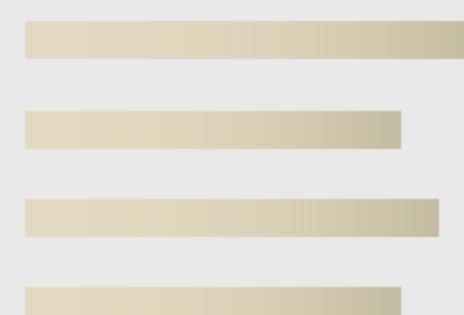


National Income



Determination of NATIONAL INCOME

- V. easy

Unit-1: NATIONAL INCOME Accounting

Different concepts
of National Income

Limitations & Challenges of
National Income Computation

Measurement of
National Income in India

CA Hardik Manchanda

Different Concepts of NATIONAL INCOME

Gross Domestic Product

Gross domestic product (GDP) is a measure of the **market value** of all **final economic goods and services**, produced within the **domestic territory of a country** during a **given time period**.

It includes the value of goods produced, such as houses and mobiles, and the value of services, such as telecom, health, insurance.

The output of each of these is valued at its market price, and the values are added together to get GDP.

1. Market value



100 cars



200 Mobile phone



10.000 litres

Market
value

5 crores

20.00.000

500.000

GDP = 5,25,00,000

2. Final Goods & Services: Those goods which are either used for consumption Or for Investment [Capital Goods]



Consumption

Investment

→ Value of Intermediate goods are not included.



Used in further prod. →



3 litres of Milk
Market value ₹150

Consumed by Household

This is final goods, will be incl. in GDP

Market value ₹500

Already includes the value of Milk - ₹150
→ Value of Milk will not be incl. in GDP

* Economic goods - which are exchange in a Market.
 → Food prepared at home for family members is not included.

3. Domestic territory : Geographical boundary of the Country.

Hardik (Indian) - Services in India - ₹100
 Taylor Swift (Non-India) - concert in India - ₹10cr. -] will be included in GDP

→ Hardik (Indian) - Services Outside India] not incl. in GDP

4. Given time period - GDP is a flow variable, includes goods & services during the year.

Example



	<u>Price</u>	<u>Qty</u>	<u>GDP</u>	
2022	10,000	x 10	100,000	} Nominal GDP ↓ GDP at current prices
2023	12,000	x 9	108,000	

$$\text{Nominal GDP} = \text{Current year Market price} \times \text{Qty of goods \& services prod during the year}$$



Nominal GDP changes bcz of 2 reasons

Change in Qty

Change in Prices

→ If our goal is to measure production & its changes over time, we need to eliminate the effect of change in prices on our measure of GDP

For this, we need to calculate Real GDP

GDP is calculated using the price of selected 'Base year'!

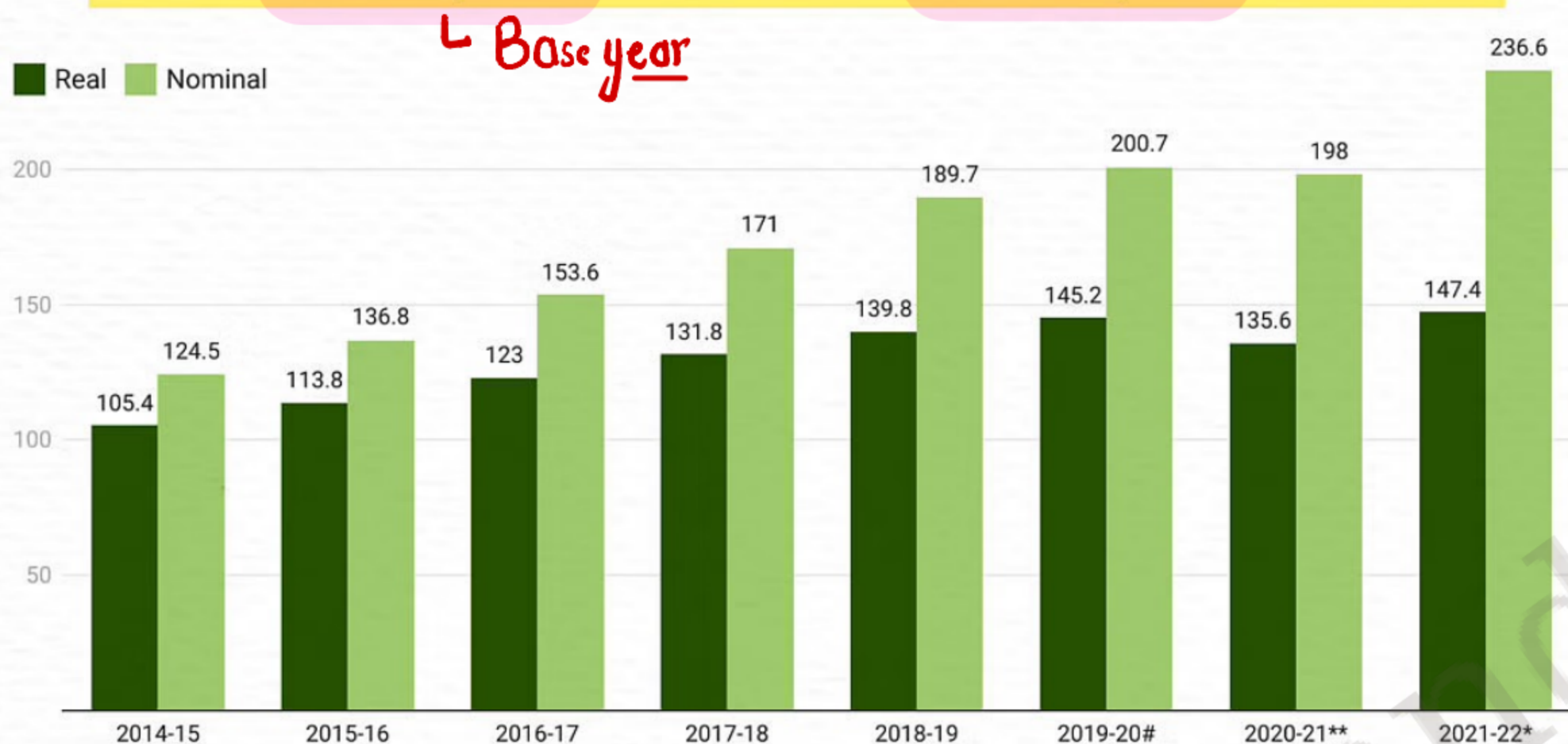
* GDP at Constant prices.

	<u>Price</u>	Qty	Nominal GDP	<u>Real GDP</u>
2022	10,000	10	100,000	100,000
2023	12,000	9	108,000	90,000

* Real GDP is not affected by change in Prices.

GAPS BETWEEN THE NOMINAL AND REAL GDP

Real GDP (2011-12 prices) and Nominal GDP (at current prices) in Rs. Lakh cr



Note: *Provisional estimates **Revised estimates #Second revised estimates
Source: Ministry of Statistics and Programme Implementation



Example:

	Qty	Price	Nominal	Real GDP
✓ 2011-12	100	20	2000	2000
2021-23	150	50	7500	3000

$$\text{Real GDP Growth \%} = \frac{3000 - 2000}{2000} \times 100$$

$$= \frac{1000}{2000} \times 100 = 50\%$$

$$\rightarrow 2000 + \frac{50}{100} \times 2000$$

$$= \underline{3000}$$

Base year

Real GDP or Gross Domestic Product (GDP) at Constant (2011-12) Prices in Q1 2022-23 is estimated to attain a level of ₹ 36.85 lakh crore, as against ₹ 32.46 lakh crore in Q1 2021-22, showing a growth of 13.5 percent as compared to 20.1 percent in Q1 2021-22

$$\begin{aligned} \text{Real GDP [22-23]} - Q_1 &= ₹ 36.85 \\ \text{Real GDP [21-22]} - Q_1 &= ₹ 32.46 \end{aligned}$$

$$\Rightarrow \frac{36.85 - 32.46}{32.46} \times 100 = \frac{4.39}{32.46} \times 100 = 13.53\%$$

$$= \frac{C_Y - P_Y}{P_Y} \times 100$$

Ex-

	Price	Qty	Nominal GDP	Real GDP
2011-12	150	50	7500	7500
2022-23	300	200	60,000	30,000
			200×300	200×150

$$\Rightarrow \frac{\text{Nominal GDP}}{\text{Real GDP}} = \frac{200 \times 300}{200 \times 150}$$

$$= \frac{300}{150} = 2$$

↓
GDP Deflator



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

$$= \frac{60,000}{30,000} \times 100 = \underline{\underline{200}}$$

Product jo ₹100 ko
tha in the base year (11-12),
wo C.Y (22-23) me ₹200
ka hoga.

Ex-

Nominal GDP - ₹7500

GDP deflator - 250, Calculate Real GDP

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

$$= \frac{7500}{250} \times 100$$

$$= 3000$$

GDP Deflator = Can be used to deflate or take
inflation out of GDP.

Price Index

$$\rightarrow \frac{\text{Price of CY}}{\text{Price of Base year}}$$

→ Deflator measures the change in prices that has
occurred b/w base year & current year.

Example-

2011-12
2022-23

Nominal GDP
2000
10,000

Real GDP
2000
4000

1. GDP deflator of the base year -
2. GDP deflator of 22-23.

$$1. \text{ GDP deflator of } 2011-12 = \frac{2000}{2000} \times 100 = \underline{100}$$

→ The deflator of the base year is always 100

$$2. \text{ GDP deflator of } 22-23 = \frac{10,000}{4000} \times 100 = 250$$

Ex-

Nominal GDP = 9000

Real GDP = 10,000

$$\text{GDP deflator} = \frac{9000}{10,000} \times 100 = 90$$

ILLUSTRATION 1

Find out GDP Deflator? Interpret It

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

GDP Deflator > 100, this indicates that price levels has increased as compared to the base year.

