

- New Scheme - Chapter 6 - Unit 1
- Determination Of National Income

- We will study → National Income Accounting
 - Diffⁿ concepts of NI
 - Measurement of NI
 - Limitations in computation

NI Accounting

- pioneered by : Nobel Prize winning Economist

Simon kuznet Richard stone

- System of Macro Economic Accounts

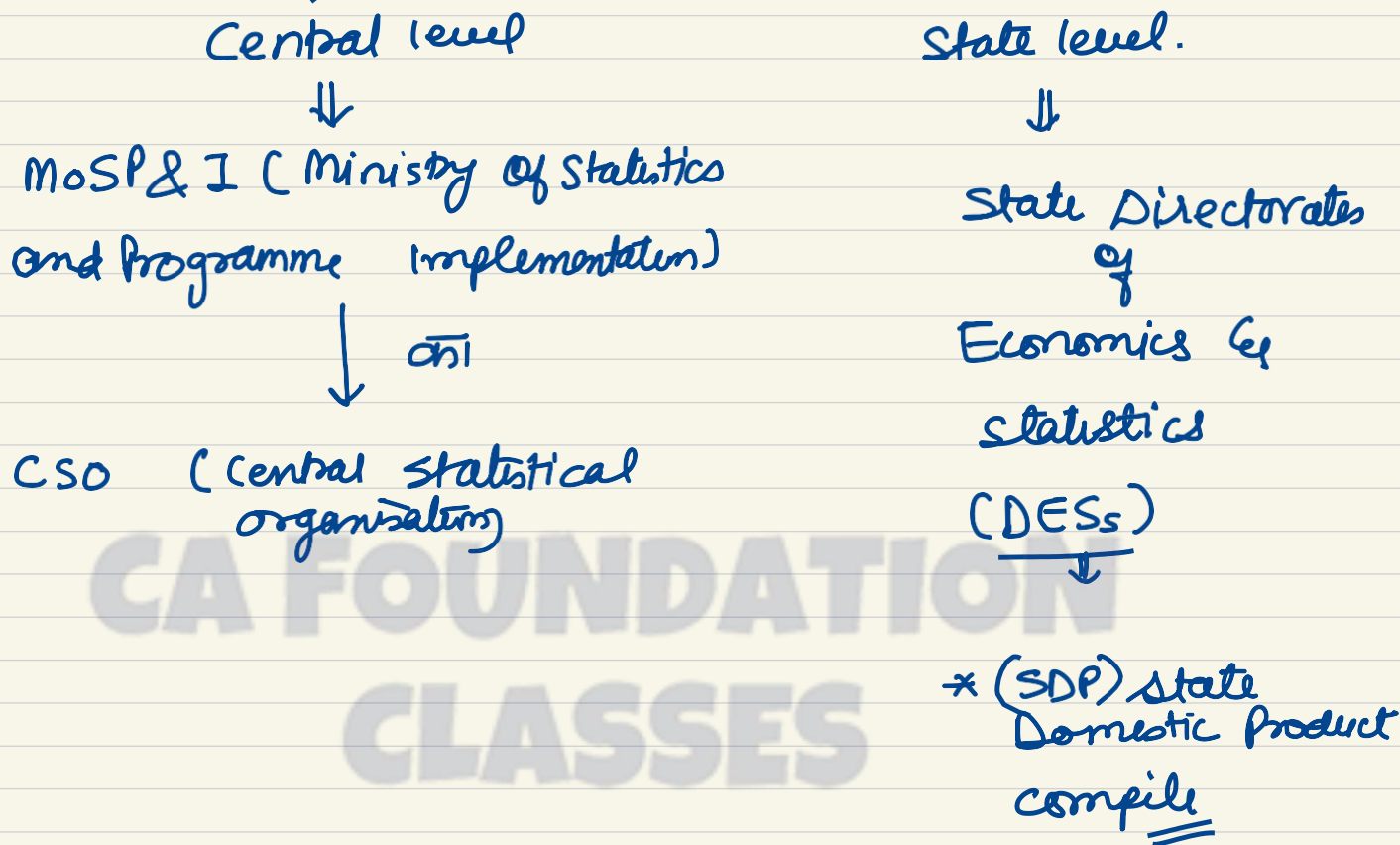
- Stage

Production
of
good & service

Final
Disposal

- How various Transactions (1st to last stage) Interrelated
- Working of Economy
- Meets need of → Govt, Private Analyst, Policy Maker

• NI Accounting Statistics Compiled By?



