

NATIONAL INCOME

Dfn: The money value of the goods and services produced in a country over a given period (usually one year)

It may also be defined as the total incomes received by the owners of the factors of production in a given country over a given period of time (usually one year)

To produce goods factors of production are employed/needed. These goods and services produced are usually valued in terms of money, when outputs for individual factors of production in terms of money are added together; we get the total or national output.

Dfn: National output; the total value of all the goods and services produced by a given country over a given period of time (usually one year).

Note that; National income is the same as the national output (National product)

National income concepts

a) Gross Domestic Product(GDP) and Net Domestic Product(NDP)

The GDP refers to the total monetary value of all goods and services produced in a country (produced within a country's borders) irrespective of who is producing it.

The term 'Gross' implies that no deduction for the value of capital consumption (Depreciation) is taken into account.

NDP is equal to Gross domestic product less depreciation i.e. $NDP = GDP - \text{depreciation}$.

b) Gross National product (GNP) and Net National Product (NNP)

Gross National Product (GNP) is the total monetary value of all goods and services produced by the individuals of a given country irrespective of where they are producing them.

$GNP = GDP + \text{Net factor income from abroad}$

Or

$GNP = GDP + \text{Exports} - \text{imports}$.

Net National Product (NNP) is equal to Gross National product less depreciation (value of capital used/consumed) the product process.

c) National income at factor cost (Net National Income (NNI))

This is the sum total of all incomes earned by the factors of production. It is the real national income of a country because it indicates the cost of different factors of production.

It is derived from NNP by adding subsidies and subtracting indirect taxes thus;

$NNI = NNP + \text{Subsidies} - \text{taxes}$.

d) **Per Capita Income**

Per capita income refers to income per head in a given country. It represents national income divided by the total population in a country per year.

It can be said that per capita income is National income attributed to one person (per head income) i.e.

Per capita income = $\frac{\text{National income}}{\text{Total population}}$

The circular flow of income

The circular flow of income rests on the basic principle that one person's or sector's expenditure becomes another's income.

It focuses on the way money exchanges hands and also on the premise that commodities and factors of production do exchange for money i.e.

-Firms that are involved in the production of goods and services require the services of various factors of production (land, labour, capital and entrepreneur)

- These factors of production are hired from individuals who may be said to be households. On receiving the factor of production services, firms have to pay for them.
- This payment becomes an expenditure to the paying firm and an income to the receiving household.
-The households in turn use the income they have obtained from the firms to buy goods and services which are produced by firms.
- In this case the payment is income to the firm and expenditure to the household.

It can be noted from the above explanation that incomes keep on moving from households to the firm and then back to the households in a kind of a circle.

This movement of income is referred to as *the circular flow of income*.

In the figure above: circular flow of income in a simple economy

-Households supply factors of production in return of rent, wages, interest and profit.

-Household spend all the money on goods and services provided by the firms.

-From the above it can be noted that two sectors depend on each other. The firms require the services of the households and the households require goods and services from the firms.

-The sum of the value of goods and services must be equal to the sum of the factor rewards.

NOTE: For the above circular flow to hold, the following assumptions have been made.

- a. There are only two sectors/players in the economy i.e households and the firms.
- b. Households spend all their income on goods and services produced by the firms.
- c. Firms spend all their revenues on factors of production provided by the households.
- d. There is no government intervention
- e. The economy is closed i.e. no foreign trade.

ii) In practise, not all households income is spent as some of it may be saved.

Firms too do not spend all their income on the existing factors of production as they spend part of it on investment goods such as machine, factories or other capital equipment used to produce other goods and services.

Injections and withdrawals

In reality, the above assumptions do not hold because there are normally other factors that come into play e.g.

- i. No country can exist without dealing with other countries
- ii. It is difficult to have an economy where all incomes are spent only on acquisition of goods and services without savings and investments
- iii. It is not possible to have an economy where the government does not take part.

The above three factors affect the volume of income flow between the households and the firms i.e. they increase or decrease the flow.

