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National Income and Related Aggregates

Goods : In economics a goods is defined as any physical object, manmade, that could command a price in the market and these are the materials that satisfy human wants and provide utility

Consumption Goods : Those final goods which satisfy human wants directly. ex- ice-cream and milk used by the households.

Capital Goods : Those final goods which help in production. These goods are used for generating income. These goods are fixed assets of the producers.ex- plant and machinery.

Final Goods are those goods which are used either for final consumption or for investment.

Intermediate Goods refers to those goods and services which are used as a raw material for further production or for resale in the same year.
These goods do not fulfill needs of mankind directly.
Investment : Addition made to the physical stock of capital during a period of time is called investment. It is also called capital formation.

capital formation:- Change in the stock of capital is also called capital formation.

Depreciation :means fall in value of fixed capital goods due to normal wear and tear and expected obsolescence. It is also called consumption of fixed capital.

Gross Investment : Total addition made to physical stock of capital during a period of time. It includes depreciation. OR Net Investment + Depreciation

Net Investment : Net addition made to the real stock of capital during a period of time. It excludes depreciation.

Net Investment = Gross investment – Depreciation.

Stocks : Variables whose magnitude is measured at a particular point of time are called stock variables. Eg. National Wealth, Inventory etc.

Flows : Variables whose magnitude is measured over a period of time are called flow variable. Eg. National income, change in stock etc.

Circular flow of income : It refers to continuous flow of goods and services and money income among different sectors in the economy. It is circular in nature. It has neither any end and nor any beginning point. It helps to know the functioning of the economy.

Leakage : It is the amount of money which is withdrawn from circular flow of income. For eg. Taxes, Savings and Import. It reduces aggregate demand and the level of income.
Injection : It is the amount of money which is added to the circular flow of income. For e.g. Govt. Exp., investment and exports. It increases the aggregate demand and the level of income.

Economic Territory : Economic (or domestic) Territory is the geographical territory administrated by a Government within which persons, goods, and capital circulate freely.

Scope of Economic Territory :

(a) Political frontiers including territorial waters and airspace.
(b) Embassies, consulates, military bases etc. located abroad.
(c) Ships and aircraft operated by the residents between two or more countries.
(d) Fishing vessels, oil and natural gas rigs operated by residents in the international waters.

Normal Resident of a country: is a person or an institution who normally resides in a country and whose Centre of economic interest lies in that country.

Exceptions:-

(a) Diplomats and officials of foreign embassy.
(b) Commercial travellers, tourists students etc.
(c) People working in international organizations like WHO, IMF, UNESCO etc. are treated as normal residents of the country to which they belong.

The related aggregates of national income are:-

(i) Gross Domestic Product at Market price (GDP_{MP})
(ii) Gross Domestic Product at Factor Cost (GDP_{FC})
(iii) Net Domestic Product at Market Price (NDP_{MP})
(iv) Net Domestic Product at FC or (NDP_{FC})
(v) Net National Product at FC or National Income (NNP_{FC})
(vi) Gross National Product at FC (GNP_{FC})
(vii) Net National. Product at MP (NNP_{MP})
(viii) Gross National Product at MP (GNP_{MP})

(i) Gross Domestic Product at Market Price : It is the money value of all the final goods and services produced within the domestic territory of a country during an accounting year.

$$GDP_{MP} = \text{Net domestic product at FC } (NDP_{FC}) + \text{Depreciation} + \text{Net Indirect tax.}$$

(ii) Gross Domestic Product at FC : It is the value of all final goods and services produced within domestic territory of a country which does not include net indirect tax.

$$GDP_{FC} = GDP_{MP} - \text{Indirect tax} + \text{Subsidy}$$
$$\text{or } GDP_{FC} = GDP_{MP} - NIT$$

(iii) Net Domestic Product at Market Price : It is the money value of all final goods and services produced within domestic territory of a country during an accounting year and does not include depreciation.

$$NDP_{MP} = GDP_{MP} - \text{Depreciation}$$

(iv) Net Domestic Product at FC : It is the value of all final goods and services which does not include depreciation charges and net indirect tax. Thus it is equal to the sum of all factor incomes (compensation of employees, rent, interest, profit and mixed income of self employed) generated in the domestic territory of the country.

$$NDP_{FC} = GDP_{MP} - \text{Depreciation} - \text{Indirect tax} + \text{Subsidy}$$

(v) Net National Product at FC (National Income) : It is the sum total of factor incomes (compensation of employees + rent + interest + profit) earned by normal residents of a country in an accounting year
or

$$\mathbf{NNP_{FC} = NDP_{FC} + Factor\ income\ earned\ by\ normal\ residents\ from\ abroad - factor\ payments\ made\ to\ abroad.}$$

