

INTRODUCTORY MACROECONOMICS

**UNIT
1**

**National Income &
Related Aggregates (Part - 3)**



विद्या दृष्टि

The Vision Of Education

CLASSES AVAILABLE :-

6th to 10th

◆ Maths ◆ Science ◆ English ◆ Sst

11th & 12th

◆ Pol. Science ◆ History

◆ Economics ◆ Accounts ◆ Maths ◆ English ◆ sociology



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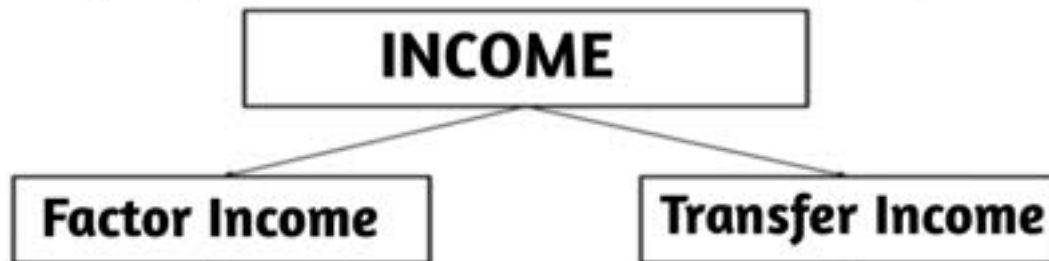
(Chief Mentor & Coordinator)



@vidyadrishiti

NATIONAL INCOME

- ◆ It is the sum total of factor incomes earned by normal residents of a country during the period of an accounting year.
- ◆ Two important aspect of national Income :-
 - (a) only factor incomes is included
 - (b) Only income of normal residents of a country included

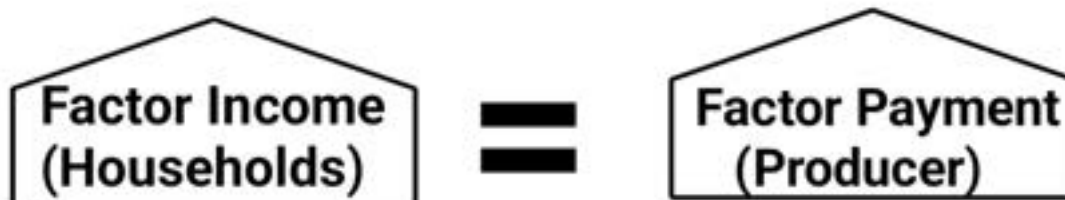


Factor Income

- ◆ Income received by the supply of factor services.
- ◆ Earned Income
- ◆ Included as Factor Income :-
 - (a) Labour - Compensation of employee
 - (b) Land - Rent
 - (c) Capital - Interest
 - (d) Entrepreneurship - Profit
- ◆ Factor Income is Factor Payment for the producer.



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- ◆ Factor Income is included in National Income.

Transfer Income

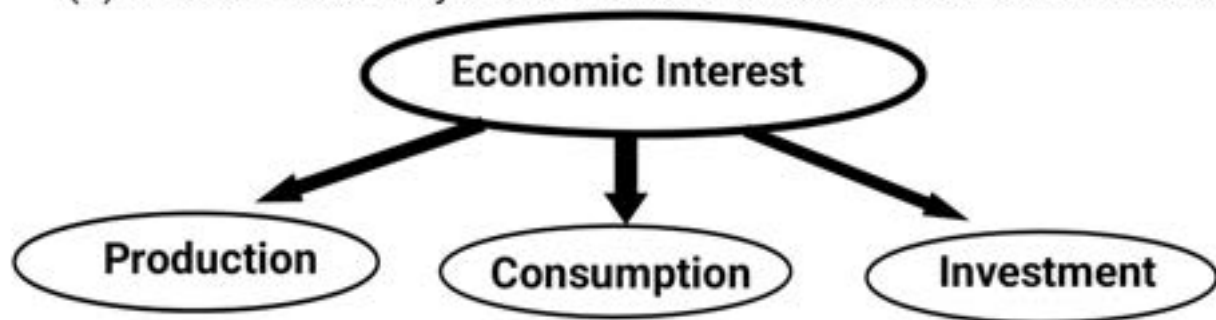
- ◆ Received as help, donation or Charity
- ◆ Unearned Income
- ◆ Unilateral Payment
- ◆ Not included in the estimation of National Income



NORMAL RESIDENTS

Two Condition :-

- Resides for at least 1 year
- The same Country should also be center of economic interest



Normal Residence can be :-

- Person & Institution both
- Citizen & Foreigner both

Included as Normal Residence

- Citizens & Institutions of a country who generally reside in the country and the center of their economic interest is also in that country.
- Indian Citizen working in international organisations based in India.
 - World bank (WB)
 - World health organisation (WHO)
 - International Monetary Fund (IMF)
- Indian National working in foreign embassies located in India.
- Indian Embassy, military establishment based in abroad.

