📚 BUSINESS 📚
📚 ECONOMICS 📚
📚 NOTES 📚

~HETVI ❤️

determination of national income

Unit :- 1 national income Accounting.

(nobal prize)
Simon kuznet
and
Rechard stone → Quamtitative tool

Macro economics Concept ← Rechard stone → UN system for National Account

Helps in understanding Various transactions.

⟶ In india,

MOSPI.
ministry of statustics
and
Programme Implementation

↓

Central Statastical organization

↓

National Account statistics.

→ <u>Usefulness and significance of</u>
<u>National income Estimates</u> :-

1) <u>Business</u> to forecast the future demand for their products.

2) shows <u>composite and structure of National</u> income → different sectors of economy the periodical variation → sector shifts

3) Sector contribution to National income information → Government → Sector specific Policy.

4) <u>Quantitative basis</u> for Macroeconomic modelling and Analysis.

5) throws light on income distribution / Possible. Inequality → helps in process of comparisons of structural Statastics Such as Ratios of Investment / tax / fiscal deficit. Govt. expenditures to GDP.

6) <u>International</u> comparisions → loans / funds etc.

7) Combined with financial and Monetary data → Policies for growth and Inflation.

National economics

1) UN system of National Accounts.

2) Methods :-

   Product Method   expenditure Method   Income Method.

   GDP   GNP

→ Basic Formula

1) Net = Gross - depriciation

2) Market price = Factor cost + Net Indirect taxes
   (Indirect taxes - subsidy)

3) National = Domestic + Net factor Income from abroad.
   (NIFIA)

   ↓   ↓

   focus is on   focus is on
   "Person"   "Place"

   ↓

   Indian residents
   are covered

   In India   outside
          India

→ Product method

GDP_{mp} → Gross domestic product at market price.

1) GDP is always interpreted as GDP_{mp}.

2) GDP_{mp} = Value of output in domestic territory − Value of Intermediate consumption

[Bread − Wheat]

= Σ value addition

$$A \xrightarrow[100\ ₹]{Wheat} B \xrightarrow[250\ ₹]{Bread} C$$

= 250 ₹ − 100 ₹
= 150 ₹

3) Intermidiate goods are excluded to avoid double counting.

4) GDP Includes production of goods in production boundary as per SNA (System of National A/c)

5) It covers goods and Services in NIC classified [National industrial classification]

6) Also Includes Agriculture/ Animal husbandary, forestory for self consumption

7) Non economic activities → No market value → must be Ignored → Hobbies, House hold Work

8) Only goods and services produced / rendered in one year must be considered.
   Hence, bonds and stock are not considered
   → but brokerage paid, fees paid to Consultant must be considered.

→ GDP What is excluded ?

Transfer Payments	Financial transactions	Illegal transactions (bats)
200/- O ⟶ O	↳ withdrawl of money from A.T.M.	
⟵ 200/-		
a pay	↳ Intrest free loan	

→   National GDP   [vs]   Real GDP
           ↓   ↓

     at current   at constant price,
       Price   ↓

                 a base year is selected
                       ↓

               Calculates real growth
                  through Physical
                 Output as prices
                are kept constant
                  for comparison,

Example :-

Mr. x Produced

      2019   2020

   ₹ 10,00,000/-   ₹ 20,00,000

$$[10,000 \times 100 ₹] \qquad [5,000 \times ₹ 400]$$
   unit   unit

$$\underline{Real \ GDP} = 5,000 \times ₹ 100$$

$$\boxed{= 5,00,000 /-}$$

National income [$NNIP_{FC}$]

Summary :-

$$GDP_{mp} \rightarrow GNP_{mp} \rightarrow NDP_{mp} \rightarrow NNIP_{mp} \rightarrow GDP_{FC}$$

$$NNIP_{FC} \longleftarrow NDP_{FC}$$
$$\text{(national income)}$$

$\longrightarrow GNP_{mp}$ [Gross National Product]

1) GNP is interpreted as GNP_{mp}.

