

INTRODUCTORY MACROECONOMICS

**UNIT
1**

**National Income &
Related Aggregates (Part - 4)**



विद्या दृष्टि

The Vision Of Education

CLASSES AVAILABLE :-

6th to 10th

◆ Maths ◆ Science ◆ English ◆ Sst

11th & 12th

◆ Pol. Science ◆ History

◆ Economics ◆ Accounts ◆ Maths ◆ English ◆ sociology



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Methods of Calculating National Income

- (i) **Value added method** — The sum total of value addition in the Economy
(Product method)
- (ii) **Income Method** — The sum total of income generated in the Economy
- (ii) **Expenditure method** — The sum total of expenditure on the final goods and Services produced in the economy

Intermediate Consumption / Cost

- ☞ Value of non factor input used in the process of production.
- ◆ Raw material
 - ◆ Oil
 - ◆ Energy

☞ **When Domestic Consumption is given then**

$$\text{Intermediate Consumption} = \text{Domestic Consumption} + \text{Import}$$

Value of Output or Product (Sales)

- ☞ Market value of all goods & services produced in a year.
- ☞ Value of output = sales
= sales + ▲ stock

☞ **When Domestic Sales is given then**

$$\text{Value of output} = \text{Domestic sales} + \text{Export} + \text{▲ Stock}$$

- ◆ Sales = Price (P) × Quantity (Q)
- ◆ ▲ Stock = Closing stock - Initial stock
= Final stock - Initial stock

☞ Self consumption should be added into sales.

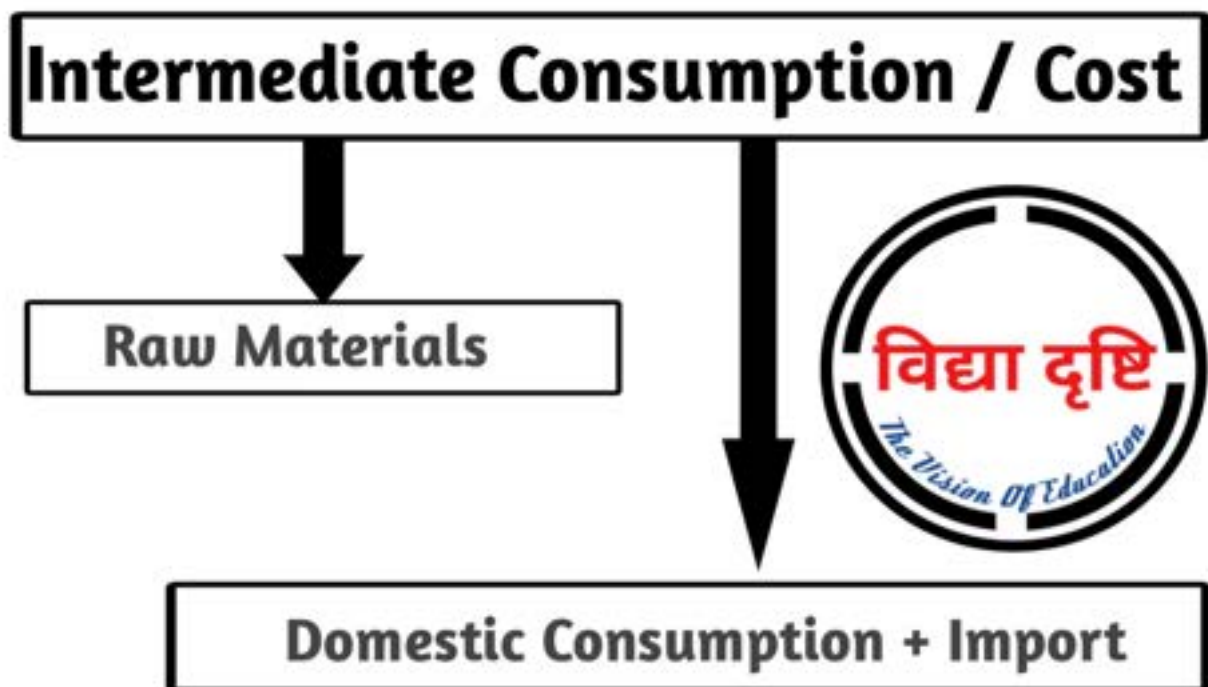
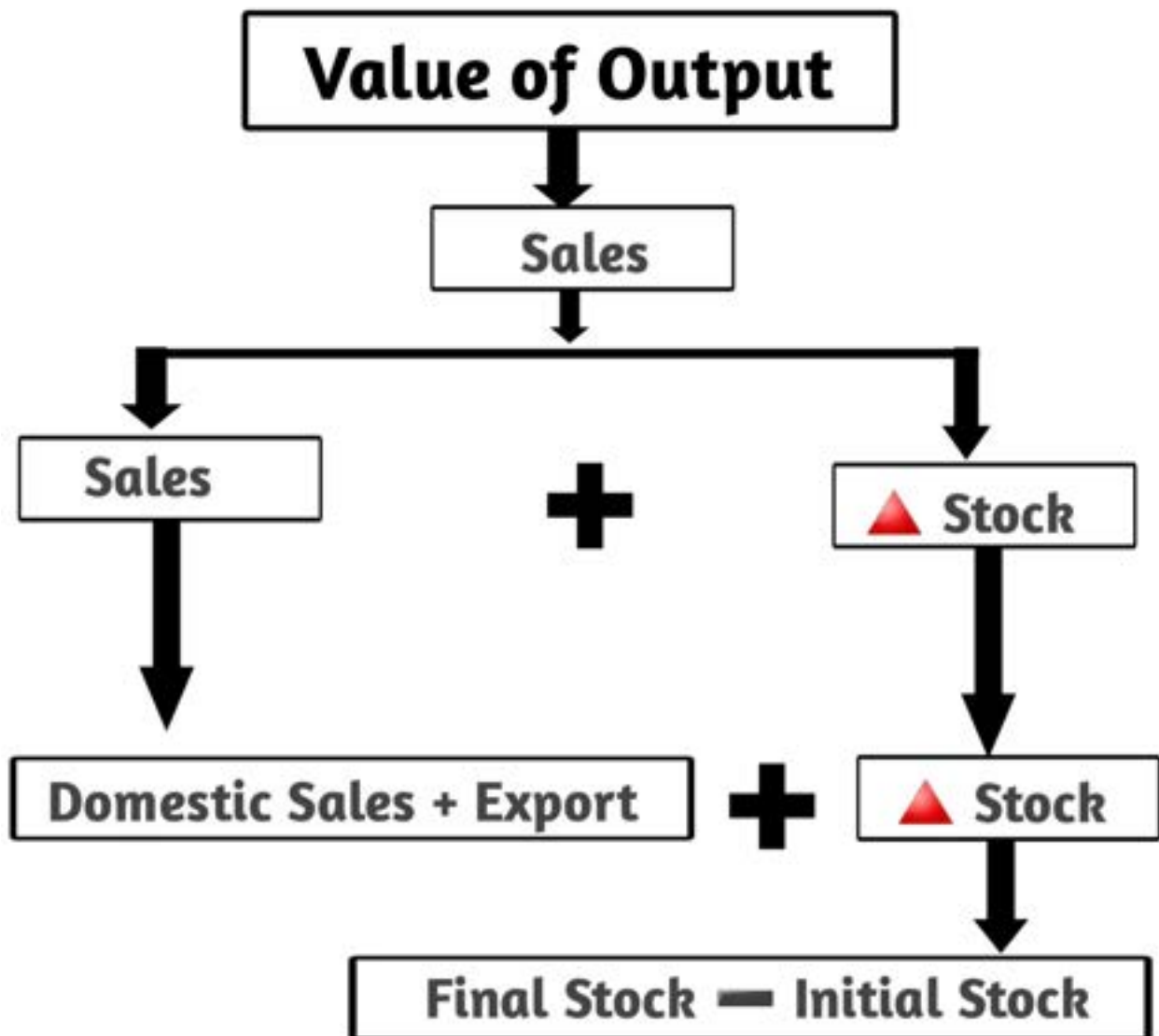
$$\text{Value of output} = \text{Domestic sales} + \text{Export} + \text{Self Consumption} + \text{▲ Stock}$$