ILLUSTRATION 2

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

$$\text{GDP deflator} = \frac{3000}{4700} \times 100 = 63.83$$

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

ILLUSTRATION 3

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

GDP deflator

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

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

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

ILLUSTRATION 4

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

	Nominal GDP	Price Index- GDP def
Base year 2010	600 cr.	100
2018 ✓	1200 cr.	110

(i) Real GDP of 2010 - 600 cr

$$\begin{aligned} \rightarrow \text{Real GDP of 2018} &= \frac{1200 \text{ cr.} \times 100}{110} \\ &= ₹ 1090.91 \text{ cr.} \end{aligned}$$

→ We can calculate Inflation rate using GDP deflator

$$\text{Inflation rate in year 2} = \frac{\text{GDP deflator in year 2} - \text{GDP deflator in year 1}}{\text{GDP deflator in year 1}} \times 100$$

(In Billion Rs.)	
Years	GDP Deflator
2014	100
2015	123.08
✓ 2016	143.75
2017	136.84
2018	130.25
2019	137.10

Inflation Rate

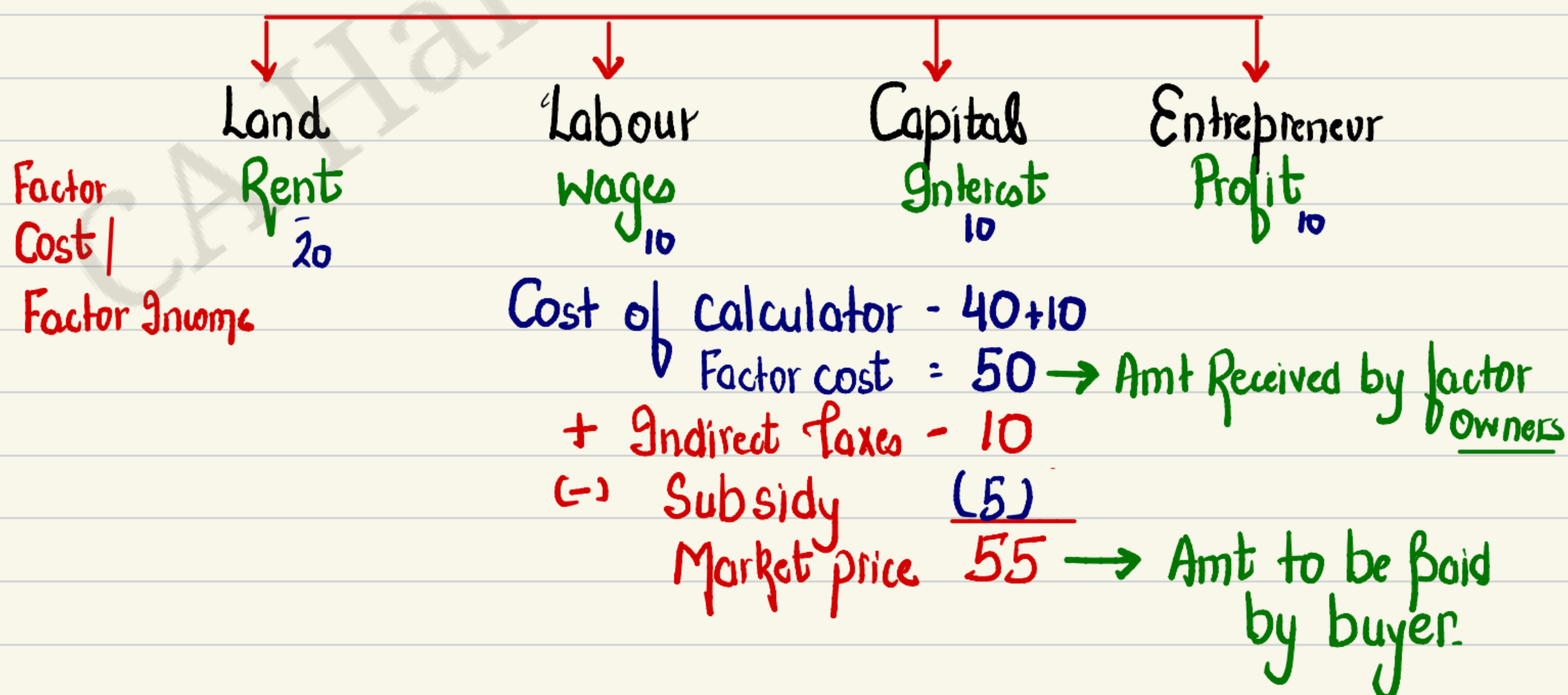
$$\rightarrow \frac{123.08 - 100}{100} \times 100 = 23.08\%$$

$$\frac{143.75 - 123.08}{123.08} \times 100 = 16.79\%$$

$$\rightarrow \frac{136.84 - 143.75}{143.75} \times 100 = -4.81\%$$

$$\rightarrow \frac{137.10 - 130.25}{130.25} \times 100 = 5.26\%$$

→ Factors of Production



→ $\text{Factor Cost} + \text{Net Indirect Taxes} = \text{Market price}$

↓

$+ \text{Indirect Taxes} - \text{Subsidy}$

Eg- $\text{GDP}_{MP} = ₹ 500$
 $\text{Indirect Taxes} = ₹ 40$
 $\text{Subsidies} = ₹ 10$

Calculate GDP_{FC}

$$\begin{aligned} \text{GDP}_{FC} &= \text{GDP}_{MP} - \text{Indirect Taxes} + \text{Subsidy} \\ &= 500 - 40 + 10 \\ &= ₹ 470 \end{aligned}$$

eg- $\text{GDP}_{FC} = 850$
 $\text{Net Indirect Taxes} = 80$
 $\text{Subsidies} = 20$

Calculate GDP_{MP} ?

$$\begin{aligned} \text{GDP}_{MP} &= \text{GDP}_{FC} + \text{Ind. Tax} - \text{Subsidy} \\ &\quad \text{Net Indirect Taxes} \\ &= 850 + 80 \\ &= \underline{\underline{₹ 930}} \end{aligned}$$

Domestic v/s National

Goods & Services
produced in INDIA

whether Resident or
Non-Resident

Income earned by
Residents within
Domestic territory



Tara Clothing

A

Income earned
by Non-Residents
within Domestic
territory



B

$$\begin{aligned} \rightarrow \text{Domestic} &= A + B \\ \text{Domestic} - B &= A \end{aligned}$$

Should be produced
by INDIAN Residents
whether in India or
Outside India.

Income earned
by Residents within
Domestic Territory



Tara Clothing

A

Income earned
by Residents
outside the
Domestic
territory.



C

$$\begin{aligned} \text{National} &= A + C \\ \text{National} - C &= A \end{aligned}$$

$$\begin{aligned} \rightarrow \text{Domestic} - B &= \text{National} - C \\ \text{Domestic} + C - B &= \text{National} \end{aligned}$$

Factor Income from Abroad

Factor Income to
Abroad



→
$$\text{Domestic} + \text{Factor Income from Abroad} - \text{Factor Income to Abroad} = \text{National}$$

Net factor Income from Abroad [NFIA]

Ex- GDP_{MP} - 1200
 Factor Income from abroad - 200
 Factor Income to abroad - 250,

GDP_{MP} ?

$$\text{GDP}_{MP} = \text{GDP}_{MP} + \text{Fact Inc from abroad} - \text{factor Income to Abroad}$$

$$= 1200 + \underline{200 - 250}$$

$$\text{GDP}_{MP} = \underline{\underline{1150}}$$

	Domestic	National
1. Income earned by Indian Co. in USA	×	✓
2. Income earned by American Co. in India	✓	×
3. Income earned by Indian Resident in India	✓	✓

Gross v/s Net

Eg- 2022-23
 Machines produced - ₹ 10,000 ✓
 Other Goods & Services produced - ₹ 40,000
 GDP_{MP} ₹ 50,000
 Useful life > 1 year

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

↳ Consumption of fixed capital.

→ Dep - Portion of fixed cap used up in the process of production.

Important formulas

- $\text{GINP}_{FC} = \text{GDP}_{FC} + \text{NFIA}$
- $\text{GDP}_{MP} = \text{GDP}_{FC} + \text{Indirect Taxes} - \text{Subsidies}$
or $+ \text{Net Indirect Taxes}$
- $\text{GINP}_{FC} = \text{GDP}_{MP} + \text{NFIA} - \text{Indirect Taxes} + \text{Subsidies}$
- $\text{NNP}_{FC} = \text{GDP}_{MP} - \text{Dep} + \text{NFIA} - \text{Ind. Tax} + \text{Subsidies}$
- $\text{GINP}_{MP} = \text{NDP}_{FC} + \text{Dep} + \text{NFIA} + \text{Ind. Tax} - \text{Subsidies}$

Multiple Choice Questions

1) _____ is a measure of the market value of all final economic goods and services, produced within the domestic territory of a country by normal residents during an accounting year including net factor incomes from abroad.

- a) GDP
- ☒ b) GNP
- c) NDP
- d) NNP

$$GDP + NFIA$$

2) If Net Factor Income from Abroad is positive, then GNP would be _____ than GDP

- ☒ a) Greater
- b) Lower
- c) Equal
- d) Can't say

$$+ \frac{FIFA}{60} > - \frac{FITA}{70}$$

$$GNP > GDP$$

3) _____ is a measure of the market value of all final economic goods and services, produced by normal residents within the domestic territory of a country including Net Factor Income from Abroad during an accounting year. excluding depreciation.

- a) GDP x
- b) GNP
- ☒ c) NNP
- d) NDP x

$$\downarrow$$

$$\underline{N} \underline{NP}$$

Ind. Dep

MP & FC

$FC + \text{Ind. Tax} - \text{Sub} = MP$

4) Gross Domestic Product (GDP) of any nation

- a) excludes capital consumption and intermediate consumption
- b) is inclusive of capital consumption or depreciation
- ☒ c) is inclusive of indirect taxes but excludes subsidies
- d) None of the above

5) Gross National Product at market prices $\checkmark \text{GNP}_{MP}$ is

☒ a) $\text{GDP}_{MP} + \text{Net Factor Income from Abroad}$

b) $\text{GDP}_{MP} - \text{Net Factor Income from Abroad}$

c) $\text{GDP}_{MP} - \text{Depreciation}$

$$N = D + NFIA$$

d) $\text{GDP}_{MP} + \text{Net Indirect Taxes}$ ☒

6) The basis of distinction between market price and factor cost is

☒ a) net factor income from abroad

☒ b) net indirect taxes (i.e., Indirect taxes - Subsidies)

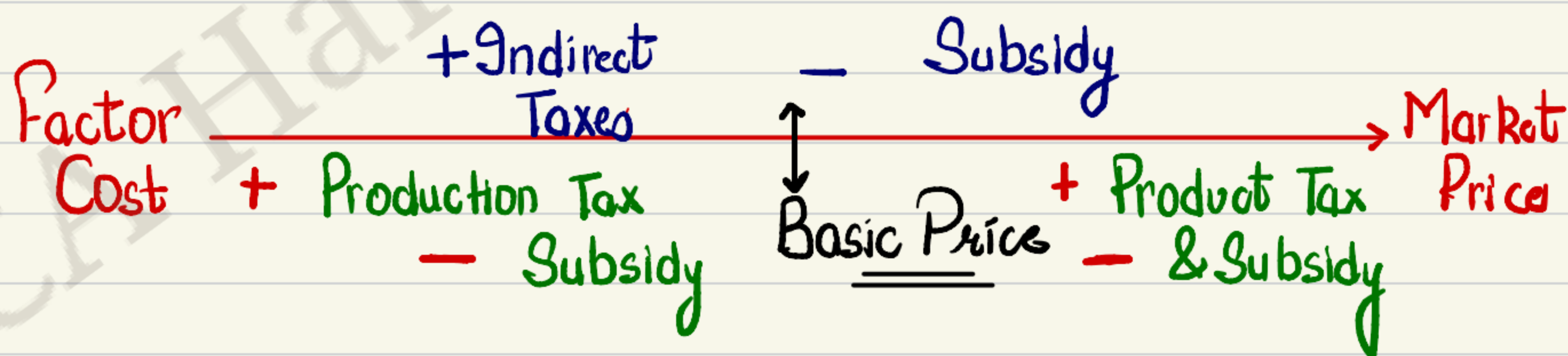
c) ☒ net indirect taxes (i.e., Indirect taxes + Subsidies)

d) ☒ depreciation (consumption of fixed capital)



Exclusions from GDP

1. Transfer Payment / Income: These payments do not result in the production of goods or services.
Non-factor Income Ex. Social security benefits, Donation, gifts etc.
2. Financial transaction: Stocks / shares which are exchanged in the Market are not included.
 However, Value of services that a company sale & purchase are included. ↳ brokerage by zerodha
3. Sale of 2nd hand Goods.
4. Unreported Output :- Illegal transactions
Ex. Gambling



Taxes & Subsidy

↓
Production
Tax & Subsidy

→ Independent of
volume of Actual Production

Ex- factory license, pollution tax,
Reg. fees, etc.

