Chapter 2: Accounting for National Income

NATIONAL INCOME

It is defined as the sum total of *Factor Income* accruing to *Normal Residents* of a country within the *Domestic Territory* country and from *Rest of The World.*

Some Basic Terms of National Income

Normal Residents –

A resident or normal resident is said to be a person or institution, who *Ordinarily Resides* in a country and whose *centre of Economic Interest* lies in that country.

Centre of economic interest implies that:

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

Domestic Territory –

In Normal Language,

The domestic territory of a country is understood to mean political territory of a nation.

According to United Nations,

"Economic territory is the geographical territory administered by a government within which persons, goods and capital circulate freely."

Domestic territory of a country includes-

- Political frontiers
- Territorial water upto 12 nautical miles
- Ships and aircrafts owned and operated by normal residents between two or more countries.
- Fishing vessels, oil and natural gas rigs and floating platforms operated by residents in international water.
- Embassies, consultants and military establishments of a country located abroad.

Non – Resident-

Those foreigners, who visit our country for travelling, recreation, holidays, medical treatment, studies, sports are known as non-resident of a country.

Examples:

1. Foreign tourists and visitors.
2. Foreign staff of Embassies, officials, diplomats and members of the armed forces of a foreign country.
3. International organisations- UNO, WHO
4. Employees of international organisations.
5. Crew members of foreign vessels, commercial travellers and seasonal workers.

Citizenship –

A *legal concept* based on the place of birth of the person or some legal provisions allowing a person to become a citizen.

To be an Indian Citizen –

i) When a person is born in India.

ii) A person born outside India applies for citizenship and Indian Law allows his to become Indian Citizen.

Resident ship-

An *economic concept* based on the basic economic activities performed by a person.

Note- an individual is normal resident of a country if he ordinarily resides in the country for a period of more than one year and his centre of economic interest also lies in that country.

Domestic Product: -

Domestic product includes production activity of production units located in the economic territory irrespective of fact whether carried out by the residents or non-residents.

National Product: -

National Product includes production activities of normal residents irrespective of fact whether performed within the economic territory or outside it.

Factor Income and Transfer Income

Factor Income-

Factor income refers to income received by factors of production for rendering factors services in the production process.

Factor	Factor Income
Land	Rent
Capital	Interest
Labour	Wages
Enterprise	Profit

Transfer Income: -

Transfer income refers to income received without rendering any productive service in return.

Examples – pensions, scholarship, unemployment allowance etc.

→It is a unilateral (one sided) concept.

→It in not included in National Income.

Difference between Factor Income and Transfer Income

Basis	Factor Income	Transfer Income
Meaning	**It refers to income received by factors of production for rendering factor services in the production process.**	**It refers to the income received without rendering any productive service in return.**

Nature	**It is included in n both National Income and Domestic Income.**	**It is neither included in National Income nor in Domestic Income.**
Concept	**It is an earning concept.**	**It is a receipt concept.**
Recipient	**It is received by factors of production (land, labour, capital and enterprise).**	**It is generally received by households and government.**
Example	**Rent, Wages, interest and Profit**	**Scholarship, Old age pension, Unemployment allowance etc.**

Net Indirect Tax (NIT)

Net Indirect Tax refers to the difference between indirect taxes and subsidies.