(vi) Gross National Product at FC: It is the sum total of factor incomes earned by normal residents of a country along with depreciation, during an accounting year.

$$\mathbf{GNP_{FC} = NNP_{FC} + Depreciation\ OR}$$
$$\mathbf{GNP_{FC} = GDP_{FC} + NFIA}$$

(vii) Net National Product at MP : It is the sum total of factor incomes earned by the normal residents of a country during an accounting year including net indirect taxes.

$$\mathbf{NNP_{MP} = NNP_{FC} + Indirect\ tax - Subsidy}$$

(viii) Gross National Product at MP : It is the sum total of factor incomes earned by normal residents of a country during an accounting year including depreciation and net indirect taxes.

$$\mathbf{GNP_{MP} = NNP_{FC} + Dep + NIT}$$

Domestic Aggregates

Gross domestic Product at Market Price (GDP_{MP}) is the market value of all the final goods and services produced by all producing units located in the domestic territory of a country during an accounting year. It includes the value of depreciation or consumption of fixed capital.

Net Domestic Product at Market Price (NDP_{MP}) : $NDP_{MP} = GDP_{MP} -$ Depreciation (consumption of Fixed capital). It is the market value of final goods and services produced within the domestic territory of the country during a year exclusive of depreciation.

Domestic Income : (NDP_{FC}) : It is the factor income accruing to owners of factors of production for suppling factor services with in domestic territory during an accounting year.

NATIONAL AGGREGATES

Gross National Product at Market Price (GNP_{MP}) **)** is the market value of all the final goods and services produced by normal residents (in the domestic territory and abroad) of a country during an accounting year.

$GDP_{MP} + NFIA = GNP_{MP}\ (NNP_{FC})$

National Income NNP_{FC} **:**It is the sum total of all factors incomes which are earned by normal residents of a country in the form of wages. rent, interest and profit during an accounting year.

$NNP_{FC} = NDP_{FC} + NFIA = \text{National Income.}$

Methods of Estimation of National Income:

1. Income thod

Step 1: Net Domestic Product at Factor Cost (NDP_{FC})
- Compensation of employees
+ Operating surplus.
+ Mixed income for self-employed person

Setp 2: National Income (NNP_{FC})
- NDP_{FC}
+ Net Factor Income Earned from Abroad (NFIA)

2. Value Added/Product Method

Step 1: Gross Domestic Product Market Price (GDP_{MP})
- Value Added by Primary Sector
+ Value Added by Secondary sector
+ Value Added by Teritory sector

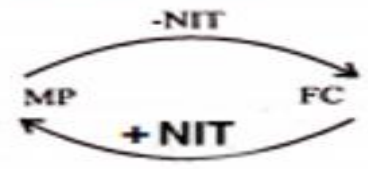
Step 2: Net National Product at Factor Cost (NNP_{FC}) = National Income
- GDP_{MP}
- Depreciation
- Net indirect Taxes (Indirect Taxes – Subsidies)
+ NFIA

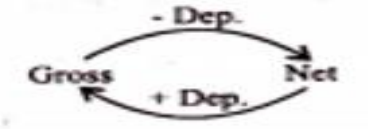
3. Expenditure Method

Setp 1: Gross Domestic Product at Market Price (GDP_{MP})
- Private Final Consumption Expenditure (C)
+ Govt. Final Consumption Expenditure (G)
+ Gross Domestic Capital Formation (2)
+ Net Export (X–M)

Step 2: Net National Product at Factor Cost (NNP_{FC}) National Income
- GDP_{MP}
- Depreciation
- NIT (Net indirect taxes)
+ NFIA

Conversion Hints





Where : NIT : Net indirect tax (Indirect Taxes – subsidies)
MP = Market Price
FC = Factor Cost

Dep = Depreciation = Consumption of fixed capital
NP = National Product
DP = Domestic Product

NFIA = Net Factor Income Earned from Abroad

National Income at Current Prices : It is also called nominal National income. When goods and services produced by normal residents within and outside of a country in a year valued at current years prices i.e. current prices is called national income at current prices.
Y = Q x P
Y = National income at current prices
Q = Quantity of goods and services produced during an accounting year
P = Prices of goods and services prevailing during the current accounting year

National Income at Constant Prices : It is also called as real national income. When goods and services produced by normal residents within and outside of a country in a year valued at constant price i.e. base year's price is called National Income at Constant Prices.
Y' = Q x P'
Y' = National income at constant prices
Q = Quantity of goods and services produced during an accounting year
P' = Prices of goods and services prevailing during the base year

Value of Output : Market value of all goods and services produced by an enterprise during an accounting year.

Value added : It is the difference between value of output of a firm and value of inputs bought from the other firms during a particular period of time.