↓
Product Tax &
Subsidy

- On the basis of
unit of production

Ex- GST, import & export
duty etc.

Subsidy - Ex- Subsidies to small
Industries in villages.

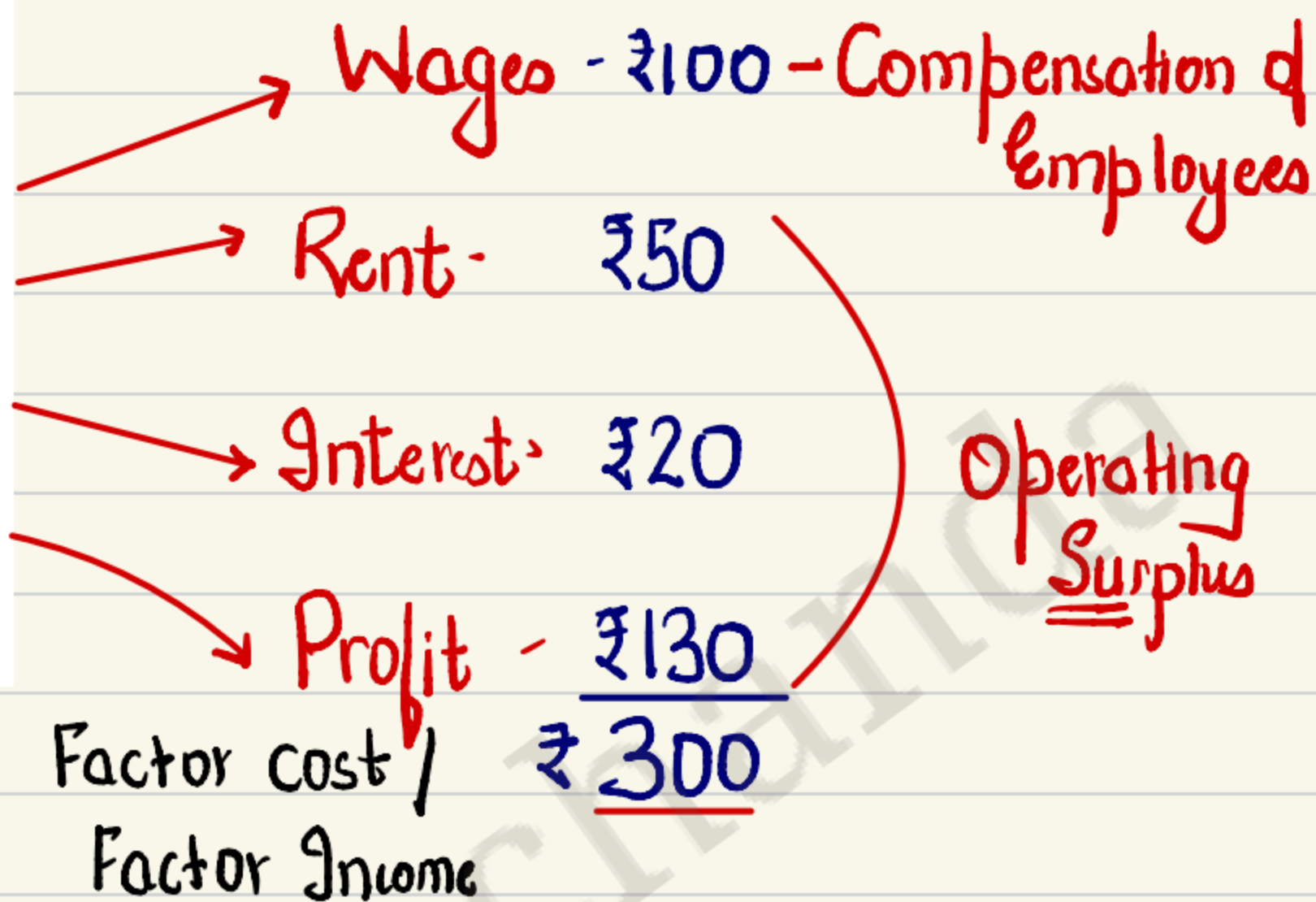
Ex- Subsidies on LPG, fertilisers, etc.

$$\Rightarrow \text{Basic Price} = \text{Factor cost} + \text{Production Tax} - \text{Production Subsidy}$$

$$\text{Market price} = \text{Basic Price} + \text{Product Tax} - \text{Product Subsidy}$$

$$\text{Market Price} = \left(\begin{array}{l} \text{Factor cost} \\ + \text{Production Tax} \\ - \text{Production Subsidy} \\ + \text{Product Tax} \\ - \text{Product Subsidy} \end{array} \right) \text{Basic Price}$$

* Calculation of National Income using Income Method



→ Whatever is produced by a producing unit is distributed among factors of production.

→ Operating Surplus = $\frac{\text{Rent} + \text{Interest}}{\text{Income from property}} + \frac{\text{Profit}}{\text{Income from entrepreneurship}}$

Represents the Income earned by businesses & entrepreneurs from their productive activities

→ Op. Surplus = Income from prop + Income from Entrepreneurship

→ Mixed Income of Self-employed



- Uses own Labour
- Own Capital
- Own property
- Entrepreneur

Cannot differentiate
b/w wages,
Int or profit

Enterprises which are ^{not} incorporated, uses their own land,

labour, capital & entrepreneurship.

→ Remuneration earned by self employed is known as Mixed Income.

Domestic Income :- Total factor income earned by factors of production within domestic territory.

NDP_{FC}

→ Wages — Compensation of employees
+ Rent +
+ Interest — Operating profit
+ Profit +
+ Mixed Income of self employed



$$\text{National Income} = \text{Domestic Income} + \text{NFIA}$$

$$\downarrow$$

$$\boxed{\text{NNP}_{\text{FC}}} = \text{NDP}_{\text{FC}} + \text{NFIA}$$

Ques:- Calculate National Income from the following :
NNP_{FC}

	₹ in crores
Compensation of employees	520 ✓
X ↓ Factor income to abroad	30
<u>Net factor income from abroad</u>	70
Net indirect Taxes	40 x
Income from property ✓	310 + Rent, Int
Rent	60 x
Mixed Income of Self employed	605
Profits	420

$$\text{NNP}_{\text{FC}} = 520 + 70 + 310 + 605 + 420$$

$$= ₹ \underline{1925} \text{ crores}$$

$$NNP_{FC} = NDP_{FC} + NFIA$$

Income earned by Residents from Abroad [FIFA]

Income earned by Non-Residents from India [FITA]

Compensation from employees

Compensation from emp.

- Profit - 100 (60/40)
- + Net compensation from employees.
 - + Net income from property
 - + Net income from entrepreneurship
 - + Net Retained earning

NFIA = Net compensation from emp.
+ Net Income from property & entrepreneurship
+ Net Retaining earnings.

$$GDP_{FC} = NDP_{FC} + Depreciation$$

- =
- + Comp of Emp
 - + Op. Surplus [Rent + Int + Profit]
 - + Mixed inc of self emp
 - + Dep.

- Per Capita Income / Per capita GDP

↓

$\frac{\text{Country's GDP, adj by Inflation}}{\text{Total population}}$ - Real GDP

→ Measure of Country's economic output per person.

→ It serves as indicator of the Standard of living of a Country.

7) The GDP per capita is

(a) a measure of a country's economic output per person ✓

(b) actual current income receipts of persons ✗

(c) national income divided by population ✓

✓ (d) (a) and (c) above

National Income v/s

Personal Income

↓

Includes factor income earned, irrespective of whether received or not.

↓

Includes income Received by Household Sector including NPIH.

↳ Factor income as well as Transfer income are included.

→ Measure of income earned factor

→ Measure of Actual Income Received from all sources.

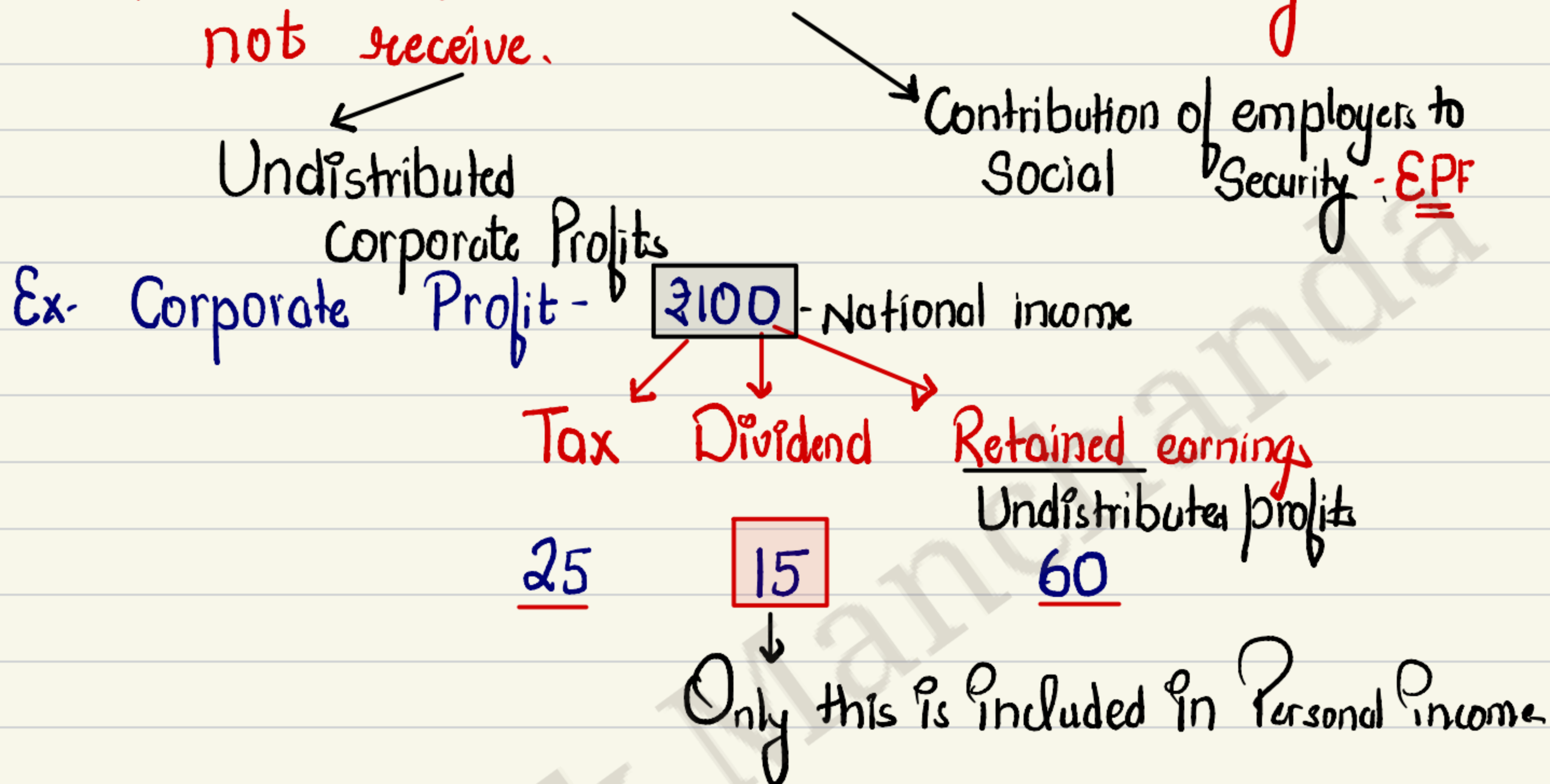
NPISH - Non Profit Institution Serving Households.
 - They receive voluntary contributions, donations, grants.
 Ex. Charitable organisation, educational organisations, etc.