-The factors that increase income and expenditure are referred to as *injections*

-The factors that reduce the flow are referred to as *withdrawals or leakages*.

Factors that affect the circular flow of income

Some of the factors that affect the circular flow of income are;

a) Savings

Savings constitute part of the income that is not consumed but is kept aside for future use.

Savings by households reduce income received by firms since they have been withdrawn from the circular flow. This implies that the firms will not have enough funds to pay for the factor services.

NOTE: savings leak out of the circular flow and therefore they are part of the withdrawals.

b) Government;

The government affects the circular flow by way of either taxation or expenditure.

- (i) **Taxation:** Taxation reduces the amount of income available for spending. It is therefore a leakage or withdrawal from the circular flow.
- (ii) **Government expenditure;** the government may buy goods and services from firms or pays for wages and salaries of the households.

Whatever the case, the government expenditures constitutes injections to the flow of incomes.

c) Investments

Investments refer to addition of stock of capital goods into the economy. Firms make use of funds that households have saved in financial institutions such as banks to invest. Such investments leads to higher incomes to households as firms utilise more factors to increase production.

Investments are therefore injections into the circular flow of incomes.

d) Foreign trade (Exports and Imports)

-Exports; through exports a country is able to earn income from other countries. The income so earned from the foreigners is an addition to the circular flow of income and hence an injection.

Imports; when a country imports goods and services, it pays foreigners who are outside the circular flow.

This therefore constitutes a leakage or withdrawal from the circular flow of income.

Equilibrium National Income

Equilibrium refers to a situation where there is no tendency to change. In national income equilibrium is attained where total injections are equal to total withdrawals or leakages. At this point, the national income remains constant that is, there is neither increase nor decrease in the system.

When investments and savings takes place money enters and leaves the system, at the equilibrium the two (investments and savings) will be equal. At this point the economy is in balance.

NOTE: For national income to be in equilibrium, the following equation must hold.

$$S+T+M=I+E+G$$

Where s=savings

T=Taxes

M=Imports

I=Investments

E=Exports

G=Government expenditure.

Measurement of national income

From the circular flow of income we note that;

-If we add all the wages, rents, profits and interest, we get the national income.

-If we add the total expenditure of households on goods and services produced by the firms, we get the national expenditure.

-If we add the value of all goods and services produced by the firms, we get the national output/product.

All the three give the same figure, the national income. This proves that:

National income=National expenditure=National product/output.

In short, expenditure incurred appears as income or receipts of another person which is equal to the value of the goods and services produced.

There are therefore three methods of measuring national income i.e.

- a. Expenditure approach
- b. Income approach
- c. Output approach

a) Expenditure approach

The national income is arrived at by adding together expenditure on all final goods and services in the economy. Total expenditure may hence be broken into;

- i. Expenditure on consumer goods and services by the original public (c) e.g. a pen bought by a student.
- ii. Expenditure on capital goods/investment goods(1). There are two types of investments;
 - Fixed capital investments; this refers to addition of durable goods to the existing stock of durable goods e.g. machinery.
 - Inventory investment; the purchase of raw materials.

iii) Government expenditure (G). This may be subdivided into;

- Expenditure on goods and services from firms e.g. buying of office equipment.
 - Expenditure on factor services from household e.g. Hiring civil servants (labour)
- iv) Expenditure on net exports. Net exports are total exports less total imports.
This is denoted by the expression(X-M)

National income (Gross national expenditure, (GNE) =C+I+G+(X-M)

The expenditure approach measure national income at market price since it takes into account what is spent on the final product.

Thus, it gives gross national expenditure (GNE) at market price.

This does not reflect the true value of national expenditure. Some adjustments should therefore be made as follows;

- (i) *Imports*; These are excluded because they do not generate income locally.
- (ii) *Exports*; These are included because they generate income locally.
- (iii) *Taxes*; They are not payments for anything produced, so they are deducted.
- (iv) *Subsidies*; They have the effect of making the product appear less valuable, than its true value and for this reason they are added back.
- (v) *Depreciation*; (capital consumption) is deducted.
- (vi) Increase in value of value of physical stock and work in progress due to rise in prices is deducted.