Problem of Double Counting : Counting the value of a commodity more than once while estimating national income is called double counting. It leads to overestimation of national income. So, it is called problem of double counting.
Ways to solve the problem of **double counting**.
(a) By taking the value of only final goods.
(b) By value added method.
Components of $GDP_{MP} = \sum Values$ Added by all 3 sectors
1. Value Added by Primary Sector(=VO-IC)
2. Value Added by Secondary Sector(=VO-IC)
3. Value Added by Tertiary Sectors(=VO-IC)
Hints
VO=Value of output
IC=Intermediate Consumption
VO=Price X quantity OR
Sales + Change in stock
(Change in stock = Closing Stock – Opening Stock)

Components of Final Expenditure:

1. Final Consumption Expenditure
a. Private Final Consumption Expenditure(C)
b. Government Final Consumption Expenditure(G)
2. Gross Domestic Capital Formation
a. Gross Domestic Fixed Capital Formation
i. Gross business Fixed Investment
ii. Gross Residential Construction Investment
iii. Gross public Investment

b. Change in Stock or Inventory Investment
3. Net Export(X-M)
a. Export(X)
b. Import(M)

Components of Domestic Income :

1. Compensation of Employees
a. Wages and salaries(Cash/or kinds)
b. Employers Contribution of Social security Schemes
2. Operating surplus
a. Rent
b. Interest
c. Profit
i. Corporate Tax
ii. Dividend
iii. Undistributed corporate profit
3. Mixed Income for self-Employed person

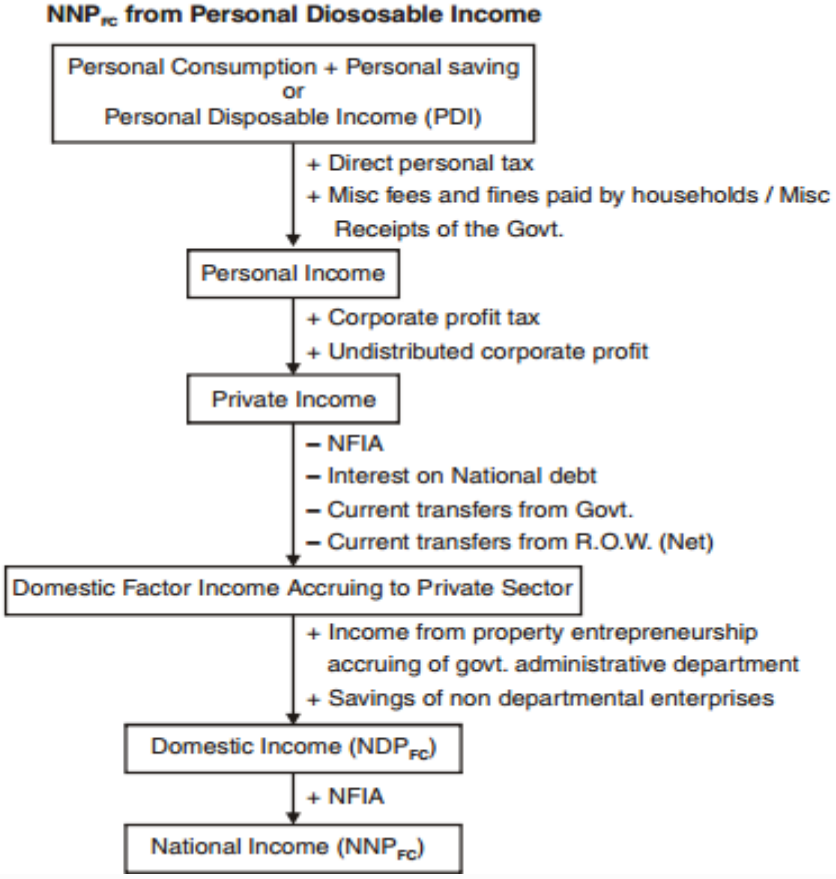
Net Factor Income from Abroad NFIA = It is difference between factor income received/earned by normal residents of a country and factor income paid to non-residents of the country.
Components of NFIA :
1. Net Compensation of Employees
2. Net Income from Property and entrepreneurship
3. Net Retained earning of resident companies abroad
Hints :NFIA : Net Factor Income Earned from Abroad.
NFIA = Factor Income Received from Abroad.
–Factor Income Paid to Abroad.
OR
NFIA = Net compensation of Employees
Net income from property and entrepreneurship.
+ Net retained earning of resident companies abroad.

Net National Disposable Income (NNDI): It is defined as net national product at Market price (NNP_{MP}) plus net current transfer from rest of the world.
$NNDI = NNP_{MP}$
+ Net current transfers from rest of the world.
=National income + net indirect tax + net current transfers from the rest of the world.

