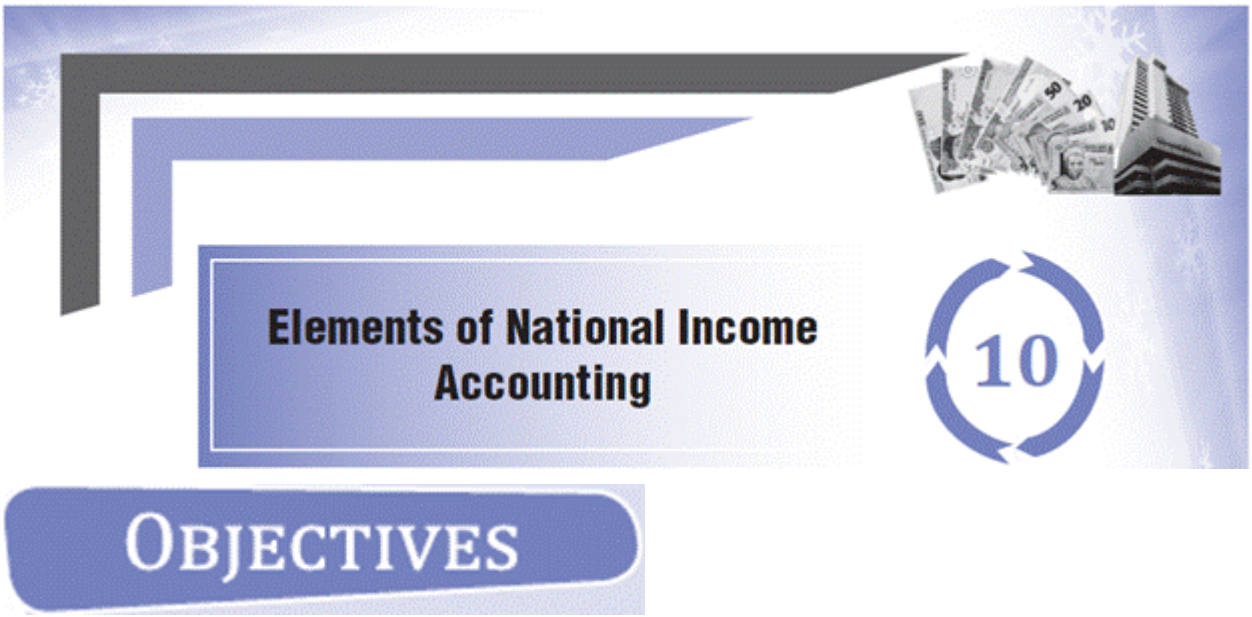
chapter 10



At the end of this chapter, students should be able to:
â€¢ explain the meaning of different national income components;
â€¢ mention different ways of measuring national income components;
â€¢ explain the short comings of currently used national income concept(s).

10.1 Introduction

In analysing the strength and the level of growth of an economy, we need to understand the values involved; both of the economy as a whole and its important parts. If we want to know what the country produces in a given period of time, such as one year, that is, the national output in a given period of its people working with available resources (or product).
We need to know how this output is used, the pattern of national consumption as shown by the national expenditure on goods, services and equipment. We need to know how this consumption expenditure is earned; that is, the distribution of the national income, for instance between wage earners and entrepreneur, between individual firms and government, or between different regions.
To show that an economy is changing overtime, we shall need to have such information for several years. If we compare one economy with another we shall need such an estimate as income or output per head of the relevant population, with some ideas of the exchange rate. All the estimates are called national outputs and national income and they must necessarily be made in monetary value. This chapter shall examine the different national income components, and the different methods of measuring national income. It will also examine the short comings of the concept used.