	Factor Income (earned income)		Transfer Income	
	Received	Not Received	Received	Not Received
<u>National Income</u>	✓	✓	×	×
Personal Income	✓	×	✓	×

Personal Income = **National Income**
 (-) Income earned but not Received
 + Income Received but not earned

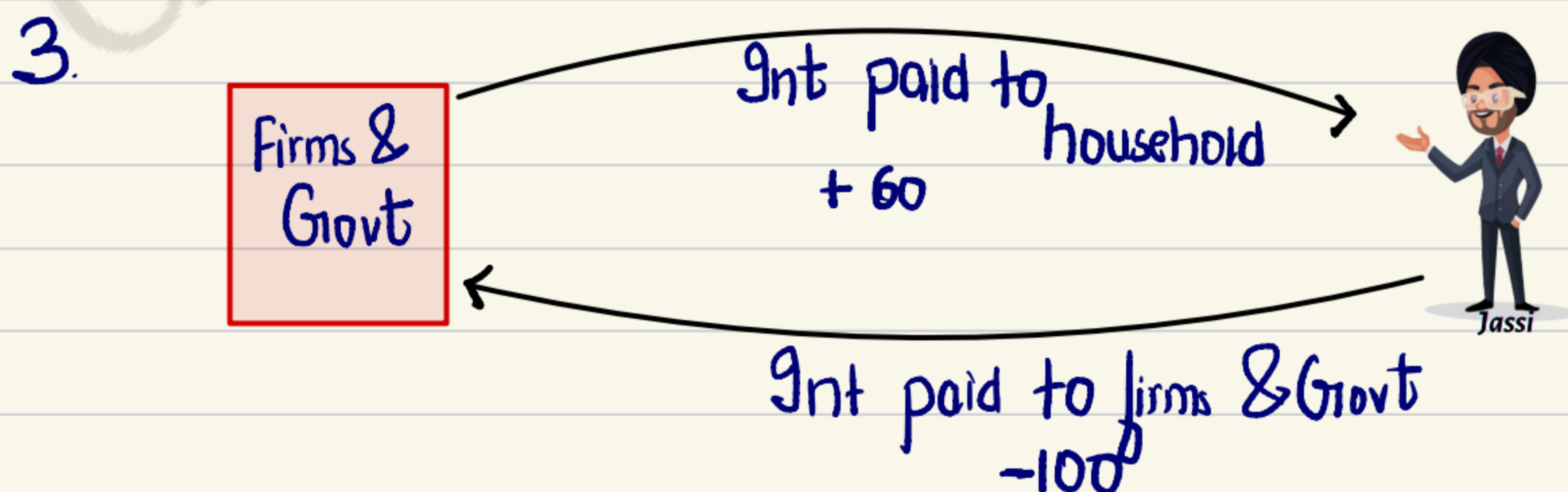
Important points :-

1. Individuals also contribute income which they do not receive.



2. Personal Income excludes :-

- a) Retained earnings
- b) Indirect business tax
- c) Corporate Income Tax
- d) Contribution towards Social Security.



Net Int = (40)

- Net Interest paid by household to firms & Govt is also deducted from National Income.

$$\text{Net Int payment} = \text{Int paid} - \text{Int Received.}$$

Personal Income = National Income

- Undistributed profits
- Corporate Tax
- + Transfer payments to the households
- Net Int paid by households

4. National Income is not the Sum of personal income

⇒ Disposable Personal Income

↓

Personal Income

(-) Personal Income Tax

(-) Non Tax payment — fee, challan

* Money in the hands of households, available for consumption, savings.

eg -

₹ in Crores

NDP _{FC}	8000
NFIA	200 +
Undistributed profits	1000 (-)
Corporate Tax	500 (-)
Int rec. by households	1500 +
Int paid by households	1200 -
Transfer income	300 +
Personal Tax	500

Net Int paid

$$= 1200 - 1500 = (300)$$

$$\begin{aligned}\text{Personal Income} &= 8000 + 200 - 1000 - 500 \\ &\quad + 1500 - 1200 + 300 \\ &= ₹7300\end{aligned}$$

$$\begin{aligned}\text{Disposable Personal Income} &= 7300 - 500 \\ &= ₹6800\end{aligned}$$

ILLUSTRATION 5

From the following data, calculate NNP_{FC} , NNP_{MP} , GNP_{MP} and GDP_{MP} .

Items	₹ in Crores
Operating surplus — Rent, Int & prop.	2000
Mixed income of self-employed	- 1100
Rent	550
Profit	800
Net indirect tax	450
Consumption of fixed capital - Dep.	400
Net factor income from abroad	-50
Compensation of employees - wages	1000

$$1. \quad NNP_{FC} = 2000 + 1100 - 50 + 1000 \\ = 4050$$

$$2. \quad NNP_{MP} = NNP_{FC} + \text{Indirect Taxes} - \text{Subsidy} \\ = 4050 + 450 \\ = 4500$$

$$3. \quad GNP_{MP} = NNP_{MP} + \text{Dep} \\ = 4500 + 400 \\ = 4900$$

$$4. \quad GDP_{MP} = GNP_{MP} - NFIA \Rightarrow 4900 - (50) = 4950$$

ILLUSTRATION 7

Calculate the aggregate value of depreciation when the GDP at market price of a country in a particular year was ₹ 1,100 Crores. Net Factor Income from Abroad was ₹ 100 Crores. The value of Indirect taxes – Subsidies was ₹ 150 Crores and National Income was ₹ 850 Crores.

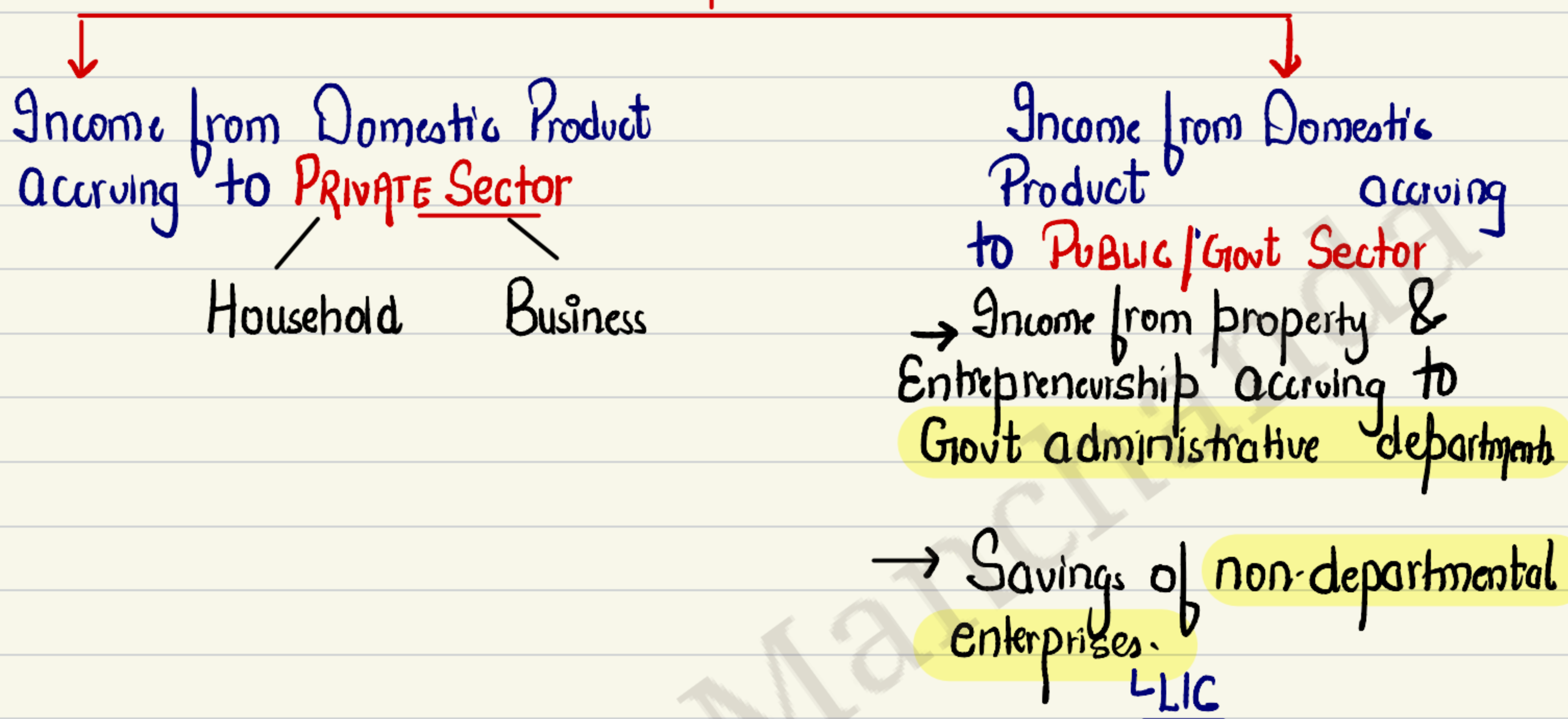
$$\underline{GDP}_{MP} = 1100, \quad NFIA = 100, \quad NIT = 150$$

$$\underline{NNP}_{FC} = 850$$

$$\begin{aligned} \underline{GDP}_{MP} &= \underline{NNP}_{FC} + Dep - NFIA + NIT \\ 1100 &= 850 + Dep - 100 + 150 \\ Dep &= ₹ 200 \text{ crores} \end{aligned}$$

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Domestic Income (NDP_{FC})



$$\text{NDP}_{FC} = \text{Income from Domestic product accruing to Private Sector} + \text{Income from Domestic product accruing to Govt. Sector}$$

Factor Income

$$\text{Income from Domestic Product accruing Private Sector} = \text{NDP}_{FC} \quad \text{↳ Income from Domestic product accruing to Govt Sector}$$



Private Income = Income which accrues to the Private sector from all sources within & outside the country.

