS

1. Calculate.

National income (NNP at FC)	
GDP AT MP	235
Consumption of fixed capital	40
Subsidies	10
Indirect taxes	25
Net factor income from abroad	-10
	(Ans =170)

2. Calculate (GNP at FC)

i.	NDP A T MP	300
ii.	Indirect taxes	60
iii.	Consumption of fixed capital	25
iv.	Net factor income to abroad	20
		(Ans = 245)

3. Calculate (NDP at MP)

i.	GDP AT FC	200
ii.	Indirect taxes	60
iii.	Depreciation	35
iv.	Subsidies	10
v.	Net factor income from abroad	10
		(Ans = 215)

4. Calculate (GNP at MP)

i.	GDP AT FC	500
ii.	Indirect taxes	60
iii.	Consumption of fixed capital	15
iv.	Subsidies	10
v.	Net factor income to abroad	30
		(Ans = 520)

5. Calculate (NNP at FC)

i.	GDP AT MP	400
ii.	Net Indirect taxes	60
iii.	Consumption of fixed capital	45
iv.	Subsidies	10
v.	Net factor income from abroad	-50
vi.	Factor income to abroad	10
		(**Ans = 245**)

6. Calculate (GDP AT MP)

i.	GNP AT FC	300
ii.	Indirect taxes	60
iii.	Consumption of fixed capital	5
iv.	Subsidies	10
v.	Net factor income to abroad	10
		(**Ans** = 360)

7. Calculate the value of depreciation.

(i) GDP MP	1,100
(ii) Net factor income from abroad	100
(iii) Net Indirect Taxes	150
(iv) National Income	850
	(Ans: Rs.200)

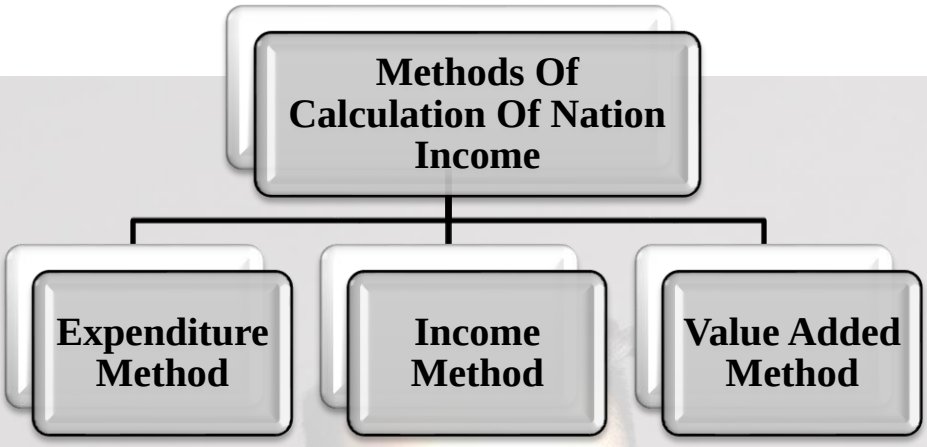
8. Calculate the net factor income from abroad.

(i) GDPFC	4,000
(ii) Depreciation	100
(iii) Net Indirect Taxes	300
(iv) NNPMP	4,500
	(Ans: Rs.300).

9. Calculate the net indirect tax.

(i) GNPMP	7,000
(ii) Net factor income from abroad	200
(iii) Depreciation	150
(iv) NDP FC	6,200
	(Ans: Rs.450).

Meaning:-National income Accounting is the process whereby countries measure these flows. The process of calculating National Income (Domestic Income + Net Factor Incomes earned from Abroad) is different under all three methods but the Gross Domestic Income/Gross Domestic



Final expenditure method

Meaning: - Final expenditure of all consumer goods and services, business firms, general government and foreigners in an economy during a year

Includes

1. **Private Final Consumption Expenditure:** - Household Sector Money Value of Goods And Services Purchased By Household and Non-profit Institutions For Current Use During a Given Period **Durable Goods , Consumer Services , Non-durable Goods**
2. **Govt. Final Consumption Expenditure** Sector Compensation Of Employees Paid By The Government ,Net Purchased In The Domestic Market Producing Sector
3. **Gross Fixed Capital Formation: -** Business Fixed Investment, Residential Construction, Change In Stock (Closing Stock – Opening Stock
   (Includes Depreciation, Net Business investment expenditure, Net Residential Building investment expenditure and Net Public investment expenditure and change in stock)
4. **Net Exports** Difference between value of exports and value of import

Estimation of GDP at MP by adding

1. Private Final Consumption Expenditure
2. Govt. Final Consumption Expenditure
3. Gross Fixed Capital Formation
4. Net Exports

Note:-

Gross Domestic Capital Formation =
Gross Fixed Capital Formation + Change In Stock
If
Gross Fixed Capital Formation Is Given
Add Change in Stock to It
If
Gross Domestic Capital Formation Is Given
Ignore Change in Stock

Precaution in Expenditure Method

1. **Expenditure on intermediate goods:**-Do not include expenditure on intermediate goods and services:- Intermediate expenditure is a part of final expenditure hence its inclusion leads to double counting.
2. **Expenditure on second hand goods; -** Do not include expenditure on second- hand goods;-Expenditure on these goods was accounted when they were purchased new.

3. **Expenditure on shares and bonds**: - Do not include expenditure on financial assets:-Purchasing of financial assets only leads to transfer of money from one person or one institution to another person or institution.
4. **Production for self consumption**:- Include imputed expenditure on own account produced output used for consumption and investment:-The imputed value of owner occupied house, self consumed output by farmers etc must be taken into account while estimating final expenditure.
5. **Government expenditure on transfer payment** :-Excluded:- does not lead to any production of goods and services

Why are exports included in the estimation of domestic product by the expenditure method?

Ans. Expenditure method estimates expenditure on domestic product, i.e. expenditure on final goods and services produced within the economic territory of the country. It includes expenditure by residents and non-residents both. Exports, though purchased by non- residents, are produced within the economic territory, and therefore, a part of domestic product.

Is net export a part of NFIA? Explain.

Ans. No, it is not.Net export, the difference between export and import (X- M), is a part of expenditure on domestic product. While NFIA is the difference between income earned from abroad by the normal residents of a country and income earned by non-residents in the domestic territory of that country. It is not included in the domestic product rather it is a component of NI. Therefore both are different concepts.

Numerical Ability Zone

1. Calculate Net National Product at Factor Cost (NNP at FC)

i.	Consumption of fixed capital	1800
ii.	Net Indirect taxes l	3700
iii.	Imports	2000
iv.	Exports	1000
v.	Change in stock	2500
vi.	Gross fixed capital formation	5000
vii.	Govt. final consumption expenditure	3000
viii.	Private final consumption expenditure	2500
ix.	Net factor income from abroad	600

(Ans = 7100)

2. Calculate:-Net domestic product at factor cost

i.	Private final consumption expenditure	600
ii.	Govt. final consumption expenditure	80
iii.	Gross domestic fixed capital formation	30
iv.	Export of goods and services	20
v.	Imports of goods and services	25
vi.	Net addition to stock of goods	20
vii.	Net indirect taxes	35
x.	Consumption of fixed capital	10

(Ans =680)

3. Calculate Gross domestic product at market price Gross national product at Factor Cost

i.	Personal final consumption expenditure	6500
ii.	Govt. final consumption expenditure	4000
iii.	Gross domestic fixed capital formation	3000
iv.	Decrease in stock	300
v.	Exports of goods and services	900

vi.	Subsidies	500
vii.	Depreciation	2000
viii.	Net factor income from abroad	(-) 400
xi.	Net indirect taxes	1000

(Ans =14100,12700)

4. From the information given below calculate National income

i.	Private final consumption expenditure	600
ii.	Compensation of employees by general government	400
iii.	Net purchase of goods and services by general government	500
iv.	Exports	100
v.	Imports	150
vi.	Net factor income from abroad	(-)20
vii.	Gross fixed capital formation	200
viii.	Consumption of fixed capital	60
ix.	Change in stock	60
x.	Net Indirect taxes	20
xii.	Subsidies	10

(Ans =1610)

5. Calculate national income Expenditure method

i.	Subsidies	5
ii.	Private final consumption expenditure	1000
iii.	Net factor income from abroad	(-) 10
iv.	Indirect taxes	25
v.	Government final consumption expenditure	200
vi.	Net domestic capital formation	300
vii.	Net exports	(-)5
xiii.	Addition to stocks	(-)5

Ans =1465)

6. Calculate GDP at MP and NNP at FC by Expenditure method

i.	Govt. final consumption expenditure	4000
ii.	Indirect taxes	380
iii.	Gross fixed capital formation	600
iv.	Change in stock	10
v.	Exports of goods and services	30
vi.	Imports of goods and services	40
vii.	Private final consumption expenditure	19000
viii.	Net factor income to abroad	(-) 800
ix.	Subsidies	80
xiv.	Consumption of fixed capital	1200

(Answer =23600, 22900)

7. Calculate NNP at MP

i.	Govt. final consumption expenditure	200
ii.	Indirect taxes	20
iii.	Gross business fixed investment	60
iv.	Gross residential construction investment	60
v.	Change in stock	20
vi.	Exports of goods and services	40

vii.	Imports of goods and services	20
viii.	Private final consumption expenditure	700
ix.	Net factor income to abroad	10
x.	Subsidies	10
xi.	Consumption of fixed capital	20
		(Answer =1030)

8. Calculate

Calculate depreciation

i.	Change in stock	250
ii.	Gross fixed capital formation	5000
iii.	Net domestic capital formation	4000 **(Answer =1250)**

9 **Calculate GNP at MP**

i.	Inventory investment	10
ii.	Exports of goods and services	20
iii.	Net factor income from abroad	-5
iv.	Private final consumption expenditure	350
v.	Gross residential construction investment	30
vi.	Govt. final consumption expenditure	100
vii.	Gross public investment	20
viii.	Gross business fixed investment	30
xv.	Imports of goods and services	10 **(Answer =545)**

Some of the major items whether included or excluded in national income are as follows:

1. **Construction of a new house**.:-Yes, it will be included in the national income as it is a part of capital formation and leads to production of goods and services in the economy.
2. **Purchases by foreign tourists OR Food purchased by a foreign tourist at a hotel in New Delhi**.:-Yes, purchases by foreign tourists are 'exports' and, therefore, they are included in the national income through the Expenditure Method.
3. **Durable goods purchased by a household. OR Purchase of car by a household**.:-Yes, it will be included in the national income as it is a part of the private final consumption expenditure.
4. **Purchase of a machine by a factory. OR Purchase of a new taxi by a taxi-driver**.:-Yes, it will be included in the national income as it is a part of the gross domestic capital formation.
5. **Money received from sale of second-hand goods. OR Money received by government from sale of a public sector firm to a private owner**. No, it will not be included in the national income because receipts from the sale of secondhand goods are by virtue of transfer of an already existing object.
6. **Expenditure on the construction of a flyover by the government**.-Yes, it will be included in the national income as it is a part of gross domestic capital formation.
7. **Expenditure by government in providing free education. OR Expenditure on free services provided by government**.:-Yes, it will be included in the national income as it is a part of the government final consumption expenditure.

8. **Mineral wealth of a nation**. It is a part of National wealth and is not included in national income. However, that part of mineral wealth which has been extracted during the current year will be included in national income under the product method.
9. **Purchase of equipment's for installation in a factory**.-Yes, it will be included in the national income as it is a part of capital formation.
10. **Destruction of building due to an earthquake**.-No, it will not be included in the national income as it will not affect national product directly.
11. **Purchase of a truck to carry goods by a production Unit**.:-Yes, it will be included in the national income as it is a part of the gross domestic capital formation.
12. **Direct purchase made abroad by government**.-Yes, it will be included in the national income as it is a part of the government final consumption expenditure.
13. **Receipt from sale of property, inherited from a relative**.:-No, it will not be included in the national income as receipt from sale of such property is by virtue of transfer of an already existing object.
14. **Expenditure on the purchase of an old house. OR Purchase of house by the tenant. OR Purchase of rented factory building by the factory owner**. No, it will not be included in the national income because payment for purchase of secondhand goods is due to transfer of an already existing object.
15. **Expenditure on improvement of fixed capital asset. OR Expenditure on construction of a house. OR Expenditures on adding a floor to the building**. :-Yes, it will be included in the national income as it is a part of capital formation. It must be noted that any expenditure on repairs of fixed assets will not be included in national income.
16. **Scholarship given to Indian students studying in India by a foreign company**. OR Expenditure by the Government on scholarships to students.-No, it will not be included in the national income as it is a transfer payment.
17. **Purchase of tractor by a farmer.**-Yes, it will be included in the national income as it is a part of the capital formation or investment by the farmer.
18. **Purchase of furniture by a firm**.-Yes, it will be included in the national income as it is a part of the capital formation or investment by the firm.
19. **Expenditure on education of children by a family**.-Yes, it is included in the national income as it is a part of the private final consumption expenditure.

Income Method/Factor Payment Method/Distributed Share Method

National Income Is Measure In Terms Of Payments Made To Primary Factor of Production.

Components of income method

1. **Compensation Of Employees:**-Any human work done mentally or manually with the aim of earning income is called labour. Thus income got in return for doing work in the production process is called income from work.
    i. Includes Wages And Salary (Both In Cash And Kind)
    ii. Employers Contribution To Social Security Scheme

2. ***Income of self-employed (Mixed income)*** :- Income of self-employed and household enterprises is called mixed income because the same is mixture of income from his work (compensation of employees) and income from his property (rent, interest and profit).

3. ***Income from property (operating surplus)*** **:-** Income from property is earned in two ways, (i) by ownership, and (ii) by control of property. Income from ownership of property is called rent and interest and that from control of property(entrepreneurship) as profit. Broadly, income from property is called operating surplus which consists of rent, interest and profit.

Compensation Of Employees	Operating Surplus	Mixed Income Of Self Employed
1. Wages and salaries in cash ex- wages, salaries, bonus, D.A., commission etc. 2. Wages and salaries in kind ex-rent free home, rent free car, free medical and educational facilities etc 3. Employers contribution to social security scheme ex-GPF, gratuity, labour welfare funds, retirements pension etc.	1. Income from property ex-Rent, Royalty and Interest. 2. Income from entrepreneurship ex-Profit a. Corporate Tax b. Dividend undistributed profit c. Retained earnings (Saving of Private corporate sector)	1. Income from own account workers like farmers, barbers, and incorporated enterprises like retail traders, small shopkeeper.

Note - compensation of employees includes

Wages and salary in cash	**Compensation in kind**	**Employers' contribution to social security scheme includes**
Wages and salary in cash	Free housing	Provident fund
Basic pay	Medical facilities	Life insurance
Dearness allowances	Free food	Causality insurance
House rent allowances	Free education to children	Pension on retirement
Overtime allowances	Free housing	
Bonus and commissions	Medical facilities	

Note:-

- Employers Contribution to social security schemes is to be included because they are not included in compensation employees
- Employees Contribution to social security schemes is not to be included because they are already included in compensation employees

Compensation of employees does not includes

1. Compensation received by an employee from insurance company from insurance company in lieu of accident will not be included
2. Travelling allowance of an employee for company's business purposes are reimbursed by the company(will not be included not a part of compensation of employee
3. Any uniform provided by the employers during the duty hours (like Dress given to Nurses or police are not the part of compensation of employees thus not included in National income because they are treated as **intermediate consumption**
4. Loan advanced to employees will not be included

Treatment of interest

Interest paid in loan taken for consumption purposes (NOT INCLUDED)

1. **Interest received on loans given to a friend for purchasing a car. OR Interest payment on loan taken by an individual to buy a motor cycle. OR Payment of interest on a loan taken by an employee from the employer. :-** No, it will not be included in the national income because it is a non-factor receipt as the loan is not used for production but for consumption.
2. **Payment of interest by an individual to a bank**:- Not Included- because the individual borrows for consumption and not for production.
3. **Interest paid by an individual on car loan from a bank** Not Included- because the individual borrows for consumption and not for production**.**
4. **National debt interest. OR Interest on public debt**.:-No, it is not included in the national income as it is the interest paid on loans taken by government to meet its consumption purposes.
5. **Payment of interest on borrowings by general government**.-No, it will not be included in national income because it is a non-factor payment as general government borrows only for consumption purpose.

<u>Interest on loan paid for production purposes</u> (INCLUDED)

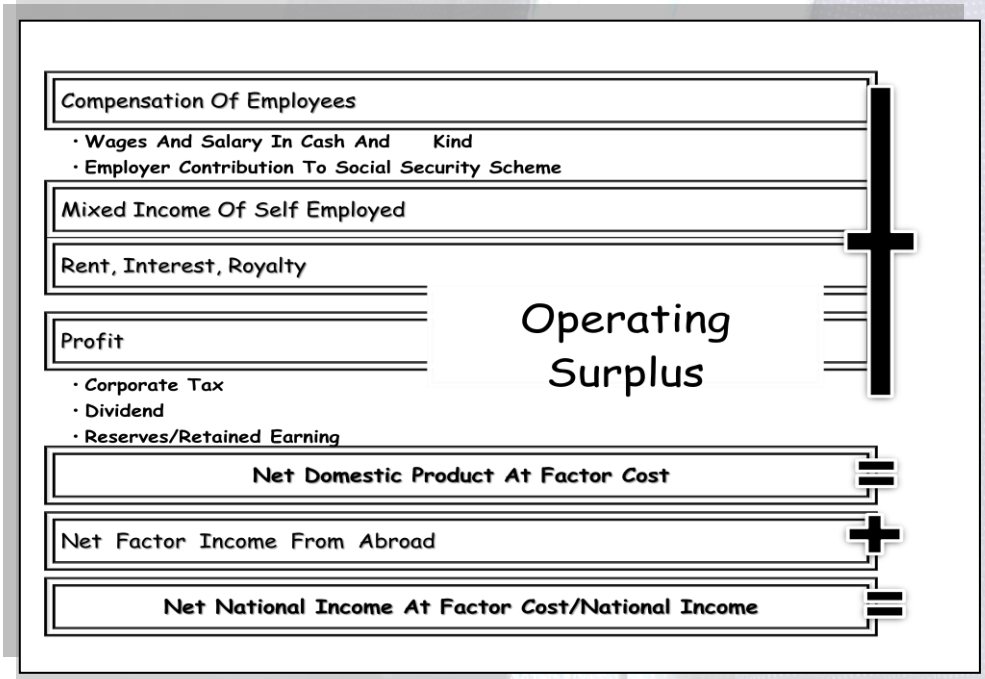
1. **Interest paid by banks on deposits by individuals. OR Payment of interest by a government firm. OR Payment of interest by a firm**:-Yes, it will be included in the national income as such interest is paid on loan taken for productive purpose. It is a factor payment by a producer.
2. **Interest received on loan given to a foreign company in India**.-Yes, it will be included in national income as it is a part of factor income from abroad.
3. **Interest received on debentures**.:-Yes, it will be included in the national income as such interest received is a factor income because debenture is a sort of loan taken by a production unit.
4. **Payment of interest by a firm to a bank**:- Included – Treated as factor payment by the firm because the firm borrows money for carrying out production and therefore included in National Income.
5. **Interest on purchasing a car for use by a firm:** Treated as factor payment by the firm because the firm borrows money for carrying out production and therefore included in National Income**.**

Compensation of employees in kind which are to be included in national income

1. **Rent-free house given to an employee by an employer.-**Yes, it is included in the national income by Income Method since it is a part of 'wages in kind' paid to employees.
2. **Free medical facilities by the employer. OR Free boarding and lodging provided to a domestic servant.** Yes. It will be included in national income as these free services are part of compensation to employees.