- Indian Embassy ✓
 - Indian Diplomat ✓
 - Indian Employee ✓
- Military Establishment ✓
 - Military officer ✓
 - Employee ✓



- Workers crossing the border daily or regularly for work.
- Indian citizens residing abroad for a short period (Less than one year)
- Foreign citizens residing in India for a period more than 1 year.

Not Included as Normal Residence

- International Organisation, Foreign Embassy, Foreign Military establishment situated in India.
 - International Organisation - Foreign citizens
 - Foreign Embassy - Foreign Officers
 - Military Establishment - Military Officers
- Foreign Nationals working in Indian Embassies abroad.
- Indian citizens work in abroad for a period of more than 1 year.
- Crew members of foreign vessels.

(e) Foreign Nationals who came for the following purposes :-

- ◆ Travelling
- ◆ Entertainment
- ◆ Medical treatment
- ◆ Studies
- ◆ Sports
- ◆ Confere

(f) Foreigners who are employees of non-residents enterprises and who have come to the Country for purpose of installing machinery in these enterprises.

Domestic territory or Economic Territory

☞ **Economic territory is the geographical territory administered by a government within which persons, goods, and Capital**

Circulate freely.

☞ The government of the Country has the freedom to operate person, Commodity and Capital.

☞ **Followings are included in Domestic territory:-**

(a) Territory lying with the political frontiers including territorial waters of a Country.

(b) operated by resident in International waters —

- ◆ Fishing vessels
- ◆ Oil & natural gas rigs
- ◆ Floating platforms



(c) ships or aircraft operated wholly or partly by the residents of the Country between two or more countries.

(d) Our embassies, consulate and military establishments located

Means of Production

☞ All those elements that contribute to the production of goods & services, called means of production.

☞ These are also called INPUT.

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Means of Production = Input

☞ Two types of means of production :-

FACTOR INPUT

◆ Do not lose their existence in the process of production.

◆ **Factor Input** :- Land, Labour, Capital, Entrepreneurship

◆ **Factor services** :- Services provided by household for the process of production.

◆ **Factor Payment** :- The payment made for use of factor services by firms or producing Units.

◆ **Factor Income** :- Income earned by households by providing factor services to firm.

Factor Income = Factor Payment



NON FACTOR INPUT

- ◆ Lose their existence by changing into new substances in the process of production.
- ◆ **Non Factor Input :- Raw material**

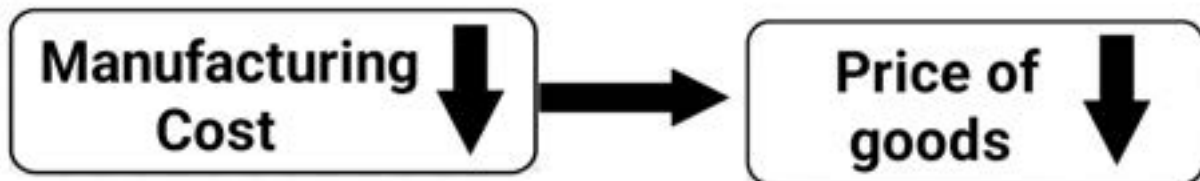
$$\text{INPUT} = \text{Factor Input} + \text{Non Factor Input}$$

Note :- Whatever is produced by the use of input is called **output**.

SUBSIDIES

- ◆ **Grant - in - aid** by the government or money related help.
- ◆ It is given to enterprises to produce a particular commodity or to increase exports.

Effect of Subsidies

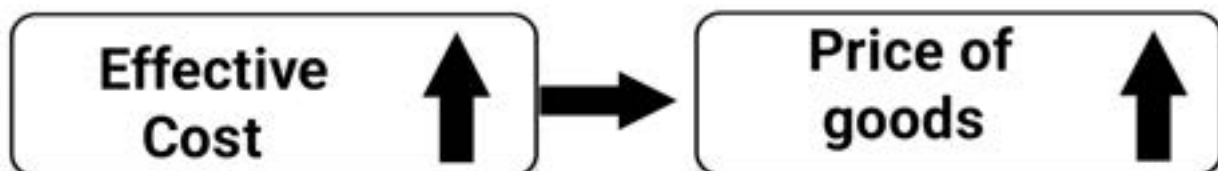


INDIRECT TAXES

- ◆ The taxes imposed by the government on the production and sale of goods are called Indirect taxes.
- ◆ Examples :- Excise duty, Sale tax, Custom duty
- ◆ Buyers pay these taxes indirectly.