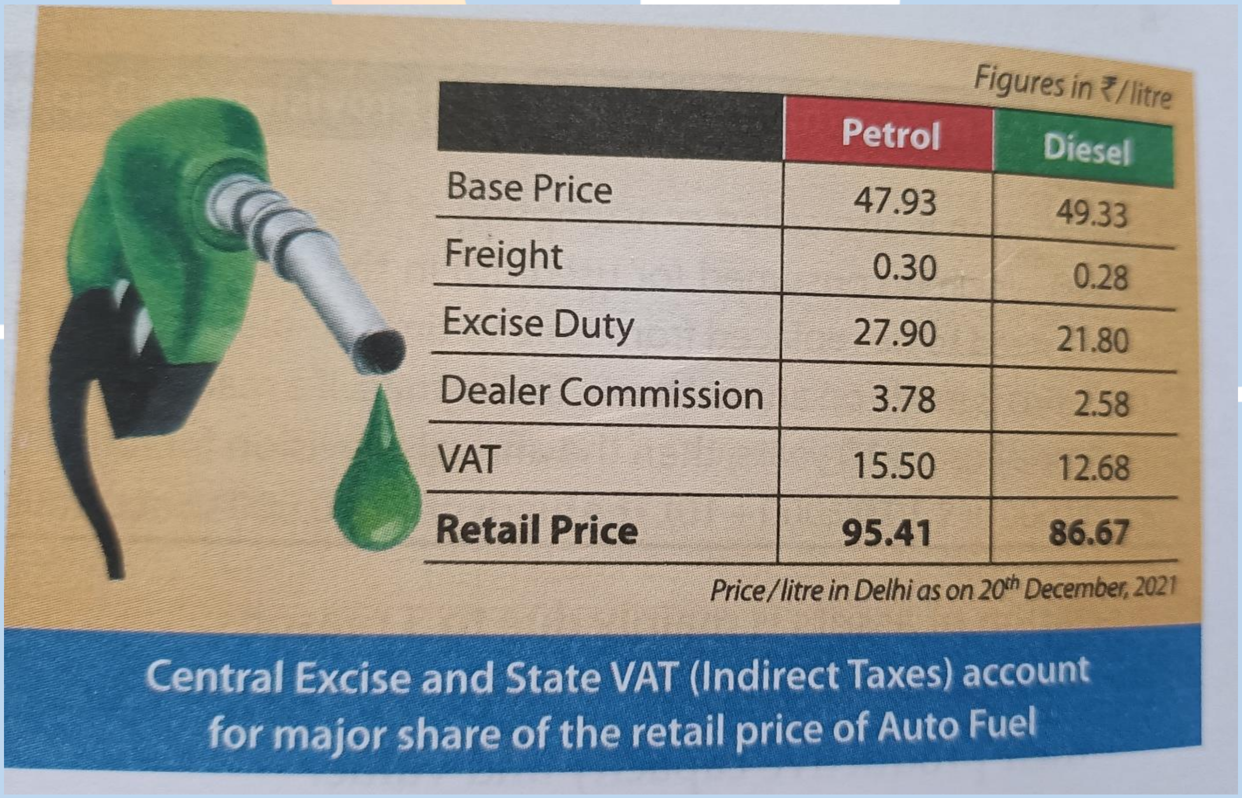
NIT = Indirect Taxes – Subsidies

(i) Indirect Taxes:

Indirect taxes refer to those taxes which are imposed by the government on production and sale of goods and services.

Example: GST, Basic Custom Duty, Stamp Duty, Toll Tax etc

Indirect taxes increase the price of the commodity.



Figures in ₹/litre

	Petrol	Diesel
Base Price	47.93	49.33
Freight	0.30	0.28
Excise Duty	27.90	21.80
Dealer Commission	3.78	2.58
VAT	15.50	12.68
Retail Price	**95.41**	**86.67**

Price/litre in Delhi as on 20th December, 2021

Central Excise and State VAT (Indirect Taxes) account for major share of the retail price of Auto Fuel

(ii) Subsidies:

Subsidies are the 'financial assistance' provided by the government to producers to fulfil its social welfare objectives.

It reduces the market price of the commodity.

Example:

Market Rate of a sewing machine ₹12000.

Subsidy is 5%

So actual rate = ₹12000-600= 11400

Factor Cost and Market Price

Factor Cost (FC): It refers to amount paid to factors of production for their contribution in the production process.

FC = MP - NIT

Market Price (MP): **It refers to the price at which product is actually sold in the market.**

MP = FC + NIT

Net Factor Income from Abroad (NFIA)

It refers to the difference between factor income received from the rest of the world and factor income paid to the rest of the world.

NFIA = Factor Income from Abroad – Factor Income to Abroad

Depreciation

It refers to the loss in the value of fixed assets due to their normal wear and tear.

It is also known consumption of fixed capital.

Aggregates of National Income

There are eight aggregates of National Income –

1.Gross Domestic Product at Market Price (GDPmp)

2.Gross National Product at Market price (GNPmp)

3.Net Domestic Product at Market price (NDPmp)

4.Net National Product at Market price (NNPmp)

5.Net Domestic Product at Factor Cost (NDPfc)