3. **Subsidized lunch served to workers in a factory. OR Firm incurred expenditure on medical treatment of employee's family.-**Yes, it is a part of the compensation of employees and, therefore, it will be included in the national income.
4. **Royalty:**-Yes, it will be included in the national income as royalty is a productive income.
5. **Earnings of a self-employed doctor having a clinic at his own residence**. Yes, it will be included in the national income as it is a mixed income.
6. **Contribution to provident fund by employer. OR Value of interest foregone on loans provided by employer to employee**.-Yes, it will be included in the national income as it is a part of the compensation to employees.
7. **Entertainment allowance to an employee for entertaining business guests**.:-No, it will not be included in the national income as it is intermediate consumption expenditure of the business.
8. **Pension paid after retirement**.-Yes, it is a part of the compensation of employees and, therefore, it will be included in the national income.
9. **Payment of bonus by a firm**.-Yes, it will be included in the national income as it is a part of the compensation to employees.
10. **Festival gift from an employer**. yes be included in the national income as it is part of compensation of employees

Steps to calculate national income (Income Method)



Precaution in calculation of national income in Income Method

1. **Transfer Payment should**: - Not Be Included: - these payment (old age pension, unemployment allowances are unilateral and there is no flow of goods and services.
2. **Profit on Sale of Fixed Assets/ Windfall Gain**: - Not Be Included- such capital gain (income from lotteries). No inputs are used and no pain is taken or effortless income.
3. **Illegal Income: -** Not Be Included – like (smuggling, black marketing, theft, dacoity not included done by illegal activities.

4. **Death Duties, Gift Tax, and Wealth Tax: -** Not Be Included- because they are paid out of past saving of the tax payers.
5. **Imputed rent of the owners occupied houses:-** be included;- on the basis of the existing market price of rent of owner occupied houses

Numerical Ability Zone

Calculate Net national product at factor cost

I.	Consumption of fixed capital	30	
II.	Employers contribution to social security scheme	20	
III.	Rent	30	
IV.	Interest	15	
V.	Profits	35	
VI.	Royalty	5	
VII.	Wages and salary	200	
VIII.	Net indirect taxes	40	
IX.	Net factor income from abroad	(-)5	
xvi.	Mixed income of self employed	25	**(Answer =325)**

Calculate GNP at MP

I.	Wages and salary	700	
II.	Rent	100	
III.	Depreciation	50	
IV.	Net factor income from abroad	-10	
V.	Mixed income	400	
VI.	Subsidies	100	
VII.	Profits	400	
VIII.	Employee contribution to Social security scheme	300	
IX.	Interest	40	**(Answer =1580)**

Calculate national income

I.	Interest	**30**	
II.	Wages and salary	**400**	
III.	Net factor income from abroad	**5**	
IV.	Contribution to Social security scheme by employers	**50**	
V.	Operating surplus	**130**	
VI.	Rent	**25**	
VII.	Profit	**35**	
VIII.	Mixed income of self employed	**70**	**(Answer =655)**

Calculate NNP at MP

I.	Compensation of employees	**2000**	
II.	Rent	**200**	
III.	Depreciation	**150**	
IV.	Net factor income from abroad	**20**	
V.	Mixed income	**1000**	
VI.	Net indirect taxes	**100**	
VII.	Subsidies	**20**	
VIII.	Profits	**400**	
IX.	Employers contribution to Social security scheme	**500**	

X.	Interest	10
XI.	Royalty	40

(Answer =3770)

Value added method/Output Method

Value Added Method: - Value added refers to the difference between value of output and the value of intermediate consumption of each producing units in the country. Sum total of value added by all the producing unit within the domestic territory of the country is equal to domestic product.

Steps taken in estimating N.I. by product/ value added method?

Measures the national income by estimating the contribution of each individual enterprise at that particular stage of production in the domestic territory of the country in an accounting year

1. Classify all the production units:- Locate the domestic territory into distinct industrial sectors ie primary, secondary and tertiary sectors.

   a) **Primary sector:-**Exploits natural resources and produce goods and services it includes all agricultural and allied activities.
   b) **Secondary sector:-**Converts one goods into another by creating more utility from it.
   c) **Tertiary sector:-**Provides useful services to primary and secondary sector that smoothen their working. Such as banking, insurance, communication etc.

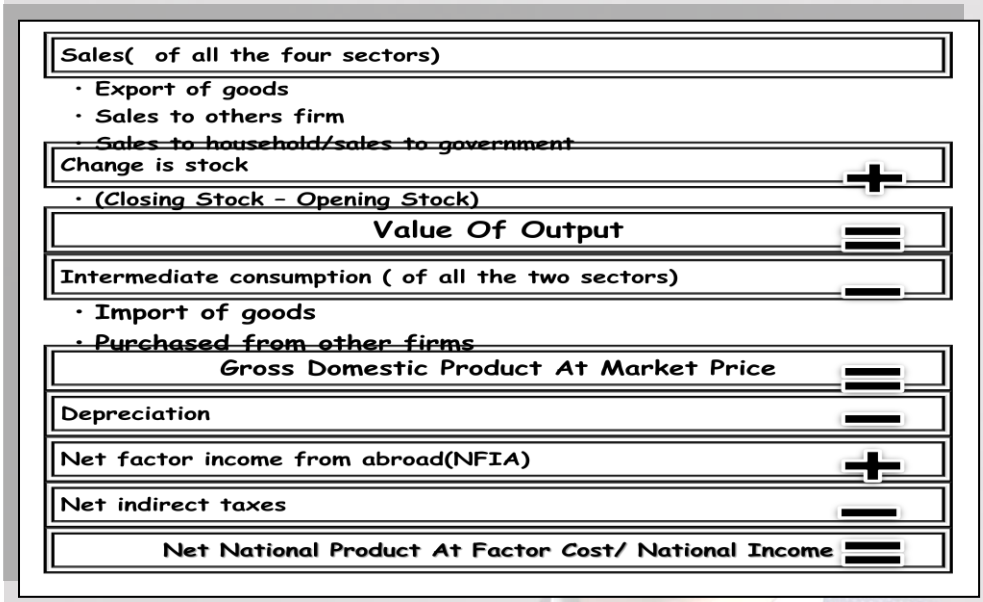
2. Estimate value of output:- As sum of sales and change in stock of all the 3 sectors.
3. Estimate value of intermediate consumption:-A sum of value of intermediate consumption of all the 3 sectors.
4. Estimate GVAmp:- Value of output – Intermediate consumption.
5. Estimate NVAmp:- Deduct the value of depreciation from GVAmp.(NVAmp= NDPmp).
6. Estimate NDPfc:- Deduct the value of Net Indirect Taxes from NDPmp.
7. Estimate NNPfc :- Add the value of Net Factor Income from Abroad with NDPfc to reach NNPfc or the N.I.

Difference between value of output and value added

Value of output	Value added
Market value of all goods and services produced by a firm in a accounting year	Difference between value of output and the value of intermediate consumption
= Sales + change in stock(closing stock – opening stock)	= Value of Output – Intermediate consumption
Bigger concept	Part of value of output

1. **Gross value of output**:- value of output refers to the market value of the total output produced by a firm during an accounting year
2. **Intermediate consumption**: - refers to the money value of raw materials used in the process of production. Includes value of non-factor such as raw material etc.

Steps involved in production method/value added method



How to avoid problem of Double Counting

1. Final Output Method: - According to this method the value of intermediate goods is deducted from the value of output. In other words value of final goods and services only is included in national income. The value of the final output can be calculated by deducting the value of intermediate goods from the value of output.

Value of Final Output = Value of Output – Value of Intermediate Goods

Note: - non marketed services are not included in national income

Certain goods and services which are not consumed by the household which are not purchased from the market

Examples are:

1. Growing fruits and vegetables in kitchen garden , making paintings for one's drawing room, repairs on electrical equipments etc
2. Free services provided to family members such as father teaching to his own son
3. Domestic services by the housewives**.**

Precautions

1. **Sale and purchase of second hand goods** should not be included because it does not enter into the current year's production.
2. **Commission and brokerage paid/received** on sale of second hand goods should be included
3. **Domestic services are not included**. However production of services by paid employed should be included
4. **Own account production of fixed capital**, firms and the government should be included
5. **The value of intermediate goods** should not be included in the national income
6. **Value of production for self-consumption**(farmers) should be included in national income

Numerical Ability Zone

1. **An economy has two firms A and B. Find out** Value Added by firms A and B
   Gross Domestic Product at Market Prices

I.	Exports by firm A	600	
II.	Imports by firm A	200	
III.	Sales to household by firm A	180	
IV.	Sales to firm B by firm A	90	
V.	Sales to firm A by firm B	50	
VI.	Sales to household by the firm B	200	**(Answer = 620,160,780)**

2. **From the following data about a firm X calculate Gross Value Added at Factor Cost**

i.	Sales	350	
ii.	Opening stock	30	
iii.	Closing stock	20	
iv.	Purchase of machinery	150	
v.	Purchase of intermediate products	170	
vi.	Subsidy	40	
vii.	Depreciation	35	**(Answer =210)**

3. **Calculate Value added by the firm A and B.**

I.	Sales by the firm B to general government	100	
II.	Sales by firm A	500	
III.	Purchase by household from the firm B	300	
IV.	Exports by firm B	50	
V.	Change in stock of firm A	20	
VI.	Change in stock of firm B	10	
VII.	Imports by firm A	70	
VIII.	Sales by firm C to firm A	250	
IX.	Purchase by firm B from the firm A	200	**(Answer =200,260)**

4. **Calculate**
   a) **Gross value added at market prices**
   b) **National income by using the following data**

a)	**Value of output**		
	Primary sector	2000	
	Secondary sector	800	
	Tertiary sector	1000	
b)	**Value of intermediate consumption**		
	Primary sector	1000	
	Secondary sector	400	
	Tertiary sector	200	
c)	Indirect taxes paid by all sectors	40	
d)	Consumption of fixed capital of all sectors	40	
e)	Net factor income from abroad	10	
f)	Subsidies received by all sectors	30	

(Answer =2160)

5. Find out

a) Value Added at A and B

b) GDP at FC

c) NNP at FC

I.	Sales by firm A	1000
II.	Purchase from firm A by the firm B	600
III.	Purchase from firm B by the firm A	400
IV.	Sales by firm B	2000
V.	Depreciation	110
VI.	Closing stock of firm A	200
VII.	Closing stock of firm B	350
VIII.	Opening stock of firm A	250
IX.	Opening stock of firm B	450
X.	Net factor income from abroad	40
XI.	Indirect taxes paid by both the firm	300

(Answer =550,1300,1480)

6. Calculate Net Value added at factor cost :

I.	Consumption of Fixed capital	600
II.	Import duty	400
III.	Output sold (units)	2000
IV.	Price per unit of output	10
V.	Net change in stock	50
VI.	Intermediate cost	10000
VII.	Subsidy	500

Ans. NVA FC = 9450

7. Find Net Value added at market price and NET value at FC

I.	Output sold (units)	800
II.	Price per unit of output	20
III.	Excise	1600
IV.	Import duty	400
V.	Net change in stock	- 500
VI.	Depreciation	1000
VII.	Intermediate cost	8000

Ans. NVAmp = Rs. 6500, 4500

8.Calculate Net Value added at factor cost:

I.	Sales during the year	5000
II.	Increase in stock	750
III.	Purchase of fuel from other organizations	500
IV.	Purchase of raw material from others firms	1000
V.	Imports of raw materials	500
VI.	Indirect taxes	250
VII.	Depreciation of fixed assets	700

Ans. NVA FC = 2800

Some of the major items whether included or excluded in national income are as follows:

1. **Increase in the prices of stocks lying with a trader**.:-No, it will not be included in the national income as it does not amount to any flow of goods.
2. **Payment of fees to a lawyer engaged by a firm**.:-It is an intermediate expenditure for the firm because it involves purchase of services by one production unit (firm) from another production unit (lawyer). So, it is deducted from the value of output of the firm to arrive at the value added. So, it is not included in national income.
3. **Expenditure on advertisement by a firm. OR Commodities used in scientific research**.-No, it will not be included in the national income as it is a part of intermediate consumption expenditure.
4. **Petrol used in police vehicles**.:-No, it will not be included in national income as petrol is an intermediate good in this case. It is used for the provision of the final product (maintenance of law and order by the police).
5. **Purchase of raw materials by a production unit. OR Milk purchased by a Sweet shop to make milk-cake**.:-No, it will not be included in the national income as it is a part of the intermediate consumption expenditure.
6. .**Expenditure on improvement of fixed capital asset. OR Expenditure on construction of a house. OR Expenditures on adding a floor to the building**. :-Yes, it will be included in the national income as it is a part of capital formation. It must be noted that any expenditure on repairs of fixed assets will not be included in national income.
7. **Expenditure on maintenance of building. OR Expenditure on maintenance by a firm**.-No, it will not be included in the national income as it is a part of intermediate consumption expenditure.
8. **Expenditure on fertilizers by a farmer**.:-No, it will not be included in the national income as it is intermediate cost for the farmer and deducted from value of output while arriving at national income.
9. **Payment of electricity bill by a school**.:-No, it will not be included in the national income as it is intermediate cost for the school and deducted from value of output while arriving at national income.

Important Question

Question :- will the following be included in gross domestic product / Domestic Income of India? Give reasons for each answer.

1. Consultation fee received by a doctor.
2. Purchase of new shares of a domestic firm.
3. Services charges paid to a dealer (broker) in exchange of second hand goods.
4. Interest free loan to bank employees from bank
5. Factor income from abroad.
6. Compensation of employees given to residents of china working in Indian embassy in China.

Solution

1. **Yes**, It is a factor income. It is his salary.
2. **No**, It is not included in GDP, because it is a merely financial transaction which does not help directly in production.
3. It is included because it is his factor income (salary).
4. **No**, it is to be repaid.
5. **No**, because factor income is earned not within the domestic territory of a country but from abroad.
6. **Yes,** because Indian embassy in China is a part of domestic territory of India.

Will the following be included in the country's NDP at MP

1. Net indirect taxes
2. Net exports
3. Net factor income from abroad
4. Consumption of fixed capital

5. Yes indirect taxed are included in NDP at MP
6. Yes net exports are included (expenditure method)
7. Net factor income from abroad are not included because NDP measures domestic product only
8. Consumption of fixed capital is net included because NET is given

Question Are the following included in the estimation of National Income a country? Give reasons.

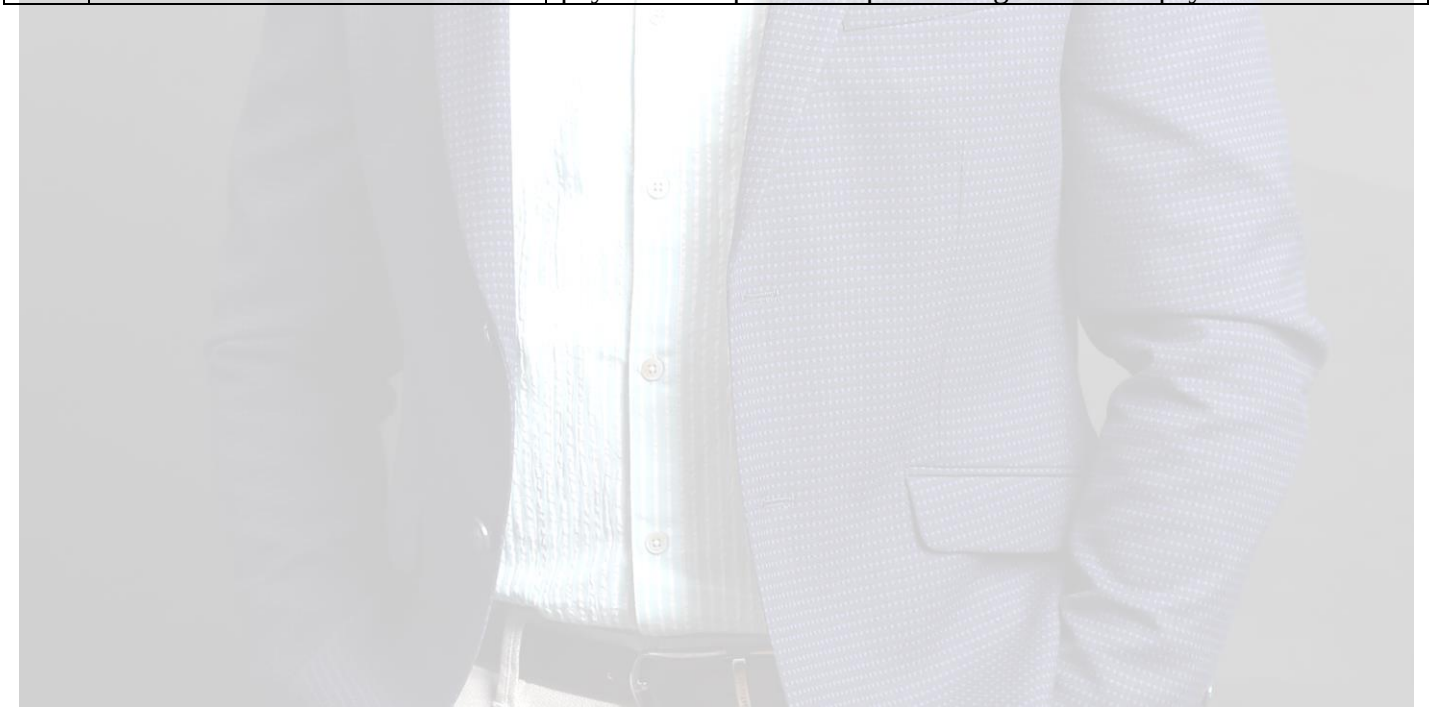
Sr	Cases	solution
1	Services rendered by family members to each other.	Services rendered by family members to each other should not be included in NI because these are not rendered for the purpose of earning income.
2	Wheat grown by a farmer but used entirely for family's consumption.	Imputed value of self-consumed wheat grown by a farmer must be included in NI, because it adds in the flow of goods.
3	Expenditure government on providing free education.	It should be included in NI because the government expenditure on the free services is considered as a part of government final consumption expenditure.
4	Payment of fees to a lawyer engaged by a firm.	Yes, as it is factor income against the service of lawyer.
5	Man of the match award to a player of the Indian cricket team.	It should not be included in NI because it is a windfall gain and it does not add in the flow of goods and services.
6	Payment of the match fee to players of Indian cricket team.	It should be included in NI of India because they render productive services as professionals
7	Unemployment allowance under National Rural Employment Guarantee Act	It is transfer payment received by those persons who are not employed; therefore it should not be included in NI.
8	Indirect tax (Sale tax/excise duty).	It is not included in NI because it does not addition the flow of goods and services.
9	Salary received by the workers under National Rural Employment Guarantee Act	It is included in NI because it is a factor income.
10	Income tax.	It is a part of compensation of an employee (income). While calculating NI by income method, compensation of employees is to be included while doing so, income tax to be paid by them should not be included separately.
11	Corporation tax.	It is a part of profit of corporate sector. While calculating NI by income method, profit is to be included while doing so, Corporation tax should not be included separately.
12	Travelling expenses paid to salesman by the employer.	Travel expenses incurred by employees for business purpose which are reimbursed by the employers are excluded because these are a part of intermediate consumption of the employers
13	Free Medical facility to employees by the employer.	Yes, as it is a supplementary income paid in kind and hence a part of compensation of employees.
14	Money received from sale of old house.	No, as it has already been taken into account when the house was constructed.
15	Government expenditure on street lighting.	Yes, It is a part of Government final consumption expenditure and it adds to flow of services.
16	Interest received by a household from a commercial bank.	Yes, as it is payment for use of capital.

