Unit-V

Aggregate Supply and Role Of money

National income

For the purpose of measurement and analysis, national income can be viewed as an aggregate of various component flows. The most comprehensive measure of aggregate income which is widely known is Gross National Product at market prices. Gross emphasises that no allowance for capital consumption has been made or that depreciation has yet to be deducted. Net indicates that provision for capital consumption has already been made or that depreciation has already been deducted. The term national denotes that the aggregate under consideration represents the total income which accrues to the normal residents of a country due to their participation in world production during the current year. It is also possible to measure the value of the total output or income originating within the specified geographical boundary of a country known as domestic territory. The resulting measure is called "domestic product". The valuation of the national product at market prices indicates the total amount actuallypaid by the final buyers while the valuation of national product at factor cost is a measure of the total amount earned by the factors of production for their contribution to the final output.

GNP at market price = GNP at factor cost + indirect taxes - Subsidies.

NNP at market price = NNP at factor cost + indirect taxes - Subsidies

For some purposes we need to find the total income generated from production within the territorial boundaries of an economy irrespective of whether it belongs to the inhabitants of that nation or not. Such an income is known as Gross Domestic Product (GDP) and found as "

GDP = GNP - Net Factor Income from Abroad

Net Factor Income from Abroad = Factor Income Received From Abroad - Factor Income Paid Abroad

The NNP is an alternative and closely related measure of the national income. It differs from GNP in only one respect. GNP is the sum of final products. It includes consumption of goods, gross investment, government expenditures on goods and services,

and net exports.

GNP = NNP " Depreciation

NNP includes net private investment while GNP includes gross private domestic investment. Personal income is calculated bysubtracting from national income those types of incomes which are earned but not received and adding those types which are received but not currently earned.

Personal Income = NNP at Factor Cost " Undistributed Profits " Corporate Taxes + Transfer Payments

Disposable income is the total income that actually remains with individuals to dispose off as they wish. It differs from personal income by the amount of direct taxes paid byindividuals.

Disposable Income = Personal Income " Personal taxes

The concept of value added is a useful device to find out the exact amount that is added at each stage of production to the value of the final product. Value added can be defined as the difference between the value of output produced by that firm and the total expenditure incurred by it on the materials and intermediate products purchased from other business firms.

16.1 OBJECTIVES

After reading this Lesson, you will be able:

- To understand the concept of national income.
- To explain various methods used for the measurement of national income.
- To know the problems in the measurement of national income.

16.2 METHODS OF MEASURING NATIONAL INCOME

National income is the total money value of goods and services produced by a country in a particular period of time. The duration of this period is usually one year.

National income can be defined by taking three viewpoints, namely production viewpoint, income viewpoint, and expenditure viewpoint.

Based on these viewpoints, there are three different methods of estimating national income, which are shown in Figure-1:

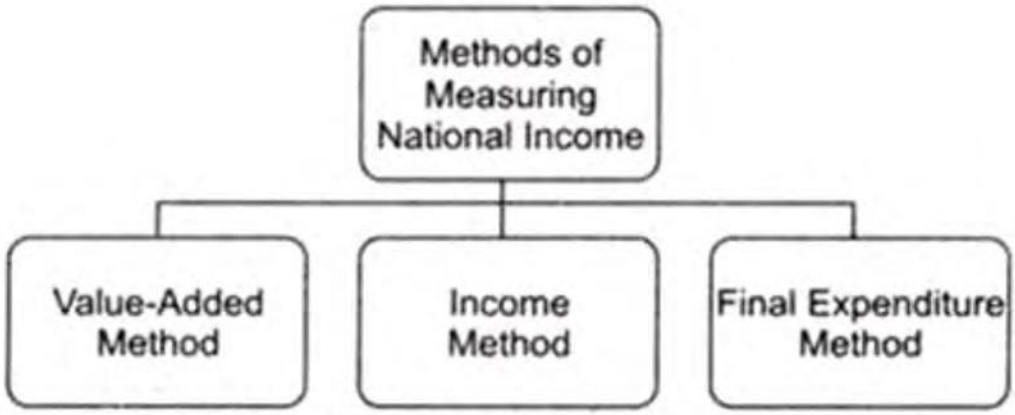

Figure-1: Different Methods of Measuring National Income

For calculating national income, an economy is looked upon from three different angles, which are as follows:

1. Production units in an economy are classified into primary, secondary, and tertiary sectors. On the basis of this classification, value-added method is used to measure national income.
2. Economy is also viewed as a combination of individuals and households owing different kinds of factors of production. On the basis of this combination, income method is used for estimating national income.
3. Economy is viewed as a collection of units used for consumption, saving, and investment. On the basis of this collection, final expenditure method is used for calculating national income.

Let us discuss the different methods of measuring national income (as shown in Figure-1).

16.3.1 Value-added Method:

Value added method, also called net output method, is used to measure the contribution of an economy's production units to the GDPmp. In other words, value-added method measures value added by each industry in an economy. For calculating national income through value-added method, it is necessary to first calculate gross value added at market price (GVAmp), net value added at market price (NVAmp), and net value added at factor cost (NVAfc).

These can be calculated as follows:

(i) GVAmp:

Refers to the value of output at market prices minus intermediate consumption. The value of output can be calculated by multiplying quantity of output produced by a production unit during a given time period with price per unit. For instance, if output produced by a production unit in a year is 10000 units at price Rs. 10 per unit, then the total value of output would be 100000.

The value of output is also calculated as:

Value of output = Total Sales + Closing Stock – Opening Stock

Where

Net change in stock = Closing Stock – Opening Stock

Glossing stock includes the value of unsold output in the previous year and forms the opening stock of the current year. Thus, by deducting the opening stock from the closing stock, unsold output of the current year can be calculated.

On the other hand, intermediate consumption refers to the value of non-durable goods and services purchased bya production unit from another production unit in particular period of time. These goods and services used up or resold during that particular period of time.

So, GVAmp can be calculated using the following formula:

GVAmp = Value of Output Intermediate Consumption

The word gross in GVAmp indicates the inclusion of depreciation.

(ii) NVAmp:

Excludes depreciation from GVAmp. In other words, NVAmp is GVAmp minus depreciation.

(iii) NVAfc:

Refers to another measure of value added.

It is calculated as:

NVAfc = NVAmp Indirect Taxes + Subsidies

Or

NVAfc = GVAmp Depreciation Indirect Taxes + Subsidies

Now, using the value-added method, we aim to calculate national income (NNPfc).

The following are the steps to calculate national income using the value-added method:

1. Classifying the production units into primary, secondary, and tertiary sectors.
2. Estimating Net Value Added (NVAfc) of each sector.
3. Taking the sum of NVAfc of all the industrial sectors of the economy. This will give NDPfc.

ΣNVA fc = NDPfc

4. Estimating NFIA and adding it to NDPfc, which gives NNPfc (national income).

NDPfc + NFIA = National Income (NNPfc)

The following are the precautions that should be taken into consideration while calculating national income using the value-added method:

i. Avoiding double counting of output as it leads to the overestimation of national income. For example, a farmer produces 5 kilograms of wheat worth Rs. 10000. He sells this wheat to a baker who uses it for making breads. The baker further sells these breads lo a grocer for Rs. 20000. Finally, the grocer sells these breads to consumers for Rs. 25000.

Thus, the total output of the farmer, baker, and grocer would be Rs. 55000. However, this cannot be taken as the value of actual physical output. This is because it includes the value of wheal three times and value of bread two times. The double counting can be avoided by two measures. First is by taking the total value added instead of taking the total output.