Value addition

- ◆ It is the difference between Value of Output of an enterprises and the value of its Intermediate Consumption.

$$\text{Value addition} = \text{Value of Output} - \text{Intermediate Consumption}$$





Note

- ◆ Import = Raw material purchased from abroad
- ◆ Export = Goods & services sold to abroad

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Problem of Double Accounting

Estimating Value Added (or Value Addition)

Producing Enterprise	Value of Output (₹)	Cost of Intermediate Goods [Intermediate Consumption] (₹)	Value Added (₹)
1. Farmer	600	200	400
2. Flour Mill	800	600	200
3. Baker	1,000	800	200
4. Shopkeeper	1,200	1,000	200
Total	3,600	2,600	1,000

$$GDP_{MP} (GVA_{MP}) = GVO - IC$$

$$1000 = 3600 - 2600$$

Producing enterprises	Intermediate Consumption (IC)	Value of Output	Value Addition
Farmer	0	1000	1000
Flour mill	1000	1700	700
Firm	1700	2000	300

◆ **Total value addition = 2000**

◆ **Value of final goods = 2000**

● **Problem :-** Double Counting of one goods

● **Solution :-**

(1) Final Output

OR

(2) Value addition



$GDP_{MP} (GVA_{MP})$ = Gross Value Added by all producing enterprises within the domestic territory of a country during the period of one year.

= Market value of final goods and services produced in the economy during the period of one year.

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Not Included

(a) Sale & Purchase of second hand goods

- ◆ Value of the sale and purchase of second hand goods is not included in value addition.
- ◆ **Reason :-** Because, They are already accounted for the year they were produced.

(b) Intermediate goods

- ◆ Value of intermediate goods is not included.
- ◆ **Reason :-** Because, They are already included in the value of final goods.

(c) Services for self consumption

- ◆ It is not included in the estimation of value addition or GDP.
- ◆ **Reason :-** Because, It is difficult to estimate their market value.
- ◆ Example :- Services of housewives

(d) Illegal activities

- ◆ Value addition related to illegal activities is not included.
- ◆ **Reason :-** Because, There is no specific data input is available related to illegal activities.

Factor Income

- ◆ Income earned by a person as a reward for rendering his factor service.
- ◆ **Factor Income in the form of —**
 - (a) Wages or Salary for labour
 - (b) Rent for land
 - (c) Interest for Capital
 - (d) Profit for entrepreneurship
- ◆ Factor incomes are only earned income.
- ◆ **Factor Incomes are broadly classified into three categories:-**
 - (a) Compensation of Employees (COE)
 - (b) operating surplus (os)
 - (c) mixed Income (MI)



Compensation of Employee

Following components are included in COE: -

(a) Wages & Salaries in cash

- ◆ Cash paid to the employee by the employers as a reward for the work done during period of an accounting year.