NI Estimate → Usefulness & significance

- In Macro Economic Analysis — NI accounts = fundamental Aggregate statistics

→ Emerging + Transition Economies

- 1) → Business : forecast Demand
- 2) → Composition + structure of NI = of diffⁿ sectors

→ Periodical variations

→ Broad Sectoral shift in Economy

3) Govt. uses = sector specific development policies
to increase 'g' - growth rate

4) Quantitative Basis = Macro-eco Modelling / Analysis
= Assess / Choose Eco Policies
= Evaluation of Policies

5) Highlights = Income Distribution
= Inequality - diffⁿ Income Category

6) Comparisons = structural statistics
eg Ratio = Investment : Growth
: Tax Proceed
: Fiscal Deficit
eg Govt spending : GDP

7) International
Comparison = . Income & Living standard.
. assist in
↳
Loan eligibility Condition for
loan / Fund.

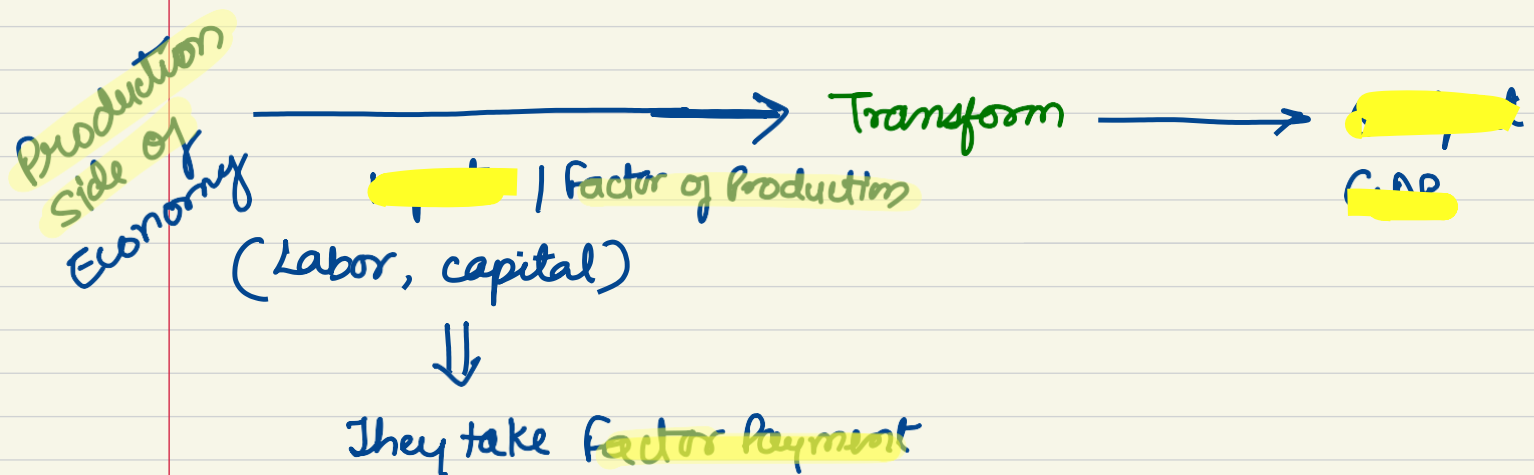
- NI data + Financial data + Monetary data = Guide To Make Policy
 - ↳ Growth ↳ Inflation

* NI: Different Concepts

- GDP • GNP • NNP • NDP • PCI
- PI • DI • PI

GDP

- Basic Measure of output



* **Nominal GDP** | GDP **MP** or **CP**
 \nearrow Market Price
 \searrow Current Price.

• GDP = Value - Final G&S - Produced in country.
- In a given Period.

= Value of goods produced + Value of services
eg House, Mobile

eg. telecom,
insurance,
health

• Output valued @ Market Price, then Added.

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Stats (GDP_{CP})

2022-23

2021-22

Q1

Q1

= ₹ 64.95 lakh
Crores

= ₹ 51.27 lakh
Crores.