2) $GNP_{mp} = GDP_{mp} + NFIA$

3) $NFIA$
Positive — $GNP_{mp} > GDP_{mp}$
Negative — $GNP_{mp} < GDP_{mp}$

$\longrightarrow NDP_{mp}$ [Net Domestic Product]

1) $NDP_{mp} = GDP_{mp} - depriciation$

2) $NDP_{mp} = NNIP_{mp} - NFIA$

$\longrightarrow$ NNP$_{mp}$ [Net National Product]

1) NNP$_{mp}$ = NDP$_{mp}$ + NFIA

2) NNP$_{mp}$ = GNP$_{mp}$ - depriciation

3) NNP$_{mp}$ = GDP$_{mp}$ + NFIA - depriciation

$\longrightarrow$ GDP$_{FC}$

GDP$_{FC}$ = GDP$_{mp}$ - Indirect taxes + Subsidy

employees Compensation
+ operating profit (rent + Interest + Profit)
+ mixed income for self employed
+ depriciation

$\rightarrow$ NDP$_{FC}$

NDP$_{FC}$ = NDP$_{mp}$ - Net Indirect taxes

employees Compensation
+ operating profit
+ mixed income for self employed

→ NNP$_{FC}$

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

$$NNP_{FC} = FID + NFIA$$
factor income earned in
domestic territory

→ Per Capita Income

Per capita
Income = $\dfrac{GDP \text{ (adjusted by Inflation)}}{Population.}$

→ Personal Income   ==[VERY IMP]==

[Hint: Amount in the hands of the people (Household)
for spending before taxes.]

Personal   = National + ①Income received — ②Income
income   income   but not   earned
                               earned   but not
                                                    received

                               unemployed
                               compensation   undistributed
                               + welfare Payment   Profits
                               + Social Security
                               Payment

Household   business
students   → coaching class sir
Sir went to see movie → Theatre (business)
(household)

NOTE :- These are transfer payment. We
(1) will not consider them as
national income because these
will not have any impact on
production of goods. but,
we will add them in personal
income calculation because by
this will be money in the
hands of people for spending.

(2)

example:-

Profit ___ XYZ Ltd.
100 cr.

Personal ^{m} → 10 cr → dividend → share holders
90 cr → Company → undistributed
Profit

→ Calculation of National Income
[NINP$_{fc}$]

method I:- [Value added method /
Product method / Industrial
origin method / Net output method]

→ Step 1:-

Primary   Secondary   Tertiary
sector   sector   sector

Calculate their GVP$_{mp}$
and them (ϵ summation)

→ Step 2 :-

GVP_{mp} - Gross value added at market
(GDP_{mp})   Price,

← : Value of - Value of Intermidiate
        output   Consumption

This would   1) To avoid double
Include total   counting
goods and
Services   2) To Consider only
Produced and   value addition
rendered

↓

They may be

① Sold - Sales
② unsold - Change in
                stock,

→ Step 3 :-

GVA_{mp} ⟶ NVA_{mp} ⟶ NDP_{fc} ⟶ NNP_{fc}

$NVA_{mp} = GVA_{mp} - depriciation$

$NDP_{fc} = NVA_{mp} - Net\ Indirect\ tax + subsidy$

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

method 2: [Income method / Factor Payment method / Distributed share Method]

$$NDP_{FC} \longrightarrow NNP_{FC}$$

Sum of factor income Paid Out by all Production units in domestic territory.