(b) Payments in Kind

- ◆ Benefits in kind given to the employees by employers.
- ◆ Example :-
 - ☞ Rent free accommodation
 - ☞ Transport facilities

(c) Employer's Contribution to Social Security

- ◆ Provident fund Contributions by the employers on behalf of the employees.

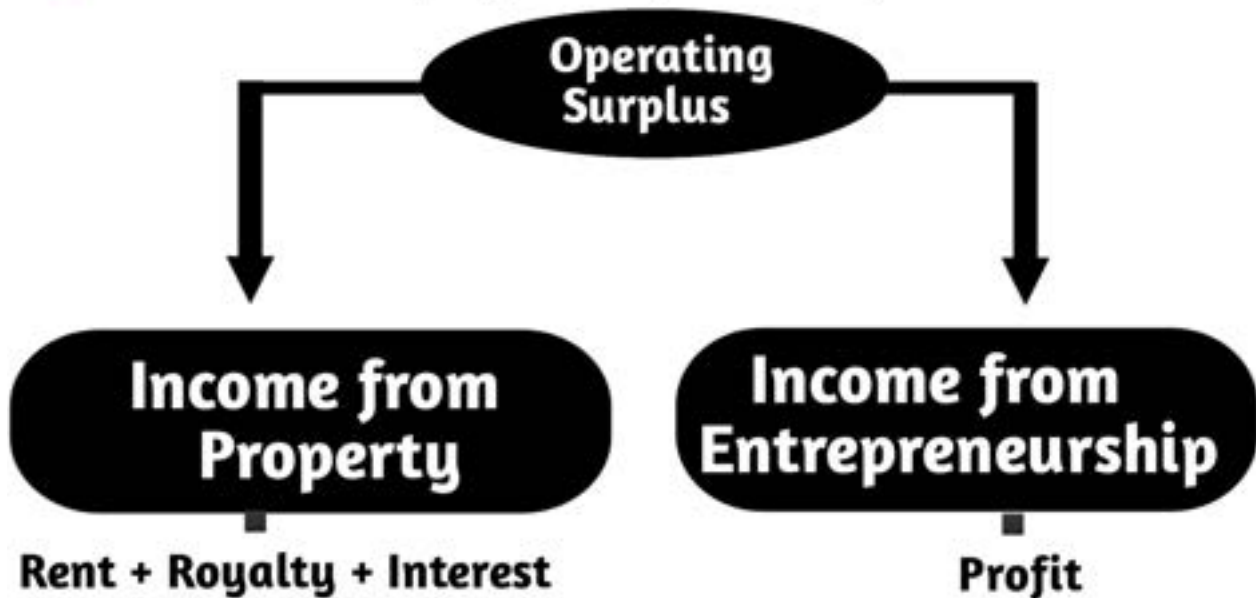
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(d) Pension on retirement.

- ◆ It only refers to pension payment as a part of the service contract between the employer and the employees.
- ◆ It does not refer to old age pension

Operating Surplus

- ◆ Income from Property & entrepreneurship.



- ◆ It includes the following items :-
 - (a) Rent & royalty
 - (b) Interest
 - (c) Profit

Profit

☞ Three components of profit :-

(a) Dividends

- ◆ It is distributed among the Shareholders.
- ◆ It is also called distributed profit.

(b) Corporate / Corporation profit tax

- ◆ The part of the profit which is paid to the government by way of "Profit tax"