In the above example, the value added by farmer is nil, by the baker is Rs. 10000,

and by the grocer is Rs. 15000. Thus, the sum total of value added is Rs. 25000. Second is by taking the value of final products only. Final products are those which are purchased for consumption and investment. In the above example, the final product is bread sold to the consumers for Rs. 25000. Thus, the final output is Rs. 25000.

i. Including output produced by production units for self-consumption in total output. All the production should be included whether u is sold in the market or not. In addition, the value of free services provided by government and non-profit institutions should alsobe taken into account. Non-inclusion of these will lead to underestimation of national income.

iii. Avoiding the inclusion of sales of pre-owned goods. This is because these goods are already counted when sold for the first time. The output of only newly produced goods is included in total output. However, the value of services provided by agents in selling pre-owned goods is fresh output and should be included in the total output.

16.3.2 Income Method

Income method, also known as factor income method, is used to calculate all income accrued to the basic factors of production used in producing national product. Traditionally, there are four factors of production, namely land, labor, capital, and organization. Accordingly there are four factor payments, namely rent, compensation of employees, interest, and profit. There is another category of factor payment called mixed income.

These factor payments are explained as follows:

(a) Rent:

Refers to the amount payable in cash or in kind by a tenant to the landlord for using land. In national income accounting, the term rent is restricted to land and not to other goods, such as machinery.

In addition to rent, royalty is also included in national income which is defined as the amount payable to landlord for granting the leasing rights of assets that can be extracted from land, for example, coal and natural gas.

(b) Compensation of Employees:

Refer to the remuneration paid to employees in exchange of services rendered by

them for producing goods and services.

Compensation of employees is divided into two parts, which are as follows:

(i) Wages and salaries:

Include remuneration given in the form of cash to employees on a daily, weekly, or monthly basis. It includes allowances, such as conveyance allowance, bonuses, commissions, rent-free accommodation, loans on low interest rates, and medical and educational expenses.

(ii) Social security contribution:

Includes remuneration provided to employers in the form of social security schemes such as insurance, pensions, and provident fund.

(c) Interest:

Refers to the amount payable by the production unit for using the borrowed money. Generally, production units borrow for making investment and households borrow for meeting consumption expenditure.

In national income accounting, interest is restricted to the payment by production units. If production units use their own savings, then the interest is payable to them in the form of imputed interest.

(d) Profits:

Refers to the amount of money earned by the owner of a production unit for his/her entrepreneurial abilities. The profits are distributed by the production unit under three heads. First is by paying income tax, called corporate profit tax.

Second is by paying dividend to shareholder. Third is the retained earnings called undistributed profits. Thus, profit Is the sum total of corporate profit tax, dividend, and retained earnings.

(e) Mixed Income:

Refers to earnings from farming enterprises, sole proprietorships, and other professions, such as medical and legal practices. In these professions, owners themselves

assume the role of an entrepreneur, financier, worker and landlords. Mixed income also takes into account the income of those individuals who earn from different sources, such as wages rents on own property, and interests on own money.

Therefore,

National Income Rent + Wages + Interest + Profit + Mixed Income

Now, let us discuss steps involved in estimating national income using the income method.

These steps are as follows:

1. Classifying the production units into primary, secondary, and tertiary sectors.
2. Estimating Net Value Added (NVAfc) of each sector. The sum total of the factor payments equals NVAfc.
3. Taking the sum of NVAfc of all the industrial sectors of the economy. This will give NDPfc.

   ΣNVAfc = NDPfc
4. Estimating NFIA and adding it to NDPfc, which gives NNPfc (national income).

   NDPfc + NFIA = National Income (NNPfc)

The following are the precautions that should be taken into consideration while calculating national income using the income method:

a. Including the imputed value of factor services rendered bythe owners of production units themselves. For example, if production units use their own savings for production, then the interest is payable to them in the form of imputed interest. This imputed interest should be added in the calculation of national income.

b. Avoiding the inclusion of transfer payments, such as gifts, donations and taxes.

c. Excluding the gains that arise from the sales of pre-owned goods. These gains are called capital gains.

d. Excluding the income arising from sale of financial assets, such as shares and

debentures. This is not related to the production of goods and services. However, national income includes the value of services rendered by the agents in selling these financial assets.

16.3.3 Final Expenditure Method:

Final expenditure method, also known as final product method, is used to measure final expenditures incurred by production units for producing final goods and services within an economic territory during a given time period.