Effect of Indirect taxes



Net Indirect tax

- ◆ Difference between Indirect tax & Subsidies.
- ◆ **NIT = IT - Subsidies**
- ◆ It is used to differentiate between the market price & factor cost of any good & services.



$$\underline{MP - NIT = FC}$$

Example

- ◆ Factor cost of pen = 10 ₹
- ◆ (-) Subsidy = 2 ₹
- = 8 ₹
- ◆ (+) Indirect tax = 3 ₹
- ◆ Market Price (mp) = 11 ₹



Monetary value of goods & services

monetary value of final goods & Services is measured in two way.

FACTOR COST (FC)

- ◆ Factor cost is the payment made to factor Inputs in return for contributing to the production of goods or Services
- ◆ Wages, rent, interest & profit are included in it.
- ◆ Indirect tax & Subsidy are not included into Factor Cost
- ◆ Factor Income & Factor Cost are two name of of only one Payment.

MARKET PRICE (MP)

- ◆ The price at which a good or service is bought or sold in the market is called its market price.
- ◆ NIT is also included with factor cost in it

$$\begin{aligned} MP &= FC + NIT \\ FC &= MP - NIT \end{aligned} \quad \left[NIT = IT - SUBSIDY \right]$$

Net Factor Income From Abroad (NFIA)

- ☞ NFIA is the difference between following two things :-
- Factor Income From Abroad :- Factor income earned by our residents who temporarily reside abroad
 - Factor Income To Abroad :- Factor Income earned by Non residents who temporarily reside in our country

Component of NFIA

- Net remuneration of employees
- Net Income from assets and ventures
- Net **retained earnings** of resident companies from abroad



$$\text{NFIA} = \text{A} + \text{B} + \text{C}$$

Importance of NFIA

It clarify the difference between domestic income & National Income.

- ◆ National Income = Domestic Income + NFIA
- ◆ Gross National Income = Gross domestic product + NFIA
- ◆ Net domestic product = Net National product - NFIA
- ◆ INCOME = PRODUCT

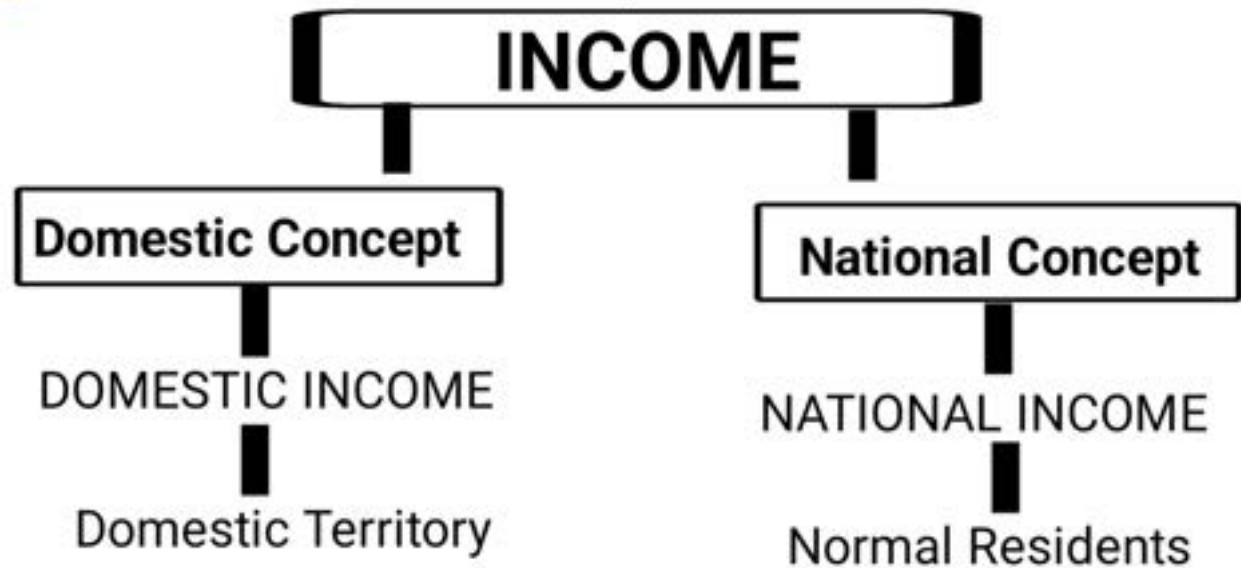
Gross	G	- depreciation	N	Net
Domestic	D	+NFIA	N	National
Product	P		P	Product
Market Price	MP	- NIT	Fc	Factor cost

Value of Production u/s Value addition

- ☞ The market value of all goods & services produced in an accounting year is considered the **value of the production**.
- value of Production = Quantity of production × Price**
- ☞ The increase in the value of intermediate goods by an entrepreneur in the process of production is called **value addition**.
- value addition = Value of production - Intermediate Consumption**
- ☞ Net value addition at factor cost is included to estimate National Income not the value of production.