10.2 Meaning of National Income

National income refers to the monetary value of all goods and services produced in an economy during a specific period of time (usually one year) and the total of all earned income over the same period of time. It is measured in current monetary terms, but changes in price levels affect the value of money. To get a true picture of the value of national income, we usually **correct** for price changes by dividing (deflating) the national income with price level.
The result is what we call real national income or national income at constant prices. In other words, real national income is the national income in monetary terms deflated by the price level. It is calculated as:
Real national income

$$= \frac{\text{money of national income} \times 100}{\text{price index}}$$

10.3 Measurement of National Income

Basically, there are three possible ways of measuring the national income of a country.
They are:
(a) The gross national output: It is the total value of final goods and services in the economy during a year.
(b) The gross national expenditure: It is the total amount of money spent by the community on consumer goods and services plus the addition to capital goods and stock over the years.
(c) The gross national income: This is the sum of all earned income by the economyâ€™s factors of production over a period, usually a year. Hence, the gross national income is the sum of all wages, salaries, rents and dividends.
The three measures are identical. Output is measured in monetary terms and its value is, therefore, the same as the sum of expenditures on total output. Furthermore, when goods and services are produced, the factors, i.e., land, labour, capital which contribute to the production processes are paid incomes.
The sum of these incomes is equal to the value of commodities produced. Hence, gross national output equals gross national income. Thus, it is shown below.
National income = net national product âˆ’ expenditure on net national income

(A) The Output Method

This involves the addition of the money value of all final goods and services produced in the year. It is calculated on the value added basis in order to avoid the problem of double counting. For example, we should avoid counting flour, wheat and the yeast used in making bread after we have counted the final loaves of bread produced.
The various sectors of the domestic economy by nature of their activities may

pay income abroad as well as receive the same.
Exports accelerate domestic incomes and are, therefore, included as they are part of total output, while imports cause our incomes to leak abroad and promote economic activities in such countries. Hence, imports are excluded from gross revenue of the firm or government and this may come under the heading - Payment to other enterprises.
The table below shows a hypothetical economyâ€™s national income calculated through the output method.

Table 10.1 The National product (output) of a hypothetical economy 2010-2011.

Output (Agriculture)	Value (in ₦ millions)
Forest product	750
Livestock products	810
Farm crops	2,460

Output (Agriculture)	Value (in ₦ millions)
Fishing	60
Total	4080
(Miscellaneous)	
Minerals	80
Building and civil engineering	420
Manufacturing, public utilities and craft utilities	110
Transport and distribution	880
Government	190
Other industries and services	210
Gross National Product	**5970**

(B) The Expenditure Method

This adds together the spending on all final goods and services by individual firms and government. It includes subsidies but excludes indirect taxes. All incomes from production are earned because money was spent on the goods and services produced by the receivers.

If the total household expenditure, those of business firms and public authority was added up to give the sum total which measures that national income by expenditure method. To avoid double counting, there is a need to count only the final expenditure and not the intermediate, for example, the expenditure on a pair of shoes is the final while the expenditure on the leather from which it is made is the intermediate.

National income calculated through the expenditure method is done at the

market price. Therefore, national income at market prices will be equivalent to national income at factor costs plus subsides minus indirect taxes. We must also consider, the excess of export over imports or where import is greater than export, necessary adjustment should be made.
Formula for calculating the national income via the expenditure method is; Total domestic expenditure (household expenditure) + export of goods and services + property incomes received from aboard â€“ Imports of goods and services â€“ property incomes paid abroad.
The table below further explains a hypothetical economyâ€™s national income calculated through the expenditure method

Table 10.2 The National Income (Expenditure) of a Hypothetical Economy 2010-2011.

Expenditure (consumer's expenditure)	Value (in millions)
Food and drinks	3570
Clothing and foot wears	550
Housing and water	320
Fuel and light	220
Household and goods	130
Cigarette and tobacco	110
Others	290
Total	5190
(Government current expenditure) Capital formation	180
Net foreign investment (export surplus)	400

Expenditure (consumer's expenditure)	Value (in millions)
National expenditure at market price	350
Total	**6120**
Less indirect taxes	150
National expenditure factor cost	5970

(C) The Income Method

This method adds together all factor income such as wages, salaries, rent and dividend, but excludes incomes given by one person to another which are not in return for services rendered. These include gifts, donations and pocket money given to students. These are called transfer payments. The method emphasises on the income received by factors of production as their reward for contributing to national income.