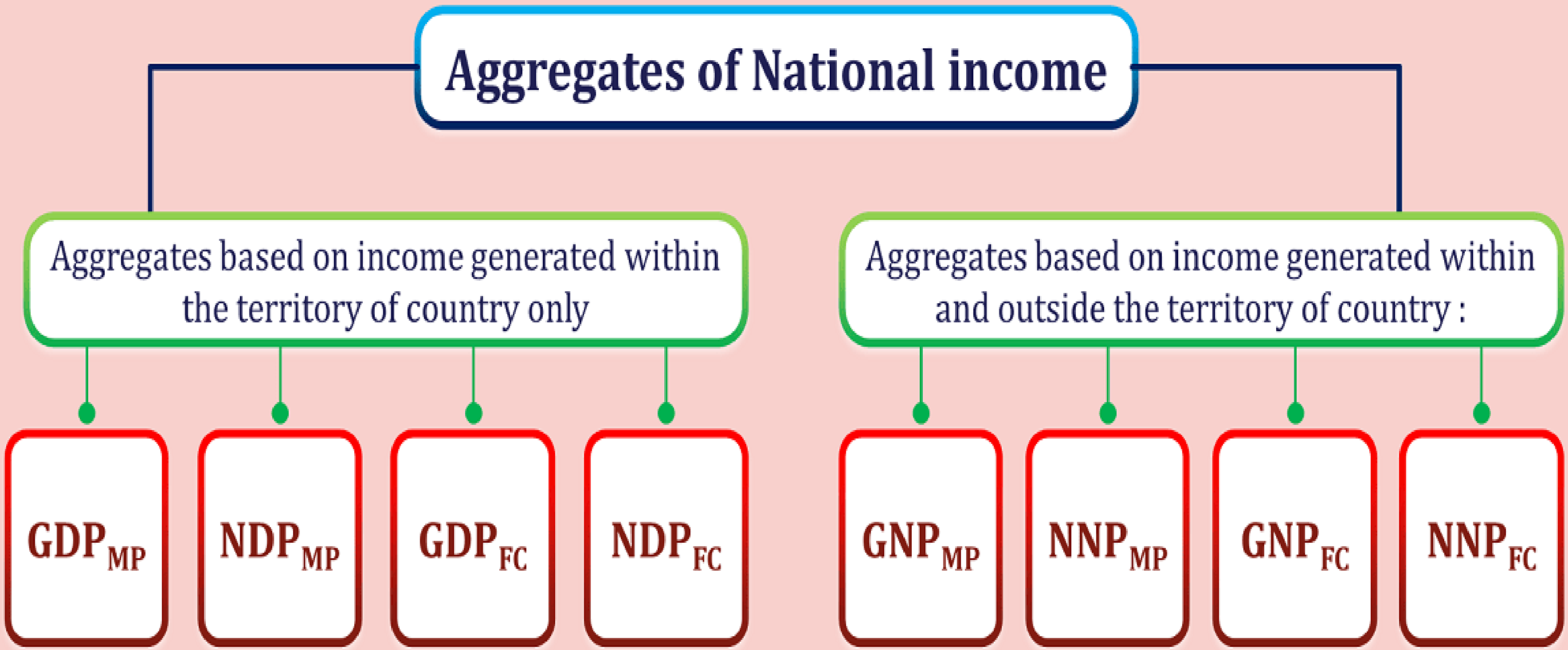
6.Gross Domestic Product at Factor Cost (GDPfc)

7.Gross National Product at Factor Cost (GNPfc)

8.Net National Product at Factor Cost (NNPfc)

Aggregates of National Income

The aggregates of national income includes all the terms related to the determination of income for a country whether within it or outside.



1. Gross Domestic Product at Market Price (GDPmp)

It is the market value of the final goods and services produced during a year within the domestic territory of a country. It includes the value of depreciation.

2. Gross National Product at Market price (GNPmp)

It is the market value of final goods and services produced within the domestic territory of a country during a year, including Net Factor Income from Abroad.

GNPmp = GDPmp + NFIA

3. Net Domestic Product at Market price (NDPmp)

It is the market value of final goods and services produced within the domestic territory of a country during a year, excluding depreciation

NDPmp = GDPmp – Depreciation

4. Net National Product at Market price (NNPmp)

It is the market value of final goods and services produced within the domestic territory of a country during a year, excluding Depreciation and including Net Factor Income from Abroad

NNPmp = GDPmp + NFIA – Depreciation

5. Net Domestic Product at Factor Cost (NDPfc)

It refers to net money value of all the final goods and services produced within the domestic territory of a country during a period of one year.

NDFfc= Rent+ profit + Interest+ Wages

Or

NDPfc = GDPmp – Depreciation – Net Indirect Tax

6. Gross Domestic Product at Factor Cost (GDPfc)

It refers to net money value of all the final goods and services produced within the domestic territory of a country during a period of one year, including Depreciation.

GDPfc = NDPfc + Depreciation

7. Gross National Product at Factor Cost (GNPfc)

It refers to net money value of all the final goods and services produced within the domestic territory of a country during a period of one year, including Depreciation and Net Factor Income from Abroad.