Household Business

Factor Income Transfer Income NFIA

Private Income = Income from Domestic product accruing to Private Sector
 + NFIA
 + Transfer Income

→ Transfer Income = 1. Int on National Debt
 ↳ Loan taken by Govt. for consumption
 2. Transfers from Govt department
 3. Transfers from Rest of the world.

* Personal Income v/s Private Income

→ Private Income = Personal Income
 + Corporate Tax on profits
 + Undistributed profits

ILLUSTRATION 6

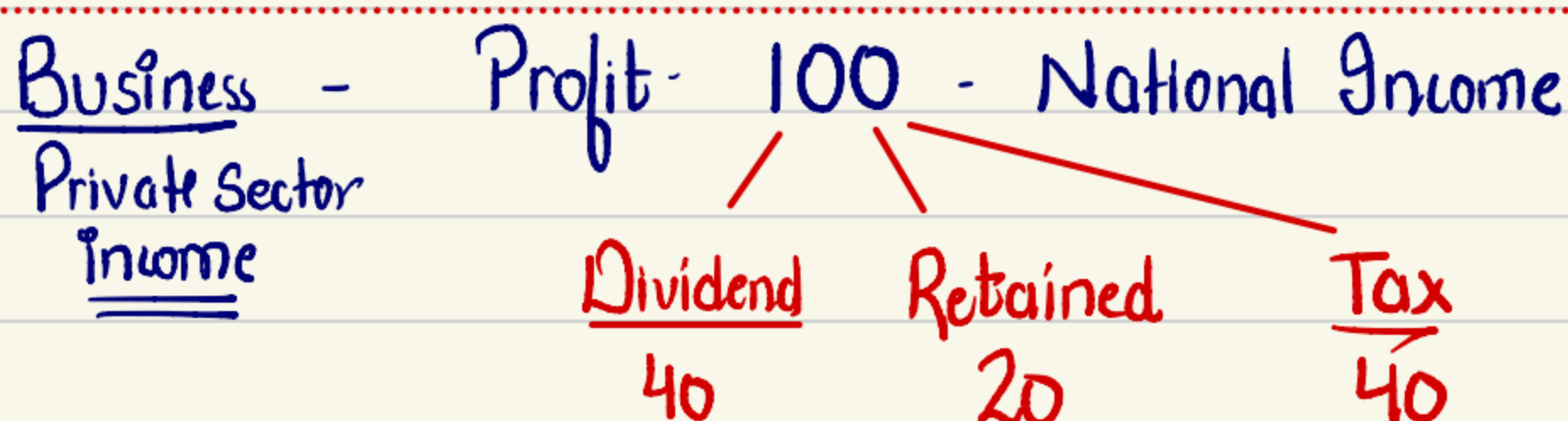
From the following data, estimate National Income and Personal Income.

Items	₹. in Crores
Net national product <u>at market price</u>	1,891
Income from property and entrepreneurship accruing to government administrative departments	(45)
Indirect taxes - Ignore	175
Subsidies - Ignore	30
Saving of non-departmental enterprises ✓	(10)
Interest on National debt — Transfer Income	+ 15
Current transfers from government - Transfer Income	+ 35
Current transfers from rest of the world	+ 20
<u>Saving</u> of private corporate sector ^{- Retained earning}	25
Corporate <u>profit tax</u>	25

$$\begin{aligned}
 \text{National Income} &= \text{NNP}_{\text{MP}} - \text{Indirect Taxes} + \text{Subsidies} \\
 [\text{NNP}_{\text{FC}}] &= 1891 - 175 + 30 \\
 &= 1746
 \end{aligned}$$

$$\begin{aligned}
 \text{Private Income} &= \text{NNP}_{\text{FC}} \\
 &= 1746 - 45 - 10 + 15 + 35 + 20
 \end{aligned}$$

$$\text{Private Income} = 1761$$



Rough

$$\text{Personal Income} = 1746 - 45 - 10 + 15 + 35 + 20 - 25 - 25$$

$$\text{Household} = \underline{\underline{₹ 1711}}$$

ILLUSTRATION 8

On basis of following information, calculate NNP at market price and Disposable personal income

Items	₹ in Crores
NDP at factor cost - Domestic Income	14900
Income from domestic product accruing to government	(150)
Interest on National debt - Transfer Income	+ 170
Transfer payment by government	+ 60
Net private donation from abroad - Transfer	+ 30
Net factor income from abroad	+ 80
Indirect taxes - Ignore	335
Direct taxes - Personal Income Tax	100 ✓
Subsidies - Ignore	262
Taxes on corporate profits ✓	(222)
Undistributed profits of corporations	(105)

$$\text{NNP}_{MP} = \text{NDP}_{FC} + \text{NFIA} + \text{Indirect Tax} - \text{Subsidy}$$

$$= 14900 + 80 + 335 - 262$$

$$= 15053$$

$$\text{Personal Income} = \overset{\text{NDP}_{FC}}{14900} - 150 + 170 + 60 + 30 + 80 - 222 - 105$$

$$\text{Income} = 14763$$

$$\text{Personal Disposable Income} = 14763 - 100$$

$$= 14663$$

H.W.

eg- Calculate (i) Private Income, (ii) Personal Income & (iii) Personal Disposable Income

	₹
National Income - NNP_{FC}	3000
Savings of private corporate sector ✓	30
Corporate Tax ✓	80
Current transfers from Govt.	60
Income from property & entrepreneurship to Govt	150
Current transfers from rest of the world	50
Savings of non-departmental govt. sector	40
Net Indirect Taxes	250
Direct taxes paid by household ✓	100
Net factor income from abroad	(10)

1] Private Income

$$= 3000 + 60 - 150 + 50 - 40$$

$$= ₹ 2920$$

2] Personal Income = $2920 - 30 - 80$

$$= \underline{\underline{2810}}$$

3] Personal Disposable Income = $2810 - 100$

$$= 2710$$

8) Personal income excludes:

- (a) NFIA
- ☒ (b) Corporate tax
- (c) Personal Tax
- (d) Current transfers

9) Total income of households from all sources is known as:

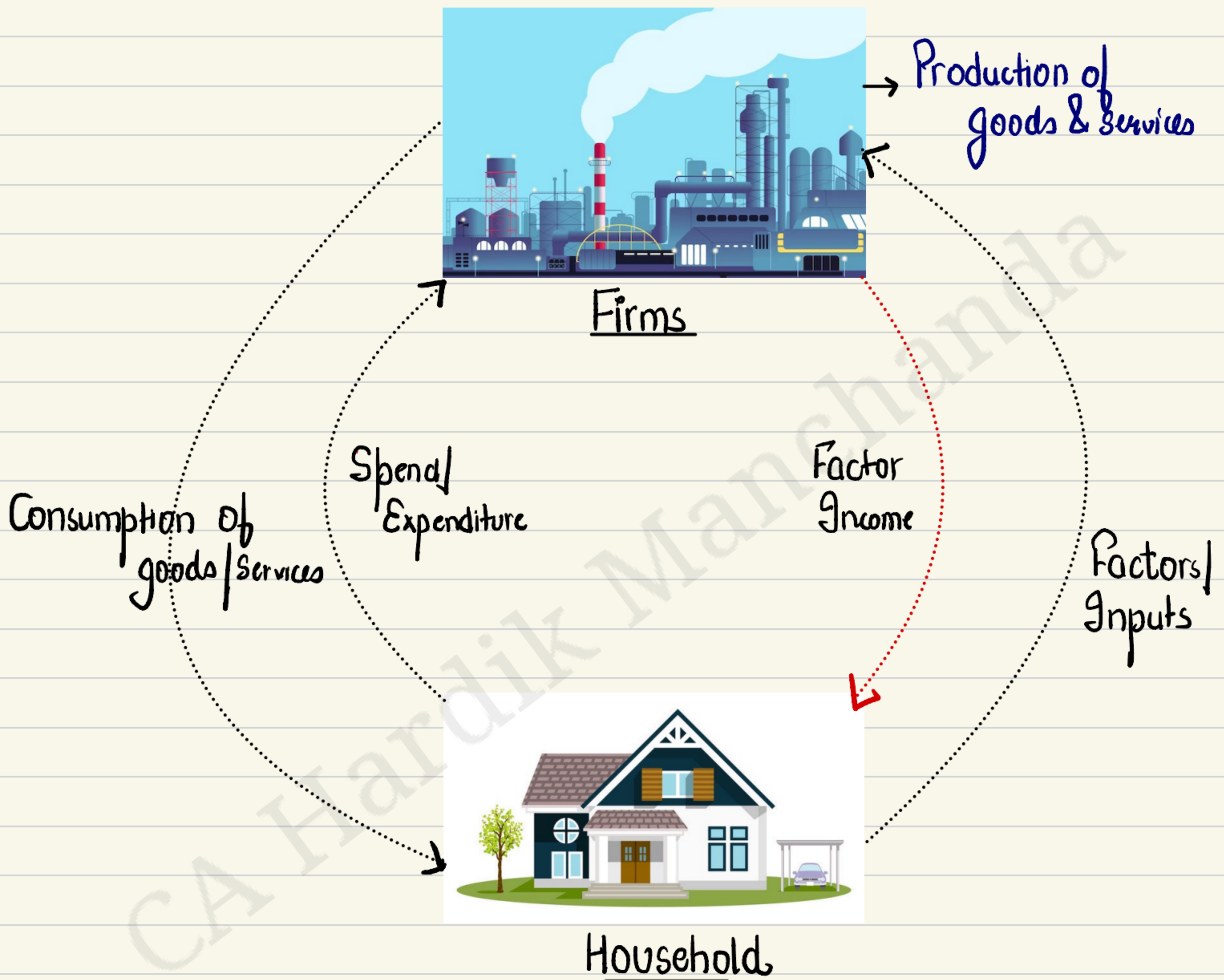
- ☒ a) personal income
- b) private income
- c) personal disposable income
- d) None of the above

10) Which of the following is added to national income while calculating personal income?