$g = 32.4\%$

- Nominal GDP Increases over Time
 - Prodⁿ increases.
 - Prices Increases over time.

- Want Only Production Change Over Time? → Eliminate effect of Price Increase on GDP



Real GDP / GDP at constant

• Real GDP = Sum { Qty of Final Goods × Constant }
 ↘ not Current Mkt Price

Stats GDP at constant

at constant 2011-12 Price

2022-2023
Q1

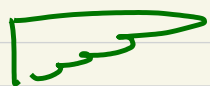
₹ 36.85 lakh crore

→
g = 13.5%

2021-2022

Q1

₹ 32.46 lakh crore



See Chart of Real GDP & Inflation Rate

✓ Pg 6.4 - (ICAI Mat)

GDP Deflator or Price Index

- Useful Measure of Inflation

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

- Index: used to convert Nominal GDP to Real GDP
- Used to Deflate GDP i.e. take inflation out

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

↓
deflated

Measures: current level of Price Relative To Base Year Price.

• Deflator of Base Year = 100

(because, in Base Year, Both Nom & Real GDP same)

* 1. Inflation → Important Macroeconomic Performance Indicators.

→ Guides in Macroeconomic Policy

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* GDP deflator used to compute Inflation Rate of 2 years ^{Consecutive}

$$\text{Inflation Rate Year 2} = \frac{\text{GDP deflator Year 2} - \text{GDP deflator Year 1}}{\text{GDP deflator Year 1}} \times 100$$

✓
Stats (India)

2022 end : GDP deflator = 154.87 points

Long Term : 167.94 points

Projection
2023

2024
projection = 175.64 points

$$\begin{aligned} \text{eg Inflation Rate} &= \frac{167.94 - 154.87}{154.87} \times 100 \\ 2023 &= 8.439\% \end{aligned}$$

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Illustr. 1
Page 6.5

deflator > 100 = Nominal GDP > Real GDP
= Prices Have Increased.

Ques 2 * Ques might fool You

Sometimes, $N^r < D^r$ is Nominal < Real which means
GDP deflator $< 100 \Rightarrow$ Price fallen.

Ques 3

{GDP deflator means Price Index}

Net Domestic Product (NDP) @MP

- Since Capital depreciates while producing output

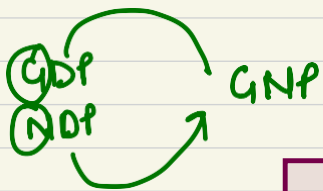
$$\{ \text{NDP}_{MP} = \text{GDP}_{MP} - \text{Depreciation} \}$$

Portion of capital used in production

- net amount of G&S produced. — in a country — in a given period.

- Subtract : Depreciation, Asset Obsolescence, Complete Destruction

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



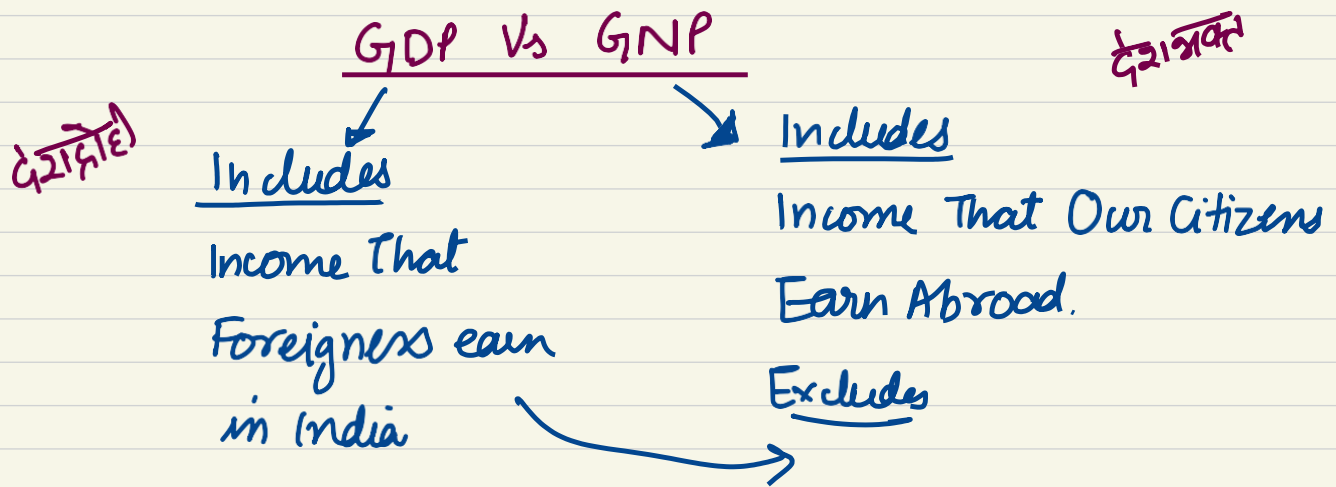
Gross National Product (GNP)