- ◆ Net value addition at MP = Gross value - Depreciation
- ◆ Net value addition at FC = Net value addition at MP - NIT
= value of output - Intermediate consumption - depreciation - NIT

☞ Sum total of value addition is equal to sum total of Factor Income.



Similarity

- ◆ Both comprises the 4 basic Components of factor Income.

Difference

- ◆ The concept of domestic Income is based on the Domestic territory while the concept of national Income is based on the Normal residents.
- ◆ Domestic Income is the sum of factor Income generated by Normal residents & non residents within domestic territory.
- ◆ National Income is the sum of factor income generated by Normal residents within and outside the domestic territory.
- ◆ Domestic income does not include net factor income received from abroad (NFIA) while national income does.

National Income

☞ The sum total of the factor income earned by Normal residents of a country in one accounting year is called National Income.

☞ National Income

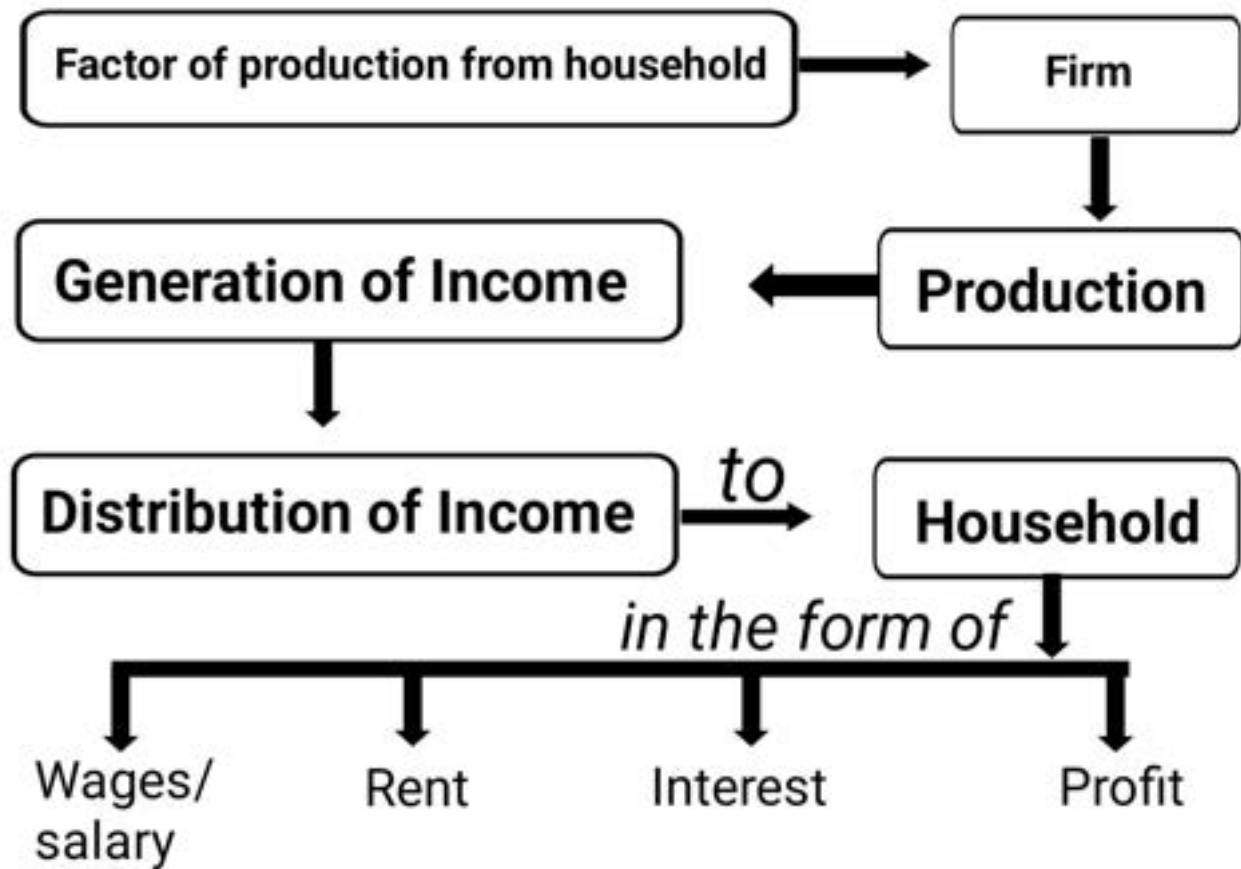
- ◆ Factor Income ✓
- ◆ Transfer Income ✗
- ◆ Normal residents ✓
- ◆ Non residents ✗
- ◆ Within domestic territory ✓
- ◆ Outside domestic territory ✓