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

= employees compensation
+ operating surplus
+ mixed income of self employed.

method 3: [Expenditure Method | Income disposal Method]

GDP_{mp} = Consumption + Capital + Net export expenditure expenditure [Import > (cor) export]

Private final Consumption expenditure (Petrol)

Govt. final Consumption expenditure

Machinery, Jewellery Equipment Δ in stock

→ (1) Defence, education, healthcare law and order must be added (court)

→ (2) Pension, Scholarship, unemployment allowance must be Ignored.

$$GDP_{mp} \rightarrow GNP_{mp} \rightarrow GNP_{FC} \rightarrow NNP_{FC}$$

$$GNP_{FeMP} = GDP_{mp} + NFIA$$

$$GNP_{FC} = GNP_{mp} - Net\ Indirect\ tax$$

$$NNP_{FC} = GNP_{FC} - depriciation$$

$\longrightarrow$ Disposable Income :

$\rightarrow$ Personal Income - Personal income tax

$\rightarrow$ Base year revised from 2004-05 to 2011-12,

GVA $\rightarrow$ Gross value added $\rightarrow$ to be taken on base price [MP] and Net FC.

GDP_{mp}

$\longrightarrow$ circular flow of National income :

Production of goods and services

Disposition
(consumption)
Investment

Distribution as factor Income [Rent, Wages, Intrest, Profit]

→ GDP measures Ignore the following :-

1) GDP per capita → Inadequate measure of welfare

2) Quality Improvement in systems and processes due to technological → margerial Innovations.

3) Productions hidden from government authorities, either because those engaged in it are evading taxes or because it is illegal (drugs, gambling etc

4) Non market production, and non-econom Contribution to well-being :
   - health / education / political)
                                    Participation

5) The disutility of loss of leisure time.

6) economic "bads" → crime / Pollution / traffic congestion

7) Social work

8) welfare such as, leisure time, fairness gender equality, security of community feeling etc.

Unit 2:-keynesian Theory of determination
of national income.
[post keynesian Era]

Aggregate demand function [ADF]
↓
maximum sales proceeds

Demand
↓
Micro

Aggregate demand function
↓
Macro

⟶ ADF = Consumption + Investment
        exp. (C)   exp. (I̅)
                                   ↓
        Induced   Autonomous   Costant
        expenditure expenditure   (Assumed)
        ↓   "a"
depend on Income   ↓
        (Y)
                    - Independent
= (b) x y   - unavoidable
   ↓   - Does not depend on Income
   ↳ slope   - Income inelastic

$$AD = \boxed{C} + \boxed{\bar{I}}$$

Consumption   Investment
      (Constant)

destruction of utility

Autonomous   Induced
      $b \times y$

$F(y) =$ function of Agt. demand

ADf

$C = a + by$

a = autonomus consumption

b = slope of MPC

y = Income.

level of employment. (Income) x

Independent

(y-axis label) depemdend

(CAD) Consumption

(a)

→ Equation of straight line

$$Y = mx + e$$

↓ ↓
slope   constant

$$c = by + a$$

↓ ↓
slope   constant.

$$\text{Slope of line} = \frac{\Delta Y \text{ axis}}{\Delta x \text{ axis}}$$

$$\therefore b = \frac{\Delta C}{\Delta y} : mpc : \text{marginal propensity to consumption.}$$

→ MPC and APC

$$APC = \frac{c}{y} : \frac{\text{Consumption}}{\text{Income}}$$

$$MPC = \frac{\Delta C}{\Delta y} : \frac{\text{change in Consumption}}{\text{change in Income}}$$

$$= \text{slope of consumption curve}$$

⮕ APS And MPS.

MPS $= \dfrac{\Delta s}{\Delta y}$ = $\dfrac{\text{Change in Saving}}{\text{Change in income}}$

APS $= \dfrac{\Delta s}{y}$ = $\dfrac{\text{Saving}}{\text{Income}}$

NOTE IMP

MPS + MPC = 1

Income (Y)	Consumption (C)	APC $(\frac{c}{y})$	MPC $(\frac{\Delta c}{\Delta y})$	MPS
0	500	—	—	—
1000	1250	1.25	0.75	0.25
2000	2000	1	0.75	0.25
3000	2750	0.92	0.75	0.25
6000	5000	0.83	0.75	0.25
10,000	8,000	0.8	0.75	0.25