17	Receipts from sale of land.	No, as it does not add to flow of goods & services.
18	Interest on public debt.	It should not be included in NI because public debt is a loan taken on to meet consumption expenditure by the government.
19	Profits earned by Dabur India in U.K.	Yes, it is a part of factor income earned from abroad.
20	Money received from sale of shares.	No, it is only a transfer of paper claims.
21	Salary paid to Americans working in Indian embassy in America.	No, this factor income belongs to non-residents.
22	Payment of electricity bill by a factory	No. it is intermediate consumption.
23	Direct purchases of government in a foreign country.	Yes, it is government final consumption expenditure.
24	Remittances from aboard.	No, it is only a transfer payment. No commodity is sent or services rendered return for this.
25	Services of owner occupied houses.	Yes, Imputed rent of owner occupied houses will be included in NI.
26	Purchase of new shares of a domestic firm.	No, because it is a financial transaction which does not help in production.
27	Purchase of second-hand machine from a domestic firm.	No, because it is not related with current flow of goods and services.
28	Consultancy fee paid to a foreign expert.	No, as it is a factor income paid abroad (it is earned by non-residents).
29	Dividend received on shares.	Yes, dividends are a part of corporate profit and therefore, include in NI.
30	Production for self consumption	imputed value is included in national income

Question Are the following included in the estimation of National Income a country? Give reasons.

Sr	Cases	solution
1	Sales and purchase of shares, bonds and debentures	Non included only paper claims
2	Broker commission	Broker commission on sale and purchase of shares and debentures because part of factor Income
3	Dividend on shares	Included in national income because it is paid out of corporate profits
4	Bonus to employees	Included part of compensation of employees
5	Interest received by household on saving bank account:-	Included because it is factor income
6	Sales tax:-	Not included they are unilateral charges by the government
7	Services of housewives:-	Not included provided free of cost as a gesture of love and affection
8	Traveling allowances paid by the company	Not included such expenses are reimbursed
9	Payment of electricity bill by a factory	Not included part of intermediate consumption
10	Government expenditure on street light	Included part of government final expenditure
11	Purchase of medicine by a patient	Included part of household expenditure
12	Tip to waiter in a hotel	Included part of factor income

13	Tip to beggar	Not included transfer payment
14	Free lunch to workers	Included part of compensation of employees
15	Purchase of vegetable by a restaurant	Not included part of intermediate consumption
16	Pocket money to children by parents	Not included part of transfer payment
17	Income from the sale of old car	Not included part of capital gain
18	Festival gift from employer	Included part of compensation of employees
19	Corporate taxes	Part of profit of the companies
20	Unemployment allowances	Not included part of transfer payment
21	Death duties/wealth tax/gift tax	Not included paid out of past savings
22	Bonus received by employees.	It should be included in NI because it is a part of the compensation of employees (salary in cash).
23	Government expenditure on defence.	It should be included in NI because defence service is considered final service so far as it provides peaceful and secure environment to the citizens.
24	Money sent by a worker working abroad to his family staying for less than one year	It is included in NI because it is a part of NFIA.
25	Profit earned by a branch of Indian Bank in London.	It is included in NI of India because it is a part of NFIA.
26	Expenditure by government in providing free education.	Yes, it is a part of government final consumption expenditure.
27	Rent free house to an employee by an employer.	It should be included in NI because it is a part of the compensation of employees (salary in kind).
28	Purchases by foreign tourists.	It is included in NI because it is a part of the final consumption expenditure on domestic product.
29	Purchase of a truck to carry goods by a production unit.	It should be included in NI because it is an addition to the capital stock of the production unit.
30	Payment of wealth tax by a household	It should not be included in NI because it is a compulsory transfer payment and paid from past savings of the tax payers.



QUESTION BANK

OUTPUT METHOD

1.Find out the net value added at factor cost of a production unit from the following data:

i.	Total sales	4000
ii.	Closing stock	700
iii.	Opening stock	500
iv.	Indirect taxes	200
v.	Subsidies	150
vi.	Depreciation	300
vii.	Purchase of raw material from other	1000

Ans: Rs.2850

2. Calculate Value Added at factor cost from the following.

i.	Purchase of raw materials	30
ii.	Depreciation	12
iii.	Sales	200
iv.	Excise tax	20
v.	Opening stock	15
vi.	Intermediate consumption	48
vii.	Closing stock	10

Ans: 127

3. Calculate Net value added at factor cost from following data.

i.	Sales	700
ii.	Purchase of machinery for installation in the factory	100
iii.	Subsidies	50
iv.	Change in stock	(-)30
v.	Purchase of raw material	400
vi.	Rent	60
vii.	Consumption of fixed capital	20

Ans. Rs. 300 lakhs

4. Calculate sales from the following data.

i.	Net value added at factor cost	300
ii.	International Consumption	200
iii.	Indirect tax	20
iv.	Depreciation	30
v.	Change in Stock	(-) 50

Ans. Sales = Rs. 600 lakhs

5. Calculate net value added a factor cost from the following.

i)	Depreciation	20
ii)	Intermediate cost	90
iii)	Subsidy	5
iv)	Domestic Sales	140
v)	Exports	7
vi)	Change in Stock	(-)10
vii)	Imports of raw material	3

Ans. Rs. 29 lakhs

6. Calculate gross value added of factor cost:

I.	Units of output gold (units)	1000
II.	Price per unit of output	30
III.	Depreciation	1000
IV.	Intermediate cost	12000
V.	Closing stock	3000
VI.	Opening stock	2000
VII.	Excise (Rs.)	2500
VIII.	Sales Tax	3500

Ans. GVAFC = Rs. 13000

7. Calculate the value added by Firm A and Firm B from the following data: -

i.	Purchase by Firm A from the rest of the world	40
ii.	Sales by Firm B	100
iii.	Purchases by Firm A from Firm B	60
iv.	Sales by Firm A	120
v.	Exports by Firm A	40
vi.	Opening stock of Firm A	45
vii.	Closing stock of Firm A	30
viii.	Opening stock of Firm B	40
ix.	Closing stock of Firm B	30
x.	Purchases by Firm B from Firm A	60

Answer
Value Added by Firm A = Rs 5 Lakhs.
Value Added by Firm B = Rs 30 Lakhs.

8. There are only two producing sectors A and B in an economy. Calculate :
Gross value added at market price by each sector, National income.

i.	Net factor income from Abroad.	20
ii.	Sales by A	1000
iii.	Sales by B	2000
iv.	Change in stock of B	(–) 200
v.	Closing stock of A	50
vi.	Opening stock of A	100
vii.	Consumption of fixed capital by A and B	180
viii.	Indirect taxes paid by A and B	120
ix.	Purchase of raw material by A	500
x.	Purchase of raw material by B	600
xi.	Exports by B	70

Ans. : Rs. 1370

INCOME AND EXPENDITURE METHOD

1. From the following information calculate gross national income by (a) income method (b) expenditure method.

(i) Factor income from abroad	10
(ii) Wages of employees	150
(iii) Net domestic capital formation	50
(iv) Private final consumption expenditure	220
(v) Factor income to abroad	15
(vi) Change in stock	15
(vii) consumption of fixed capital	15
(viii) Interest	40
(ix) Exports	20
(x) Imports	25
(xi) Indirect taxes	30
(xii) Subsidies	10
(xiii) Rent	40
(xiv) Government final consumption expenditure	85
(xv) Profit	100

Ans: (a) Rs.340 ; (b) Rs.340 .

2. Estimate national income by (a) expenditure method (b) income method

1. Private final consumption expenditure	210

2. Govt: final consumption expenditure	50
3. Net domestic capital formation	40
4. Net exports	(-) 5
5. Wages & Salaries	170
6. Employer's contribution	10
7. Profit	45
8. Interest	20
9. Indirect taxes	30
10. Subsidies	05
11. Rent	10
12. Factor income from abroad	03
13. Consumption of fixed capital	25
14. Royalty	15

Ans: = 273

3. Calculate GNP at factor cost by income method and expenditure method. Rupees in

1. Private final consumption expenditure	1000
2. Net domestic capital formation	200
3. Profit	400
4. Compensation of employers	800
5. Rent	250
6. Gov.: final consumption expenditure	500
7. Consumption of fixed capital	60
8. Interest	150
9. Net current transfer from row	(-)80
10. Net factor income from abroad	(-)10
11. Net exports	(-)20
12. Net indirect taxes	80

Ans: GNP FC = 1650

4. From the following data, calculate national income by (a) Income method (b) expd. method.

(i) Interest	150
(ii) Rent	250
(iii) Govt. Final Consumption Expd.	600
(iv) Pvt. Final Consumption Expd.	1200
(v) Profits.	640
(vi) Compensation of employees	1000
(vii) NFIA	30
(viii) Net Exports	(–) 40
(ix) Net Indirect tax	60
(x) Consumption of Fixed capital	50
(xi) Net domestic capital formation	340

[Ans. : Rs. 2070

5. From the following data calculate GNP at FC by (a) Income method (b) Expenditure method.

(i) Net domestic capital formation	500
(ii) Compensation of employees	1850
(iii) Consumption of fixed capital	100
(iv) Govt. final consumption expenditure	1100
(v) PVT. final consumption expenditure	2600
(vi) Rent	400
(vii) Dividend	200
(viii) Interest	500
(ix) Net Exports	(—) 100
(x) Profits	1100
(xi) NFIA	(–) 50
(xi) Net Indirect taxes	250

[**Ans. :** Rs. 3900

6. From the following data, calculate (a) Gross Domestic Product at Factor Cost (GDPFC) and (b) Factor income to abroad.

(i) Gross Domestic Capital formation	600
(ii) Interest	200
(iii) Gross national product at market price	2800

(iv) Rent	300
(v) Compensation of employees	1600
(vi) Profit	400
(vii) Dividend	150
(viii) Factor income from abroad.	50
(ix) Change in stock	100
(x) Net indirect taxes	400
(xii) Net Export	(–) 30

[Ans. : (a) GDPFC = 2600 (b) FIPA = 90

7. Calculate (a) Gross domestic product at market price (GDPMP) (b) Factor income from abroad.

(i) Profit	500
(ii) Export	40
(iii) Compensation of Employees	1500
(iv) Net current transfer from Row	2800
(v) Rent	90
(vi) Interest	300
(vii) Factor income to abroad	400
(viii) Net indirect tax	120
(ix) Gross fixed capital formation	250
(x) Net domestic capital formation	650
(xi) Gross fixed capital formation	700
(xii) Change in stock	50

[**Ans. :** GDPMP = 3050 (b) FIRA = 120]

8. From the following data calculate (a) GDPMP and (b) Factor income from abroad.

(i) Gross national product at factor cost	6150
(ii) Net export	(–) 50
(iii) Compensation of Employees	3000
(iv) Rent	800
(v) Interest	900
(vi) Profit	1300
(vii) Net Indirect tax	300
(viii) Net domestic capital formation	800
(ix) Gross fixed capital formation	850
(x) Change in stock	50
(xi) Dividend	300
(xi) Factor income to abroad.	80

[**Ans. :** GDPMP = 6400 ; FIFA = 130]

9.Calculate NI by income and expenditure method:

(i) Subsidies	5
(ii) Private final consumption expenditure	100
(iii) NFIA	(-) 10
(iv) Indirect Tax	25
(v) Rent	5
(vi) Government final consumption expenditure	20
(vii) Net domestic fixed capital formation	30
(viii) Operating surplus	20
(ix) Wages	50
(x) Net export	(-) 5
(xi) Addition to stock	(-) 5
(xii) Social security contribution by employers	10
(xiii) Mixed income	40

Answer: - Income method Rs 110 Crores. Expenditure method= 110 Crores.

10. Estimate the following with the help of given data:

(i) GDPMP , (ii) Net Value Added at factor cost; and (iii) prove that it is equal to the income generated.

(i) Increase in the stock of unsold goods	1000
(ii) Sales	10,000
(iii) Net indirect tax	800
(iv) Purchase of raw materials from other firms	1650
(v) Purchase of fuel and power	850
(vi) Consumption of fixed capital	500
(vii) Rent	700
(viii) Wages and salaries	3500
(ix) Interest payment	1000
(x) Dividend	1500
(xi) Corporate gain tax	300
(xii) Undistributed profit	200

Answer
GDPMP = = 8500 Crores.
Net Value Added at factor cost = = 7200 Crores.
Income generated =7200 Crores.
Hence it is proved that Net Value Added at factor cost = Income Generated

11. From the data show that net value added at factor cost (NVAFC) is equal to the sum of factor incomes.

(i) Purchase of raw material and other input from the domestic market	600
(ii) Increase in stock	200
(iii) Domestic sales	1800
(iv) Import of raw material	100
(v) Exports	200
(vi) Depreciation of fixed capital	75
(vii) Salaries and wages	600
(viii) Interest payments	450
(ix) Rent	75
(x) Dividends	150
(xi) Undistributed profits.	80
(xi) Corporate profit tax	20
(xii) Indirect tax	50

[**Ans. :** 1375]

12. From the following data calculate National Income by (a) income method and (b) expenditure method.

I.	Compensation of employees	80
II.	Private final consumption expenditure	1,200
III.	Profit	500
IV.	Rent	200
V.	Government final consumption expenditure	800
VI.	Interest	150
VII.	Net factor income from abroad	20
VIII.	Net indirect taxes	190
IX.	Mixed income of self employed	630
X.	Net exports	(-) 30
XI.	Net domestic capital formation	500
XII.	Consumption of fixed capital	150

Ans. Rs. 2300 crs.

13. From the following data calculate National Income by Income and Expenditure method.

i.	Government final consumption expenditure	100
ii.	Subsidies	10
iii.	Rent	200
iv.	Wages and salaries	600

v.	Indirect tax	60
vi.	Private final consumption expenditure	800
vii.	Gross domestic capital formation	120
viii.	Social security contributions by employers	55
ix.	Royalty	25
x.	Net factor income paid to abroad	30
xi.	Interest	20
xii.	Net domestic capital formation	110
xiii.	Profit	130
xiv.	Net exports	70

Ans. Rs. 1000 crs.

14. from the following data, calculate net national product at factor cost by (a) income method (b) expenditure method.

i)	Current transfers from rest of the world	100
ii)	Government final consumption expenditure	1000
iii)	Wages and salaries	3800
iv)	Dividend	500
v)	Rent	200
vi)	Interest	150
vii)	Net domestic capital formation	500
viii)	Profits	800
ix)	Employers contribution To social security schemes	200
x)	Net exports	(-) 50
xi)	Net factor income from abroad	(-)30
xii)	Consumption of fixed capital	40
xiii)	Private final consumption expenditure	4000
xiv)	Net indirect tax	300

Ans. Rs. 5120 crores

15. From the following calculate National income by (i) Income method (ii) Expenditure method.

i)	Net domestic capital formation	360
ii)	Interest	200
iii)	Rent	300
iv)	Private final consumption expenditure	1300
v)	Govt. Final consumption expenditure	730
vi)	Net exports	(-)20
vii)	Net indirect taxes	70
viii)	Net current transfers from rest of world	80
ix)	Consumption of fixed capital	60
x)	Net factor income from abroad	(-)50
xi)	Profit	600
xii)	Compensation of employees	1200.

Ans. 2250

16. Calculate National income with the help of income and Expenditure Method :

i)	Private final consumption expenditure	210
ii)	Government final consumption expenditure	50
iii)	Net domestic capital formation	40
iv)	Net exports	(-)5
v)	Wages and salaries	170
vi)	Employer's contribution towards Provident Fund	10
vii)	Profits	45
viii)	Interest	20
ix)	Indirect tax	30
x)	Economic Subsidies	5
xi)	Rent	10

xii)	Net factor income from Abroad	30
xiii)	Consumption of fixed capital	25
xiv)	Royalty	15

Ans. Rs. 300 crores

MONEY AND BANKING

Central bank: -Apex institution which plays leading role in organizing, regulating, supervising and developing the banking and financial system of a country.

Functions of Central bank

1. Bank of issue,
2. Govt. Bank
3. Banker's Bank
4. Controller of Credit

1. Bank of issue' function of the central bank/ Monopoly of note issue

- The central bank is given the sole monopoly of issuing currency in order to secure control over volume of currency and credit. These notes circulate throughout the country as legal tender money.
- There are two reasons for giving the monopoly power of note issue to the central bank.
  - It brings about uniformity in note circulation.
  - It gives a central bank some direct control over 'money supply'.

2. Explain 'Government's Bank' function of central bank

- **Banking Business**: it accepts deposits, makes payments, and carries out exchange on behalf of the government.
- **Extends Loans**: It provides short term credit to the government by printing money against its security, bills to finance government deficit.
- **Agent**: A central bank also provides various services as agent of the government. It manages public debts. I
- **Advisor**: Central bank gives advice to the government regarding taxation interest rates, credit expansion

3. Banker's Bank and Supervisor

a. **As an banker:-**Acts as custodian of cash reserves of commercial and other banks. Maintains deposits of cash reserves as required by the commercial banks.

b. **As a supervisor:-**The regulation of banks may be related to their licensing, branch expansion, liquidity of assets, management, Amalgamation (merging of banks) and liquidation (the winding up of banks).

c. **Lender of last resort function of central bank:-**.

- The pool of funds with the Central Bank serves as a source from which it can make advances to banks temporarily in need of funds, acting in its capacity as lender of last resort.
- It means that if a commercial bank fails to get financial accommodation from anywhere, it approaches the Central Bank as a last resort. Central Bank advances loan to such banks against approved securities.
  - The banking system of the country does not suffer from any set back.
  - Money market remains stable.

d. **Clearing House for Transfer and Settlement:** RBI settles mutual indebtedness between banks. It makes entire process of collecting bank to bank payments easy and much less time consuming.