Thus Net National Expenditure (NNE) =GNE +subsidies-taxes-Depreciation

I.e. $NNE = GNE + S - T - D$

Problems of using Expenditure approach

The following are some of the problems associated with this method of national income computations;

- (i) No accurate records of expenditure are kept especially in the private sector.
- (ii) Expenditures for the subsistence sector can only be mere approximations due to lack of regards in this sector
- (iii) Differentiating between final expenditure and intermediate expenditure may be difficult.
- (iv) It suffers from the problem of double counting(because of second hand goods and intermediate goods)
- (v) Fluctuating exchange rates may pose challenges especially in valuation of exports and imports.
- (vi) Accurate figures on expenditure may be lacking for citizens of a country who live abroad.
- (vii) Estimating depreciation is difficult.

b) The income approach

- (i) commitments)e.t.c
- (ii) Income from self employment e.t.c

Thus national income using this approach is given as all income received by the citizens of a country for the use of factors of production.

Note Only income received for offering goods and services (i.e. income received *quid pro quo*) is included.

Any income received without offering or services should not be included. Such includes;

- Pocket money
- Cash gifts
- Pension e.g. social security benefits
- National insurance e.g. sickness benefits
- Donation e.g. famine relief cash donations e.t.c

They are not included because they represent a *re-distribution* of incomes from those who have earned it to the recipient.

Such incomes received without offering factor services are referred to as *transfer payments*.

To be excluded also is income earned by factors of production belonging to foreigners based in the country. (This is because income earned by foreigners are not that nations income)

In summary, national income by the income approach includes;

- Estimated incomes in the subsistence sector
- Income from formal and self employment
- Undistributed profits of firms
- Income from government owned businesses and properties
- Income earned by citizens abroad, and
- Rent earned from the use of land But excludes;

- Transfer payments and
- Income earned by foreigners in that country.

Thus

$N.I = \text{Personal income} + \text{public income} + \text{retained profit-transfer payments.}$

This method takes into account the sum of money that is received as income (rewards) by the factors of production for the production of goods and services in a given year. Such incomes include rent, interest, wages and profit. In addition to personal incomes, the following are also included;

- (iii) Public income i.e. Income which the government receives from its environment.
- (iv) Retained profit (profits set aside for purpose of meeting unexpected future

The national income arrived at using this method is at factor cost because it represents the actual payments to the factors of production hence it is Gross national income (GNI)

In order to get national income at market price (Net National Income NNI) some adjustments need to be made i.e.

- i. Indirect taxes –*Added*
- ii. Subsidies –*Subtracted*
- iii. Transfer payments –*Subtracted*
- iv. Stock appreciation-*subtracted*
- v. Capital consumption (Depreciation)-*subtracted*
- vi. Net factor income from abroad-*added*
- vii. Residual error (error resulting from collection of data-*added* or *subtracted* from the national income depending on the direction of the error.

Problems associated with the income approach

- i. The problem of inaccurate data because people may not give true figures of their incomes due to tax evasion, difficulty of computing e.t.c
- ii. It is sometimes difficult to distinguish between payments for factors and transfer payments. Unless such distinction is made and adjustments on the national income made accordingly, the national income figure may be overstated or understated.

Example: A relative comes to assist you to weed your shamba which would cost sh.100 per day. If at completion of weeding on the third day you give him/her sh.1000, this amount is far above sh.300 true value of your relatives services. Thus sh.1000 contains sh.700 transfer payment.

Unless such a distinction is made and adjustments on the national income figure is made accordingly, the national income may be inaccurate.