Gross National Disposable Income (Gross NDI $= GNP_{MP}$ + Net current Transfers from rest of the world.

Net National Disposable Income (Net NDI) $= NNP_{MP}$ + Net current Transfers from rest of the world.
OR
= Gross NDI – Depreciation.

NNP_{FC} from Personal Diososable Income

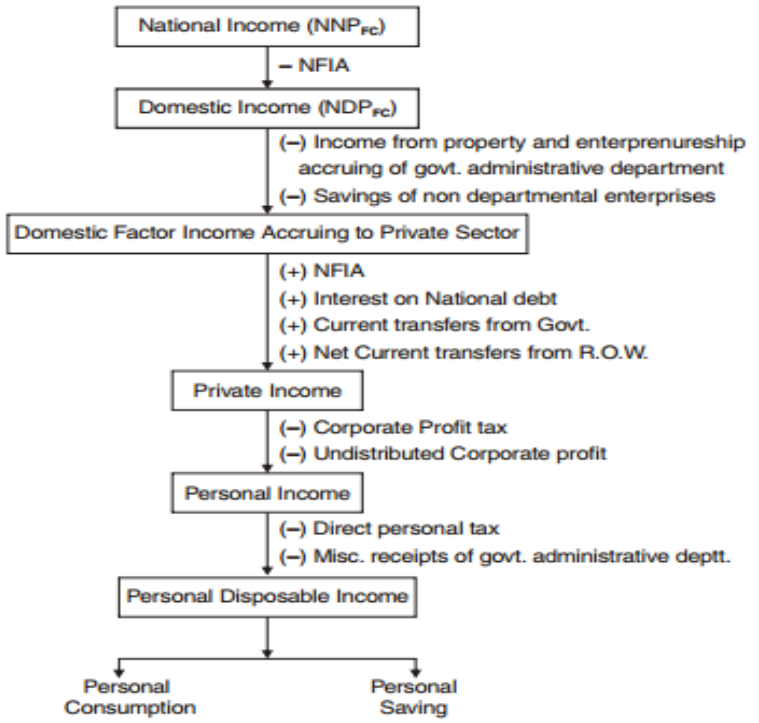


Concept of Value Added of One Sector or One Firm

1. Value output = Sales + Change in Stock. or value of output = price × qty. sold + ΔS.
2. Gross value added at market price (GVA_{MP}) = Value of output – Intermediate consumption.
3. Net value added at market price (NVA_{MP}) = GVA_{MP} – Depreciation.
4. Net value added at factor cost (NVA_{FC}) = NVA_{MP} – Net indirect tax.

Note: By adding up NVA_{FC} of all the sectors, we get NDP_{FC} or Domestic Income.

Personal Disposable Income from National Income (NNP_{FC})



Private Income : Private income is estimated income of factor and transfer incomes from all sources to private sector within and outside the country.

Personal Income : It refers to income received by house hold from all sources. It includes factor income and transfer income.

Personal Disposable Income : It is that part of Personal income which is available to the households for disposal as they like.

GDP and Welfare :

In general GDP and Welfare are directly related with each other. A higher GDP implies that more production of goods and services. It means more availability of goods and services. But more goods and services may not necessarily indicate that the people were better off during the year. In other words, a higher GDP may not necessarily mean higher welfare of the people. There are two types of GDP:

Real GDP : When the goods and services are produced by all producing units in the domestic territory of a country during an a/c. year and valued these at base year's prices or constant price, it is called real GDP or GDP at constant prices. It changes only by change in physical output not by change price level. It is called a true indicator of economic development.

Nominal GDP : When the goods and services are produced by all producing units in the domestic territory of a country during an a/c. year and valued these at current year's prices or current prices, it is called Nominal GDP or GDP at current prices. It is influenced by change in both physical output and price level. It does not consider a true indicator of economic development.

Conversion of Nominal GDP into Real GDP

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

Price index plays the role of deflator deflating current price estimates into constant price estimates. In this way it may be called GDP deflator.

Welfare mean material well being of the people. It depends on many economic factors like national income, consumption level quality of goods etc and non-economic factor like environmental pollution, law and order etc. the welfare which depends on economic factors is called economic welfare and the welfare which depends on non-economic factor is called non-economic welfare. The sum total of economic and non-economic welfare is called social welfare. Conclusion thus GDP and welfare directly related with each other but this relation is incomplete because of the following reasons.

Limitation of percapita real GDP/GDP as a indicator of Economic welfare :

Non-monetary exchange

Externalities not taken into GDP but it affects welfare.

Distribution of GDP.

All product may not contribute equally to economic welfare.

Contribution of some products may be negative.

Inflation may give falls impression of growth of GDP.

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