→ MPC will not constant when cyclical fluctuations take place.
             - J. M. Keynes
→ MPC constant → linear consumption function

Boom

Boom

ression

Recovery

slump

Boom - MPC highest
Slump - MPC lowest

— Prove that MPC + MPS = 1

$$\Delta y = \Delta S + \Delta C$$

LHS and RHS by

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

$$\boxed{1 = MPS + MPC}$$

— Prove that APC + APS = 1

$$y = C + S$$

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

$$\boxed{1 = APC + APS}$$

MPS

—
0.25
0.25
0.25
0.25
0.25

↳ Saving

Aggregate Income [Y]	Aggregate Consumption [C] [c = a + by]	Savings
0	500	dis savings { (500)
1,000	1200	(200)
2000	2,000	Break even — 0
3,000	2600	{ 400
4000	3300	Savings { 700
5000	4000	1000

↳ Observation

(1) Income ↑ → Consumption ↑

(2) Income ↑ → Savings ↑

(3) Income ↑ → Savings > Consumption
↳ Consumption function   speed   speed

Graph 1

Aggregate income

OQ₂ → Q₂M₂ < Q₂E₂ → − Savings

OQ → QB → Break even

OQ₁ → Q₁M₁ < Q₁E₁ → + savings

Saving

(500)
(200)
0
400
700
1000

ption
ed

+S.

=a+by

→ Savings function (graph 2)

y-c+S

c=a+by

y>c

B

y<c

Level-1

x'

→x
Aggregate Income

Level-2

b. savings

→x
Aggregate Income

dis savings

Note:

Level 1 (1) J.M. keynes explains Relation before Consumption and income interms Schological explanasutions

(2) As Per J.M. keynes as the higher income grows Savings speed Increase at higher rate than the Consumption.

(3) As Per J.M. keynes with higher Income Savings and Consumption both increases

Level 2 (1) Savings = Incofe after Consumption

(2) Savings is Counter Part of consumption function

(3) as mention in the graph, the income line and the gape after Point b goes on increases.

(4) savings function is derived from Consumption function if we druw a Perpondiculer from breakeven point Savings will be at zero.

→ The circular flow of national Income
↳ two factor model (C + I)

[closed economy → without savings
factor services and Investment]

Note: (1) It's important for the money to flow or else there will be deflation or slow down

(2) The economy must have greater and faster flow of money to keep the GDP high.

(3) No money is kept in bank and all money earned is used.

→ The circular flow of national Income
  ↳ Two Sector model (C + I)

factor services

Payment of factor services

Household →savings→ Bank →Investment→ Busines

goods and services

expenses on goods and services

→ The circular flow of national income
  ↳ Three sector model [C + I + G]

Factor Services

Factor Payment

Taxes   Taxes

Government

Transfer Payment   Subsidies
(Pentions
Unemployment ran)

Household →savings→ bank →Investment→ Business

expenses on goods and services

goods and services

money supply decreases

Savings → Banks ← Investments

Leakages | Taxes → Government ← Payments | Injections

Imports → foreign ← Exports

→ explanation of four sector model :-

1> Provides Realistic Picture of circular Flow.

2> four factor Model studies
    a. Household
    b. business
    c. Government
    D. Foreign

3> leakages and Injection

4> Provides information of dual role.

5>   Government
              sector

Receipts | Payments
tax | transfer Payments.
    | subsidies.
← deficit | Grants.
Surplus   deficit →

→ Foreign Sectors :-

1> Receipts :-
    foreign Sector receivs Income from business
    sector in return for goods and services
    imported by busines factor.

2> Payments :-

                            balance of
→ Import → Payment

    Export > Import → Surplus

    Import > export → deficit

    depending   on   Trade Policies.