- iii. Due to price fluctuations, it is very difficult to calculate the national income accurately.
- iv. The problem of handling illegal and unrecorded economic activities which yield income to the recipients.
- v. There are difficulties in obtaining the right number of people working abroad and particularly accurate figures on their income.
- vi. The existence of a large subsistence sector in which money is not used, causes a problem. Estimations of incomes in this sector may undertake the true value added of goods and services produced, thereby affecting the level of national income.

c) **The output approach (value added approach)**

The output method finds out the monetary values of all final goods and services produced by firms during the year. This includes final goods and services produced in all the sectors of the economy (e.g. transport, mining, forestry outputs e.t.c)

When the entire national output of a country in a year is evaluated, it constitutes the Gross National product (GNP) of that country. The GNP is arrived at by adding up the *value added* of all firms in these sectors.(value added can be computed at each stage of production).The total value added at each stage equals the final value of output.

Def: *value added*: This is the net contribution to the product by each firm involved in the production process; hence it is the firms output less what that firm has paid to other firms for inputs in the production.

Example

A loaf of bread costs shs.4.00.This price includes the production processes of the wheat farmer, the miller, the baker and the distributor. i.e.

	Value added
Firm A (wheat grower)	0.50
Firm B miller (sh.150-0.50)	1.00
Firm C baker (sh.3.00-1.50)	1.50
Firm D (Distributor (4-3)	1.00

	Cost of output	value added
Firm A	0.5	0.50
Firm B	1.50	1.00
Firm C	3.00	1.50
Firm D	<u>4.00</u>	<u>1.00</u>
Total	8.00	4.00

When the value added is added to the original cost of sh.4.00 the total value added becomes sh.8.00 which is the value of the final product.

Products included during the output approach are;

- Value of all intermediate goods at the time of taking the account.
- Value of goods still in the process of production,(construction work not yet completed during the year).This helps to arrive at the true value of the goods produced within the year.
- Value of non-marketed or subsistence output. This is found by estimation since money is not used in the subsistence sector.
- Value of government final output of goods and services (i.e. education,security,medical care e.t.c)
- Net output from outside the country.

Some adjustments also need to be made as follows;

- i. Stock appreciation-subtracted
- ii. Residual errors-added or subtracted depending on its nature.
- iii. Net factor income from abroad-added if positive and subtracted if negative.

The national income figure obtained is the gross domestic product G.D.P at factor cost as it is the cost of producing the country's total output.

To get N.N.P, depreciation must be subtracted i.e.

$N.N.P = G.N.P - \text{Depreciation}$.

PROBLEMS ASSOCIATED WITH THE OUTPUT APPROACH.

- i. The problem of valuation due to inavailability or inaccuracy of output figure especially in the private sector.
- ii. The problem of deciding on the goods and services to include e.g. whether the output of a housewife should be included or not.
- iii. Difficulty in estimating output in the subsistence sector.
- iv. Problem in differentiating primary inputs from intermediate inputs
- v. The problem of changing prices
- vi. Problem of valuing government output since many of its services are not sold in the market.

- vii. Valuing illegal goods like drugs
- viii. Problem of estimating the wear and tear (or depreciation) of fixed capital

NOTE: the product approach is the most direct method of measuring national income. It clearly indicates the relative contribution of the various sectors of the economy to the national income of the country. Consequently; it is perhaps the most widely accepted for use in measuring national income today.

It is the one mainly used to compute the national income in Kenya.

PROBLEMS OF MEASURING NATIONAL INCOME

- i. Depreciation.* It's not easy to estimate the amount of depreciation of capital in a given year. Even where some money is set aside for this, it's not easy.
- ii. What to include;* In measuring the national income all that has been produced has to be included. This poses a problem because there is much production that goes on and is not accounted for e.g. subsistence production (services of housewives, teachers taking their personal time to help their students improve)e.t.c
-Only legal productive activities are to be included. Illegal activities like prostitution, drug trafficking and smuggling are excluded, although they actually involve some exchange of money.
- iii. Valuation of subsistence output;* It is not easy to estimate the value of subsistence output because there is no exchange for them and therefore do not appear in the expenditure records. For such goods, their value must be estimated, which may be underestimated or overstated.
- iv. Double counting;* Double counting may occur when using either the income or the output approach. To avoid double counting in the output approach, only value added should be considered. In the income approach, there is a danger of including the transfer payments. Only income received from providing outputs should be included i.e. only income received on a quid-pro-quo basis should be included.
- v. Incomplete data;* Individuals and firms may not give complete or accurate data about their expenditure income or output. When they give the data, they may give distorted information or refuse to answer certain questions relevant to the accounting of the national income. In some cases, data is absent because there are no records.
- vi. Free or subsidised services;* Certain services are enjoyed 'freely' e.g. self-provided domestic services free food from own shamba, own housing and free or subsidised government services such as health, education, security and transport. During the computation of the national income, care should be taken