- check formula first

- Market Value of \rightarrow All Final Economic G&S
(produced in Domestic Terr of Country)
(By Normal Residents)

+ Net factor Income From Abroad.

- Total income earned By : Nation's Permanent Residents (nationals)



✓ ✓ eg Profit earned by Apple from Indian unit
= Indian GDP But USA's GNP

- evaluated @ MP = GNP_{MP}.

$$* \text{GNP}_{MP} = \text{GDP}_{MP} + \text{FI} : \text{Domestic FOP} : \text{Employed in Rest of World}$$

$$(-) \text{FI} : \text{International FOP} : \text{Employed in Domestic Terr.}$$

$$* \text{GNP}_{MP} = \text{GDP}_{MP} + \text{Net Factor Income from Abroad.}$$

✓

* NFIA = net compensation of employees
+ net income from property & Entrepreneurship
+ net retained earnings

* If NFIA = Positive +
 $GNP_{MP} > GDP_{MP}$

* National = Domestic + NFIA

We studied so far : GDP_{MP} & BP , NDP , GNP_{MP} , NNP_{MP}

- just like we studied GDP & NDP
- Exclude Depreciation ie

$$\begin{aligned} \checkmark NNP_{MP} &= GNP_{MP} - Dep. & \checkmark GNP_{MP} &= GDP_{MP} + NFIA \\ NNP_{MP} &= \underline{NDP_{MP}} + \underline{NFIA} \end{aligned}$$

N

$$\text{NNP MP} = \text{GDP MP} + \text{NFIA} - \text{Depreciation}$$

$$(\because \text{NDP MP} = \text{GDP MP} - \text{dep})$$

* Again GDP @ FC < We've studied
GDP @ MP
&
< GDP @ BP >

• First understand Factor Cost

• Money (Exactly) received by FOP, Excluding Taxes

$$\left\{ \text{FC} = \text{MP} - \text{Net Indirect Taxes} \right\}$$
$$\text{or, } \left\{ \text{FC} = \text{MP} - \text{Indirect Taxes} + \text{Subsidy} \right\}$$

Because

* Market Price Always Adds Indirect Taxes like GST to FOP (rent, salary etc)

• So GDP @ FC is money value of output produced within country's domestic limits

- in a year

- as Received By FOP →

$$\left\{ \text{GDP}_{fc} = \text{GDP}_{mp} - \text{Indirect Tax} + \text{Subsidy} \right\}$$

OR = compensation of employees
+ operating surplus (Rent + Intt + Profit)
+ Mixed income of self employed
+ Depreciation

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<u>Factor Cost</u>	vs	<u>Basic Price</u>	vs	<u>Market Price</u>
		↓		↓
		- subsidised price without taxes		- includes both Product Tax & Production Tax
		- Excludes any tax received by producer & passed to Govt		- Excludes both Product & Production
		- Includes subsidy given to reduce the price.		subsidy

$$1. \{BP = FC + \text{Production Tax} - \text{Production Subsidy}\}$$

$$2. \{BP + \text{Product tax} - \text{product subsidy} = \text{Market Price}\}$$

Net Domestic Product @ FC

$$\textcircled{1} \{ = \text{NDP}_{NP} - \text{Net Indirect Taxes.} \}$$

= Domestic Factor Income or Domestic Income Net of Depreciation

= Total FI earned by FOP.

$$\textcircled{2} \text{NDP}_{FC} = \text{compensation of employees} \\ + \text{op surplus (Rent + Intt + Pft)} \\ + \text{Mixed income of self employed.}$$

NNP@Fc or National Income

NI = • Factor Income accruing to Normal Residents of country,
• during a year

= Domestic FI + Net FI from Abroad.

$$\left\{ \text{NNP@Fc} = \text{NI} = \text{FID} + \text{NFIA} \right\}$$

↓
Dom.