A vigorous study of personal income shows that the total income received by an individual most times does not correspond with the total services rendered or the amount received from rent. There, is therefore a certain important adjustment to be made in order to arrive at a precise answer.

(a) There is the problem of persons receiving incomes on a flow of goods and services for what they made no actual corresponding contribution.

For example, a student who receives state grant, sick persons living on national insurance benefits, etc. These incomes are transferred incomes or transferred payments.

(b) National income is a measure of product with product value at factor cost or in terms of the factor income earned by the factors of production.

However, the proceeds from the sale of final goods and services at market prices are not matched by factor costs alone, but in addition to indirect taxes, business transfer payments and current surplus of government enterprises less subsidies. If we add these entire elements, we get the broader measure of final output that is not a national product.

(c) We can distinguish four main components of factor incomes, which are: Rent, Wages and Salaries, Interest and Profit. Incomes of government employees, although they are paid out of taxes, should not be excluded in the computation of the national income.

(d) In addition, undistributed profit of companies belonging to a shareholder should be included in estimating the national income of a country. The profit of publicly owned companies, municipal transport services, and the surpluses accumulated by the marketing board, should all be included when calculating

national income via the income method.
From this analyses, the formula for measuring national income by the income method can be derived as follows:
Total personal income â€“ transfer payment + undistributed profit and direct taxes on firms + income from government property and profit of government enterprises.
Below is an example of a hypothetical economyâ€™s national income calculated through the income method.

Table 10.3: The National Income (income) of a Hypothetical Economy 2010-2011.

Income	Value (₦ million)
Wages and salaries	310
Profit and interest	360
Rent and other income from property	150
Farm incomes	2960
Other mixed or unclassified incomes	2190
Total	5970

10.4 National Income Concepts

National Income: This is a record of economic activities that are carried out in their economy within a given period. That is, the record of the labour services an individual renders to firms and government, the salaries and wages they receive from these services and how they consume it on goods and services. Such a record is called national income.
Net National Product: This is Gross National Product minus Depreciation. It should be noted however that capital goods, like machinery etc, lose value as time passes. This loss of value is called depreciation. When it is deducted from GNP, what is left is the net national product. Net national product states that the naira value of the economyâ€™s net production of final goods and services or its net national product, for any time or period, is identical with expenditure on those final goods and services and with national income earned in the production of those final goods.
Gross Domestic Product (GDP): This is defined as the total value of goods and services produced in a given country without regard to the nationality of the producer or the recipients of the income. The emphasis of GDP is geographic, i.e. it measures outputs within the boundaries of a country. It is

equal to gross retained output plus exports minus import. As it is defined, GDP is equal to gross domestic expenditure and gross domestic income. It is also usually referred to as GDP at factor cost because it measures the output at the sum of the income of the factors of production. It is a composition of GDP in terms of factors of production employed. The contributions of the factor being measured by the income they received.
The indicator for measuring growth, which is the monetary summation of all goods and services produced in an economy in a year, is known as gross domestic product.
To get the GDP of 2011 for Nigeria for instance, take the list of goods and services produced within the country for that year, assign values to them, and add up. That will be the GDP for Nigeria for 2011. If the GDP of a country is reviewed for several years, the consistent increase or decrease in the GDP will determine growth or decline respectively in the economy.
Net Domestic Product (NDP): This is gotten by deducting the value of depreciation from the gross domestic product that is: GDP â€“ Deprecation = NDP. The adjustment here takes account of the fact that capital goods (machinery etc.) lose value as time passes. This loss of value is called depreciation. In other words, gross domestic product is the same thing as net domestic product plus depreciation.
National income figures in West Africa usually refer to the gross domestic product rather than the more common gross national product. This implies that the national incomes in West African countries refer to the net domestic product plus depreciation. This is because most West African countries have not been able to obtain acceptable estimates of net factor income from abroad.