(c) Undistributed profit

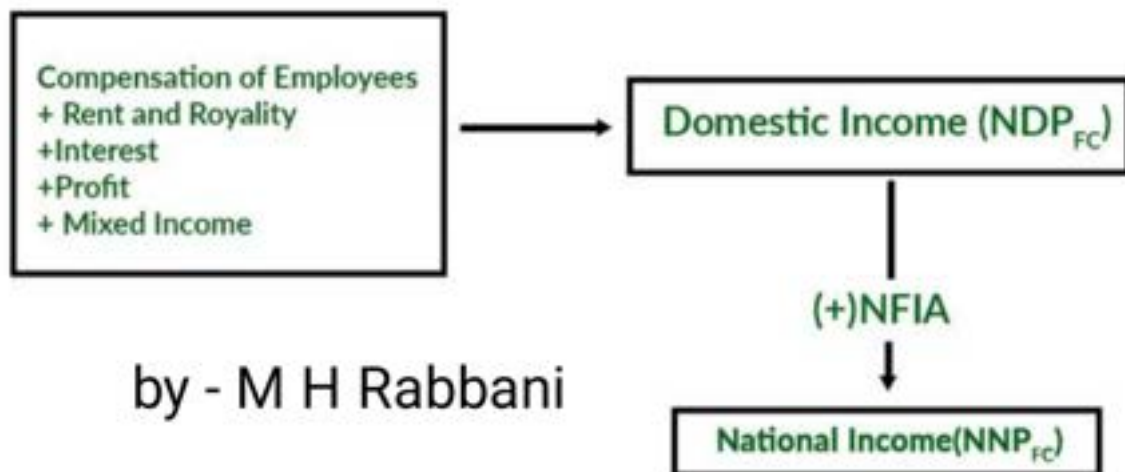
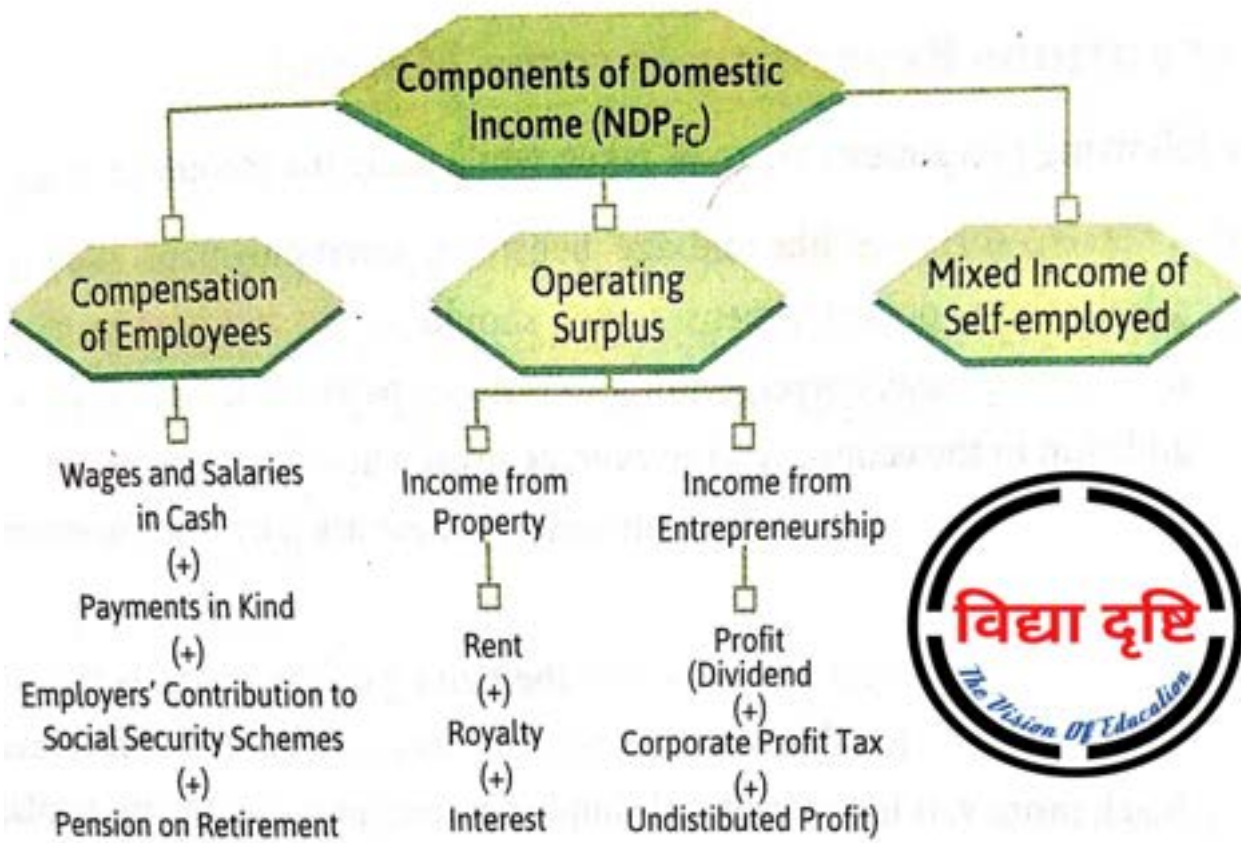
- ◆ It is retained by the firms for future use, particularly to meet some contingent expenses.
- ◆ It is also called Corporate saving or Retained Income or saving of Corporate or Reserve & surplus.



Mixed Income (MI)

- ◆ It is the incomes of selfemployed persons using their own labour, land, Capital and entrepreneurship in their household enterprises.
- ◆ It is mixture of wages, rent, interest & profit.
- ◆ Factors of production are not hired / purchased from the market.
- ◆ Example :- Retailer, small shopkeeper

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Precaution Regarding Income Method

Included

(a) Commission

- ◆ Commission paid on the sale & purchase of Second-hand goods.
- ◆ **Reason :-** Because, It is reward for rendering factor services.

(b) Brokerage

- ◆ Brokerage on the sale & purchase of Shares & bonds.
- ◆ **Reason:-** Because these are reward for rendering factor services.

(c) Rent of Owner occupied house

- ◆ Imputed rent of owner occupied houses is to be treated as factor incomes, along with rent as a component.
- ◆ **Reason :-** Because, All houses have some rental value.

(d) Production for self Consumption

- ◆ Imputed value of Production for Self Consumption.
- ◆ **Reason :-** Because, It also generate income in the economy.

Not Included



(a) Transfer earnings

◆ Example :-

- old age pension
- Unemployment allowances
- Scholarships
- Pocket expenses

◆ **Reason:-** Because through these there is no value addition in the economy.

(b) Income from illegal activities

◆ Example :-

- Theft & gambling
- Black money

◆ **Reason :-** Because no estimates are available of such Income.

(c) Income in terms of windfall gains

◆ Example :-

- Lotteries

◆ **Reason :-** Because there is no value addition

(d) Income in the form of capital gains is not to be treated as factor Income.

(e) **Income tax** is paid out of compensation of employees. So it should not be added separately.

(f) **Interest paid by the government on national debt** because it is considered to be taken for consumption not production.

(g) **Interest paid by the consumer on debt.**

(h) **All taxes by the government are received as compulsory transfer payments.**

These are not to be included in the estimation of national Income.



A Standard Precaution Relating to the Use of Income Method

- ◆ Income method accounts for only factor incomes corresponding to which there is a flow of goods and services in the economy.
- ◆ It does not account for such incomes corresponding to which there is no flow of goods and services or corresponding to which there is no value addition in the economy.