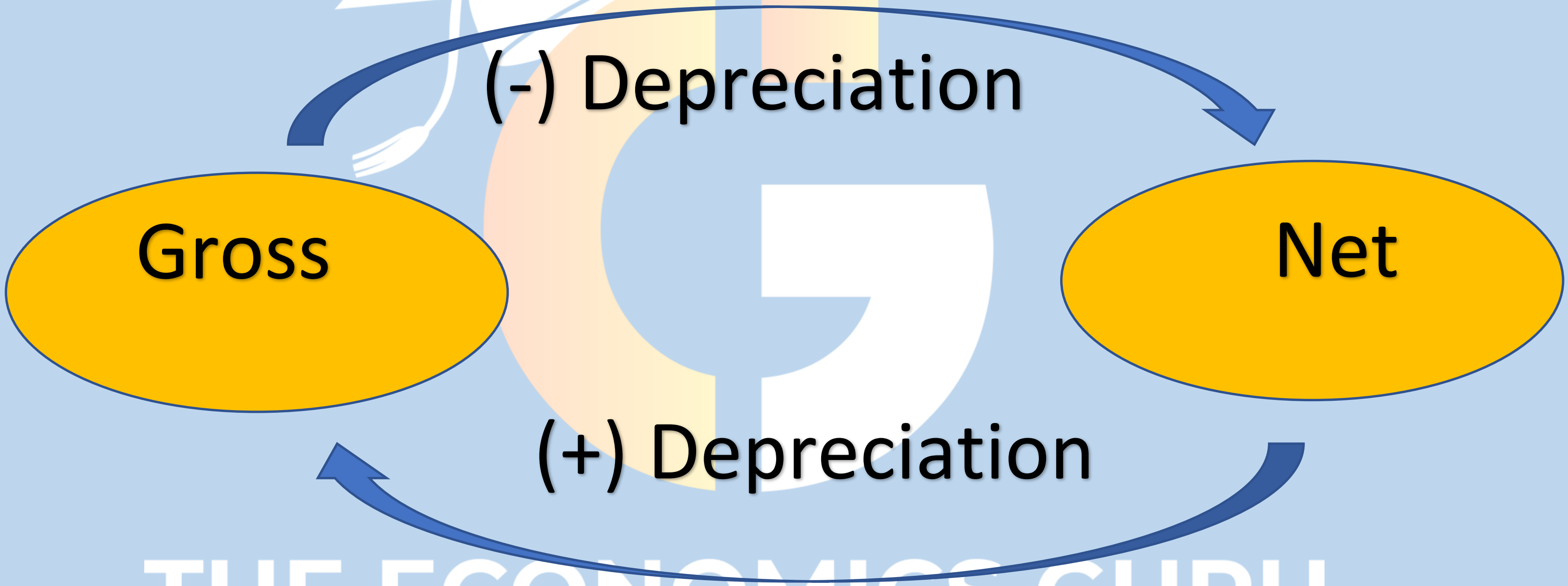
GNPfc = NDPfc + Depreciation + NFIA

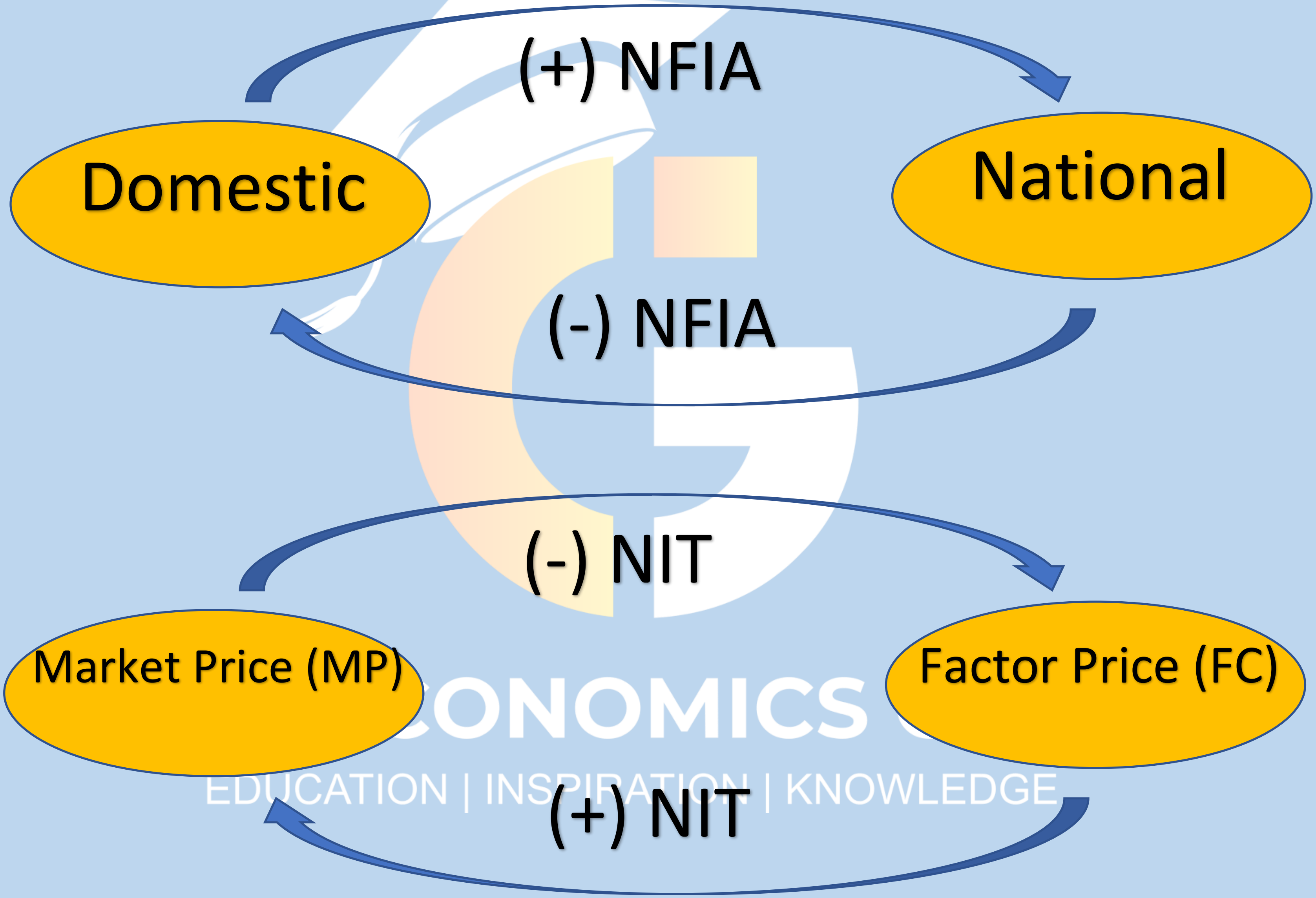
8. Net National Product at Factor Cost (NNPfc)