- ☒ (a) Transfer payments to individuals
- (b) Undistributed profits of corporate
- (c) Transfer payments made to foreigners
- (d) Mixed income of self employed

NNP_{FC}

Circular flow of Income

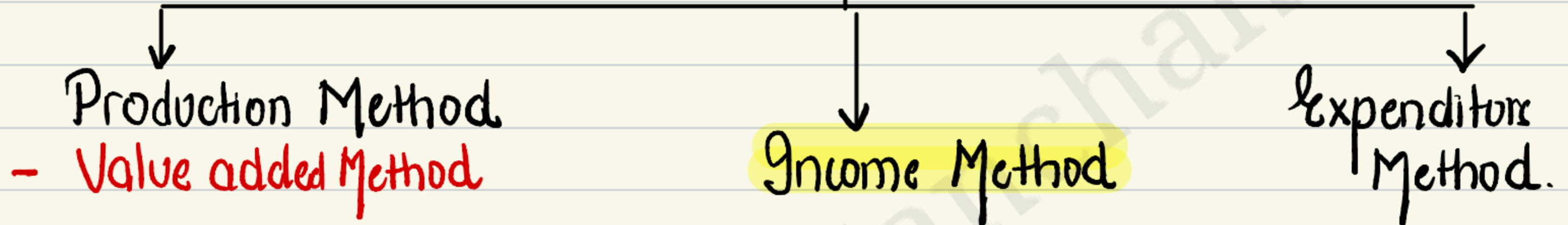


Three different interlinked phases:

- 1) **Production of Goods & Services:** Firms produce goods & services with the help of factors/inputs.
- 2) **Income or Distribution phases:** Flow of factor incomes in the form of Rent, wages, Int & profit.

3] **Expenditure or Disposition phase:** Income received by diff. factor of production is spent on consumption of goods & services.

Diff Methods of Calculating National Income



Data requirements and Outcomes of Different Methods of National Income Calculation

Method	Data required	What is measured
Phase of Output: Value added method (Product Method)	The sum of net values added by all the producing enterprises of the country	Contribution of production units
Phase of income: Income Method	Total factor incomes generated in the production of goods and services	Relative contribution of factor owners
Phase of disposition: Expenditure method	Sum of expenditures of the three spending units in the economy, namely, government, consumer households, and producing enterprises	Flow of consumption and investment expenditures

1. Value added Method or Product Method

Step 1 Identify the producing enterprises & classify them into following sectors :-

- a) Primary Sector - Agriculture, extraction of natural resources.
- b) Secondary Sector - Factory, Manufacturing
- c) Tertiary or Service Sector - Banking, Transport

Step 2: Estimate the Gross value added (GVA_{MP}) by each producing enterprise.

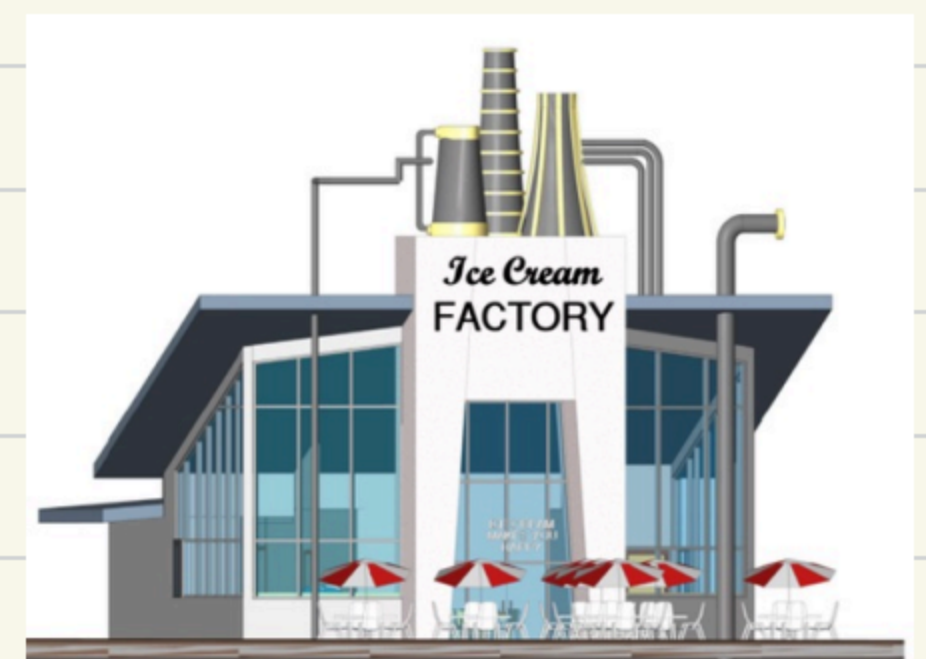
$$GVA_{MP} = \text{Value of Output} - \text{Intermediate Consumption}$$

eg.



Total output, 200 l @ 50 = ₹10,000

GVA_{MP} - ₹10,000



Purchase - 10,000	Included
Ice-cream - ₹50,000	
↳ Intermediate Consumption	(10,000)
<u>GVA_{MP}</u>	40,000

ILLUSTRATION 9

Calculate National Income by Value Added Method with the help of following data-

Particulars	₹ (in Crores)
Sales ✓	<u>700</u>
Opening stock ✓	500
Intermediate Consumption	<u>350</u>
Closing Stock ✓	✓ 400
Net Factor Income from Abroad	- 30
Depreciation	- 150
<u>Excise Tax</u> -	- 110
Subsidies	50

$$GVA_{MP} = \text{Value of output} - \text{Intermediate cons.}$$

$$GDP_{MP} = [700 - 500 + 400] - 350$$

$$GDP_{MP} = 250$$

$$\begin{aligned} \underline{NNP}_{FC} &= GDP_{MP} - Dep + NFIA - \text{Indirect Tax} + \text{Subsidy} \\ &= 250 - 150 + 30 - 110 + 50 \\ &= ₹70 \text{ Crores} \end{aligned}$$

ILLUSTRATION 11

Calculate national income by value added method.

Particulars	(₹ in crores)
Value of output in <u>primary</u> sector ✓	2000
Intermediate consumption of primary sector	200
Value of output of secondary sector	2800
Intermediate consumption of secondary sector	800
Value of output of tertiary sector	1600
Intermediate consumption of tertiary sector	600
Net factor income from abroad	-30
<u>Net indirect taxes</u>	300
Depreciation	470

$$GDP_{MP} = (2000 - 200) + (2800 - 800) + (1600 - 600)$$

$$= 4800 \quad \text{GVA}_{MP} - \text{Primary}$$

$$NNP_{FC} = 4800 - 470 - 30 - 300$$

$$= ₹4000$$

ILLUSTRATION 12

Calculate Net Value Added by Factor Cost from the following data

Items	₹ in Crores
Purchase of materials	85
Sales	— 450
Depreciation	30
Opening stock	- 40
Closing stock	30
Excise tax	45
Intermediate consumption	200
Subsidies	15

Intermediate cons.
Already includes
Purchase of Material

$$GVA_{MP} = (450 + 30 - 40) - 200$$

$$240$$

$$NVA_{FC} = GVA_{MP} - Dep - Ind Tax + Subsidy$$

$$= 240 - 30 - 45 + 15$$

$$= ₹ 180 \text{ Crores.}$$

ILLUSTRATION 10

Rent, Int, Profit

Calculate the Operating Surplus with the help of following data-

Particulars

₹ in Crores

Sales	4000
Compensation of employees	800
Intermediate consumption	600
Rent	400
Interest	300
Net indirect tax -	500
Consumption of Fixed Capital - Dep	200
Mixed Income	400

$$NDP_{FC} = \text{Comp of employees} + \text{Op Surplus} + \text{Mixed Income of Self emp.}$$

$$\rightarrow GDP_{MP} = 4000 - 600 = 3400$$

$$NDP_{FC} = 3400 - 200 - 500 = 2700$$

$$2700 = 800 + \text{Op Surp} + 400$$

$$\text{Op Surp} = \underline{\underline{1500}}$$

Homework:

Calculate 'Sales' from the following data :

Particulars	₹ in Lakhs
Subsidies	200
Opening stock	100
Closing stock	600
Intermediate consumption	3,000
Consumption of <u>fixed capital</u> ^{Dep}	700
Profit	750
Net <u>value added</u> at <u>factor</u> cost	2,000

$$\begin{aligned} \text{GVA}_{MP} &= \text{NVAFc} + \text{Dep} + \text{Indtax} - \text{Sub.} \\ &= 2000 + 700 + 0 - 200 \\ &= 2500 \end{aligned}$$

$$\begin{aligned} \text{GVA}_{MP} &= \text{Value of output} - \text{Intermed cons} \\ 2500 &= [\text{Sales} + \text{Change in stock}] - \text{Intermed cons} \\ 2500 &= \text{Sales} + 600 - 100 - 3000 \\ \text{Sales} &= \underline{\underline{₹5000}} \end{aligned}$$

2. Income Method

Factor Income Method |
Distributed Share Method

↳ Whatever is produced by a producing unit is distributed among factors of production.

NDP_{FC}

↳ Sum of factor incomes paid out by all production units within domestic territory of a country.

Income from prop. & Income from Entrepren. > Compensation of employees
+ Operating Surplus (Rent + Int + Profit)
+ Mixed income of self employed.

Imp

1. Compensation of employees:

a. Pension of Retired Workers are not included.

b. COE includes:

(i) Wages & Salaries

(ii) Bonus

(iii) Dearness Allowance [DA]

(iv) Commission

(v) Employers contribution to Provident fund

Rough

Salary - ₹100 ✓

Employees Contribution ← (₹12) 88 ✓ + ₹12 ✓ Cont
PF

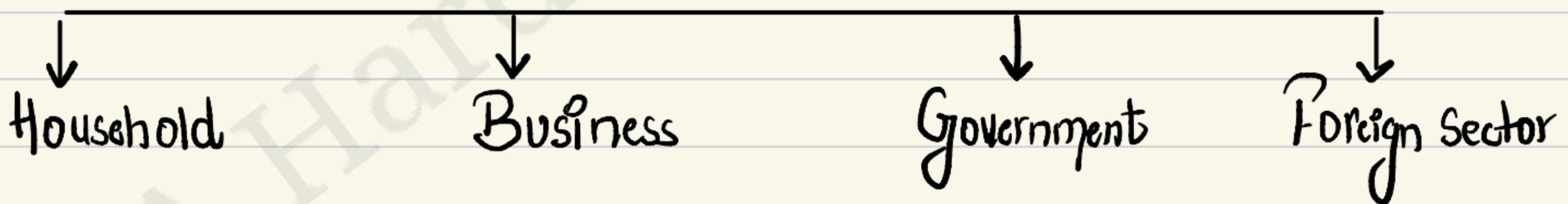
(vi) Imputed value of compensation in kind
↳ Estimated

2. Int paid by Govt on public debt - } Transfer Income. Will not be included.
Int on Consumption Loans
3. Capital gains, windfall profits, transfer incomes & income from sale of second-hand goods, not included.
↳ However, commission, brokerage will be included.

3. Expenditure Method ↳ Income Disposal Method

$$GDP_{mp} = \sum \text{Final Expenditure}$$

↳ Total amt of spending on goods & services, produced within Domestic territory.



1. Consumption Expenditure :- Total spending on goods & services for final use.

a) Private final consumption exp:
[PFCE] ↳ Total spending by Household & non-profit institutions serving Household. Ex. food, clothing, education, etc.