Operating Surplus in Subsistence sector

- ◆ operating surplus does not arise in the Subsistence sector.
- ◆ In the Subsistence sector, production is meant only for subsistence of the producing families need.
- ◆ Production is not meant for sale in the market. There is no marketable surplus.
- ◆ So there is no operating surplus.

Operating Surplus in general government sector

- ◆ In the general government sector, production is meant only for collective Consumption (Consumption by the general public).
- ◆ Goods and services are produced not for sale in the market but for general welfare of the people.
- ◆ Example :- Services of law & order and defence are available to the people free of charge.
- ◆ so there is no operating surplus in the general government sector.

Expenditure method

OR

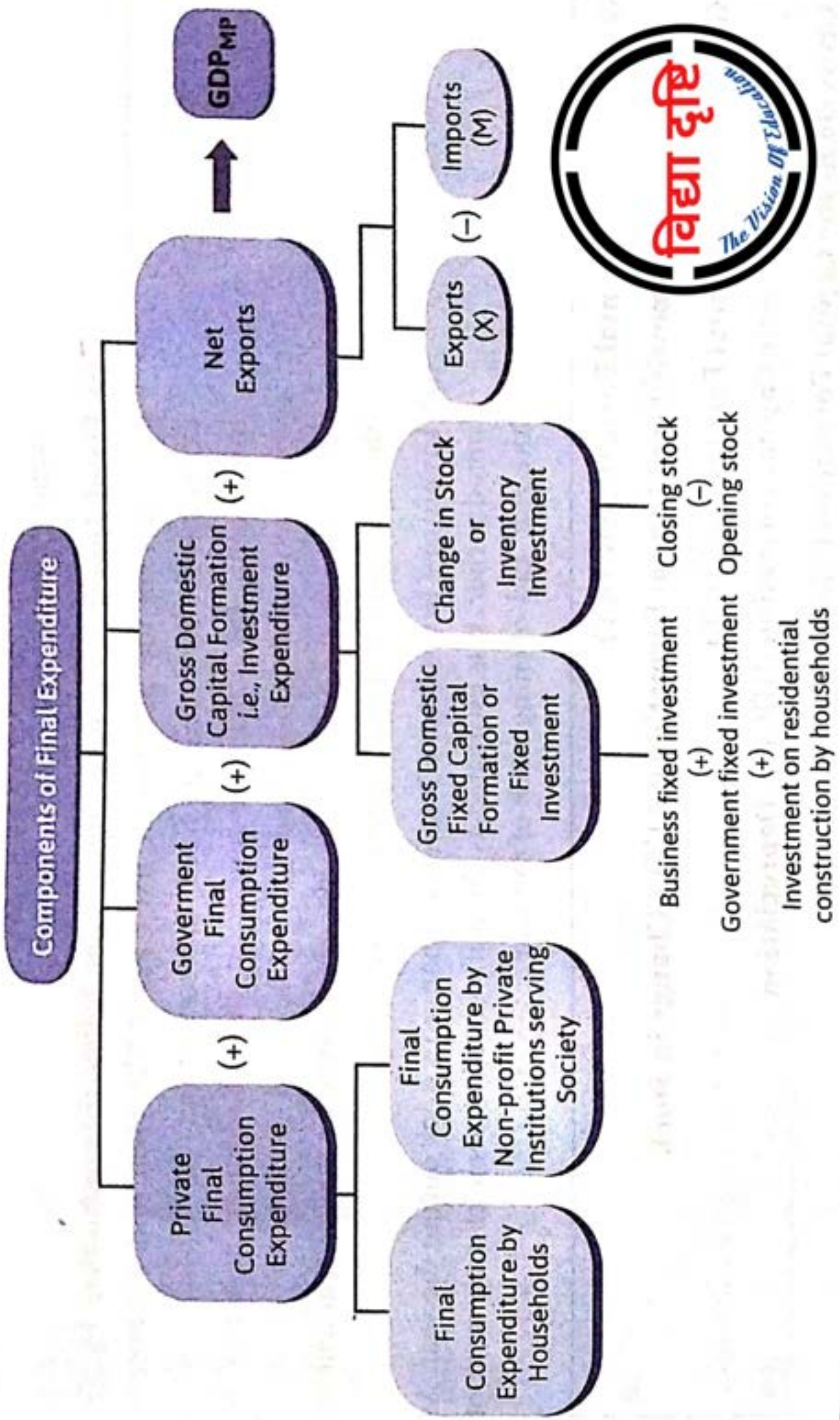
Consumption & Investment method

OR

Income disposable method

👉 It includes expenditure on final goods and services produced during an account year.





Private Final Consumption Expenditure (C)

- ◆ Expenditure on final goods & Services
- ◆ **Expenditure by :-**
 - Individuals
 - Households
 - Non - Profit Private Institutions
- ◆ **Expenditure on :-**
 - Consumer Services
 - Consumer Non Durable Goods
 - Consumer Durable Goods



Government Final Consumption Expenditure (C)

- ◆ Expenditure on Final goods & Services by the government.
- ◆ Example :-
 - Education & Health
 - Law & Order
 - Goods for defence personnel

Investment Expenditure (I)

- ☞ It refers to expenditure on the purchase of final goods by the producers.
- ☞ These goods are to be further used in the process of production.