4. Controller of Credit

This is the most crucial function played by any central bank in the modern times. Central Banks are supposed to regulate and control the volume and direction of the credit by using the:

1. **Quantitative techniques** – are those techniques which influence the **volume of credit** in the economy like open market operations, bank rate policy, repo and reverse repo rate policy etc.
2. **Qualitative techniques** - or selective credit control techniques are the ones which influence the **direction of credit** in the economy like Margin Requirements and Moral Suasion, Credit rationing

Bank Rate: is the rate of interest at which central bank lends money to commercial banks for longer period.

1. **During inflation/excess demand** Increase in the bank rate will make the loans more expensive for the commercial banks; thereby, pressurizing the banks to increase the rate of lending. The public capacity to take credit at increased rates will be lower, leading to a fall in the volume of credit demanded.
2. **During deflation /deficient demand** The reverse happens in case of a decrease in the bank rate. This increases the lending capacity of banks as well as increases public demand for credit and hence will automatically lead to a rise in the volume of credit flowing in the economy.

2. Legal reserve ratio:- it includes:-

a. Cash reserve ratio: It is percentage or certain ratio of commercial banks net demand deposits & times liabilities which it has to keep **with central bank** RBI as cash

- **During inflation/excess demand: -** central bank increases this ratio, the cash reserves with the commercial banks get reduced. As a result they are forced to contract credit. Thus excess demand in the economy is also reduced.
- **During deflation /deficient demand,** where the objective is to expand credit, the cash reserve ratio is lowered by the central bank. This will increase cash availability with the commercial banks and they can lend more and create more credit.

b. Statutory Liquidity Ratio: It is the ratio or percentage of net total demand & time liabilities of commercial banks which they have to keep with them in form of liquid assets in government securities

- **During inflation/excess demand: -** central bank increases this ratio, the cash reserves with the commercial banks get reduced. As a result they are forced to contract credit. Thus excess demand in the economy is also reduced.
- **During deflation /deficient demand,** where the objective is to expand credit, the cash reserve ratio is lowered by the central bank. This will increase cash availability with the commercial banks and they can lend more and create more credit.

3. **Open market operations** It refers to the buying and selling of government security by the Central Bank from/to banks on its own account.

During inflation/excess demand

- During inflation.RBI sells securities
- Sale of government securities will reduce reserves.
- Bank gives RBI a cheque for the securities.
- This directly reduces bank's ability to give credit.
- Therefore this decreases money supply in the economy.

During deflation /deficient demand

- When RBI buys securities from banks
- RBI gives the bank a cheque drawn on itself in the payment for the securities.
- RBI increases reserves of the bank by the particular amount.
- This directly increases the bank's ability to give credit.
- Thus money supply increases

4. **Margin requirements:** A margin is the difference between the amount of the loan and market value of the security offered by the borrower against the loan. If the margin imposed by the Central Bank is 40%, then the bank is allowed to give a loan only up to 60% of the value of the security. By altering the margin requirements, the Central Bank can alter the amount of loans made against securities by the banks

- **During inflation/excess demand: -** Central bank raises the margin requirement. When margin requirements are raised, credit borrowed is discouraged. This results in downswings of economic activity and thus, has a disinflationary impact
- **During deflation /deficient demand: -** Central bank reduces the margin requirement. When margin requirements are reduced, credit borrowed is encouraged. This results in upswings of economic activity and thus, has a inflationary impact

5. **Liquidity adjustment Ratio**

Repo Rate: is the rate of interest at which central bank lends money to commercial banks for short period.

- **Du ring inflation/excess demand**
  - Central Bank can reduce excess demand by raising the Repo Rate.
  - Raising Repo Rate makes borrowings by commercial banks costlier. So these banks are forced to raise their lending rates. Since borrowing becomes costly for people, they borrow less. Banks therefore create less credit.
- **During deflation /deficient demand**
  - Central Bank can increases excess demand by reducing the Repo Rate.
  - When the rate is reduces, encourages the commercial banks to borrow funds from the central bank.
  - This increases lending capacity of the commercial banks. Lending by the commercial banks to public increases leading to rise in aggregate demand.

Reverse Repo Rate: It is the exact opposite of repo. Reverse repo rate is the rate at which RBI borrows money from banks for short period

During inflation/excess demand

- Central Bank can reduce excess demand by raising the Reverse Repo Rate.
- When the rate is raised, it encourages the commercial banks to park their funds with the central bank.
- This reduces lending capacity of the commercial banks. Lending by the commercial banks to public declines leading to fall in aggregate demand.

During deflation /deficient demand

- Central Bank can increases excess demand by reducing the Reverse Repo Rate.
- When the rate is reduces, it discourages the commercial banks to park their funds with the central bank.
- This increases lending capacity of the commercial banks. Lending by the commercial banks to public increases leading to rise in aggregate demand.

6. **Credit rationing**;-Refers to the fixation of credit limits for different business activity or for a particular business sector
   - **During inflation/excess demand:-** Uses in a negative manner would mean using measures to restrict the flow of credit to particular sectors
   - **During deflation /deficient demand:-**Uses in a positive manner would mean using measures to channel credit to particular sectors, usually the priority sectors.
7. **Moral suasion:** includes persuasion, request, advice and suggestion to the commercial banks by the central bank of a country. Central bank clarify them the need for implementation of a particular monetary policy and requests them to follow this policy during excess demand and deficient demand

Summary of fiscal tools at the time of inflation and deflation

Fiscal tools	During inflation	During Deflation
Bank rate	**Increase**	**Decreases**
Credit reserve ratio	**Increase**	**Decreases**
Statutory liquidity ratio	**Increase**	**Decreases**
Repo rate	**Increase**	**Decreases**
Reverse repo rate	**Increase**	**Decreases**
Marin requirement	**Increases**	**Decreases**
Open market operation	**Selling of govt securities**	**Purchase of govt securities**

Commercial Banks:-Institution which receives funds from the public and gives loans and advances to those who need them

Credit creation by bank:-Credit creation is the process of multiplying initial deposits of banks into a huge amount. Banks creates credit by advancing loans to its customers out of what they have received in the form of deposits from the public. **Credit creation depends on two things**

1. The amount of the initial fresh deposits and
2. The legal reserve ratio (LRR) the minimum ratio of deposit legally required to be kept as liquid assets by the banks.
3. It is assumed that all the money that goes out of banks is redeposit into

Suppose the initial deposits in banks are Rs. 10000 and the LRR is 20 %. Further suppose that banks keep only the minimum required i.e. Rs. 2000 as cash reserve. Banks are now free to lend the remainder Rs. 8000. Now, since all the transactions are routed through the banks, the money spent by the borrowers comes back into the banks into the deposit accounts of those who have received this payment. This increases demand deposits in banks by Rs. 8000 when banks receive new deposit of Rs. 8000; they keep 20 percent of it as cash reserves and use the remaining Rs. 6400 for giving loans

How many times the total deposits would be of the initial deposit is determined by the LRR. The multiple called the money or deposit multiplier, is:

Money multiplier = 1 /LRR. (**In our above illustration the LRR is 0.2 therefore**)

Money multiplier = 1 /0.2 = 5

The total money creation is thus:

Money creation = Initial Deposit X money multiplier = 10000 X 5 = 50000

Note:-Higher the legal reserve ratio lower will be size of credit multiplier

Deposit Creation By Commercial Banks

round	Primary deposits	Legal reserve ratio	Credit creation/Loans
Round 1	**10000**	**2000**	**8000**
Round 2	**8000**	**1600**	**6400**
Round 3	**6400**	**1280**	**5120**
-	**-**	**-**	**-**
Total	**50000**	**10000**	**40000**

Money:-It may be defined as 'anything which is generally acceptable by the people in exchange of goods and services or in repayment of debts.'

Define money supply and explain its components.

The supply of money means the total stock of all the forms of money (paper money, coins and demand deposits of banks) which are held by the public at any particular points of time. Thus components of money

1. **Currency.C + DD + OD:-**Currency includes coins and currency notes. Currency is also called fiat money. Fiat money or currency is defined as the money which, under law, must be accepted for all debts.
2. **Chequable deposits/Demand deposit**. A chequable deposit is any deposit account on which a cheque can be written. Chequeable deposits are called demand deposits because the amount in such deposits is payable on demand.
3. **Other deposits with RBI** - which includes deposits with RBI other than those of government OD includes demand deposits of public financial institutions (like IDBI, etc.), foreign central banks and governments, IMF, World Bank, etc

THEORY OF INCOME AND EMPLOYMENT

Aggregate Demand (AD) and its Components

Aggregate demand refers to the total demand for goods and services in the economy. Since aggregate demand is measured by total expenditure of the community on goods and services, therefore, aggregate demand is also defined as 'total amount of money which all the sections (households, firms, government) are ready to spend on purchase of goods and services produced in an economy during a given period.

Thus, **AD = C + I + G + (X-M)**

1. **Household (or Private) Consumption Demand:** It is defined as 'Value of goods and services that households are able and willing to buy.' Alternatively it refers to total expenditure to be incurred by all households on purchase of goods and services.
2. **Private Investment Demand:** This refers to planned (ex-ante) expenditure -on creation of new capital assets like machines, buildings and raw by private entrepreneurs..
3. **Government Demand for Goods and Services (Government Purchases):** It refers to government planned (ex-ante) expenditure on purchase of consumer and capital goods to fulfil common needs of the society. The level of government expenditure is determined by government policy.
4. **Net Exports (Exports-Imports):** It is the difference between export goods and services and import of goods and services during a given period. Net exports reflect the demand of foreign countries for our goods and services over our demand for foreign countries goods and services.

But for simplifying the analysis, Keynes included only first two components, namely, consumption demand and investment demand. Accordingly, we shall also include in aggregate id (AD) only two broad components of demand such as consumption id (C) and investment demand (I). Put in symbols: AD = C + I

Behavior of aggregate demand

- There is a Direct Relation Between AD and Level Of Income/Employment
- Even at the Zero Level of income there is minimum demand for consumption goods known as Autonomous Consumption
- Investment does not depend on the level of in income(autonomous)

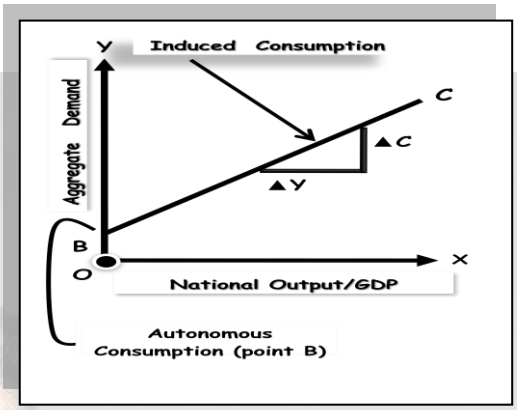
Consumption expenditure:- Total expenditure on purchase goods and services by the entire household.

- Consumption Expenditure. it depends on the level of income. two types
  - Autonomous Consumption :- **Minimum Level Of Consumption At Zero Level Of Income**
  - Induced Consumption :- **Depends On The Levels Of Income**

Consumption Curve

Consumption Schedule

Y	C
0	20
10	25
20	30
30	35
40	40
50	45



Investment Demand

It includes creation of new capital goods and addition to stock by private firms

Depends on

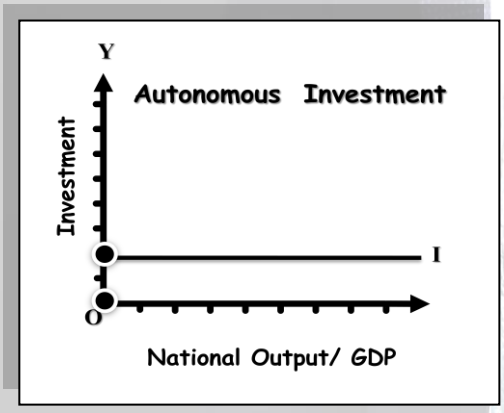
- Marginal efficiency of investment: - expected profitability on additional investment
- Rate of interest: - cost of borrowing funds for the investment.

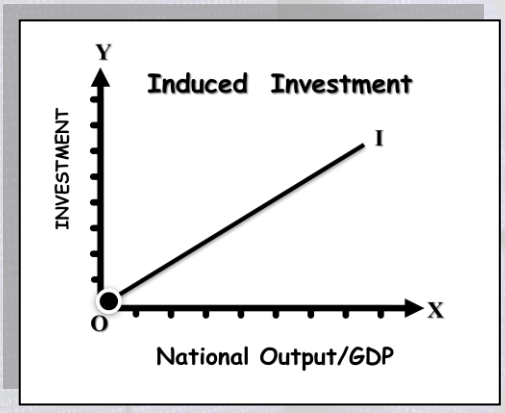
Types of investment

- Autonomous investment: = not depend on income level
- Induced investments: = depends on the levels of income

Autonomous Investment	Induced Investment
Not depend on income level.	Depends on the levels of income
Autonomous investment curve is constant and parallel to x-axis	Induced investment curve is upward sloping.

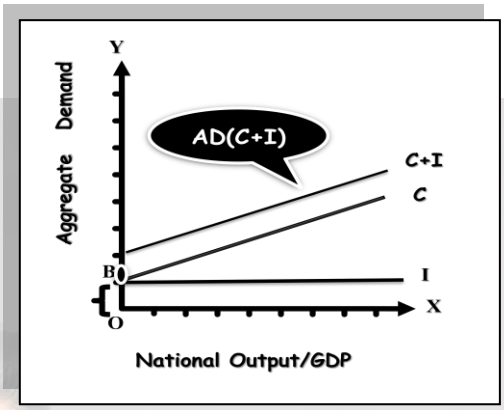
Note:-In short run investment is assumed to be autonomous. Investment does not depends on the level of income





Aggregate demand schedule

Income Level	Consumption	Investment	C+1
0	20	20	40
10	25	20	45
20	30	20	50
30	35	20	55
40	40	20	60
50	45	20	65



Aggregate demand curve (diagram)

Explanation

- C is a positive function of y. C increases as y increases
- I is autonomous investment i.e. it is not influenced by the level of income
- I curve is a straight line parallel to x-axis
- AD curve which is the sum of C and I curves has a positive slope

Aggregate Supply

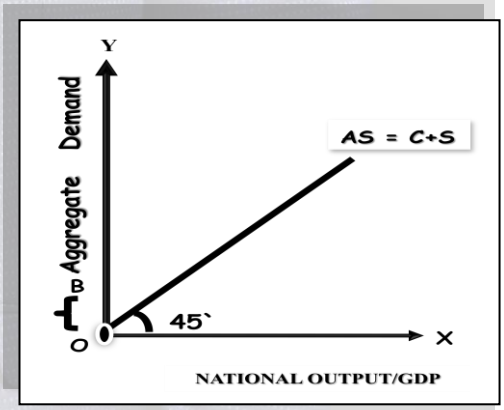
- Sum-total of goods and services produced in an economy during a certain period of time.
- AS = C+S
- AS is national income /Y

Consumption: -Part of Income Which Is Consumed

Saving: - Part of Income Which Is Saved

Aggregate supply scheduled

Y	C	S	AS(C+S)
0	20	-20	0
10	25	-15	10
20	30	-10	20
30	35	-5	30
40	40	0	40
50	45	5	50



Aggregate supply curve (diagram)

45 lines implies sum of consumption and saving (C+S) is always equal to the level of income

C is rising function of y i.e. as Y increases C also increases

S is a rising function of y i.e. as Y increases S also increases

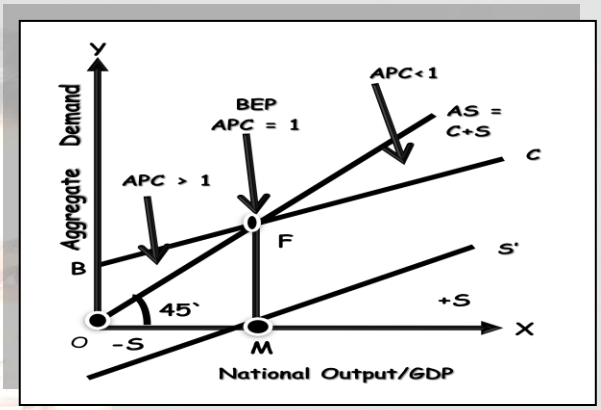
Propensity to Consume /Consumption Function

Relationship between consumption and income at different level of income in an economy. It has two aspects

1. Average propensity to consume
2. Marginal propensity to consume

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

Y	C	APC	
0	6	∞	6/0
10	12	1.2	12/10
20	18	.9	18/20
30	24	.8	24/30



Possible Values APC at Different Level of Income

Y	C	APC	REMARK
0	40	∞	When Y = 0
100	120	1.2	Until C >Y
200	200	1	When C = Y (BEP)
300	270	.9	When C < Y

NOTE

- **APC Can Never Be Negative Because Consumption Can Never Be Zero**
- **APC FALL with the increase in income**

MPC = $\frac{\blacktriangle C}{\blacktriangle Y}$

Y	C	MPC	
0	6	-	
10	12	.6	6/10
20	18	.6	6/10
30	24	.6	6/10

Y	C	MPC	Conclusion
0	40	----	
100	40	0	When C Does Not Increases With Increase In Y

200	140	1	When C Changes Same As Y
300	220	.8	When Change In C Is Less Than Change In Y

NOTE

- **Value Of MPC Is Greater Than Zero And Less Than 1**
- **0 < MPC < =1**

Difference between APC and MPC

MPC	APC
MPC = ▲C / ▲ Y	**APC** = C / Y
Ratio of change in consumption to change in income	Ratio of consumption expenditure to any level of income
Value of MPC >0 and < = 1	Value of APC can be > 1 when (c> y)

Consumption function

Algebraic equation

$$C = a + b.Y$$

Or

$$C = a + MPC.Y$$

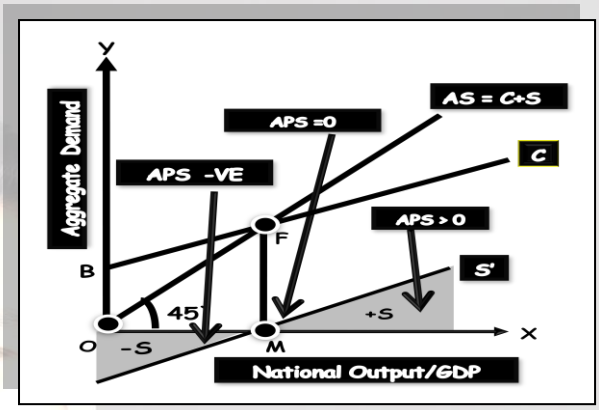
1. C represents total consumption
2. C represents autonomous consumption
3. B shows marginal propensity to consume
4. Y stands for level of income

Propensity to Save/saving function: **-** Relationship between saving and income at different level of income in an economy. It has two aspects