→ four factor model graph   (1) export < Import.

y = c + S

c + I + G

c + I + G + (x-M)

c + I

c = a + by

G

I

a

O   y   Y₁   Y₃ Y₂   x

(2) export > Import.   Import > export (3)

Graph labels:
- y (vertical axis)
- $y = c + s$
- $c + I + G +$ $(x-M)$
- B
- $c + I + G$
- $c + I$
- E_2
- E_1
- E
- $c = a + by$
- $x-M$ BM
- G
- I
- a
- y y_1 y_2 y_3 x

(right margin)
→ Inves

→ Ass

(1) one
(2) MPC
(3) Ecor

→ Work

- S
- In
- I

→ Investment Multiplier L

$$Govt. \xrightarrow{\hspace{3cm}} Income$$
100 ₹ Crore Investment   400 ₹ Crore.

→ Assumptions:

(1) one man's income = one man's expenditure
(2) MPC should remain constant
(3) Economy is a closed economy.

→ Working of Multiplier.

- Suppose the Gov decides to Invest ₹ 100 Cr. in a factory.
- Income of employees [wages and Salaries] will increase by ₹ 100. [Refer Assumption]
- If MPC is 75·% Of the income than,
    ₹ 100 × 75·%
    = ₹ 75 crore.
- will be the Amount spent on

    Producers income = ₹ 75 crore.
    Producers expenditure = ₹ 56.25 Crore.

Stages	ΔI	ΔY	ΔC	ΔS
1	100	100	75	25
2		75	56.25	18.75
3		56.25	42.18	14.07
4		42.18	31.63	10.54
⋮		⋮	⋮	⋮
Total	100	400	300	100

Y=C+S.

C+I+G+
(x-M)

C+I+G

C+I

C=a+by

x

→ Δs is Part of household Savings which did not enter the economy.

$$K = \frac{1}{mPS} = \frac{1}{1-MPC} = \frac{1}{1-0.75} = \frac{1}{0.25}$$
$$= 4$$

K = Investment multiplier
$\Delta Y = 4$ times of ΔI
$= 4 \times 100$
$\Delta Y = ₹ 400$ Crore

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

→ explanation of Investment multiplier.

(1) Relation between 'Income and Investment' and Income and Consumption.

(2) The concept of investment multiplier is on JMP concept developed by J. M. keynes in his book " General theory of employment, income and money."

(3) The term multiplier was propound by R.F. khan in 1930 and was named as " Employment multiplier."

(4) keynes redesigned this concept in terms of income.

(5) The Investment multiplier is a ratio of the final change in income to the initial change in investment.

(6) Arithmatically, it is expressed as,
$$k = \frac{\Delta Y}{\Delta I} \quad OR \quad k = \frac{1}{1-MPC} \quad or \quad k = \frac{1}{MPS}$$

Graph: Y-axis "Aggregate Consumption", X-axis "Aggregate Income". Lines labelled $Y = C + S$, $(C + I + I_1)$, $C + I$. Points E_1, K, E. Marked ΔI, ΔY, $x_1 y_1$, y.

$$YY, > AE$$

→ Change in to income > change in investment.

→ Due to multiplier effect.

⟶ Foreign trade multiplier.

(1) This is more relevent for "open economy."

(2) It studies how many times the income of nation has multiplied due to Increase in exports.

$$\text{Value of foreign trade multiplier} = \frac{1}{(1-mpc)+m} \longrightarrow \text{marginal Propensity to Import}$$

$\longrightarrow$ Increase in Imports due to Increase in Income

$$\underset{[M]}{\text{IMPORTS}} = \text{Autonomous} + \underset{m \times y}{\text{Induced}}$$

$\longrightarrow$ leakages in the working of Investment multiplier

(1) Paying off debts.

(2) Holding of idle cash

(3) Imports

(4) Taxation (govt.)

(5) Increase in prices of goods and services

(6) Purchase of old stocks and securities (Secondary market)