It refers to net money value of all the final goods and services produced within the domestic territory of a country during a period of one year, including Net Factor Income from Abroad.

NNPfc = NDPfc + NFIA

Short Tricks to Aggregates of National Income




Domestic
(+) NFIA
National
(-) NFIA
Market Price (MP)
(-) NIT
Factor Price (FC)
(+) NIT

Methods of Calculating National Income

National Income can be calculated from three different aspects:

i) As the sum total of value added by all producing units in the economy.
ii) As the sum total of factor income generated in the economy during the period of a financial year.
iii) As the sum total of expenditure on the final goods and services produced in an economy in a financial year.

Methods of Calculating National Income-

1) **Value Added Method/Product Method**
2) **Income Method**
3) **Expenditure Method**

Value Added Method/ Product Method

This method is used to measure national income in different phases of production in the circular flow. It shows the contribution of (Value Added) of each producing unit in the production process.

In this method, the money value of goods and services produced in an economy is computed.

There are two ways to estimate National Income according to this method:

i) Final Product Method-

The market value of final goods and services produced in a country are included.
The market value is computed by multiplying all the final goods and services produced in a country with their respective market Prices.

ii) Value Added Method –

Under this method, from the value of output, the value of intermediate consumption is deducted to find the value added to the product.

Concept of Value Added

Value added refers to the addition of value to the raw material (intermediate goods) by a firm, by virtue of its productive activities.

So,

Value Added = Value of Output – Intermediate Consumption

Intermediate Consumption –

Refers to the expenditure incurred by a production unit on purchasing those goods and services from other production units, which are meant for resale.

Value of Output-

Value of output refers to Market value of all goods and services produced during a period of one year.

Value of Output = Sales + Change in Stock + Production of Self-Consumption

[Change in Stock = Closing Stock – Opening Stock]

Or

Value of Output= (Quantity × Price) + Change in Stock

Another Name of this method –

Inventory Method, Net Output method, Industrial Origin Method and Commodity Service Method.

Steps of calculating Value Added Method: -

Step 1: Identify and classify the production Units-

Production sectors of economy –

- Primary Sector
- Secondary Sector
- Tertiary Sector

Step 2- Estimation of Value Added in each sector-

- VAp = Value of Output of Primary Sector – Intermediate Goods
- VAs= Value of Output of Secondary Sector – Intermediate Goods
- VAt= Value of Output of Tertiary Sector – Intermediate Goods

Step 3: Estimation of Gross Value Added at Market Price (GVAmp)-

GVAmp = GDPmp

GDPmp = VAp + VAs + Vat

Step 4: Estimation of Net Value Added at Factor Cost (DOMESTIC INCOME – NDPfc)

NDPfc = GDPmp – Depreciation – Net Indirect Tax

Step 5: Estimation of National Income –

National Income (NNPfc) = NDPfc + Net Factor Income from Abroad

Example: Calculate National Income from the following data:

S.N.	Contents	₹ in crores
i	Sales	800
ii	Purchase of raw material from Domestic Market	400
iii	Import of Raw Market	100
iv	Subsidies	30
v	Consumption of Fixed Capital	40
vi	Change in Stock	50
vii	Rent	70

viii	Net Factor Income from Abroad	10

Solution:

GDPmp = Sales + Change in stock – (Purchase of raw Material from domestic market + Import)

GDPmp = 800 + 50 – (400 + 100)

GDPmp = 850-500 = ₹350cr.

National Income (NNPfc) = GDPmp - Consumption of Fixed Capital- (-Subsidies) + Net Factor Income from Abroad

NNPfc = 350 -40 + 30 + 10 = ₹350 cr.