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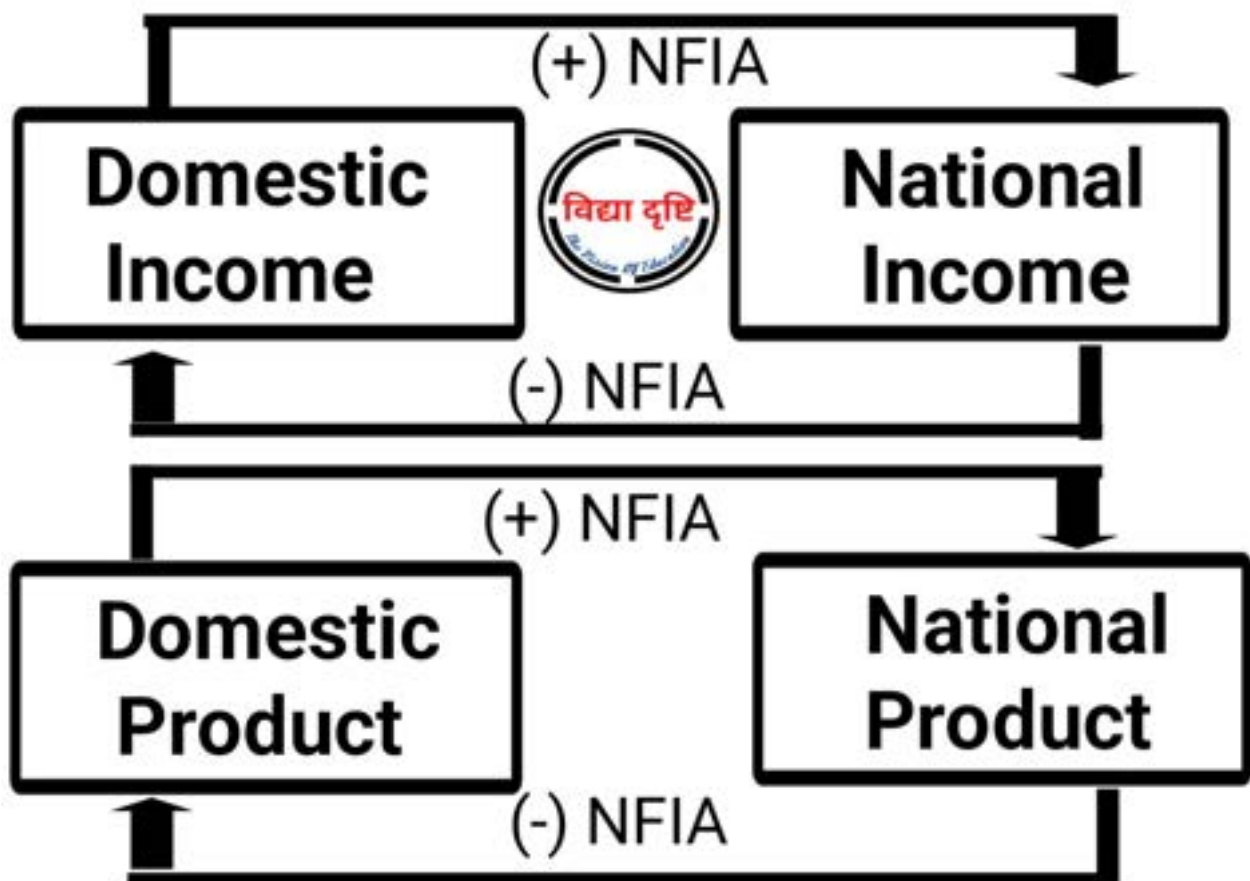
Domestic Income & Domestic Product (Similar Concept)

- ◆ There is no fundamental difference between these two concepts.
- ◆ All output is eventually converted into factor income. Hence both are identical concepts.
- ◆ Domestic Income = Domestic Product