10.5 Personal Income

Personal income is defined as the current income of a person or household from all sources. It is derived from national income by subtracting from national income whatever parts of this national income that do not become receipts of persons, and by adding to this whatever receipt a person derives from sources not included in national income.
The personal income excludes some items that are matched by productive activities and include other items that are not. Thus, personal income includes both receipt for the productive services provided by person and receipt such as transfer payment for which no productive services were provided by the recipients.
The steps involved may be shown as follows:

	₦
National income	2050
Less corporate profit	200

Less employee contribution for social insurance	60
Plus government transfer payment	130
Plus business transfer payment	10
Plus net interest paid by government	40
Plus interest paid by consumer	10
Plus dividend	60
Less employee contribution for social Insurance	40
Equals personal income	2000

Disposable personal income

Disposable income is personal income minus tax. Symbolically, it is PI â€“ T where: PI = personal income and T = tax

	₦
Personal income	2000
Less personal taxes	240
Equals disposable personal income	1760
Less personal saving	150
Equals personal outlays	1610
Personal consumption expenditure	1600
Interest paid by consumers	10

10.6 The Importance of Gross National Product

(a) National income is used as an economic indicator to determine economic growth.
(b) The measurement of national income tells us some aspects of economic welfare. How the economy is growing over time is used and how fast it grows.
(c) It gives us an idea of how growth rate of a nationâ€™s volume of productive capacity should be. It is an accepted measure of general economic progress and therefore provides a useful data for government policy.
(d) It gives us an idea of the number of people successfully employed within the different sector of the economy.

Problems of measurement

Obviously, a number of problems are encountered in the measurement of national income of any country:
(a) Lack of the skill and ability to be able to differentiate between productive and non-productive items. To know what really should be computed in the national income.
(b) There is the problem of intermediate goods, which are the item sold not for final consumption but for further processing. For example, cotton is sold for the manufacturing of shirts. If the value of both the cotton and the shirt is included, we should be counting the cotton and of the shirt, twice, in the value of the shirts.

(c) Another problem is that some prices contain either tax or subsidy. For example, education is often provided for fees which do not fully meet the cost of the services provided, and taxes are charged on some products like cigarette or imported product. It becomes challenging to get the output valued at factor cost.
(d) There is the problem of omitting a large quantity of goods and services which are provided by some families for themselves, without going through a market, i.e., the subsistence sector.
(e) There is also problem of defining the boundaries of the economy for which a national income is calculated. Who are the people whose economic activities should be included? These are workers who migrate from one country to another with their income regarded as part of the national income of their country of origin or of the country of employment.
(f) Generally, all calculations of national incomes in all countries do not contain accurate figures, but estimates of different degrees of reliability. The dangers are making wrong comparisons.

10.7 Uses and Limitations of National Income

It is convenient to classify the uses of national income statistics into two categories. One deals with the domestic use of the figures and the other relates to their use for purpose of international evaluation and comparison.

(A) Domestic Uses

(i) To measure the countryâ€™s standard of living: This can be regarded as the welfare of the members of the given community. A high standard of living shows that people in general enjoy a better life than otherwise. This measure is also called â€˜per capita incomeâ€™ and is measured by dividing real GNP by population of the community.
(ii) National income figure is also used to measure growth: The rate of growth for a country increases in real gross national product from year to year. Growth rate of an economy are usually expressed as percentages.
(iii) National income estimates are used in general policy making and economic planning: The figures will give the government a picture of the structure good composition of national income as well as its distribution over the years. This information assists the government in formulating policies.

(B) The International Uses

(i) National income statistics are basically used as instruments for evaluating and comparing performance of different economies over a given period of time.
(ii) Countries and international organisations which give economic aid to assist in the development of less developed countries are also interested in the performance of these aid recipients. Therefore, the rates of economic growth are studied through the national income statistics to evaluate the usefulness and impact of the aid received.