Precautions of Value-Added Method-

1. Intermediate Goods are not to be included in the national income.
2. Sale and Purchase of second-hand goods is not included.
3. Production o services for self-consumption (Domestic Services) are not included.
4. Production of goods for self-consumption will be included.
5. Imputed value of owner – occupied houses should be included.
6. Sale and purchase of shares, bonds and debentures (new and old) will not be included.

Problem of Double Counting-

Double counting refers to counting of an output more than once while passing through various stages of production.

How to avoid double counting?

There are two ways to avoid double counting –

1)Final Output Method

2)Value Added Method

<u>Income Method</u>

In this method, the National Income is measured in terms of factor payments (wages, rent, interest and profit) to the owners of factors of production during an accounting year.

This method is also known as Distributive Share Method and Factor Payment Method.

Components of Factor Payments:

Factor	Factor Payments
Labour	Compensation of Employees
Land	Rent and Royalty
Capital	Interest
Enterprise	Interest
Self employed	Mixed Income

1. Compensation of Employees (CoE)

Refers to amount paid to employees by employer for rendering productive services.

It's included-

i) Wages and salaries in cash

ii) Payment in kind

iii) Employer's contribution to social security schemes

iv) *Pension on retirement*

2. Profit

Is the reward to the entrepreneur for his contribution to the production goods and services.

Profit = Corporate Tax + Dividend + Retained Earnings (Undistributed Profits)

3. Operating Surplus

It refers to income from property and entrepreneurship.

Operating Surplus= Rent + Profit + Interest

4. Mixed Income-

It is the income generated by own-account workers (farmers, barbers etc.) and unincorporated enterprises (retail traders etc.)

Steps to estimate National Income:-

Step 1- Estimation of Domestic Income (NDPfc)

NDPfc = Rent + Interest + Profit + Compensation of employees+ mixed income of self employed.

Step 2- Estimation of National Income (NNPfc)

NNPfc = NDPfc + Net Factor Income from Abroad.

Example: From the following data, calculate National Income. (CBSE, 2008)

S.N.	Particulars	₹ in crores
i	Compensation of employees	800
ii	Rent	200
iii	Wages and salaries	750
iv	Net exports	-30
v	Net Factor Income from Abroad	-20
vi	Profit	300
vii	Interest	100
viii	Depreciation	50

Solution:

NDPfc = Compensation of employees + rent + wages and salaries + profit + Interest

NDPfc = 800 + 200 + 750 + 300 + 100

NDPfc = ₹2150 cr.

National Income (NNPfc) = NDPfc + Net Factor Income from Abroad

NNPfc = 2150 + (-20)

NNPfc = ₹2130 cr.

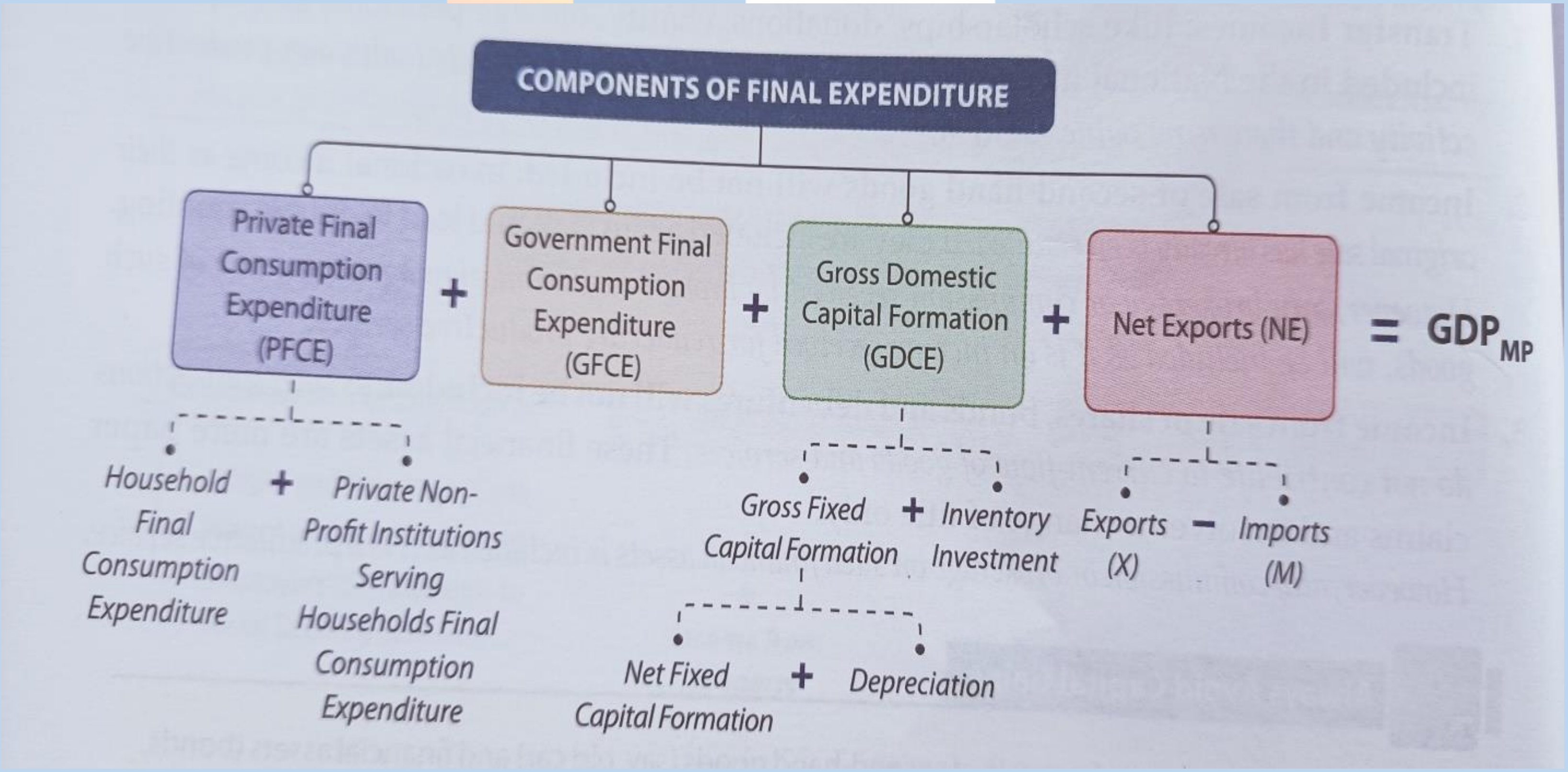
Precautions of Income Method:

1. Transfer Incomes are not included
2. Income from sale of second-hand goods will not be included
3. Income from sale of shares, bonds and debentures will not be included.
4. Imputed value of services provided by owner of production units will be included.

Expenditure Method

According to this method, National Income is measured in terms of expenditure on the purchase of final goods and services produced in the economy during an accounting year.

Components of Final Expenditure



1. Private Final Consumption Expenditure (PFCE):

It refers to expenditure incurred by households and private non-profit institutions serving households on all to types of consumer goods.

PFCE = Household final consumption expenditure+ Private- Non-Profit Institutions serving Households Final Consumption Expenditure

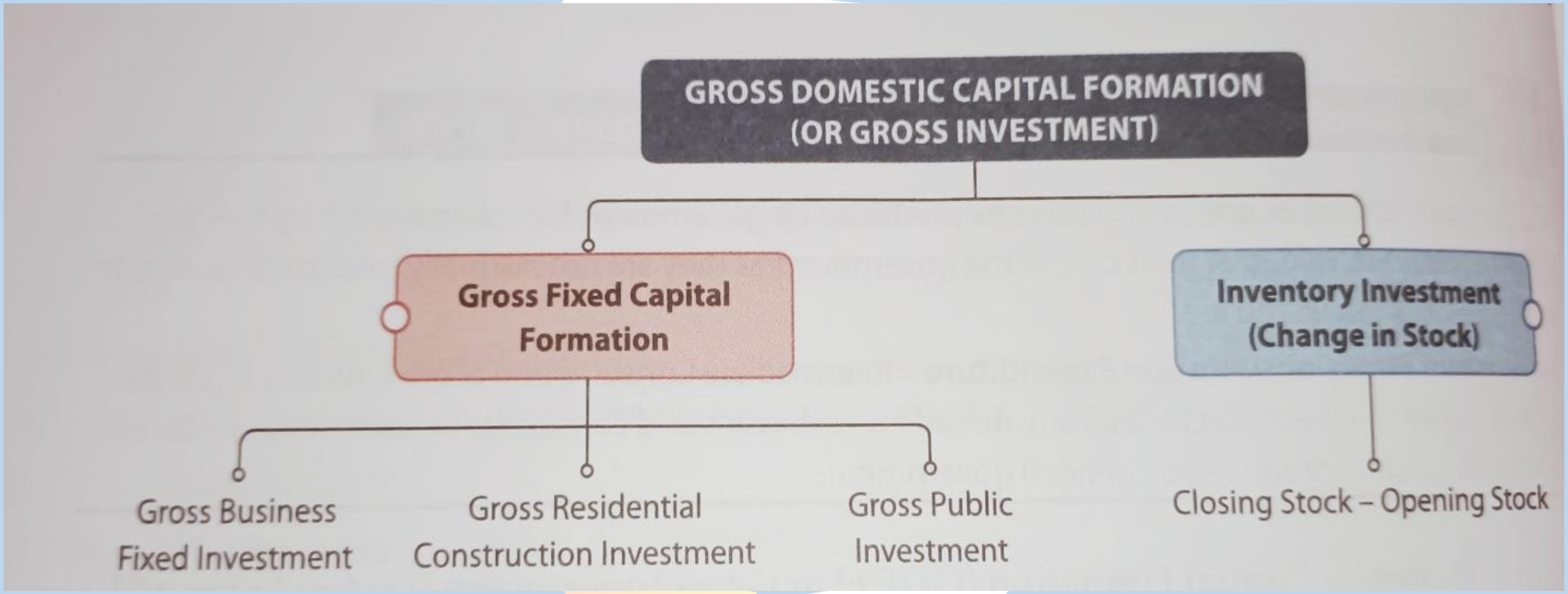
2. Government Final Consumption Expenditure (GFCE):

It refers to the expenditure incurred by general government on various administrative services like defence, law and order etc.