1. Average propensity to save
2. Marginal propensity to save

APS = $\frac{S}{Y}$

Y	S	APS	
0	-6	∞	6/0
10	-2	-.2	-2/10
20	2	.1	2/20
30	6	.2	6/30



APS at Different Level of Income

Y	C	S	APS	CONCLUSION
0	40	-40	∞	When Y = 0
100	120	-20	-.2	When Saving Is Negative
200	200	0	0	When S = 0 (BEP)
300	270	30	0.3	When Saving Is Positive

NOTE

- **APS Can Never Be Equal To Greater Than 1**
- **APS increases with the increase in income**

MPS = $\frac{\blacktriangle S}{\blacktriangle Y}$

Y	S	MPS	
0	-6	-	
10	-2	.4	4/10
20	2	.4	4/10
30	6	.4	4/10

Difference between MPS and APS

MPS	APS
MPS = $\frac{\blacktriangle S}{\blacktriangle Y}$	APS = $\frac{S}{Y}$

Ratio of change in saving to change in income	Ratio of saving to any level of income
Value of MPC>0 and < = 1	Value of APS can be 0, <1

Saving function

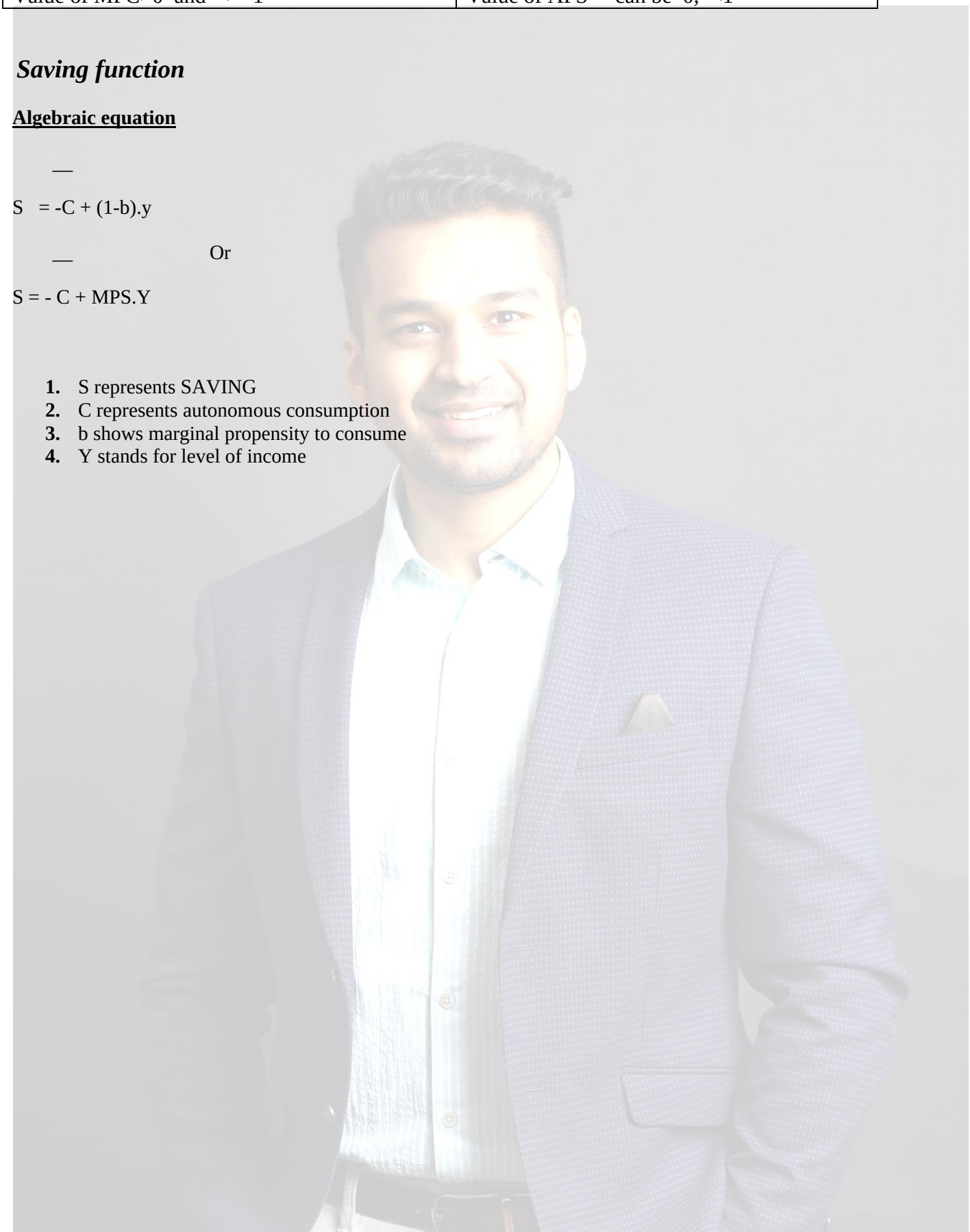
Algebraic equation

$$S = -C + (1-b).y$$

Or

$$S = - C + MPS.Y$$

1. S represents SAVING
2. C represents autonomous consumption
3. b shows marginal propensity to consume
4. Y stands for level of income



Given consumption curve, derive saving curve and state the steps taken in the process of derivation. Use diagram.

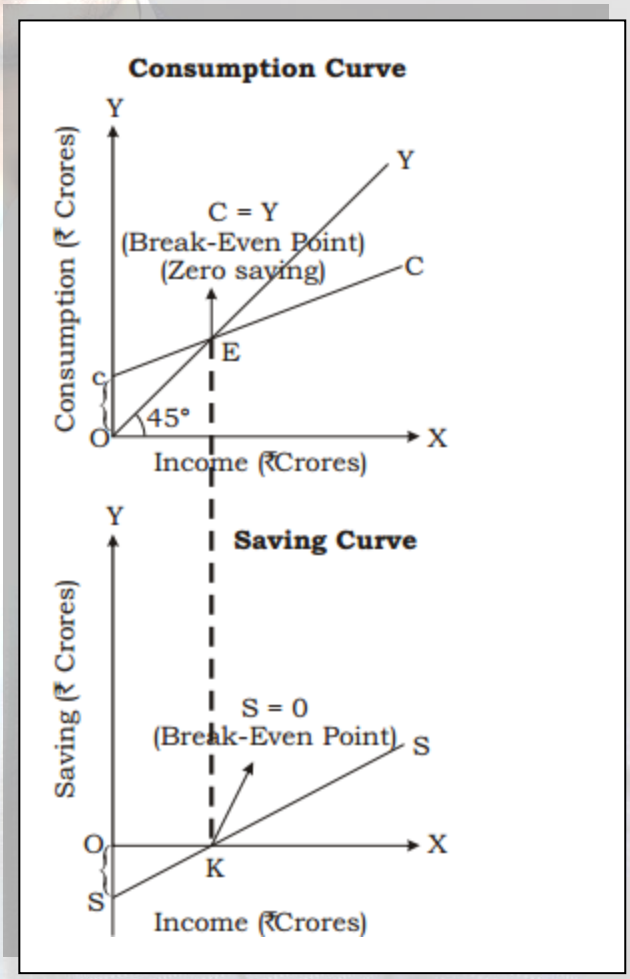
Consumption and Saving Curves are Complementary Curves.

a) We know that income (Y) is the sum total of consumption (C) and savings (S) as income is either consumed or saved. It means, consumption and saving curves are complementary curves.

b) We can derive saving curve from the consumption curve. In the diagram, CC is the consumption curve and the 45° line (OY) represents income. Consumption, at zero level of income, is equal to OC (autonomous consumption. The amount of saving is indicated by vertical distance between consumption curve and income line. So savings, at zero level of income, will be OS (= – OC). It means, the saving curve will start from point S on the negative Y-axis.

c) CC intersects OY at point E (Break-even point) where savings are zero. Draw a perpendicular on the X-axis (point K) at the income level where the consumption curve and 45° line intersect each other. Join S & K to obtain saving curve.

d) Beyond point E (Break even point) consumption is less than income therefore savings are positive is saving curve is above the x-axis. As income increases, saving also increases.



Relationship between APC and APS

Sum of APC and APS = 1

We Know That

$Y = C + S$

Dividing Both Side By Y We Get

$$\frac{Y}{Y} = \frac{C}{Y} + \frac{S}{Y}$$

$$1 = APC + APS$$

Relationship between MPC and MPS

Sum of MPC and MPS = 1

We Know That

$Y = C + S$

Also

$\Delta Y = \Delta C + \Delta S$

Dividing Both Side by ΔY We Get

$$\frac{\Delta Y}{\Delta Y} = \frac{\Delta C}{\Delta Y} + \frac{\Delta S}{\Delta Y}$$

$$1 = MPC + MPS$$

Numerical problem

Que. If APS is .6 how much will be APC

Solution

APC = 1 - APS

= 1 - .6

= .4

Que. If MPS is .8 how much will be MPC

Solution

MPC = 1- MPS

= 1 - .8

= .2

Complete the following table

Y	C	MPC	MPS
400	**240**		
500	**320**		
600	**395**		
700	**465**		

Solution

Y	C	MPC	MPS
400	**240**	**-**	
500	**320**	**.8**	**.2**
600	**395**	**.75**	**.25**
700	**465**	**.7**	**.3**

Complete the following table

Level of income	Saving	MPC	MPS
0	**-12**		
20	**-6**		
40	**0**		
60	**6**		

Solution

Level of income	Saving	Consumption	MPC	MPS
0	**-12**			

20	**-6**	**26**	**.7**	**.3**
40	**0**	**40**	**.7**	**.3**
60	**6**	**54**	**.7**	**.3**

Complete the following table

Level Of Income	MPC	Saving	APC	APS
0	-	**-30**		
100	**.75**	-		
200	**.75**	-		
300	**.75**	-		

Solution

Level Of Income	MPC	Saving	Consumption	APC	APS
0	-	**-30**	**30**	∞	∞
100	**.75**	-	**105**	**1.05**	**.05**
200	**.75**	-	**180**	**.9**	**.1**
300	**.75**	-	**255**	**.85**	**.15**

Complete the following table

Y	C	MPC	APS
0	**30**	-	
-	**105**	**.75**	-
-	**180**	**.75**	-
-	**255**	**.75**	-

Solution

Y	C	Saving	MPC	APS
0	**30**	**-30**	-	
-	**105**	**-5**	**.75**	**-.05**
-	**180**	**20**	**.75**	**.1**
-	**255**	**45**	**.75**	**.15**

Que. In economy consumption function is given as

C = 4000 + .8Y

Prove with a numerical example that

- APC falls with an increase in income

Solution

When income level is 20000

$C = 4000 + .8 * Y (20000) = 20000$

$$APC = \frac{C}{Y} = \frac{20000}{20000} = 1$$

When income level is 30000

$C = 4000 + .8 * Y (30000) = 28000$

$$APC = \frac{C}{Y} = \frac{28000}{30000} = .933$$

Que. In economy consumption function is given as

S = -1000 + .4Y

Prove with a numerical example that

- APS increases with an increase in income

Solution

When income level is 20000

$S = -1000 + .4 * Y (20000) = 7000$

$$APS = \frac{S}{Y} = \frac{7000}{20000} = .35$$

When income level is 30000

$S = -1000 + .4 * Y (30000) = 11000$

$$APS = \frac{S}{Y} = \frac{11000}{30000} = .36$$

Types of unemployment

Involuntary unemployment (against the wish)

- Persons willing and able to work at the current wage rate but do not get it
- Arises due to fall in aggregate demand and decline in investment
- Indicate under-employment equilibrium
- Can removed by raising the level of aggregate demand through government intervention

Voluntary unemployment (as per wish)

- Worker able to work, refuses to work at the prevailing market wage rate

Example:- frictional unemployment and **Structural unemployment**

Frictional unemployment

- Workers voluntarily quit their previous jobs and are searching for new better job
- Lack of information about the availability of jobs, immobility of labor

Structural unemployment

- Where demand for labor is declining due to lack of skills required for expanding industries
- Exists for longer period of time then frictional unemployment

Concept of ex-ante and ex-post

Ex-ante saving (planned saving)

The saving which are planned to be made by the entire household in the economy during a period (say a year) in the beginning of the period

Ex-ante investment (planned investment)

The investments which is planned or desired to be made by the firms or entrepreneurs in the economy during a period in the beginning

Note: - Ex-ante saving and Ex-ante Investment Are Not Always Equal Savers and Investors Are Different Groups of People

Ex-post (actual) saving

Actual amount of saving that take place in an economy

Ex-post (actual) investment

Refers to realized investment in an economy during a year

- Note:- Ex-post Saving And Ex-post Investment Are Always Equal

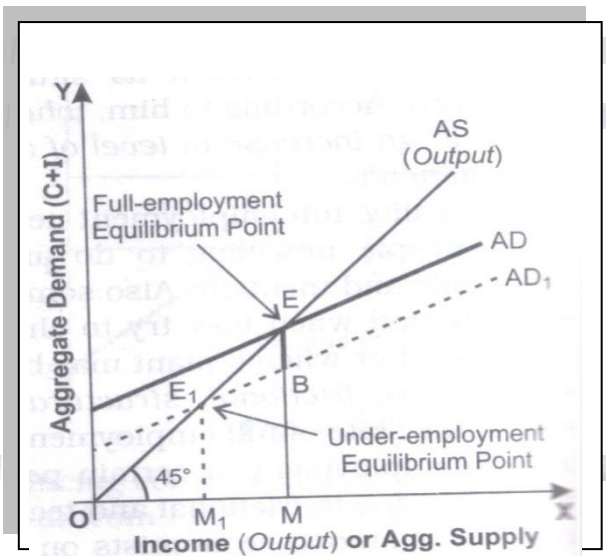
Full Employment:

Refers to a situation in which every able bodied person who is willing to work at the prevailing rate of wages is, in fact, employed.

- Full employment implies absence of involuntary unemployment. That is why full employment is also defined as a situation where there is no involuntary unemployment.
- In reality, full employment never exists because it is always possible to find some people unwilling to do any productive work though they may be fit physically and mentally. **Thus, frictional, structural and voluntary unemployment can co-exist within the state of full employment**.
- Both Classical economists and Keynes view full employment as **'absence of involuntary unemployment'.**
- But whereas Classical thought that there is always full employment in the economy, Keynes thought that there is generally less than full employment of resources in the economy.

Full employment equilibrium:

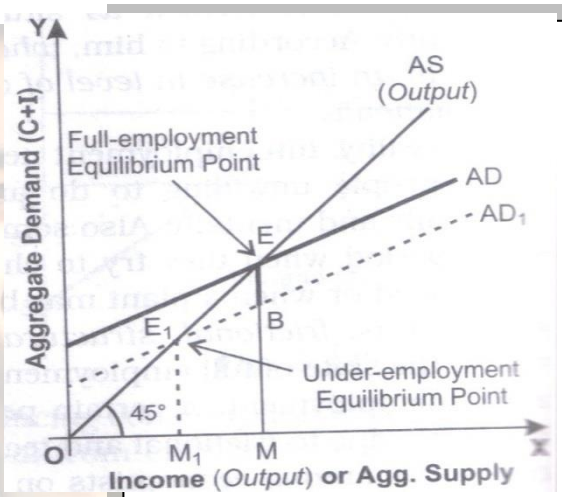
- ***Full employment equilibrium refers* to *the equilibrium where all resources in the economy are fully* utilized *(employed).*** It is that level at which AD = AS at full employment.
- There are no unused resources. There is no involuntary unemployment.
- Aggregate demand is just sufficient to ensure full utilization of all available resources.
- The situation of full employment equilibrium has been illustrated in Fig. X-axis measures the level of output (or AS) whereas Y-axis measures aggregate demand *(i.e.,* consumption demand + investment demand).
- AS is expressed by 45° line whereas the line AD represents aggregate demand. Both the curves intersect at point E which yields full employment equilibrium because aggregate demand EM is equal to full employment level of output OM.



Under-employment equilibrium: ***It means equality between aggregate demand and 'aggregate supply but at less than employment'***.

- It is a state of equilibrium where level of demand is less than full employment level of output'. In other words, in producing the output, economy's all resources are not fully employed, i.e., some resources are underemployed.

- This situation is caused not by low level of aggregate supply but deficiency of aggregate demand. When level of demand is less than full employment level of output, it is called deficient demand which pushes the economy into under-employment equilibrium.
- The situation of under-employment equilibrium has been shown in above Fig. wherein employment equilibrium is at point E but under-employment equilibrium occurs at point E1 because AD1 (actual) curve intersects the same AS curve at due to inadequacy of demand. OM1 is the under-employment equilibrium level of income which is less than OM full employment equilibrium level of income,
- Under-employment equilibrium gives rise to deflationary gap shown as EB in the fig. Since, AD falls short of AS at full employment by EB, therefore, additional investment expenditure equal to the level of EB (i.e., deflationary gap) is required to reach full employment equilibrium.



Explain national income equilibrium through aggregate demand and aggregate supply. Use diagram. Also explain the changes that take place in an economy when the economy is not in equilibrium.

According to the Keynesian theory, the equilibrium level of income in an economy is determined when the aggregate demand (AD) for goods and services is equal to the aggregate

supply (AS).

1. Aggregate demand refers to the total expenditure of the economy.AD = C + I

2. Aggregate supply is the total output of goods and services of the national income. It is depicted(C + S) curve.

The equilibrium level of income is Rs 300 crores, when the aggregate demand and aggregate

supply are equal at Rs 300 crores. Income is measured on the X-axis and aggregate demand

on the Y-axis. The AD and AS curves intersect each other at point ‘E’. It is the equilibrium

point and ‘OY’ is the equilibrium level of income.

TABLE Equilibrium by AD and AS Approach

Y	C	S	I	AD	AS	Tendency to output
0	100	-100	50	150	0	Increase (AD>AS)
100	150	-50	50	200	100	Increase (AD>AS)
200	200	0	50	250	200	Increase (AD>AS)
300	250	50	50	300	300	Equilibrium
400	300	100	50	350	400	Decrease (AD<AS)
500	350	150	50	400	500	Decrease (AD<AS)
600	400	200	50	450	600	Decrease (AD<AS)

There are two other situations that may occur:

1. When AD > AS, i.e., (before point 'E').
• Planned level of expenditure is greater than what the firms are willing to produce (AS)
• As a result of this, planned inventory falls below the desired levels.
• Firms plan to increase production to bring back the inventory at the desired level.
• Firms would hire more workers. Thus employment rises, output rises and income rise.
• Income keeps on rising till AD = AS

2. When AD < AS, i.e., (after point 'E').

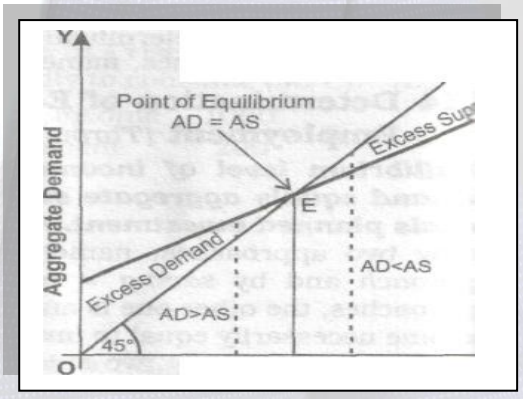
• It means that firms are willing to produce more than the planned level of expenditure.