Limitations of National Income Estimate

(a) The standard of living is a complex concept which cannot be completely

captured by one single measure. Per capita income does not take care of the working hours and conditions under which the income is produced. It does not adequately measure peopleâ€™s welfare.
(b) The national income estimate does not distinguish different types of goods. Hence, a countryâ€™s higher per capita income may be based on a high proportion of war materials.
(c) Problems arise also from the need to use a common currency. In other words, to compare the standard of living among two countries, the per capita income figures must be given in the same currency.
(d) Problems also arise from possible difference in definitions employed and the method of calculation used in producing the national income figures of different countries.
(e) Figures are also based on populated data which are usually not reliable. These factors make it necessary to be extremely careful in using national income statistics as a means of comparing both the standard of living and the economic performance of different countries.

10.8 The Trend and Structure of Nigeriaâ€™s National Income

The national income estimates are compiled each year to help us keep a watchful eye on its trend of growth. Such statistical information would help us to compare one year with another and see whether national income is growing or contrasting and also to see whether the changes are smooth and continuous or intermittent. In addition, if we have national income statistics of Nigeria for a number of years we can make a comparison to see whether the Nigerian economy is growing.

Summary

(i) National income refers to the total output of an economy over a given period of time, usually a year.
(ii) Measurement: There are three possible ways of measuring the national income of a country.
(a) The income method
(b) The output method
(c) The expenditure method
â€¢ **Problems of measurement**
(a) The skill and ability to be able to differentiate productive and non-productive item
(b) Problem of intermediate goods
(c) Problem of prices of certain goods, containing either tax or subsidy
(d) Problem of evaluation
(e) Problem of definitions
(f) Problem of nationality
(g) Problem of calculation
â€¢ **National Income Concept**
(a) Gross national product

(b) Net national product
(c) Gross domestic product
(d) Net domestic product
â€¢ **Personal Income**
â€¢ **Disposable Income**
â€¢ **Importance of National Income/GNP**
(a) It tells us some aspects of economic welfare.
(b) It acts as an important policy instrument for drawing up national economic plan.
(c) It shows growth rate of the economy.
(d) Provides guide for government policy
â€¢ **Uses and Limitations of National Income Estimates**
(a) Subject to many errors
(b) Measure of the nationâ€™s standard of living.

Class Activities

1. Students are to draw simple charts to illustrate the components of national income.
2. Students should be made to identify such economic activities that constitute the national income of their country.

Revision Questions

Objective Questions

1. Which of the following is not a concept of National Income accounting?
(a) Domestic National Product (DNP)
(b) Gross National Product (GNP)
(c) Gross Domestic product (GDP)
(d) Net Domestic product (NDP)
2. The national income of a country can be estimated through the:
(a) Output approach
(b) Input approach
(c) Empirical approach
(d) Census approach
(SSCE 2008)
3. Expenditure by foreign tourists in a country will be recorded as:
(a) Invisible exports
(b) Official transfer
(c) Transfer income
(d) visible exports
(SSCE 2009)
4. Which of the following equations is appropriate for determining the Net Domestic product (NDP)?
(a) NDP = GNP â^’ depreciation
(b) NDP = GDP + Net Income from abroad
(c) NDP = GDP â^’ depreciation
(d) NDP = GDP Ã— Net Income from abroad **(SSCE 2010)**

5. Which of the following over-estimates the value of national income?
(a) Incomplete statistical data
(b) Wrong timing of computation
(c) Changes in prices of goods within the year
(d) Double counting **(SSCE 2010)**

Essay questions

1. Why should a country measure her national income? **(SSCE 2000)**
2. (a) Define Gross National product (GNP).
(b) Describe the three methods of measuring national income. **(SSCE 2004)**
3. (a) Distinguish between personal income and national income.
(b) Describe any four uses of national income data.
4. Explain five limitations of the national income estimates.
5. Explain the problems of national income measurement.

Glossary

Gross Domestic Product (GDP): This is the total value of goods and services produced in a given country without regard to the nationality of the producer or the recipients of the income.
Net domestic product (NDP): This is the deduction of the value of depreciation from the gross domestic product.
Personal income: This is defined as the current income of a person or household from all sources.
Disposable income: This is personal income minus tax.