(1) Fixed Investment

- ◆ Expenditure by the producers on the purchase of fixed assets like plant & machinery.
 - (a) Business fixed Investment
 - (b) Public fixed investmentor
 - Fixed investment by the government
 - Ex:- Construction of road, dam & bridge
 - (c) Fixed investment by householdsor
 - Investment on Residential Construction by Households

(2) Inventory Investment / Current Investment

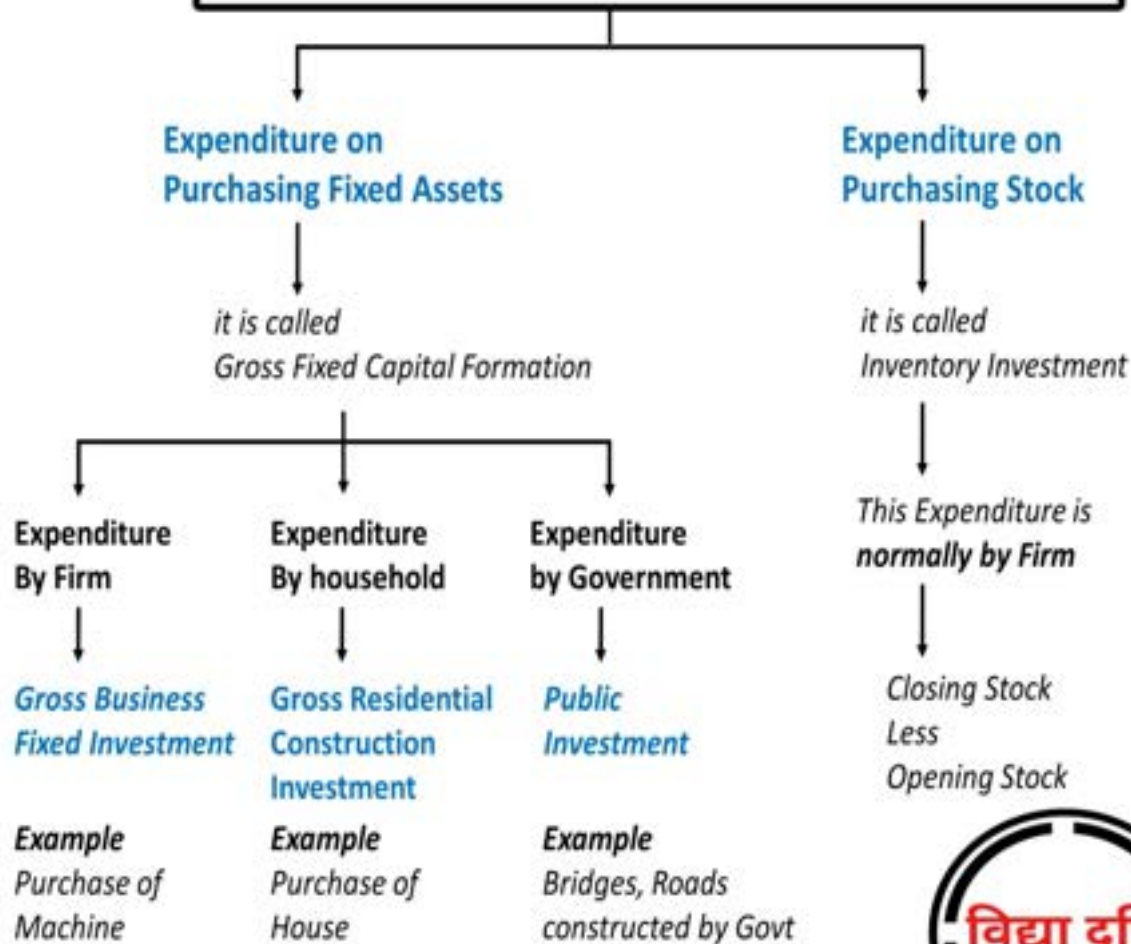
- ◆ Change in stock during the year.

Net Export (X- M)

- ◆ Exports are an expenditure by the foreigners on the domestically produced final goods and services.
- ◆ Imports are an expenditure on the goods and services produced abroad.
- ◆ Net Export is the difference between exports and imports during an accounting year.
- ◆ Expenditure on the domestically produced goods and services is added to total expenditure, while expenditure on import is deducted from total expenditure.

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Gross Domestic Capital Formation



Different Sectors & Their Expenditure

Sector	Expenditure	Example
Household	Private Final Consumption Expenditure	(Exp on Purchasing different goods and service)
	Gross Residential Construction Expenditure	Expenditure on House
Firm	Gross Business Fixed Investment	Purchasing Fixed Assets
	Inventory Investment	Purchasing of Stock
Government	Gross Public investment Government Final Consumption Expenditure	Exp on Salary and other Administrative Service Expenditure on infrastructure
External Sector	Exports-Imports	Sale and Purchase from Other Countries

Precaution regarding Expenditure method

Included



(a) Final Expenditure

- ◆ Only final expenditure
- ◆ Reason :- To avoid error of double accounting

(b) Self consumption goods

- ◆ Imputed value of expenditure on goods produced for self - consumption should be taken into account.
- ◆ Reason :- Because, these goods are like those goods which are sold into the market.

(c) Rent of owner occupied house

- ◆ Imputed rent of owner occupied house should be included.
- ◆ Reason :- Because all houses have rental value.

Not Included

(a) Intermediate goods

- ◆ Expenditure on intermediate goods
- ◆ Reason :- Value of Intermediate goods is already accounted in value of final goods.

(b) Second hand goods

- ◆ Expenditure on second - hand goods is not included.
- ◆ Reason :- Because value of second hand goods has already been accounted during the year of their production.