• As a result planned inventory starts accumulating above the desired level.

• Firms plan to reduce the production to maintain the desired level of inventory.

• Firms lay off workers. Thus employment falls, output falls, income falls.

• Income continues to fall till AD = AS.



Determination of Income and Employment

Using the `saving and investment` approach explain how is the equilibrium level of national income determined? Also explain what swill happen if the equilibrium condition is not fulfilled

According to the 'Saving and Investment' approach, the economy's national income is in equilibrium when Planned Saving = Planned Investment

In the diagram, curve S indicates the planned savings and curve I indicates planned investment. When planned saving equates planned investment at point E, the economy is in equilibrium. At this point, aggregate demand and aggregate supply of the economy are also equal.

If planned savings fall short of planned investment (before point 'E').
• Planned level of expenditure is greater than what the firms are willing to produce (AS)
• As a result of this, planned inventory falls below the desired levels.
• Firms plan to increase production to bring back the inventory at the desired level.
• Firms would hire more workers. Thus employment rises, output rises and income rise.
• Income keeps on rising till S = I

2. If planned savings are greater than planned investment (after point 'E').
• It means that firms are willing to produce more than the planned level of expenditure.
• As a result planned inventory starts accumulating above the desired level.
• Firms plan to reduce the production to maintain the desired level of inventory.
• Firms lay off workers. Thus employment falls, output falls, income falls.
• Income continues to fall till S = I

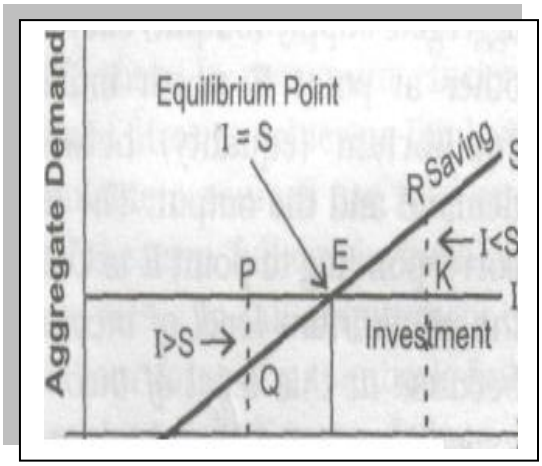


TABLE Equilibrium by S and I Approach

Y	C	S	I	AD	AS	Tendency to output
0	100	-100	50	150	0	Increase (I>S)
100	150	-50	50	200	100	Increase (I>S)
200	200	0	50	250	200	Increase (I>S)
300	250	50	50	300	300	Equilibrium
400	300	100	50	350	400	Increase (I<S)
500	350	150	50	400	500	Increase (I<S)
600	400	200	50	450	600	Increase (I<S)

Basic Concept to Solve Numerical Problems

We Know

AS = Y (National Income)

Y = C + I

Y = C+ S

Also

C = ā + MPC.Y (Consumption Function)

S = -ā + MPS.Y (Saving Function)

There for two possible condition of equilibrium

Y = ā + MPC.Y + I

Y = ā + MPC.Y + S

Note (At Equilibrium Level I = S)

OR

Note :- (At Equilibrium Level I = S)

Y = -ā + MPS.Y +1

Y = -ā + MPS.Y +S

Test Your Knowledge

1.In an economy C = 500 + .75. Y is the consumption function. Investment expenditure is 5000. Calculate.

a) **The equilibrium level of income.**
b) **Consumption expenditure.**

Solution

(PART A)

Equilibrium Level of Income

WHERE $Y = \bar{a} + MPC.Y + I$

PUTTING VALUES

- Y= 500 + .75Y + 5000
- .25Y = 5500
- Y= 5500 * 100/25
- Y = 22000
- Equilibrium Level Of income

(PART B)

Y = C+I

22000= C + 5000

C = 22000 – 5000

C= 17000

2.In an economy S = -50 + .5Y is the saving function and investment expenditure is 7000. Calculate.

a) **Equilibrium level of national income.**
b) **Consumption expenditure at equilibrium level of national income.**

Solution

(PART A)

Equilibrium Level of Income

I = S

Putting Values

7000 = -50 + .5Y

.5Y = 7000 + 50

Y= 7050/.5

Y = 14100 (EQUILIBRIUM LEVEL)

(PART B)

Y = C + I

14100 = C + 7000

C = 14100 – 7000

C= 7100

3.In an economy S = -200 + .25Y is the saving function .Equilibrium level of national income is 2000 Calculate.

a) **Investment expenditure at equilibrium level.**
b) **Autonomous Consumption.**

(PART A)

Equilibrium Level Of Income

I = S

Putting Values

(PART B)

Autonomous Consumpti0n (Where Income Level = 0

At Zero Level of Income

S = -200 + .25 * 2000

S = -200 + 500

S = 300

I= S

I = 300

4..In an Economy C = 200 + .9*Y is the consumption function. Investment expenditure is I = 3000. Calculate

- **Equilibrium level of national income.**
- **Saving at equilibrium of national income**

Solution

(PART A)

Equilibrium Level of Income

WHERE Y = ā + MPC.Y + I

Putting Values

- Y= 200 + .9Y + 3000
- .1Y = 3200
- Y= 3200 * 10/1
- Y = 32000

Equilibrium Level Of Y

(PART B)

C = ā + MPC.Y

C= 200 + .9 * 32000

C = 200 + 28800

C= 29000

6.From the data given find out whether the economy is in equilibrium or not? Why

- **Autonomous Investment = Rs 10 Crores.**
- **Consumption = 40 + .8.Y**
- **Level of income = Rs 200 Crores**

Solution

Equilibrium Level of Income

WHERE Y = ā + MPC.Y + I

Putting Values

- 200= 40 + .8*200 + 10.
- 200 = 40 +160+10.
- 200= 210 (Not Equal)

Economy Is Not In Equilibrium

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7. From the following data find out whether the economy is in equilibrium or not

- **Y = Rs 250 Crores**
- **I = Rs 10 Crores**
- **C = 40 + .8.Y**

Solution

Equilibrium Level of Income

WHERE $Y = \bar{a} + MPC.Y + I$

PUTTING VALUES

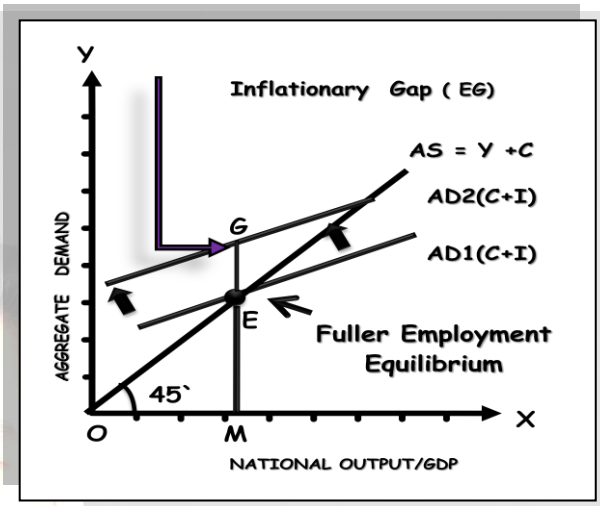
- 250= 40 + .8*250 + 10.
- 250 = 40 +200+10.
- 250= 250 (EQUAL)

In Equilibrium

-

Problem of Excess Demand And Method To Correct It

Inflationary Gap (Diagram)



- When aggregate demand > aggregate supply
- At full employment level
- AD shift upward
- Excess gap is called inflationary gap(EG)
- Called demand pull inflation

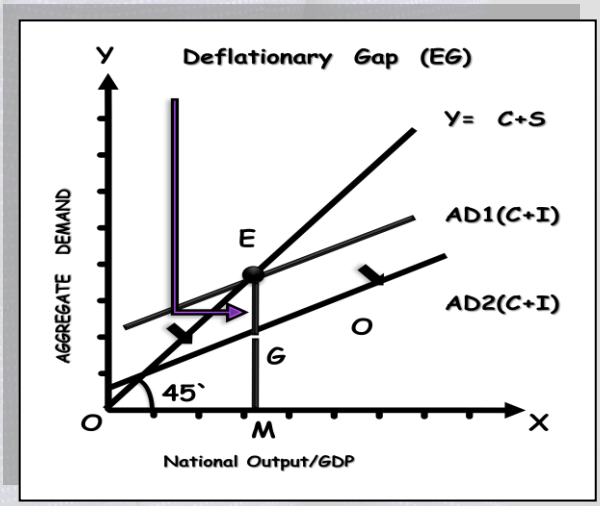
Causes

- Rise in consumption expenditure
- Rise in government expenditure
- Increase in exports
- More supply of money

Effects

- Rise in prices level
- Real income falls
- Firms enjoys abnormal profits
- Cost of production increases
- Leads to boom conditions

Problem of deficit demand/ deflationary gap(diagram)



- When aggregate demand < aggregate supply
- AD shifts downward
- At full employment level
- Excess gap is called deflationary gap(EG)

Causes

- Fall in consumption expenditure
- Fall in government expenditure
- Fall in exports
- Less supply of money

Effects

- Fall in prices level
- Purchasing power of the consumer increases
- Firms profits fall or zero
- Fall in output
- Leads to recession
- Consumers are gainers

Measures to correct excess/deficit demand

Monetary policy: - refers to the policy through which the monetary authority expands or contracts the money supply in the economy. In other words, it relates to changes in the rate of interest and the availability of credit in the economy.

Monetary policy tools

1. **Bank rate**
2. **Legal reserve ratio(CRR, SLR)**
3. **Margin requirement**
4. **Liquidity adjustment facility (Repo rate and Reverse Repo rate)**
5. **Open market operation**
6. **Credit rationing**
7. **Moral suasion**

8. **Bank Rate/Discount Rate:** is the rate of interest at which central bank lends money to commercial banks for longer period.
    - **During inflation/excess demand** Increase in the bank rate will make the loans more expensive for the commercial banks; thereby, pressurizing the banks to increase the rate of lending. The public capacity to take credit at increased rates will be lower, leading to a fall in the volume of credit demanded.
    - **During deflation /deficient demand** The reverse happens in case of a decrease in the bank rate. This increases the lending capacity of banks as well as increases public demand for credit and hence will automatically lead to a rise in the volume of credit flowing in the economy.

9. **Legal reserve ratio:- it includes:-**

a. **Cash reserve ratio:** It is of certain ratio of commercial banks net demand deposits & times liabilities which it has to keep with central bank RBI as cash
    - **During inflation/excess demand: -** central bank increases this ratio, the cash reserves with the commercial banks get reduced. As a result they are forced to contract credit. Thus excess demand in the economy is also reduced.
    - **During deflation /deficient demand,** where the objective is to expand credit, the cash reserve ratio is lowered by the central bank. This will increase cash availability with the commercial banks and they can lend more and create more credit.

c. **Statutory Liquidity Ratio:** It is the ratio or percentage of net total demand & time liabilities of commercial banks which they have to keep in form of liquid assets in government securities or in securities approved by RBI.
    - **During inflation/excess demand: -** central bank increases this ratio, the cash reserves with the commercial banks get reduced. As a result they are forced to contract credit. Thus excess demand in the economy is also reduced.
    - **During deflation /deficient demand,** where the objective is to expand credit, the cash reserve ratio is lowered by the central bank. This will increase cash availability with the commercial banks and they can lend more and create more credit.

10. **Open market operations** It refers to the buying and selling of government security by the Central Bank from/to banks on its own account.

    During inflation/excess demand

    - During inflation.RBI sells securities
    - Sale of government securities will reduce reserves.
    - Bank gives RBI a cheque for the securities.

- This directly reduces bank's ability to give credit.
- Therefore this decreases money supply in the economy.

During deflation /deficient demand

- When RBI buys securities from banks
- RBI gives the bank a cheque drawn on itself in the payment for the securities.
- RBI increases reserves of the bank by the particular amount.
- This directly increases the bank's ability to give credit.
- Thus money supply increases

11. Margin requirements: A margin is the difference between the amount of the loan and market value of the security offered by the borrower against the loan. If the margin imposed by the Central Bank is 40%, then the bank is allowed to give a loan only up to 60% of the value of the security. By altering the margin requirements, the Central Bank can alter the amount of loans made against securities by the banks

- **During inflation/excess demand: -** Central bank raises the margin requirement. When margin requirements are raised, credit borrowed is discouraged. This results in downswings of economic activity and thus, has a disinflationary impact
- **During deflation /deficient demand: -** Central bank reduces the margin requirement. When margin requirements are reduced, credit borrowed is encouraged. This results in upswings of economic activity and thus, has a inflationary impact

12. Liquidity adjustment faculty

1. **Repo Rate**: is the rate of interest at which central bank lends money to commercial banks for short period.
   - **During inflation/excess demand**
     - Central Bank can reduce excess demand by raising the Repo Rate.
     - Raising Repo Rate makes borrowings by commercial banks costlier. So these banks are forced to raise their lending rates. Since borrowing becomes costly for people, they borrow less. Banks therefore create less credit.
   - **During deflation /deficient demand**
     - Central Bank can increases excess demand by reducing the Repo Rate.
     - When the rate is reduces, encourages the commercial banks to borrow funds from the central bank.
     - This increases lending capacity of the commercial banks. Lending by the commercial banks to public increases leading to rise in aggregate demand.
2. **Reverse Repo Rate**: It is the exact opposite of repo. Reverse repo rate is the rate at which RBI borrows money from banks for short period

   During inflation/excess demand

   - Central Bank can reduce excess demand by raising the Reverse Repo Rate.
   - When the rate is raised, it encourages the commercial banks to park their funds with the central bank.
   - This reduces lending capacity of the commercial banks. Lending by the commercial banks to public declines leading to fall in aggregate demand.

   During deflation /deficient demand

   - Central Bank can increases excess demand by reducing the Reverse Repo Rate.
   - When the rate is reduces, it discourages the commercial banks to park their funds with the central bank.

   This increases lending capacity of the commercial banks. Lending by the commercial banks to public increases leading to rise in aggregate demand

13. **Credit rationing**;-Refers to the fixation of credit limits for different business activity or for a particular business sector
    - **During inflation/excess demand:-** Uses in a negative manner would mean using measures to restrict the flow of credit to particular sectors
    - **During deflation /deficient demand:-**Uses in a positive manner would mean using measures to channel credit to particular sectors, usually the priority sectors.

14. **Moral suasion:** includes persuasion, request, advice and suggestion to the commercial banks by the central bank of a country. Central bank clarify them the need for implementation of a particular monetary policy and requests them to follow this policy during excess demand and deficient demand.

Fiscal measures/policy: - it refers to the taxation and expenditure policy of the government

1. **Government Expenditure:-**Expenditure on construction of roads, public welfare, dams, bridges, on education, defense
    - **During inflation/excess demand:-** Reduce its expenditure plans Will result in reduction in demand
    - **During deflation /deficient demand;-** Expand its expenditure plans Will result in increase in demand
2. **Taxes:**-Compulsory payment made to government by household and the business firms
    - **During inflation/excess demand:-** Raises the rates of taxes which reduces the purchasing power
    - **During deflation /deficient demand;-** Decreases the rates of taxes which increase the purchasing power

3. **Public Borrowing** Includes debts raised by the government from public
    - **During inflation/excess demand** Increases public borrowing by increasing interest rates on deposits Reduces liquidity with the public
    - **During deflation /deficient demand** Decreases public borrowing by decreasing interest rates on deposits Increases liquidity with the public

4. **Deficit Financing** Borrowing by the Government from the RBI. RBI Lends Money To Government By Issuing More Currency
    - **During inflation/excess demand** Reduces The Printing Of Notes Reduces The Excess Demand
    - **During deflation /deficient demand** Increases the printing of notes Increases the deficit demand

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Investment Multiplier

Show a relationship between initial increment in investment and the resulting increment in national income

OR $K = \frac{\blacktriangle Y}{\blacktriangle I}$

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

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

Working of Multiplier

- Multiplier measures the change in income as a result in change in investment
- Multiplier work on the basic logic
- Investment generates income
- Additional income increases consumption
- Consumption depends of MPC
- Additional consumption generates additional income to other people

- Thus income is generated in a multiple way

- Suppose with the initial investment of Rs 1000 Cr.
- And MPC = .5
-

Round	Initial I	Δy	ΔC	ΔS
1	1000	1000	500	500
2		500	250	250
3		250	125	125
4		125	62.5	62.5
5		----	----	----
6		----	---	----
nth	1000	2000	1000	1000

$$K = \frac{1}{1-MPC} = 2$$

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

$$2 = \frac{\blacktriangle Y}{\blacktriangle 1000}$$

Features of multiplier

- Is associated with the change in investment
- The size depends upon the size of MPC
- Work in both forward and backward directions
- Value varies from unity to infinity

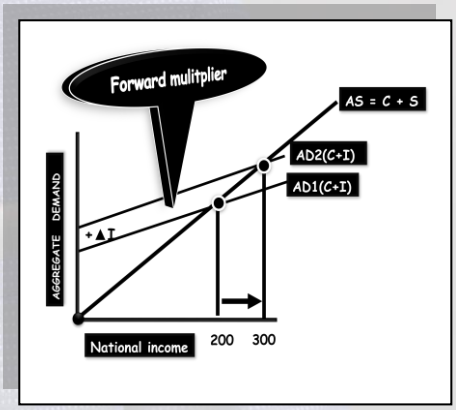
- Direct relationship between multiplier and MPC/ **If MPC is higher multiplier will be higher**
- Inverse relationship between multiplier and MPS/ **If MPS is higher multiplier will be low**

Minimum and maximum value of the multiplier

- Value of multiplier depends on the value of MPC
- Minimum value of multiplier is 1 because minimum value of MPC can be zero
- Maximum value of multiplier can be infinity because maximum value of MPC is 1

Forward Working of Multiplier

- In investment is increased it will have positive effect on increase Income in multiple ways
- Used at the time of deflation



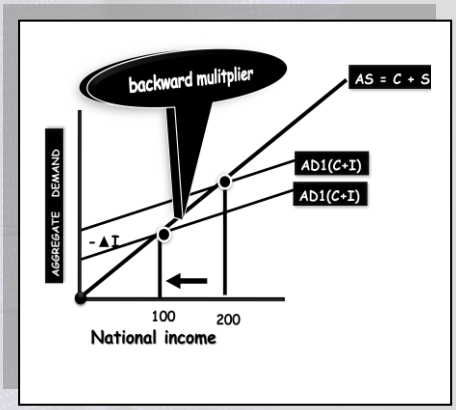
When investment is raised AD shift to AD2. Known as

forward multiplier used to increase the aggregate demand.