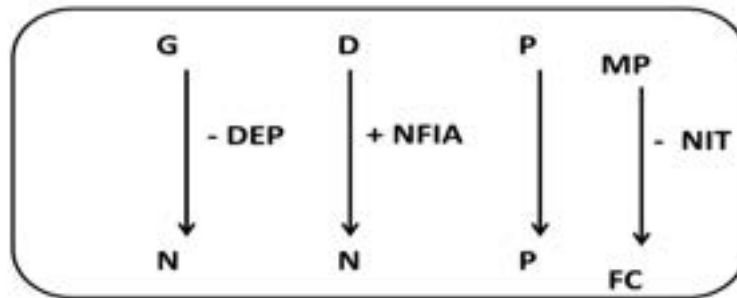
Conclusion

Domestic Product = Domestic Income



Interchange of Aggregates

How to go from GDP_{MP} to NNP_{FC} and vice versa

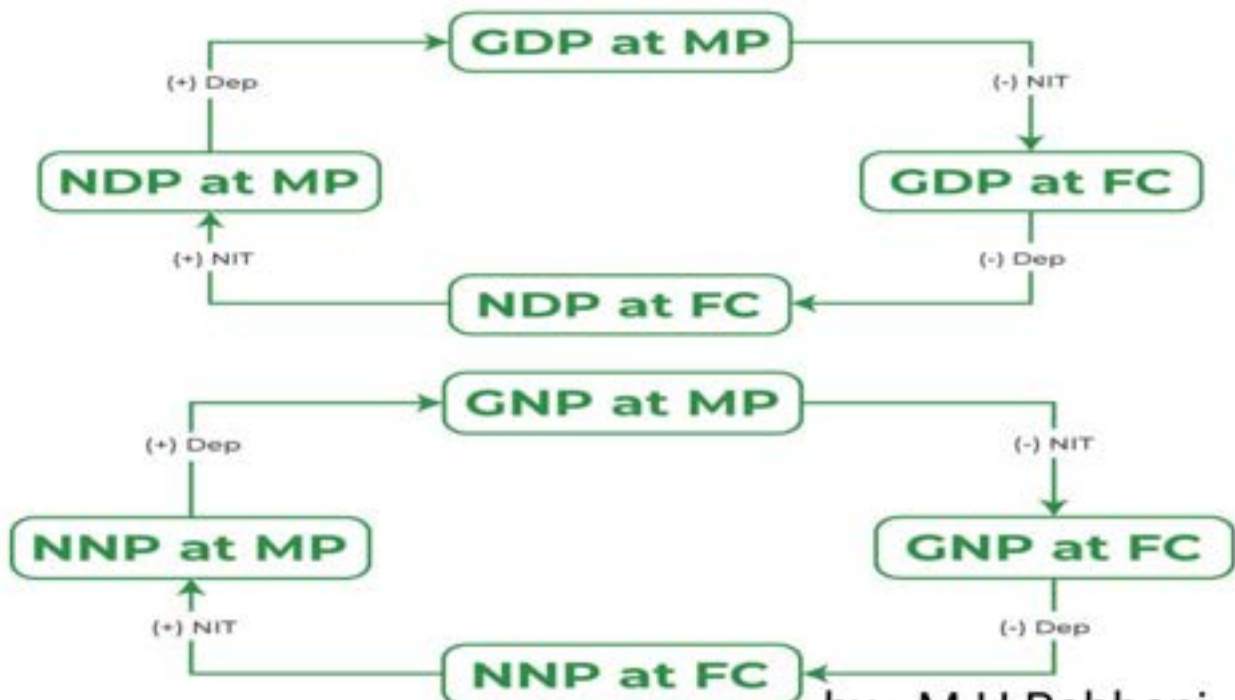


How to go from GDP_{MP} to NNP_{FC}

GDP_{MP}
Less Net Indirect Taxes
 GDP_{FC}
Less Depreciation
 NDP_{FC}
Add NFIA
 NNP_{FC}

How to go from NNP_{FC} to GDP_{FC}

NNP_{FC}
less NFIA
 NDP_{FC}
Add Depreciation
 GDP_{FC}
Add Net Indirect Taxes
 GDP_{MP}



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Domestic Product at MP & FC

- ◆ When there is no government in Economy & no taxes or Subsidies related to production then domestic product (GDP) will be same in both situation

$$\text{GDP at MP} = \text{GDP at FC}$$

- ◆ When there is role of government
 - (a) market price of goods & service increases due to imposition of indirect tax. Hence GDP_{MP} Will increase

$$\text{GDP at MP} > \text{GDP at FC}$$

- (b) market price decreases due to subsidy. Hence GDP_{MP} will decrease.

$$\text{GDP at MP} < \text{GDP at FC}$$

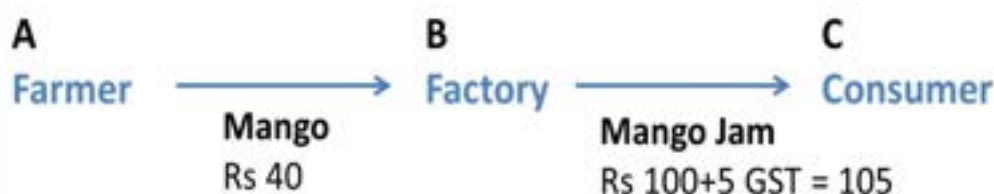
$$\text{GDP}_{FC} = \text{GDP}_{MP} - \text{Indirect taxes} + \text{Subsidy}$$

or

$$\text{GDP}_{FC} = \text{GDP}_{MP} - \text{NIT}$$

Example Calculation of GDP_{MP} and GDP_{FC}

Suppose in an economy, there are only 3 persons - A, B and C



What is GDP in this case?