*

- It also includes the value of Primary goods which are produced for own consumption by households.
- Land & Residential buildings purchased or constructed by household not part of PFCE

↳ Included in Investments.

b) Govt. final consumption exp.

↳ exp. made by Govt On providing public services such as Defense, Education, healthcare, etc.

- Govt exp on pension, Scholarships, etc should be excluded bcz these are transfer payments

2. Investment



Gross Domestic Capital formation → Gross Investment

- Country's total exp which is not consumed but added to Nation's fixed Assets & Stock.

1. Gross Business fixed Investment: Spending on cap. goods such as Machinery, equipment

2. Inventory Investment: Change in Inventories
↳ Cl. stock - op. stock

3. Household Inv - Amt spent on building of housing unit, acquisition of valuables.

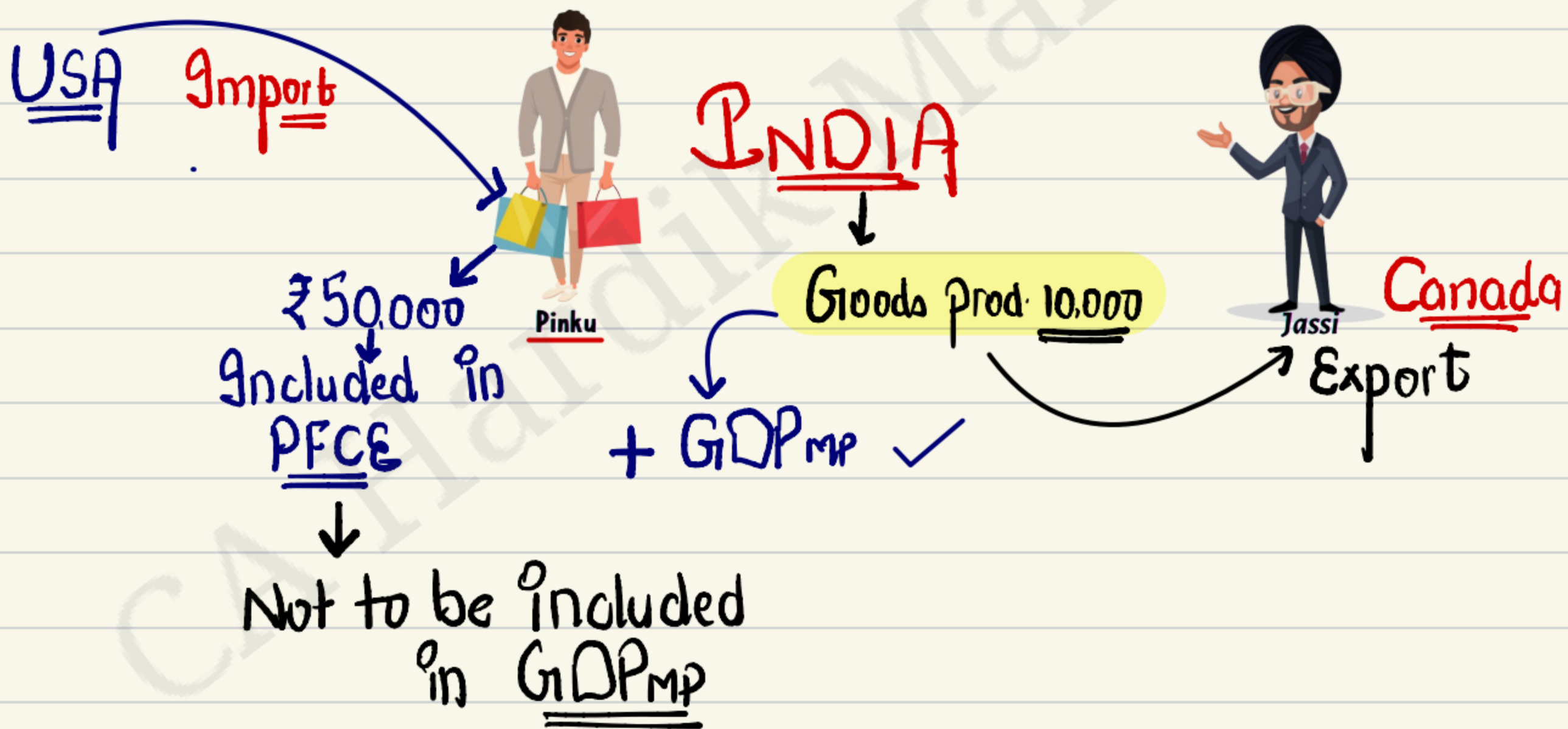
4. Public Investment - All Inv. by Govt such as roads, hospital, etc.

$$\rightarrow \text{Net Domestic cap formation} = \text{Gross Domestic cap formation} - \text{Dep}$$

(consumption of fixed cap)

3. Net Exports (Export - Import)

Expenditure by foreign entities on domestically produced goods or services



$$\text{GDP}_{MP} = \text{Final consumption exp} + \text{Gross Domestic cap formation} + \text{Net Exports (Export - Import)}$$

ILLUSTRATION 13

Calculate NI with the help of Expenditure method and income method with the help of following data: NNP_{FC}

Items	₹ in Crores
Compensation of employees	✓ 1,200
Net factor income from Abroad	20
Net indirect taxes	— 120
Profit	✓ 800
Private <u>final consumption expenditure</u>	✓ 2,000
<u>Net domestic capital formation</u>	770
Consumption of fixed capital	— 130
Rent	400
Interest	620
Mixed income of self-employed	— 700
Net export	— 30
Govt. final consumption expenditure	— 1100
Operating surplus	1820
Employer's contribution to social security scheme	300

Already
Included

Income Method -

$$\text{NDP}_{FC} = 1200 + 1820 + 700 = 3720$$

$$\text{National Income} = \text{NDP}_{FC} + 20 = 3720 + 20 = \underline{\underline{3740}}$$

Exp. Method, $\text{GDP}_{MP} = 2000 + 770 + 130 + 30 + 1100 = 4030$

$$\text{NNP}_{FC} = 4030 - 130 + 20 - 120 = \underline{\underline{3800}}$$

ILLUSTRATION 14

From the following data calculate (a) Gross Domestic Product at Factor Cost, and (b) Gross Domestic Product at Market price

Items	₹ in Crores
Gross national product at factor cost ✕	61,500
Net exports	(-) 50
Compensation of employees	→ 3000
Rent	- 800
Interest	900
Profit	1,300
Net indirect taxes	→ 300
Net domestic capital formation	800
Gross domestic capital formation	900
Factor income to abroad	80

Income Method

$$NDP_{FC} = 3000 + 800 + 900 + 1300$$

$$= ₹ 6000$$

$$GDP_{FC} = NDP_{FC} + Dep$$

$$= 6000 + 100$$

$$= ₹ 6100$$

$$GDP_{MP} = GDP_{FC} + Ind\ tax - Sub$$

$$= 6100 + 300$$

$$= ₹ 6400$$

ILLUSTRATION 15

Calculate NNP_{FC} . By expenditure method with the help of following information -

Items	₹ in Crores
Private final consumption expenditure ✓	10
Net <u>Import</u> (Export - Imp) (20)	20
Public final consumption expenditure ✓	05
Gross domestic <u>fixed capital formation</u> ✓	350
Depreciation	<u>30</u>
Subsidy	100
Income paid to <u>abroad</u>	20
Change in stock ✓	30
Net acquisition of valuables ✓	10

$$GDP_{MP} = 10 - 20 + 05 + 350 + 30 + 10$$

$$= 385$$

$$NNP_{FC} = 385 - 30 - 20 + 100$$

$$= \underline{\underline{435}}$$

Calculate Gross Domestic Product at market Prices (GDP_{MP}) and derive national income from the following data (in Crores of ₹)

Inventory Investment	+ 100
Exports	+ 200
Indirect taxes ✓	100
Net factor income from abroad	- 50
Personal consumption expenditure ✓	+ 3500
Gross residential construction investment	+ 300
Depreciation ✓	50
Imports	- 100
Government purchases of goods and services ✓	+ 1000
Gross public investment	+ 200
Gross business fixed investment	+ 300

$$GDP_{MP} = ₹5500$$

$$\begin{aligned} \underline{NNP}_{FC} &= GDP_{MP} - Dep + NFIA - NIT \\ &= 5500 - 50 - 50 - 100 \\ &= ₹5300 \end{aligned}$$

Find GDP_{MP} and GNP_{MP} from the following data (in Crores of ₹) using income method. Show that it is the same as that obtained by expenditure method.

Personal Consumption ✓	+ 7,314
Depreciation ✓	800
Wages	+ 6,508
Indirect Business Taxes	1,000
Interest	+ 1,060
Domestic Investment	+ 1,442
Government Expenditures	+ 2,196
Rental Income	+ 34
Corporate Profits	+ 682
Exports	+ 1,346
Net Factor Income from Abroad ✓	40
Mixed Income	+ 806
Imports	- 1,408

Income Method -

$$\begin{aligned}
 & \text{NDP}_{FC} = ₹9090 \\
 GDP_{MP} &= \text{NDP}_{FC} + \text{Dep} + \text{NIT} \\
 &= 9090 + 800 + 1000 \\
 &= 10890
 \end{aligned}$$

$$\begin{aligned}
 GNP_{MP} &= GDP_{MP} + \text{NFIA} \\
 &= 10890 + 40 \\
 &= ₹\underline{\underline{10930}}
 \end{aligned}$$

Expenditure Method

GDP_{MP} - 10890

GNP_{MP} - 10890 + 40

= 10930

CA Hardik Manchanda

Cheating

11) The concept of 'resident unit' involved in the definition of GDP denotes

(a) A business enterprise which belongs to a citizen of India with production units solely situated in India ✗

✓ (b) The unit having predominant economic interest in the economic territory of the country for one year or more irrespective of the nationality or legal status

(c) A citizen household which had been living in India during the accounting year and one whose economic interests are solely in India ✗

(d) Households and business enterprises composed of citizens of India alone living in India during the accounting year ✗

12) Read the following statements and answer the following question.

I. Intermediate consumption consists of the value of the goods and services consumed as inputs by a process of production, ✓

✓ II. Intermediate consumption excludes fixed assets whose consumption is recorded as consumption of fixed capital. ✓

(a) Only I is true

(b) Both I and II are true ✓

(c) Only II is true

(d) Neither I nor II is true

13) Which of the following does not enter into the calculation of national income?

(a) Exchange of previously produced goods

(b) Exchange of second hand goods

(c) Exchange of stocks and bonds

(d) All the above ✓

$$\begin{array}{rcl}
 \text{Raw Mat.} & 100 & \\
 + \text{Process} & 50 & \text{value add} \\
 \hline
 & 150 & \text{Output}
 \end{array}$$



14) Read the following statements

- I. 'Value added' refers to the difference between value of output and purchase of intermediate goods. ✓
- II. 'Value added' represents the contribution of labour and capital to the production process.