And income level increases from 200 to 200

Backward Working of Multiplier

- If investment is reduced it will lower the income in a multiple way
- Used at the time of inflation



When investment is reduced AD shift to AD3. Known as reduce the aggregate demand. And income level decreases from 200 to 100

Relationship Between Multiplier And MPC

IF MPC = 1 $K = \frac{1}{1-MPC} = \infty$

IF MPC = 0.9 $K = \frac{1}{1-MPC} = 10$

IF MPC = 0.75 $K = \frac{1}{1-MPC} = 4$

IF MPC = 0.50 $K = \frac{1}{1-MPC} = 2$

IF MPC = 0 $K = \frac{1}{1-MPC} = 0$

Relationship Between Multiplier And MPS

IF MPS = 0 $K = \frac{1}{MPS} = \infty$

IF MPS = 0.1 $K = \frac{1}{MPS} = 10$

IF MPS = 0.20 $K = \frac{1}{MPS} = 5$

IF MPS = 0.50 $K = \frac{1}{MPS} = 2$

IF MPS = 1 $K = \frac{1}{MPS} = 0$

Que. If investment increases by Rs 15 crores and as a result income increases by Rs 60 crores then multiplier will be

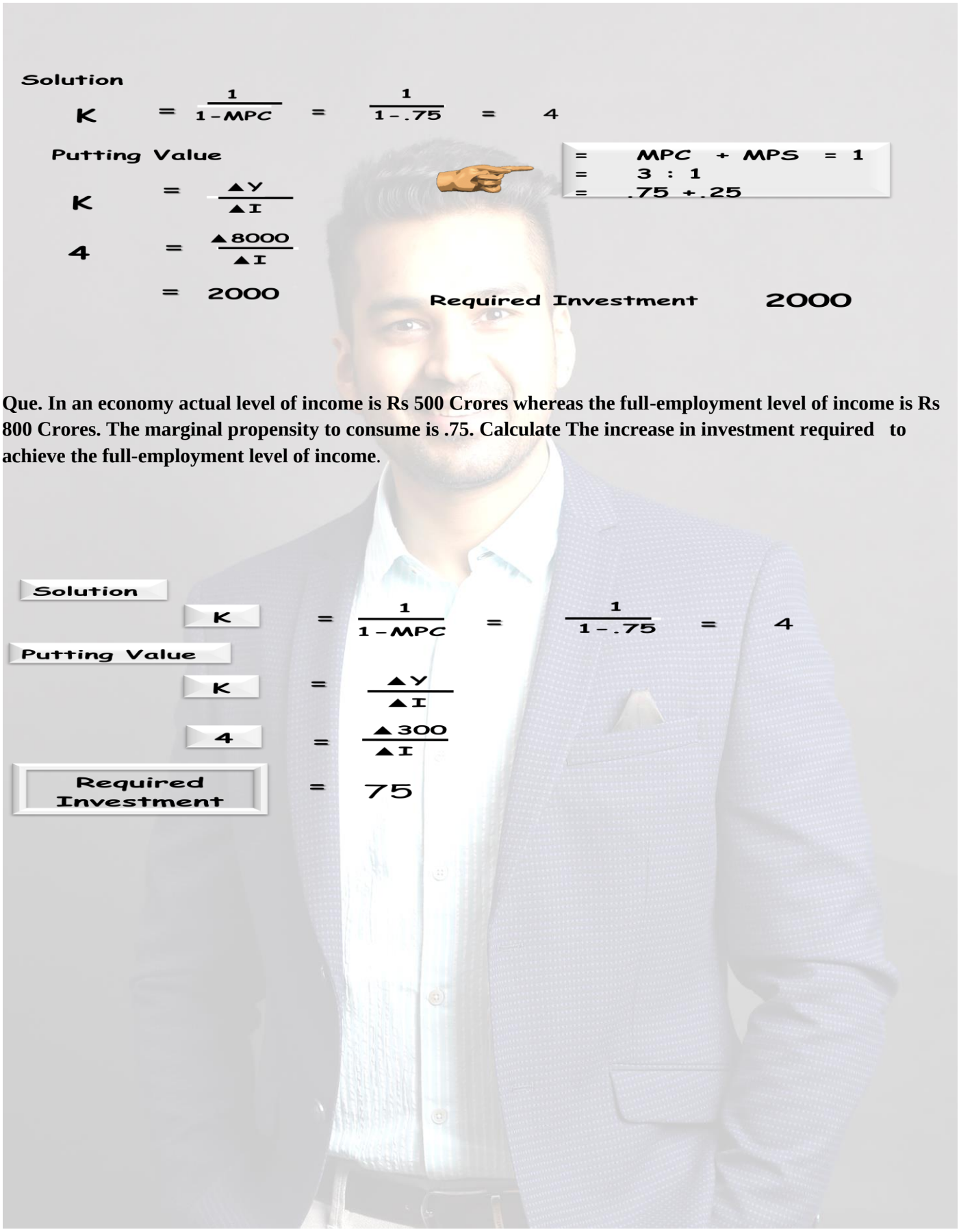
Solution

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

$$K = \frac{60}{15}$$

$$K = 4$$

Que. In an economy the equilibrium level of income is Rs 12000 Crores. The ratio of MPC and MPS is 3 : 1. Calculate. Additional investment needed to reach a new equilibrium level of income of Rs 20,000 Crores



Que. In an economy actual level of income is Rs 500 Crores whereas the full-employment level of income is Rs 800 Crores. The marginal propensity to consume is .75. Calculate The increase in investment required to achieve the full-employment level of income.

GOVERNMENT BUDGET

Budget (meaning)

Defined as a financial statement of the government showing in details the estimated receipts and proposed expenditures and payments under various heads for the coming year.

Objectives of govt budget(RIDE)

1. **Reallocation of resources/Influencing allocation of resources.**
   - Through its budgetary policy, the government directs the allocation of resources in a manner such that there is a balance between the goals of profit maximization and social welfare
   - To encourage investment government can give tax concession, subsidies etc. to the producers. If private sector does not take interest, government can directly undertake the production.
   - Government can discourage the production of harmful goods like liquor or cigarettes, by imposing heavy excise duties or taxes.
   - Government encourages the production of certain commodities by giving subsidies or tax reliefs. For e.g. government encourages the use of' khadi products' by providing subsidies

2. Income redistribution/Redistribution Activities

- Economic inequality is a natural part of every economic system. The government aims to reduce such inequalities of income and wealth, through its budgetary policy.
- **Progressive Taxation** The Government can impose higher taxes on the rich people. In India government uses progressive taxation i.e. people belonging to higher income levels have to pay more proportion of their income as tax to the government. This reduces disposable income of the rich and increases the disposable income of the poor.
- **Public Distribution System** In fact, those with very low incomes are exempted from the payment of tax. Those who are absolutely poor are offered goods through PDS (public Distribution System) at the subsidized rate
- **Subsidies** The Government can provide subsidies and other amenities to poor people. Expenditure is incurred by the government on unemployment allowance, old age pension, social security etc to help poor people.

3. Directs economic growth

- Economic Growth implies a sustainable increase in real GDP of an economy, i.e. an increase in volume of goods and services produced in an economy. Budget can be an effective tool to ensure the economic growth in a country.
- **Government provides tax rebates** and other incentives for productive ventures and projects; it can stimulate savings and Investments in an economy.
- **Spending on infrastructure of** an economy enhances the production activity in different sectors of an economy. Government expenditure is a major factor that generates demand for different types of goods and services in an economy which induces growth in private sector too.

- However, before planning such expenditure, rebates and subsidies government should check the rate of inflation and tax rates. Also there may be the risk of debt trap if loans are too high to finance the expenditure.

4. Economic stability /Stabilizing Economic Activities

- Government budget is used to prevent business fluctuations and to maintain economic stability. Economic stabilization means limiting the fluctuations in general price level in the economy
- **During excess demand.** The government imposes higher taxes and reduces its expenditure to correct excess demand. This implies that government follows the policy of surplus budget during inflation.
- **During deficient demand**, the government increases its expenditure and reduces taxes. This implies that the government follows the policy of deficit budget during deflation. Thus the government through its budgetary policy tries is achieve stability in the economy.
- When there is inflation, government can **reduce its own expenditure**. When there is deflation, government can reduce taxes and give subsidies to encourage spending by the people

Estimates of government budget

Receipts		Payments	
Revenue Receipts	Amount	Revenue Expenditure	Amount
Tax revenue	3000	Interest	2000
Non tax revenue	1000	Subsidy	1500
Capital Receipts		Capital Payments	
DEBTS Borrowing and other liabilities	 3300	Repayment of loan Purchase of fixed assets	1500 2000
NON DEBTS Disinvestment Recovery of loan Other receipts	 300 400 2000	Loan to foreign government	2000
Total Receipts	9000	Total Payments	

Budget receipts:- Estimated money receipts of the government from all sources during the fiscal year

Budget Expenditure:-Estimated expenditure incurred by the government during the fiscal year

Revenue receipts:-Which neither creates liability nor cause in reduction in assets and recurring in nature

Tax and Non-Tax

1. Tax revenues consist of proceeds of taxes and duties levied by the government
   a. **Direct Tax**
   b. **Indirect Tax**

Basis	Direct Taxes	Indirect Taxes
Basis of	Imposed on persons	Imposed on commodities

imposition		
Burden shifting	Cannot be shifted	Can be shifted
Example	Income Tax Wealth Tax, Property Tax, Corporate Tax	VAT (Value Added Tax) GST Excise Duty, Custom Duty
Inflation	Helps In Reducing The Inflation	Indirect Taxes Promotes The Inflation.

Non-tax revenues consist of interest and dividends on investments made by the government and fee and other receipts for service rendered by it. Includes

Commercial Revenue: - Received by the government by selling the goods and services produced by government Payment for postage ,Interest on funds borrowed from govt. Interest and dividend on investment made by the government.

Administrative Revenue -It is the revenue that arises from administrative functions of the government.

CAPITAL RECEIPTS=Capital receipts are the receipts of the government which either create liability or reduce financial assets and are non-recurring

Types of Capital Receipts

- **Debt Creating Receipts (Creates Liability)**
  - Borrowing At Home
  - Borrowing By Foreign Government
  - Borrowing From R.B.I

- **Non Debt Receipts (Reduces Assets)**
  - **Disinvestment** it means selling a part or whole of the shares of the public sector enterprises held by the government it.
  - **Recovery Of Loan** It includes recovery of loans granted by the central government to state and union territory government and other parties

Difference

Basis	Revenue Receipts	Capital Receipts
Meaning	Which do not creates liability or reduction in assets	Which do creates liability or reduction in assets
Nature	Recurring In Nature	Non-recurring In Nature
Examples	Income Tax, Fee And Fines	Recovery Of Loan, Borrowing

Government expenditure

- ***Revenue Expenditure:***-Which Do Not reduces Liability Or increases In Assets and are recurring
- ***Example.*** Interest Payments , Subsidies ,Education And Health Services ,Rural Development Payment Of Salaries Grants To States And Union Territories

- ***Capital Expenditure:***-Which either reduces Liability Or increases Assets and are non recurring ***Includes***
  - Repayment Of Loans Loans and Advance to State Govt. And Union Territories Purchase Of Fixed Assets Loans to Foreign Govt

Difference

Basis	Revenue Expenditure	Capital Expenditure
Meaning	Which Do Not reduces Liability Or increases In Assets (used for normal functioning of the govt.	Which either reduces Liability Or increases Assets (used for acquisition of assets)
Nature	Recurring In Nature	Non-recurring In Nature
Examples	Interest payment on debts, subsidies etc.	Purchas of assets, grant of loan etc

1. ***Whether the following items are revenue receipts or capital receipts***
    - ***a)*** *Recovery of loans,*
    - ***b)*** *Corporation tax,*
    - ***c)*** *Dividends on investment made by government,*
    - ***d)*** *Sale of public sector undertaking*

1. ***Answer***
    - ***a)*** *Capital receipts (reduces assets)*
    - ***b)*** *Revenue receipts (neither reduces assets nor creates liability)*
    - ***c)*** *Revenue receipts (neither reduces assets nor creates liability)*
    - ***d)*** *Capital receipts (reduces assets)*

---

2. ***Whether the following items are revenue receipts or capital receipts***
    - ***a)*** *Govt. hospital fee receipts*
    - ***b)*** *Borrowing from public*
    - ***c)*** *Grant received from world bank,*
    - ***d)*** *Custom duty*

2. ***Answer***
    - ***a)*** *Revenue receipts (Neither Reduces Assets Nor Creates Liability)*
    - ***b)*** *Capital receipts (Increases Liability)*
    - ***c)*** *Revenue receipts (neither reduces assets nor creates liability)*
    - ***d)*** *Revenue receipts (neither reduces assets nor creates liability*

---

3. ***Whether the following items are revenue expenditure or capital expenditure***
    - ***a.*** *Education expenditure,*
    - ***b.*** *Salary paid to employees*
    - ***c.*** *Investment in bonds and shares*
    - ***d.*** *Interest on loan paid*

3. ***Answer***
    - *a) Revenue expenditure(neither increases assets nor reduces liability*
    - *b) Revenue expenditure(neither increases assets nor reduces liability)*
    - *c) Capital expenditure (creates assets)*
    - *d) Revenue expenditure(neither increases assets nor reduces liability)*

---

4. ***Whether the following items are revenue expenditure or capital expenditure***
    - ***a)*** *Expenditure on currency and coinage*
    - ***b)*** *Purchase of defense equipment*
    - ***c)*** *Repayment of world bank loan*
    - ***d)*** *Pension paid to govt. employees*

4. ***Answer***
    - ***a)*** *Capital expenditure (Creates Assets)*

b) *Capital expenditure (Creates Assets)*
c) *Capital expenditure (Reduces Liability)*
d) *Revenue Expenditure(neither Increases Assets Nor Reduces Liability*

Categories the following into revenue expenditure and capital expenditure. Give reasons in support of your answer

(a) Repayment of loan with interest
(b) Grants to state governments for creations of assets
(c) Investment in shares
(d) Subsidies
(e) Construction of school building

Ans.:

(a) Repayment of principal amount of loan is a capital expenditure because it reduces liability of government but interest amount will be revenue expenditure because it neither creates any assets nor reduce liability.
(b) It is revenue expenditure because it neither creates any asset nor reduces liability of central government.
(c) It is a capital expenditure because it increases asset of the government.
(d) It is revenue expenditure because it neither creates any asset nor reduces liabilities
(e) It is a capital expenditure because it creates assets of government

Classify the following items into revenue expenditure and capital expenditure. Give reasons for your answers.

(i) Free supply of stationery to the students by the government
(ii) Economic assistance according to ladli scheme
(iii) Expenditure on the construction of computer laboratory in school by the government
(iv) Expenditure on mid-day meal given to student by the government

Ans:

(i) It is a revenue expenditure since it neither creates an asset nor reduces liabilities of government.
(ii) It is a revenue expenditure since it neither creates an asset nor reduces liabilities of government.
(iii) It is a capital expenditure since it creates assets of the government.
(iv) It is a revenue expenditure since it neither creates an asset nor reduces liabilities of government

Deficit Budget

- Estimated Govt Receipts <Estimated Govt. Expenditure

Measures Of Government Deficits

- Revenue Deficit
- Fiscal Deficit
- Primary Deficit

Give meaning of revenue deficit, fiscal deficit and primary deficit.

Ans:

1. **Revenue deficit**: It is the excess of government revenue expenditure over the government revenue receipts during a fiscal year / financial year.
    - Revenue deficit = revenue expenditure – revenue receipts

2. **Fiscal deficit**: Fiscal Deficit refers to the excess of total expenditure over total receipts excluding borrowings. It indicates borrowing requirements of the government.
    - Fiscal deficit = Total budget expenditure - Total budget receipts excluding borrowings

3. **Primary deficit**: It is the difference between the fiscal deficit and interest payment during a fiscal year. It indicates borrowing requirements of the govt. to meet fiscal deficit net of interest payments.
    - Primary deficit = fiscal deficit – interest payment

"Fiscal deficit is necessarily inflationary in nature". Do you agree? Support your answer with valid reasons

The term fiscal deficit is the difference between the government's total expenditure and its total receipts (excluding borrowing).

Such borrowings are generally financed by issuing new currency which may lead to inflation. However, if the borrowings are for infrastructural development this may lead to capacity building and may not be inflationary.

Numerical problems

Que 1.A government shows a primary deficit of Rs 5800 crores, expenditure on interest payment is Rs 600 crores. How much is the fiscal deficit.

Answer

Fiscal Deficit = Primary Deficit - Interest Payments

= 5800 + 600 = 6400

Que 2.In a government fiscal deficit is Rs 8000 crores and interest payment is Rs 600 Crores. How much is the primary deficit.

Answer

Primary Deficit = Fiscal Deficit - Interest Payments

= 8000 - 600 = 7400

Que 3.Calculate fiscal deficit budget from the following data.

Total expenditure 85000

Revenue receipts 60000

Non debts capital receipts 5000

Answer

Fiscal Deficit = Total Receipts - Total expenditure

Non Debts Capital Receipts = 85000 - (60000 +5000) = 20000

Que 4.A government shows a primary deficit of Rs 4400 crores, expenditure on interest payment is Rs 400 Cr. how much is the fiscal deficit

Answer

Fiscal Deficit = Primary Deficit - Interest Payments

= 4400 + 400 = 4800

Que 5. Determine the following from the following: a) Revenue Deficit b) Fiscal Deficit c) Primary Deficit. **3**

a)	Tax Revenue	470
b)	Capital Receipts	340
c)	Non Tax Revenue	100
d)	Borrowing	320
e)	Interest Payment	200
f)	Revenue Expenditure	800

Answer. - **Revenue deficit:- 230 -Fiscal deficit:- 320 -Primary deficit: - 120**

Find (a) fiscal deficit and (b) primary deficit from the following:
Revenue expenditure = 70,000
Borrowings = 15,000
Revenue receipts = 50,000
Interest payments = 25% of revenue deficit. (4)

Answer
(a) Fiscal deficit = Borrowings = Rs.15000 crore.
(b) Primary deficit = Fiscal deficit – Interest payments
=15000 – 25% of (70000 – 50000)
=15000 – 25% of 20000 = 15000 – 5000 = Rs.10000 crore.