GDP at Market Price

$$\text{GDP}_{MP}$$

It is **Gross Market value** of all final goods and services produced within Domestic Territory

It includes
Net Indirect Taxes

$$\text{GDP}_{MP} = 105$$



GDP at Factor Cost

$$\text{GDP}_{FC}$$

It is **Gross Money value** of all final goods and services produced within Domestic Territory

It does not include
Net Indirect Taxes

$$\text{GDP}_{FC} = 105 - 5 = 100$$

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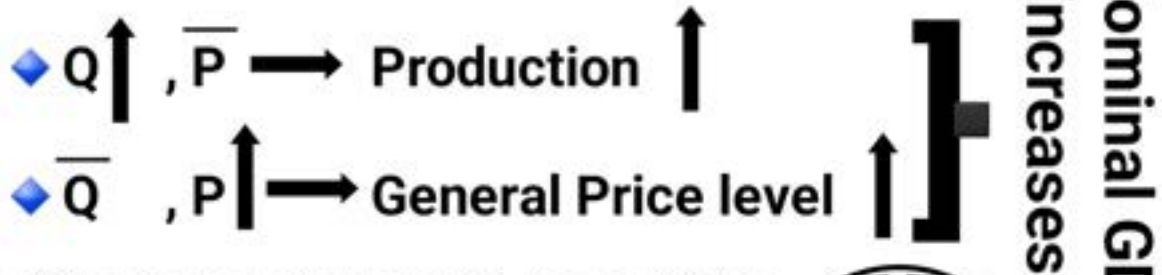


Nominal / Monetary GDP

- ☞ The market value of final goods & services produced in an accounting year within the domestic territory is monetary GDP.
- ☞ Estimation *on the basis of current year Price*.

$$\text{Nominal GDP} = Q \times P$$

- ☞ Level of production may or may not be increased due to increase in monetary GDP.



- ☞ It is just a monetary growth, due to this the **flow of good & services** :-
 - ◆ may be increase
 - ◆ may not be increase



Real GDP

- ☞ The market value of final goods & services produced within domestic territory of a country in an accounting year.
- ☞ Estimation on the *basis of base year price* or comparison year price.

$$\text{Real GDP} = Q \times P^*$$

- ☞ Real GDP increase **only due to increase in quantity** because price is constant.
- ☞ Increase in real GDP means, **increase in flow of goods and services** in economy.
- ☞ An increase in Real GDP leads to an **increase in quality of life** when other factors remain Constant.
- Base year :- The year in which there is not much change in the level of output and general price level.

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

Comparing Nominal GDP & Real GDP

Basis For Comparison	Nominal GDP	Real GDP
Meaning	Nominal GDP is Sum-total of economic output produced in a year valued at current market price	Real GDP is Sum-total of economic output produced in a year valued at a pre-determined base market price
Effect of Inflation	Nominal GDP doesn't take inflation into account	Real GDP is a Inflation-Adjusted GDP
Expressed in	Current Market Price	Base Year's Market Price
Value of GDP	Is much higher since current market changes are taken into effect	Is much lower since market price of the base year is taken into consideration
Uses	Can be compared with various quarters of the given year	Can be compared with two or more financial years
Economic Growth	From Nominal GDP, economic growth can't be analysed easily	Real GDP is a Good Indicator of economic growth

GDP Deflator

- ◆ It is the ratio between Nominal GDP & Real GDP.
- ◆ It shows change in GDP due to change in price level.
- ◆ It is same as price index.
- ◆ GDP Deflator is also known as Price Deflator or Implicit Price Deflator.
- ◆ It measures the impact of inflation on the GDP of an economy during a period of one specific fiscal year.
- ◆ GDP Deflator is a factor by which Nominal GDP is adjusted to calculate Real GDP.

$$\text{GDP Deflator} = \frac{\text{GDP at Current Price}}{\text{GDP at Constant Price}} \times 100$$

(Price Index)



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

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GDP Deflator	Consumer Price Index
<ul style="list-style-type: none"> ◆ Change in price level of all goods & services. 	<ul style="list-style-type: none"> ◆ Change in price level to only a specific basket of goods bought by the consumers
<ul style="list-style-type: none"> ◆ Goods & services produced within the domestic territory of a country. 	<ul style="list-style-type: none"> ◆ Goods & services produced within the domestic territory of a country.