to ensure that the true values of such goods and services are the basis of their inclusion and computation.

- vii. ***Changes in value of money;*** National income is the money value of all goods and services produced in a country in a given year. During influtary times, the value of money changes and this can give a wrong impression of the national income. To obtain a true figure of national income in a given year, the effects of price changes must be estimated. This can be done by choosing a base year whose prices are used to measure the national income of other years. A base year should be a year in which prices are relatively stable.
- viii. ***Inventory revaluation;*** An inventory refers to the value of stock and work in progress at the end of the financial year. It must be given in a firm's balance sheet. In the trading account, the opening and closing stocks give the inventories of the previous and current years respectively.

If prices increase at the beginning of a financial year, the gross profit also increases but this does not mean that the value of the stock has been increased. Business profits which include such gains caused by increases in prices should be deducted from the gross national product.

- ix. ***The result of the productive activities of foreign firms;*** The output and income of foreign firms operating in an economy at times present problems during the computation of the national income of a country. The international monetary fund (IMF) policy on this, which countries have been advised to adopt, is that output should be counted as belonging to the host country while profits go to the parent country.

Uses of National Income Statistics:

National income statistics refer to all the data collected or computed from various sources that give information about national income. National income statistics provide not only figures for these totals but also a breakdown of these totals.

Some of the uses of the national income statistics are;

- i. ***Indicators of the standards of living (economic welfare)-***This refers to the type of life that a person or a society has according to the amount of money they have. Standards of living of a given groups of people can be high or low.

One of the measures of standards of living is the size of the national income. Improvement in national income indicates that the standards of living of the citizens have also increased. A reduction in the size of national income on the other hand, would mean lower standards of

living. However, the statistics should be used together with its population figures to calculate the average income per head (per-capita income). If the national income of the country is equitably distributed, then the higher the capita income the higher the standards of living and vice versa.

- II. *Comparing standards of living in different countries;* National income figures are used to compare economic welfare among countries. The country with higher national income is deemed to have a higher standard of living. It is on this basis of such comparisons that some countries have been deemed rich, poor, less developed or developing and more developed or developed.

This method has however the following draw backs

-Different currencies; Conversions of these currencies may be tedious.

-Different definitions; The definition of goods and services that are used in computing national income may differ from country to country

-Distribution of income; Although income per capita maybe similar in both countries, standards of living may differ considerably because of disparity of income distribution.

-Different needs and tastes; Due to different needs and tastes of people living in different countries, national income statistics may not give a true and fair picture of the standards of living.

- III. *Assessing the performance of the economy over time;* National income statistics may be used to assess the performance of the economy over a given period of time. By comparing national income in two different periods, the period with higher national income will be considered better.
- IV. *Planning purposes;* The national income statistics are used by the government in planning i.e. the government compares performance in different sectors and regions, and uses the information to make economic policies, prepare annual budgets and in preparing development plans.
- V. *Investment Decisions;* National income statistics contain several useful information including sectoral indicators. This assists investors to decide the sector in which to invest their money. Thus the national income statistics acts to facilitate the investors to gauge their degree of success in various sectors before deciding on which one to venture or invest in.
- VI. *Basis of equitable distribution of income;* National income statistics also usually contain information pertaining to the distribution of income among the different categories of income (i.e. who earns what

wages, profits, rent and interest). If the distribution is not fair and equitable, trade union officials can use the national income statistics as a basis of agitating or demanding for a fairer and more equitable distribution of income in the country.