(c) Shares & bonds

- ◆ Expenditure on shares & bonds is not included in total expenditure.
- ◆ Reason :- Because these are only paper claims and are not related to the production of final goods & services. Such expenditure do not cause any value addition.

(d) Transfer payment

- ◆ Expenditure on transfer payments by the government
- ◆ Reason :- Because they do not cause any value addition in the economy.
- ◆ Example :- old age pension, Scholarship

Treatment of different items during the estimation of National Income

- ◆ National Income is made from factor income and factor income is created in the production process. So the criteria to include any item in National income is that whether it is a result of production Services or not
- ◆ On this basis only earned income will be included in the national income not transfer income
- ◆ National Income is a measure of the value of the net inflow of final goods and Service produced in a year.
- ◆ Therefor those activities which are not related to the fraction of final goods and service or non market activities such as housewife services or illegal activities such as gambling, theft are not considered in National Income.

Inclusion or Exclusion

Do not include the following items in the estimation of national income:

(i) Gifts from Abroad

◆ These are transfer payments and, therefore, not included in national income.

(ii) Unemployment Allowance

◆ This is available to those persons who are not employed. This is, therefore only a transfer payment not included in national income.

(iii) Financial Help to Tsunami Victims

◆ It is not included in national income since it is a transfer payment.

(iv) Purchase of Vegetables by a Restaurant

◆ It is not included in national income since it is an intermediate consumption.

(v) Expenses on Electricity by a Factory

◆ It is not included in national income since it is a part of intermediate consumption.

(vi) Leisure-time Activities like Growing Vegetables by Household in his Kitchen Garden

◆ By convention value added through such activities is not accounted for in the estimation of national income/product.

(vii) Services rendered by the Housewives

◆ These are not included in national income because it is difficult to find their market value, and these are not rendered for the purpose of earning income.

(viii) Money Received by an Individual from his Son Working Abroad

◆ It is not included in national income of India because it is a kind of transfer income.

(ix) Interest Received from a Friend on Loans offered to him for the Purchase of a Motorbike

◆ It is not included in national income because loans are not used for production purpose.

(x) Corporate Profit Tax

◆ It is not included in the estimation of national income as it flows out of profit as a transfer payment to the government.

Inclusion or Exclusion

Do include the following items in the estimation of national income:

(i) Defence and Security Services

- ◆ For maintaining law & order and defence of the country, the government has to employ defence personnel, policemen, judges and others.
- ◆ The services of these persons may be taken as intermediary or final.
- ◆ These are final services so far as they provide security and peaceful existence to the households. On the other hand, they may be treated as intermediary services in so far as they provide peaceful environment to the productive process.
- ◆ It is very difficult to assess the extent to which these services are intermediate or final. Accordingly, as a matter of convention, these are treated as final services and are, therefore, included in national income.

(ii) Free Services by the Government

- ◆ Free services by the government like free education, free medical facilities or street lighting involve expenditure by the government which is a part of government final consumption expenditure.
- ◆ Hence, expenditure on these services is taken as a part of expenditure on final goods and services. These are included in national income while using expenditure method.

(iii) Employer's Contribution to Provident Fund

- ◆ It is included in national income, since it is paid by the employers on behalf of the employees.

(iv) Rent Received by Indian Residents on Buildings Rented out to Foreign Embassies in India

- ◆ It is income from the rest of the world and forms a part of net factor income from abroad. It is included in national income.

(v) Profits Earned by a Branch of an Indian Bank in London

- ◆ It is included in the national income since it is a part of net factor income from abroad.

(vi) Wages Received by the Indian Employees Working in Pakistan Embassy

- ◆ It is included in national income since Indian employees of Pakistan Embassy are normal residents of India.

(vii) Salary to Foreign Technical Specialists

- ◆ As a payment of factor income to the 'non-resident', it reduces national income.

(viii) Dividend Received by an Indian Resident from his Investment in a Foreign Financial Firm

- ◆ It is included in national income of India because it is a part of net factor income from abroad.

Inclusion or Exclusion

1. It must be noted that value added in the government sector is equal to compensation of employees only. It is because the data regarding rent and interest are not available for this sector and profit just does not exist because all that is produced is meant for collective consumption, not for sale in the market.

2. Remember that even when houses are self-occupied, these are to be treated as income generating assets. In case of self-occupied houses, rental income is assessed on the basis of rent prevailing in the market. It is called imputed rent on owner-occupied houses. This is to be treated as a part of factor income generated during the year.

3. Don't ever forget to estimate market value of output of the subsistence farmers, even when this is not taken to the market for sale. This value is to be included in the estimation of GDP, even when it does not involve any transaction through the market.

However, at the same time, vegetables (and other stuff) available to us through kitchen gardening is not a component of gross output in the economy. Because, it is simply related to leisure-time activity. It is unlike production activity of the producing units in the economy.

4. An individual pays income tax out of his factor income, of course. But tax as such is NOT a factor income. It is a transfer payment to the government. Accordingly, never say 'Yes' to this question: Do we include income tax in the estimation of national income?

The answer is No

Corporate tax is also to be treated similarly.