Per Capita Income

• $\frac{\text{country's GDP adjusted for inflation}}{\text{Total Population}}$

• country's economic output per person

• Indicates the standard of living of country

Personal Income

NI = earned by FOP

PI = received by household sector including Nonprofit institutions. Serving Households

= Actual current income receipts of persons

- from all sources (productive | non productive)
- in a given period.

$$\left\{ \begin{aligned} \text{PI} &= \text{NI} - \text{Undistributed Profits} \\ &\quad - \text{Net Interest Payment made by household} \\ &\quad - \text{Corporate Tax} \\ &\quad + \text{Transfer Payment to household from firm} \\ &\quad \quad \quad \text{\& government} \end{aligned} \right\}$$

Includes

- Transfer Payment
 - Social Security Benefit
 - Unemployment compensation
 - Welfare payment.
 - Pension

Includes

- Individuals contribute income which they do not receive.
 - Undistributed corporate Profit
 - Contributions of employer to social security

Excludes

- Retained earnings, indirect business tax
corporate income tax, contributions towards SS

Excludes

- Net interest paid by household to Firm & Govt

households receive
interest payment from
Firm & Govt

Make int payment to
F & G.

- PI \rightarrow Forms a basis for Consumption Expenditure

Ques. Is NI a sum of PI?

- 1) No, because PI includes Transfer payment but NI excludes this.
- 2) Also, not all NI accrue to individuals as their PI

Disposable Income

- Amount of money in hands of individuals
- Available for Consumption OR Saving

$$\left\{ \begin{array}{l} \text{DPI} = \text{PI} - \text{Direct tax paid by individual} \\ \quad \quad \quad \& \\ \quad \quad \quad \text{Compulsory payments to Govt} \end{array} \right\}$$

Ques. Is there any formula To know the

- Amount of Goods & services, the Domestic Economy has at its disposal.



= net NI

+ Other net current transfers from Rest of World (Receipt - Payment)

= net NDI + CFC

OK

OR

= nNI +

• net tax on income & wealth receivable from abroad +

• net social contributions & benefit receivable from abroad.

= GNI

+ Other net current transfer from Rest World. (R-P)

Current Transfer means other than Primary Income

Domestic Income



Income from Domestic Product

accruing to
Public sector

to Private
sector



- income from property
- entrepreneurship
- of Govt Admin Dept
↳
- Non Dept Enterprises



NDP_{FC}

(-) Property Income

(-) Entrepreneurship
income accruing
to govt dept

(-) non deparm enterprn
savij

Private Income

◦ Factor Income + Transfer Income



◦ Accruing to Private sector from All sources



◦ within / outside country

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• $PI = FI \text{ from NDP of Pvt sector}$

+ NFIA

+ net Des^t Int^t

+ Current Transfer from Govt

+ Other Net Transfer from Rest of world.

* Illustration 5 to 8.

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Measurement of National Income in India

Circular Flow
of
Income

Value Added
Method
OR
Product
Method

Income
Method

Expenditure
Method

Circular flow of Income.

- The continuous circulation - of Production + Income Generation + Expenditure } - Involving different sectors of economy

- 3 different interlinked phases -

1) Production of goods & service

2) Distribution as
factor income
(Rent/Wage/Intt/Profit)

3) Disposition
consumption/
investment

- all processes keep going simultaneously G_1

⇒ Enables To look NI from 3 different angles

Production

Income or Distribution

Expenditure or Disposition of Consumption

- Firm produces G & S with the help of Factor services

- Flow of FI
ex Rent
Wage
Intl
Profit

- Income Recd by FOP (Stage 2)
- spent by them
- on consumption of G & S
- and Investment Goods

- from Firm to Household.

- Leads To Further Production of G & S +
- sustains the Circular Flow

Angles
To look
at

Flow of
Production or
value Added

Flow of Income

Flow of
Expenditure

Due to these different ways of looking at NI
there is a different method of calculation

Data requirements and Outcomes of Different Methods of National Income Calculation

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

Value Added Method or Production Method

Remember, we are studying National Income calculation By Different Methods, based on Different Flows.

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