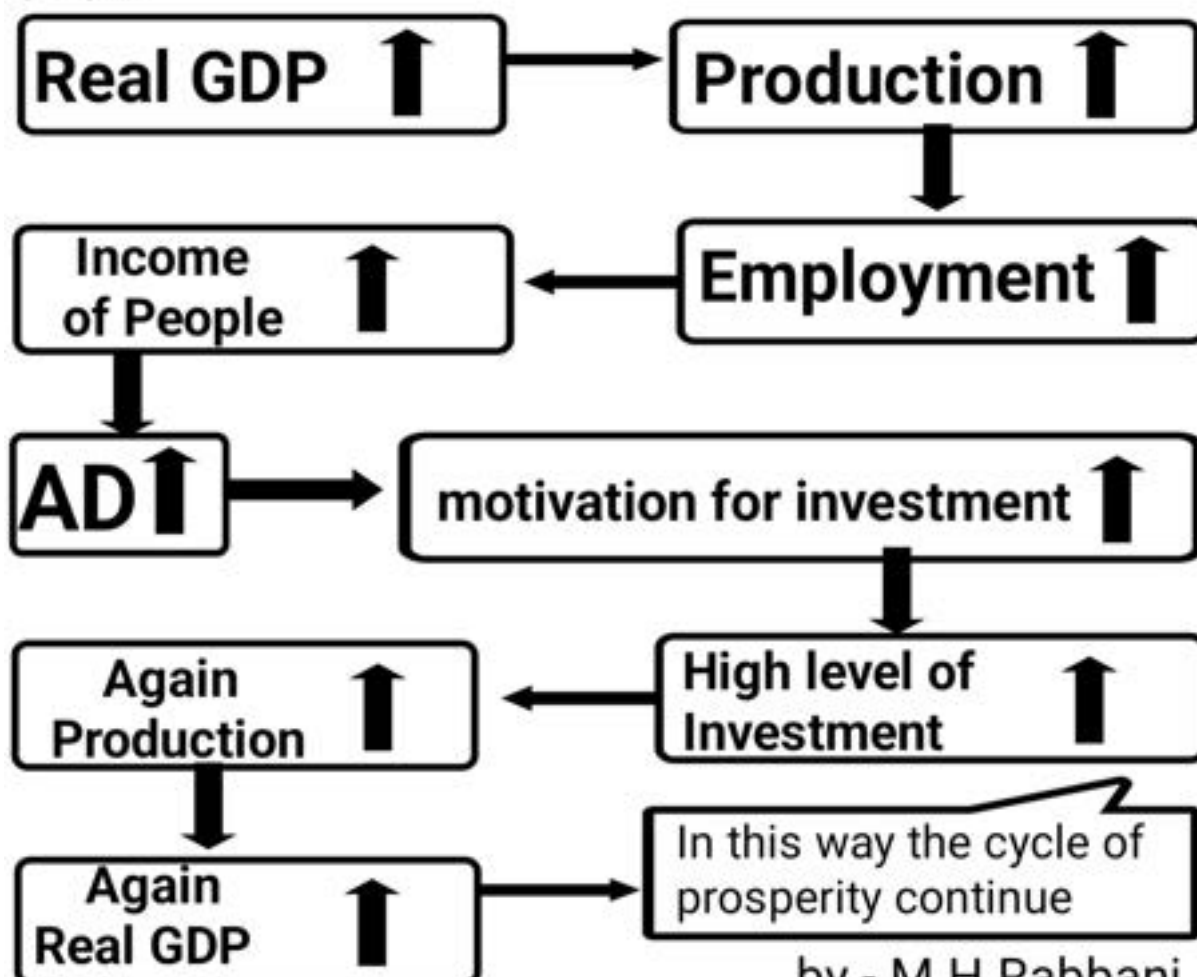
Similarity :- Both indicates change in Price level.

GDP & Welfare

- ◆ welfare of the people is measured in terms of the availability of goods and services per person.

- ◆ GDP leads to an increase in the level of output resulting in an increase in the availability of goods & services, employment, Purchasing power & demand. Hence, the Virtuous cycle of prosperity begins.

- ◆ It is the reason, **Real GDP is consider as the indicator of welfare of people.**



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Conclusion :- The planners & Politicians in a country always lay emphasis on the growth rate of Real GDP.

Limitation of GDP as a Indicator of Welfare

(a) Distribution of income

- ◆ An increase in GDP does not result in an increase in Social welfare When the distribution of income is unequal.
- ◆ Example - GDP is increasing but death due to Starvation is also increasing.

(b) Composition of GDP

- ◆ If the production is according to the needs of the rich section of the Society & the needs of the the poor class is neglected, even then the increase in GDP does not help in social welfare

(c) Non-monetary exchange

- ◆ Non monetary transactions are still practiced in Countries like India due to which the estimate of GDP as an indicator of welfare is reduced.

(d) Externalities

- ◆ Externalities refers to good and bad impact of an economic activity without paying the price or penalty for that.
- ◆ Two Types of Externalities :-
 - (1) **Positive** :- good impact but no payment for that
 - (2) **Negative**:- bad impact but no penalty for that
- ◆ The GDP indicator does not include externalities So the importance of GDP as indicator of welfare diminished.

👉 **Conclusion :-** Infact, GDP is not a complete indicator of welfare. Welfare can be estimated less or more by this.

Green GNP

- ◆ When following two is included into GNP, then it is called Green GNP.
 - (a) Cost in terms of environment pollution
 - (b) Cost in terms of excessive exploitation of natural resources



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