- (a) Statements I and II are incorrect
- (b) Statements I and II are correct ✓
- (c) Statement I is correct and II is incorrect
- (d) Statement II is correct and I is incorrect

*

15) Non-economic activities are

- (a) those activities whose value is excluded from national income calculation as it will involve double counting — *Intermediate* ✗
- ✓ (b) those which produce goods and services, but since these are not exchanged in a market transaction they do not command any market value
- (c) those which do not involve production of goods and services as they are meant to provide hobbies and leisure time activities
- (d) those which result in production for self consumption and therefore not included in national income calculation

16) Which of the following enters into the calculation of national income?

- (a) The value of the services that accompany the sale ✓
- ✓ (b) Additions to inventory stocks of final goods and materials ✓ *Change in Stock*
- (c) Stocks and bonds sold during the current year *Financial Trans.*
- ✓ (d) (a) and (b) above

17) National income using the below data is:

1	Personal Income		8000
2	Mixed Income of self employed	+	2000
3	Compensation of employees	+	1600
4	Net-factor Income from abroad	✓	-200
5	Rent	+	1500
6	Personal Income Taxes		800
7	Profit	+	1400
8	Consumption of fixed capital		600
9	Direct taxes paid by households		900
10	Non-Tax Payments		1000
11	Net Indirect taxes		700
12	Net Exports Taxes		-180
13	Interest	+	1100

a) 6300

~~b) 7400~~

c) 8200

d) None of the above

$$\begin{aligned}
 \text{NDP}_{\text{FC}} &= 7600 \\
 \text{NNP}_{\text{FC}} &= 7600 - 200 \\
 &= 7400
 \end{aligned}$$



18) Operating Surplus using the below data is:

Particulars	₹ (In Crore)
Sales ✓	4,000
Compensation to employees	800
Intermediate consumption ✓	600
Rent	400
Interest	300
Net indirect taxes ✓	500
Consumption of fixed capital ✓	200
Mixed income	400

- a) 800
- b) 1500
- c) 700
- d) 1200

$$GDP_{mp} = 4000 - 600 = 3400 \rightarrow NDP_{fc} = 3400 - 200 - 500$$

$$NDP_{fc} = \text{Comp} + \text{Op. Surp} + \text{Mixed inc.}$$

$$2700 = 800 + \text{op} + 400$$

$$\text{Op Surp} = 1500$$

19) Domestic Income using the below data is:

	Particulars	₹ crore
(i)	Sales by firm B to general government	300
(ii)	Sales by firm A <u>Total Sales</u>	1500
(iii)	Sales by firm B to households	1350
(iv)	Change in stock of firm A	200
(v)	Closing stock of firm B	140
(vi)	Opening stock of firm B	130
(vii)	Purchases by firm A	270
(viii)	Indirect taxes paid by both the firms	375
(ix)	Consumption of fixed capital	720
(x)	Sales by firm A to B <u>Already Incl. in ii</u>	300

a) 1,995

b) 1,695

c) 1,295

d) None of the above

GDP_{mp}

Firm A = value of output - Intermed consump

$$= \text{Sales} + \text{change in stock} - \text{Purchases}$$

$$= 1500 + 200 - 270$$

$$= \underline{1430}$$

$$\text{Firm B} = 1350 + 10 - 300$$

$$= 1360$$

$$\text{GDP}_{mp} = 1430 + 1360 = 2790$$

$$\text{NDP}_{FC} = 2790 - 720 - 375 = \underline{1695}$$

Which Method is more suitable?

- Ideally, all the three methods of national income computation should arrive at the same figure.
- Each method of measuring GDP is subject to measurement errors and each method provides a check on the accuracy of the other methods.
- By calculating total output in several different ways and then trying to resolve the differences, we will be able to arrive at a more accurate measure than would be possible with one method alone.
- Moreover, different ways of measuring total output give us different insights into the structure of our economy.

Income method may be most suitable for developed economies where people properly file their income tax returns.

With the growing facility in the use of the commodity flow method of estimating expenditures, an increasing proportion of the national income is being estimated by expenditure method.

Most suitable method for INDIA?

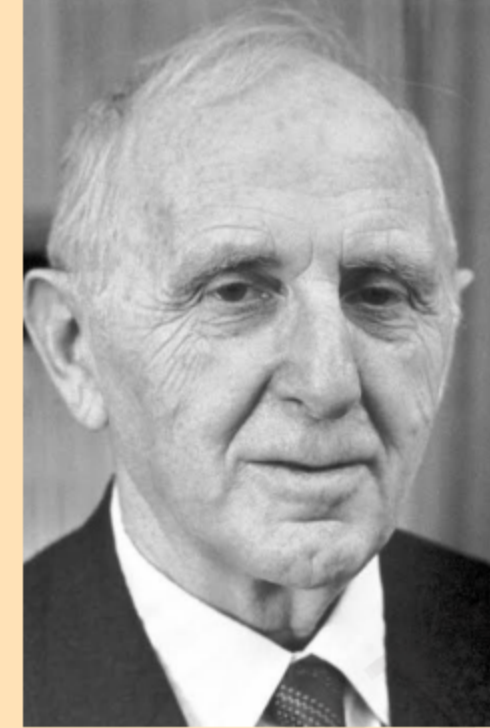
As a matter of fact, countries like India are unable to estimate their national income wholly by one method.

Thus, in the agricultural sector, net value added is estimated by the production method, in the small scale sector net value added is estimated by the income method and in the construction sector net value added is estimated by the expenditure method.

NATIONAL INCOME ACCOUNTING

National Income Accounting, pioneered by the Nobel prize-winning economists **Simon Kuznets** and **Richard Stone**

It is the system of macro-economic accounts from the stage of production of goods and services to the stage of their final disposal.



National Accounts help us to understand how the various transactions from the stage of production of goods and services to the stage of their final disposal are interrelated and give us an idea of the working of an economy.

It helps to meet the needs of Government, private analysts, policy makers and decision takers.

The **Central Statistical Organisation** (CSO) in the Ministry of Statistics and Programme Implementation (MoSP&I) is responsible for the compilation of National accounts statistics.

At the State level, **State Directorates of Economics and Statistics** (DESs) have the responsibility of compiling their State Domestic Product and other aggregates



GOVERNMENT OF INDIA
MINISTRY OF STATISTICS AND
PROGRAMME IMPLEMENTATION

THE SYSTEM OF REGIONAL ACCOUNTS IN INDIA

Regional accounts provide an integrated database on the innumerable transactions taking place in the regional economy and help decision making at the regional level.

At present, practically all the states and union territories of India compute state income estimates and district level estimates.

State Income or Net State Domestic Product (NSDP) is a measure in monetary terms of the volume of all goods and services produced in the state within a given period of time (generally a year) accounted without duplication.

Per Capita State Income is obtained by dividing the NSDP (State Income) by the **midyear** projected population of the state.

In the preparation of state income estimates, certain activities such as **railways, communications, banking and insurance and central government administration**, that cut across state boundaries, and thus their economic contribution cannot be assigned to any one state directly are known as the **'Supra-regional sectors'** of the economy.

The estimates for these supra regional activities are compiled for the economy as a whole and allocated to the states on the basis of relevant indicators.

USEFULNESS AND SIGNIFICANCE OF NATIONAL INCOME ESTIMATES

- Businesses to **forecast the future demand for their products.**
- The estimates of national income show the **composition and structure of national income** in terms of **different sectors of the economy**, the periodical variations in them and the broad sectoral shifts in an economy over time.
- Sectoral contribution to National Income information is used by the **government** to decide various **sector-specific development policies to increase growth rates.**
- National income statistics also provide a **quantitative basis for macroeconomic modelling and analysis**, for **assessing and choosing economic policies** and for **objective statements** as well as evaluation of governments' economic policies.
- National income estimates throw light on **income distribution and the possible inequality in the distribution among different income categories**. It facilitates the process of comparisons of structural statistics, such as **ratios of investment to growth**, **taxes proceeds** and **fiscal deficit**, or **government expenditures to GDP**.
- International comparisons in respect of incomes and living standards assist in determining **eligibility for loans**, and/or other funds or conditions under which such loans, and/ or funds are made available.
- Combined with financial and monetary data, national income data provides a **guide to make policies for growth and inflation.**

GDP & WELFARE

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

There are many reasons to dispute the validity of GDP as a perfect measure of well-being. In fact, GDP measures our ability to obtain many requirements to make our life better; yet leave out many important aspects which ensure good quality of life for all. GDP measures exclude the following which are critical for the overall wellbeing of citizens:

- **Income distributions** and, therefore, **GDP per capita is a completely inadequate measure of welfare**. Countries may have significantly different income distributions and, consequently, different levels of overall well-being for the same level of per capita income.
- Quality improvements in systems and processes due to technological as well as managerial innovations which reflect true growth in output from year to year.
- **Productions hidden from government authorities**, either because those engaged in it are evading taxes or because it is illegal (drugs, gambling etc.).
- **Non market production and Non-economic contributors to well-being** for example: health of a country's citizens, education levels, political participation, or other social and political factors that may significantly affect well-being levels.
- **The disutility of loss of leisure time**. We know that, other things remaining the same, a country's GDP rises if the total hours of work increase.

Total hours of work ↑ - GDP ↑
Leisure time ↓ - Welfare ↓

- **Economic 'bads' for example:** crime, pollution, traffic congestion etc which make us worse off.
- **The volunteer work and services rendered without remuneration** undertaken in the economy, even though such work can contribute to social well-being as much as paid work.
- Many things that contribute to our economic welfare such as, leisure time, fairness, gender equality, security of community feeling etc.,
- Both positive and negative externalities which are external effects that do not form part of market transactions
- The distinction between production that makes us better off and production that only prevents us from becoming worse off, for e.g. defence expenditures such as on police protection. Increased expenditure on police due to increase in crimes may increase GDP but these expenses only prevent us from becoming worse off. However, no reflection is made in national income of the negative impacts of higher crime rates. As another example, automobile accidents result in production of repairs, output of medical services, insurance, and legal services all of which are production included in GDP just as any other production.

LIMITATIONS AND CHALLENGES OF NATIONAL INCOME COMPUTATION

There are innumerable limitations and challenges in the computation of national income. The task is more complex in underdeveloped and developing countries. Following are the general dilemmas in measurement of national income.

There are many conceptual difficulties related to measurement which are difficult to resolve, such as:

- (a) lack of an agreed definition of national income,
- (b) accurate distinction between final goods and intermediate goods,
- (c) issue of transfer payments,
- (d) services of durable goods,
- (e) difficulty of incorporating distribution of income,
- (f) valuation of a new good at constant prices, and
- (g) valuation of government services

Other challenges relate to:

- (a) Inadequacy of data and lack of reliability of available data,
- (b) presence of non-monetised sector,
- (c) production for self-consumption,
- (d) absence of recording of incomes due to illiteracy and ignorance,
- (e) lack of proper occupational classification, and
- (f) accurate estimation of consumption of fixed capital

Unit over.