State whether the following statements are true or false. Correct the false statements:

a. Government budget is a statement of actual receipts and payments of the government for a financial year.
b. Primary deficit indicates borrowings on account of current expenditures exceeding revenues.
c. Borrowing is an example of a non-debt creating capital receipts.
d. Loans from IMF is a Revenue Receipt.
e. Higher revenue deficit necessarily leads to higher fiscal deficit.

f. Borrowing by a government represents a situation of fiscal deficit.
g. Revenue deficit is the excess of capital receipts over the revenue receipts

BALANCE OF PAYMENT AND FOREIGN EXCHANGE

Meaning: Balance of payments is defined as the statement of accounts of a country's inflows and outflows of foreign exchange in a fiscal year

Performa of balance of payment

Credit items	Amount	Debit items	Amount
Current Account		**Current Account**	
Visible Exports (**Goods**)	400	Imports (**Goods**)	600
Invisible	500	Invisible	600
Unilateral receipts	400	Unilateral payments	300
Capital Account		**Capital account**	
Foreign Direct Investment	100	Foreign direct investment	300
Portfolio Investment	200	Portfolio investment	150
Borrowing	200	Borrowing	100
External Assistance	100	External Assistance	50
Official Reserves Transactions	200	Official reserves Transactions	
Grand Total	**2100**	**Grand Total**	**2100**

Current Account:

- Records inflow and outflow of foreign exchange relating to current transactions of goods and services and unilateral services.
- Shows the net income generated in a foreign sector

Components of Current Account:

1. **Visible:** Refer to the merchandise/goods exported from or imported by a country. Exports which results inflows for the country are placed on the credit side whereas Imports are placed on the debit side as they result into outflow of foreign exchange from the country. **Called balance of trade**
2. **Invisibles include** services, transfers and flows of income that take place between different countries. Services trade includes both factor and non-factor income. Factor income includes net international earnings on factors of production (like labour, land and capital). Non-factor income is nets ale of service products like shipping, banking, tourism, software services, etc.
3. **Unilateral transfers/transfer payments**: Those payments which are made without expecting anything in return. Includes gifts, remittance and grants etc.

Balance on Current Account

Current Account balance	Current Account Surplus	Current Account deficit
Current Receipts = current Payments	**Current Receipts > current Payments**	**Current Receipts <current Payments**

What is meant by Current Account Deficit (CAD) and Current Account Surplus (CAS)? State their significance.,

Current Account Deficit (CAD) arises when the value of exports of goods and services is less than the value of imports of goods and services.

Current Account Surplus (CAS) arises when the value of exports of goods and services is more than the value of imports of goods and services.

CAD signifies that the nation is a borrower from rest of the world, whereas,

CAS signifies that the nation is a lender to the rest of the world.

Components of Balance of Payment Account (Capital Account)

Capital Account: The capital account of BOP records all such transactions between residents of a country and the rest of the world which cause a change in the assets or liability status of residents of a country or its government..

1. **Investment**
    a. ***Foreign Direct Investment****:* It means purchasing an asset and at the same time acquiring control of it. For example, acquisition of a firm in one country by a firm in another country. Purchase of assets is a debit item on the capital account. If an Indian buys a UK Car Company, it enters capital account transactions as a debit item (as foreign exchange is flowing out of India).
    b. ***Portfolio investment****:* It is also the acquisition of an asset but it does not give the purchaser control over asset. Examples are: purchase of shares in a foreign country or purchase of bonds issued by a foreign government.
2. **Borrowing:** It includes external borrowing from or to abroad also referred as commercial borrowings
3. **External Assistance:** refers to government Aid, Multilateral And Bilateral Loan at concessional rates
4. **Official reserves transactions**: - Taken by monetary authority in order to keep the balance of payment balanced also called accommodating items in balance of payments **Includes**
    a. Use of foreign exchange reserves
    b. Borrowing from IMF

How would you treat the following: Current Account OR Capital Account. Give reasons for your answer:

1. Investments to abroad.
2. Import of machinery.
3. Remittances from abroad.

Answer

1. **Investment to abroad** – Capital account as it increases asset position of a country. It is an outflow of foreign exchanges therefore, a debit entry.
2. **Import of machinery** – Current account. It is a visible item and recorded as a ‘debit’ item since it results in outflow of foreign exchange.
3. **Transfer receipts** – Current account:-It is recorded under unilateral transfers as a credit entry since it results in inflow of foreign exchange.

Indian investors borrow from abroad. Answer the following :

(a) In which sub-account and on which side of the Balance of Payments Account will this borrowing be recorded ? Give reason.

(b) Explain what is the impact of this borrowing on exchange rate.

Answer:-Borrowings from abroad are recorded in the capital account of the credit side Of B.O.P. because these give rise to foreign exchange liabilities. These are recorded on the credit side because these bring foreign exchange into the country.

(b) Borrowing from abroad raise supply of foreign exchange. Demand for foreign exchange remaining unchanged, exchange rate is likely to fall.

In the context of balance of payments account, state whether the following statements are true or false. Give reasons for your answer.

1. Profits received from investments abroad is recorded in capital account.
2. Import of machines is recorded in current account.

Ans

1. **False,** it is recorded in current account as it neither affects foreign exchange assets nor foreign exchange liabilities.

2. **True**, all imports and exports of goods are recorded in trade account which is a part of current account, because it is simply import/export of a good

Difference

Basis	Current Account	Capital Account
Includes	Current Account Includes • Exports and imports of goods (visible items) • Exports and imports of services (invisible items) • Unilateral transfers	Capital Account Includes • borrowings • Official reserves transactions • Direct investment • Portfolio investment
Effect On Assets And Liability	Transactions do not cause a change in the Assets or Liability of a country	Transactions cause a change in the Assets or Liability of a country
Stock/Flow	Items of Flow Nature are included in it	Items of Stock nature are included in it

Difference

basis	Balance Of Trade	Balance Of Payments
Meaning	Records transactions relating to trade of goods only	Records transactions relating to goods, services and capital transfers
Nature	Part of current account of the balance of payments. *Narrow concept*	*More comprehensive* and has current and capital accounts of which BOT is a part
Favorable/ unfavorable	Favorable if exports of goods are more than imports of goods.	It is always balanced even if balance of trade in unfavorable.
Significance	Not a true indicator of economy	True indicator of an economy

Numerical questions

.In a year total imports of goods are Rs 50000 crores and exports are Rs 65000 crores. Find balance of trade

Answer Balance of Trade = Exports – Imports

= 65000-50000 = 15000

If exports are Rs 10000 crores and unfavorable balance of trade is Rs 3000 crores. Find out the value of imports

Answer Balance of Trade = Exports – Imports

-3000 = 10000- Imports

Imports = -13000

Types of BOP

Balance BOP	Surplus BOP	Deficit BOP
Autonomous Receipts = autonomous Payments	**Autonomous Receipts > autonomous Payments**	**Autonomous Receipts < autonomous Payments**

Explain the meaning of balance of payments deficit

A deficit in the BOP occurs when during the year the autonomous inflow of foreign exchange falls short of autonomous outflow.i.e. **Autonomous payments > Autonomous receipts**

Suppose the autonomous inflow of foreign exchange during the year is $1000, while the total Outflow is $1100. It means that there is a deficit of $100. To cover up this deficit the following **Accommodating transactions** are undertaken.

1. **Borrowing from IMF** – RBI borrows from IMF which results in inflow of foreign exchange.
2. **Depletion of foreign exchange reserves** - Foreign exchange reserves are held by RBI in the form of gold, foreign currency securities. Thus a deficit in BOP is balanced by borrowing and reduction in foreign exchange reserves

What is meant by 'official reserve transactions/autonomous transactions'? Discuss their importance in Balance of Payments.

- Transactions done by monetary authority to balance the BOP is known as **official transactions/ autonomous transactions' Importance are:**
- Autonomous receipts and autonomous payments give rise to either deficit or surplus on balance of payments.

  The central bank may **finance a deficit** by:
  - Reducing reserves of foreign currency
  - By borrowing from the IMF
  - Selling its assets abroad

Note:-Reverse occurs in case of Surplus BOP

A BOP transaction independent of the state of BOP, i.e. undertaken on its own, is autonomous transaction.
A BOP transaction influenced by the state of BOP, i.e. by deficit or surplus is accommodating transaction.

Difference

Basis	Autonomous	Accommodating
Meaning	Refers to International Economic transactions that take place due to some economic motives like **profit maximization.**	Refers to those short-term capital flows in the Capital account which are made to equalize the Deficit or Surplus in BOP.
Placing	Called Above The Line items in BOP	Called Below The Line items'
Examples	All items in the Current account in the balance of payments and long term capital flows.	Borrowing from IMF, drawing from SDR, borrowing from Central banks of other countries.
Placement	Autonomous transactions comes both in current and capital account	Accommodating transactions under only capital account in BOP

1. **Classify the following items to be recorded in capital account or current account in BOP.**
   1. Purchase of shares of reliance by Microsoft
   2. Imports of computer spare parts from Germany
   3. Borrowing from world bank
   4. Repayment of loan by Indian government to Japan
   5. Gifts received from relative in America
   6. Shipping services by an Indian company to a foreign company

2. **State whether the following transactions would be a debit or credit items entry in BOP accounts of India**
   1. Purchase of a firm b reliance ltd in Japan
   2. Sale of Indian watches in Korea
   3. Repayment of loan by government of India to world bank
   4. Expenditure on education by student in London

3. **Classify the following transactions into the autonomous items or accommodating items in BOP**
   1. Purchase of machine from Japan by a producer
   2. Sale of a financial assets by central bank to finance deficit in BOP
   3. Infosys raising loans from a bank in London
   4. Repayment of loan to Asian development bank by the government of India
   5. Borrowing from IMF to recover from sever BOP crisis

FOREIGN EXCHANGE

Foreign exchange Foreign exchange refers to any currency other than the domestic currency.

foreign exchange rate Foreign exchange rate is that rate at which currency of one country is exchanged with the currency of other country for example: 1 $ = 60 Rs

Types of Exchange rate systems

1. Fixed Exchange Rate System
2. Flexible Exchange Rate System
3. Managed Floating Rate System

Fixed exchange rate system rate of exchange as fixed by the government. There is no role of the market forces i.e. demand and supply.

Flexible exchange rate system

1. Also called free rate of exchange as it is freely determined by the forces of supply and demand in the international market
2. There is no intervention by the government or central bank of a country in foreign exchange rate market.

Difference

Basis	Fixed Exchange	Flexible Exchange
Who Fixed	Fixed By Central Government	Determined On The Basis Of Demand And Supply
Stability	Promotes Stability	Creates Situation Of Instability And Uncertainty
Reserves	Government Has To Maintain Huge Reserves	Government Is Free From Maintaining Huge Reserves
Speculation	Prevents Speculation	Promotes Speculation

Managed floating? Why the managed floating is adopted by the central bank?

- Managed Floating: it is a system of floating exchange rate in which the central bank of a country tries to manage by way of planned sale and the purchase of foreign currencies in the international money market.
- This policy of interfere is adopted to stabilize the foreign exchange market.
- Central bank allows the foreign exchange rate to fluctuate within an upper and lower limit.
- If exchange rate rises beyond the limit then the central bank supplies the foreign currency and buys it at the time when the value of foreign currency dips.

Appreciation And Depreciation

Currency Depreciation/ Rise in exchange Rate	**Currency Appreciation/ Fall in exchange Rate**
Means **Fall in the value** of domestic currency in terms of foreign currency because of **market adjustment Example: - 1 U.S = Rs 60 Now Becomes 1 U.S = Rs 70**	**Rise in the value** of domestic currency in terms of foreign currency because of **market adjustment** Example**: -** Rs 60 = 1 U.S **Now Becomes** Rs 50 = 1 U.S
Note:- Both appreciation or depreciation take place by the forces of demand and supply (Flexible Exchange Rate System)	

Currency Devaluation/ Rise in exchange Rate	**Currency Revaluation/ Fall in exchange Rate**
When the value of currency falls in terms of foreign currency by **government order Example: -** 1 U.S = Rs 60 **Now Becomes** 1 U.S = Rs 70	When the value of currency rises in terms of foreign currency by **government order Example: -** Rs 60= 1 U.S Now Becomes Rs 50 = 1 U.S

Both Revaluation or Devaluation: **decided by government (Fixed Exchange Rate System)**	

Que Explain how 'Depreciation of currency' promotes exports of a country?
Ans Means Fall in the value of domestic currency in terms of foreign currency. Any depreciation of home currency results in increase in exports of the country since it increases the global competitiveness of the goods ie foreign countries can purchase more quantity of goods and services with the same amount of foreign currency from the domestic country. **As a result exports of the domestic country rise.**

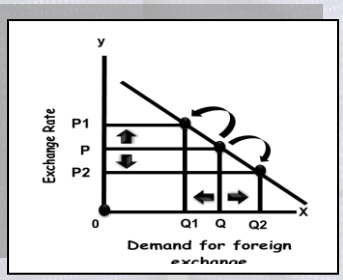
Appreciation and Revaluation of currency are one and the same thing'. Do you agree?

Appreciation of currency	Revaluation of currency
When value of domestic currency rises in terms of foreign currency on the basis of market forces, i.e., demand and supply of foreign exchange	When value of domestic currency is raised in terms of foreign currency by the central monetary authority
It is under flexible exchange rate system.	It is under fixed exchange rate system.
Takes place automatically with an increase in demand of currency	Done by RBI to correct BOP situation in the country

Why is foreign exchange demanded/who demand foreign exchange

1. **Speculative purposes**:- . If Indians believe that US Dollar is going to increase in value relative to the rupee, they will want to hold pound they start buying them and demand for foreign currency increases
2. **Portfolio Investment by Indian companies abroad**: - The Indians firms and individuals who want to buy bonds and equity shares of foreign firms will demand currency of that country
3. **Interest Rate on foreign bonds**:- when the interest rate on foreign govt. bonds than what domestic rate of interest Indian investors transfer their money to abroad to get higher returns or vice versa
4. **Consumer Income in India** – when the income of Indian people increases they buy more of imported goods or vice versa
5. **Expected Foreign Direct investment by India Abroad**:- the Indian firms and individuals who want to do business abroad like Tata motor acquires jaguar from England will demand British PONDS

How is the rate of exchange determined by the market force of



- There Is An Inverse Relationship Between Foreign Exchange Rate And Demand For Foreign Exchange
- Higher The Foreign Exchange Rate The Lower The Demand For Foreign Exchange i.e.
- If The Rupee Price Of Dollars Goes Up from (P to P1) Less Dollars Would Be Demanded from(Q to Q1)
- If The Rupee Price Of Dollars fall from (P to P2) More Dollars Would Be Demanded from(Q to Q2)

Explain the reason for inverse relationship between price of foreign currency & its demand.
Ans. There is an inverse relationship between price of a foreign currency & its demand. The reasons are :

a. When foreign currency becomes cheaper we get more dollars per unit of our currency. Accordingly imports become lucrative. This raises demand for foreign currency.

b. When foreign currency becomes cheaper and purchasing power of domestic currency increases in the international money market, domestic investors will be induced to make greater investment in rest of the world. Accordingly, demand for foreign currency rises.

c. When foreign currency becomes cheaper, Indians will find it less expensive to travel abroad. Accordingly, demand for foreign currency will rise. The opposite will happen in case foreign currency becomes expensive.

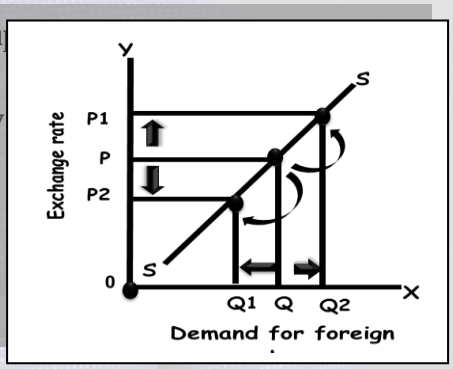
What are the major sources of supply of foreign exchange?

1. **Speculation by foreign investors**:- . If foreign believe that Indian Rupee is going to increase in value relative to their domestic currency , they will want to hold Indian Rupee they start buying them and demand for Indian currency increases and supply increases
2. **Portfolio Investment by foreign companies in India-** The foreign firms and individuals who want to buy assets in India such as bonds and equity shares of Indian firms will also supply dollars
3. **Interest Rate in foreign bonds** when the interest rate on Indian govt bonds rises than what their domestic rate of interest foreign investors transfer their money from abroad to India to get higher returns or vice versa
4. **Consumer Income of foreigners** – when the income of foreign people increases they buy more of Indian goods or vice versa
5. **Expected Foreign Direct investment by foreigner in India -** the foreign firms and individuals who want to do business in India like NOKIA, LG, SONY. Such firms will also supply dollars.

How is the rate of exchange determined by the market force of su

Or

Why does a rise in foreign exchange rate cause a rise in its supply

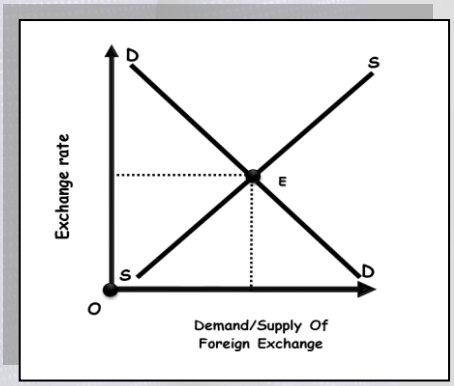


- Supply curve of dollars has a **direct relation** to the price of the dollars.
- If the rupee price of the dollar **goes up, more dollars** would be supplied in the market
- If The Rupee Price Of Dollars fall from (P to P2) less Dollars Would Be supplied from(Q to Q1)
- If The Rupee Price Of Dollars Goes Up from (P to P1) More Dollars Would Be supplied from(Q to Q2)

How foreign exchange rate are determined

Determination of foreign exchange Rate in the Free Market

Foreign exchange rate are determined where demand and supply of foreign are equal



- The Demand curve (DD) is **negatively sloped**. If price of dollar is very high then there will be less demand of dollar
- Supply curve (SS) is **positively sloped**. If the price of dollar will be high then more dollar will be supplied
- Equilibrium will take place where demand and supply curves intersect each other at point E

Visits to foreign countries for sightseeing etc by the people of India is on the rise. What will be its likely impact on foreign exchange rate and how?

Answer

- If many Indians are going to visit foreign countries for sightseeing, it will result in more demand of foreign exchange. If demand of foreign exchange rises/keeping supply as constant it will result in scarcity of foreign exchange and the price of foreign exchange will rise.
- Thus, value of domestic currency will depreciate. This implies **foreign exchange rate will increase**

Explain the impact of rise in exchange rate/currency depreciation on national income.

Ans Rise in foreign exchange rate means depreciation in the value of domestic currency in relation to the foreign currency, i.e. one unit of foreign currency can buy more goods and services from India. It makes exports cheaper to foreign buyers and imports costlier to Indian buyers. As a result **exports rise and imports fall** leading to rise in net exports. A rise in net exports may lead to rise in national income.

Distinguish between the fixed exchange rate and the floating exchange rate. If exchange rate falls, explain its effects on exports and imports.

An exchange rate between the two currencies fixed at government level is called fixed exchange rate. Whereas, an exchange rate determined by the forces of demand and supply in the foreign exchange market is flexible exchange rate.

If exchange rate falls, foreign goods become cheaper. **This raises imports.**

If exchange rate falls, domestic goods becomes dearer to the foreign buyers. **This reduces exports**.

Que According to recent media reports:'USA has accused China of currency devaluation to promote its exports'. In the light of the given media report comment, how exports can be promoted through the Currency devaluation?

Ans USA has a valid point of argument as devaluation of a currency encourages exports of a country. As exported goods become cheaper in the international market giving a competitive edge for the goods of domestic country (China). Devaluation of the value of domestic currency promotes the exports of the country and may adversely impact the production and sale of importing country (USA).