3. Gross Domestic Capital Formation (GDCF) / Gross Investment:

Refers to the addition of capital stock in the economy.

GDCF = Gross Fixed Capital Formation+ Inventory Investment.



4. Net Exports (X-M)

It refers to the difference between exports and imports of a country during a period of one year.

Net Export= Export – Import

Steps of Estimation National Income by Expenditure Method:

Step 1: Classification of Final Expenditure –

Final Expenditure are four types: -

i) Private Final Consumption Expenditure (PFCE)
ii) Government Final Consumption Expenditure (GFCE)
iii) Gross Domestic Capital Formation (GDCF)
iv) Net Export (X-M)

Step 2: Calculation of Total Expenditure (GDPmp)

GDPmp = PFCE + GFCE + GDCF +(X-M)

Step 3: Calculation of Domestic Income:

NDPfc = GDPmp – Depreciation – Net indirect Taxes

Step 4: Calculation of National Income

NNPfc= NDPfc + Net Factor Income from Abroad

Example: Calculate National Income by using following data –

	Contents	₹ in crore
i	Private Final Consumption Expenditure	750
ii	Government Final Consumption Expenditure	150
iii	Consumption of Fixed Capital	150
iv	Net Indirect Taxes	120
v	Net Factor Income from Abroad	20
vi	Net Domestic Fixed Capital Formation	220
vii	Change in stock	-20
viii	Net Imports	50

Solution:

GDPmp = Private Final Consumption Expenditure + Government Final Consumption Expenditure + (Net Domestic Fixed Capital Formation + Change in stock) + Net Imports

GDPmp = 750 + 150 + (220 -20) + (-50)

GDPmp = ₹ 1050 cr.

NNPfc = GDPmp - Consumption of Fixed Capital - Net Indirect Taxes + Net Factor Income from Abroad

NNPfc = 1050 -150 – 120 + 20

NNPfc = ₹800 cr.

Precautions of Expenditure Method:

1. Expenditure on Intermediate Goods will not be included in the national income
2. Transfer Payments are not included
3. Purchase of second-hand goods will not be included.
4. Purchase of financial assets (shares, debentures) will bot be included.
5. Expenditure on own account production will be included.

Question 1: Find Gross Value Added by Firm A, given the following information:

S.N.	Items	₹
1	**Purchase of Factor inputs by firm A**	**5,00,000**
2	**Purchase of Non-factor inputs by firm A**	**2,00,000**
3	**Sales of firm A to other firms in the domestic economy**	**10,00,000**
4	**Import of raw material by firm A from rest of the world**	**50,000**
5	**Excess of its opening stock over closing stock**	**1,00,000**

Solution:

Question 2: Calculate Value of output from the following data:

S.N.	Items	₹
1	**Net value added at factor cost**	**100**
2	**Intermediate consumption**	**75**
3	**Excise duty**	**20**
4	**Subsidy**	**5**
5	**Depreciation**	**10**

Question 3: Calculate 'sales' from the following data:

S.N.	Items	₹
1	**Net value added at factor cost**	**300**
2	**Intermediate consumption**	**200**
3	**Indirect Tax**	**20**
4	**Depreciation**	**30**
5	**Change in stock**	**(-)50**

Question 4: Calculate Net Value Added at Factor Cost from the following data:

S.N.	Items	₹
1	**Durable use producer goods with a life span of 10 years**	**10**
2	**Single use producer goods**	**5**
3	**Sales**	**20**
4	**Unsold output produced during the year**	**2**
5	**Taxes on production**	**1**

Question 5: From the following data Calculate 'National Income':

S.N.	Items	₹
1	Consumption of employees	800
2	Rent	200
3	Wages and salaries	750
4	Net exports	-30
5	Net factor income from abroad	-20
6	Profit	300
7	Interest	100
8	Depreciation	50
9	Remittances from abroad	80
10	Taxes on profits	60

Question 6: From the following data Calculate 'Operating Surplus':

S.N.	Items	₹
1	Net Indirect Tax	300
2	Gross domestic product at market price	3120
3	Employees contribution to social security scheme	200
4	Compensation of employees	1600
5	Rent	200
6	Interest	150
7	Net factor income from abroad	-20
8	Depreciation	200