Increase in Inventory stock

👉 Increase in inventory stock is caused by two factors :-

- (i) Unexpected Fall in demand in the current year
- (ii) Expected rise in demand in the near future

***** EXPORTS *****

👉 **Export receipts are not a part of net factor income because of two reasons:**

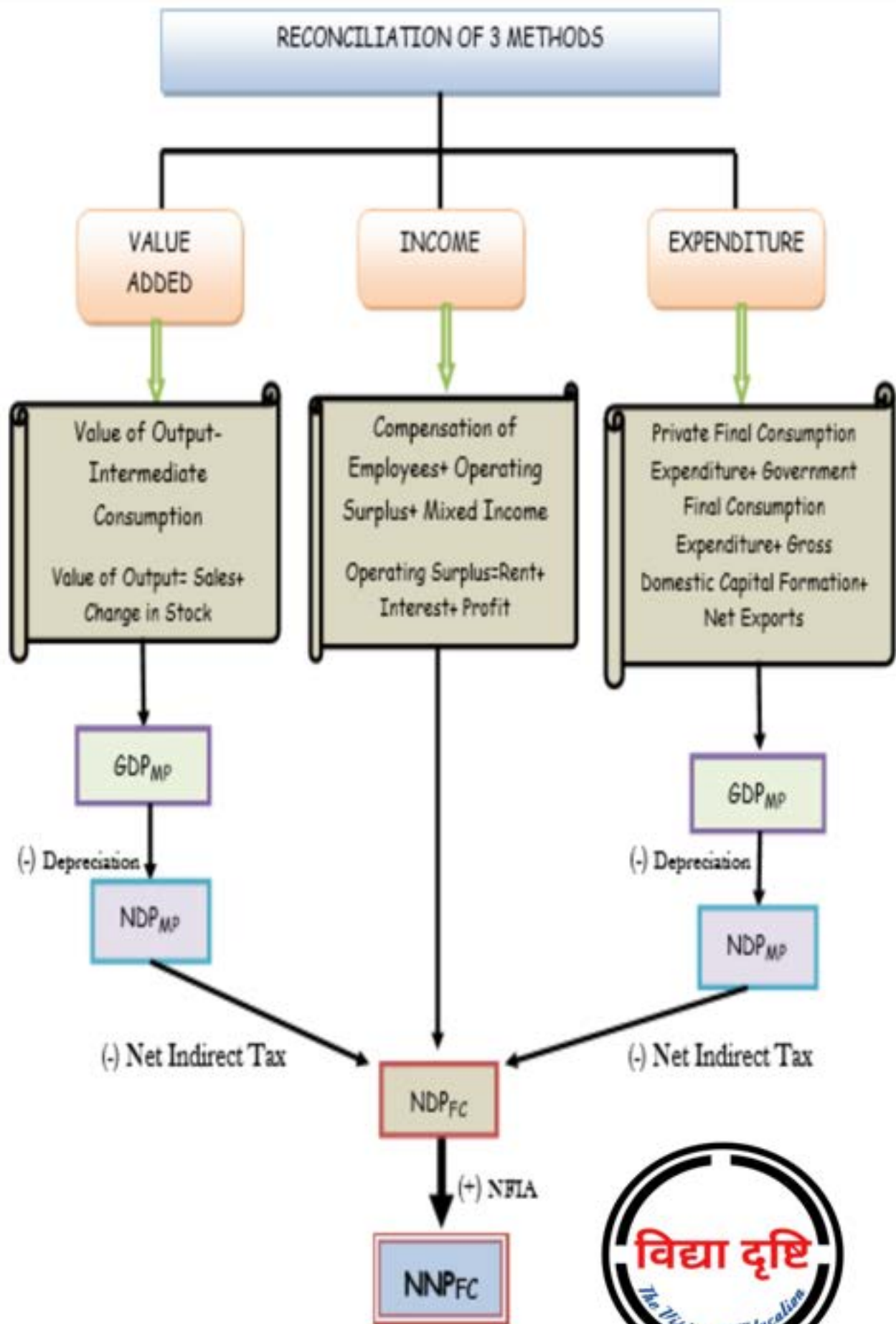
(i) Exports refer to the purchase of domestically produced goods by the rest of the world. Goods produced within the domestic territory of a country are to be treated as a part of GDP.

(ii) Export receipts refer to revenue of the firms from the sale of its output. These are not the receipts of factor incomes from abroad which are available in the form of rent, interest, profit and wage

👉 **Exports are just sales yielding revenue, not income.**

◆ Exports are just sales because they are purchases of rest of the world from the domestic economy. Accordingly, exports yield revenue (receipts from sales). These do not yield income. Because, income is in the form of rent, interest, profit or wages. Exports do not yield any of these directly.

Triple Identity



● New Concepts Introduced by CSO (Central Statistics Office)

In India, national income and related aggregates are defined and estimated by CSO. Since 2015, CSO has introduced some new concepts as under:

Net Production Taxes

Net Production Taxes = Production taxes – Production subsidies

Important it is to note that the receipt and payment of production taxes and production subsidies are related to the product, not the volume of production. Land revenue and registration fee may be cited as examples.

Net Product Taxes

Net Product Taxes = Product taxes – Product subsidies

To be noted, product taxes and product subsidies are paid and received per unit of product. Excise tax, service tax may be cited as examples.

Basic Price

Basic price includes production taxes and production subsidies only.

Categorically, basic price does not include product taxes and product subsidies.

GVA at Basic Price

CSO now estimates GVA (gross value added) at basic price.

To be noted, GVA at basic price accounts only for production taxes and production subsidies. It does not account for product taxes and product subsidies.

Difference among GVA at Factor Cost, GVA at Basic Price and GVA at Market Price

GVA at factor cost + Net production taxes

= GVA at Basic Price

GVA at basic price + Net product taxes

= GVA at Market Price