These expenditures are incurred on consumption and investment. This method is the opposite of the value-added method. This is because value-added method estimates national income from the sales side, whereas the expenditure method calculates national income from the purchase side.

Final expenditure of an economy is divided into consumption expenditure and investment expenditure, which are explained as follows:

(a) Consumption Expenditure:

Includes the following:

(i) Private Final Consumption Expenditure (PFCE):

Includes expenditure incurred by households and expenditure incurred by private non-profit institutions serving households (PNPISH). Thus, PFCE is divided into two parts, namely Household's Final Consumption Expenditure (HFCE) and PNPISH Final Consumption Expenditure (PNPISH-FCE).

HFCE is defined as expenditures, both actual and imputed, incurred by a country's households on final goods and services for satisfying their wants. In addition to actual money expenditure, HFCE includes imputed value of goods and services received without incurring money expenditure, for example, self-consumed output and gifts received in kind.

Expenditure by non-residents of a country is not included in HFCE. However, the expenditure incurred by the national residents in foreign countries is included in HFCE. Thus, imports are the part of HFCE. In addition, HFCE excludes the receipts from the sale of pre-owned goods, wastes, and scraps.

HFCE can be calculated with the help of the following formula:

HFCE = Money expenditure on consumption by residents + Imputed value of consumer goods and services received in kind by residents – Sale of pre-owned goods, wastes, and scraps

On the other hand, PNPISH includes expenditure incurred by private charitable institutions, trade unions, and religious societies, which produce goods and services to be supplied to consumers either free or at token prices.

PNPISH-FCE = Imputed value of goods and services produced Commodity and non-commodity sales

Commodity sales imply the sale at a price that covers cost, while non-commodity sales imply the sale at a price that does not cover cost.

(ii) Government Final Consumption Expenditure (GFCE):

Includes expenditure that is incurred by government for providing free goods and services to citizens. GFCE is equal to value of output minus sales (GFCE = Value of Output – Sales).

The value of output is calculated as:

Value of output generated by government = Compensation of government employees + purchases of commodities and services + consumption of fixed capital

Sales by government = Commodity Sales + Non- Commodity Sales

(b) Investment Expenditure:

Involves expenditure incurred on capital formation. This expenditure is known as Gross Domestic Capital Formation (GDCF).

There are three components of GDCF, which are as follows:

(i) Acquisition of fixed capital assets:

Implies purchasing assets, such as building and machinery.

(ii) Change in stocks:

Involves making addition to the stock of raw materials, semi-finished goods, and

finished goods.

(iii) Net acquisition of valuables:

Involvesacquisition ofvaluablesminus disposal ofvaluables. These valuables include precious stones, metals, and jewellery.

GDCF becomes net when it is diminished by depreciation.

Net GDCF = GDCF – depreciation

GDCF is subdivided into Gross Domestic Fixed Capital Formation (GDFCF) and change in stocks.

Now, let us discuss steps involved in estimating national income using final expenditure method.

These steps are as follows:

1. Classifying the production units into primary, secondary, and tertiary sectors.

2. Estimating the final expenditures on goods and services by industrial sectors. These expenditures are PFCE, GFCE, and GDCF. The expenditure also includes net exports, which are equal to exports minus imports.

3. Taking the sum of the final expenditures which gives GDPmp.

GDPmp = PFCE + GFCE + GDCF + Net Exports

4. Estimating the consumption of fixed capital and net indirect taxes to calculate NDPfc.

NDPfc = GDPmp – Consumption of Fixed Capital- Net Indirect Taxes

5. Adding NFIA to get national income (NNPfc)

NDPfc +NFIA = NNPfc

The following are the precautions that should be taken into consideration while calculating national income using the final expenditure method:

a. Excluding the intermediate expenditure as it is already a part of final expenditure

b. Including the imputed expenditure incurred for producing goods for self-consumption

c. Excluding the expenditure incurred on transfer payments

d. Excluding expenditure incurred on financial assets, such as shares and debentures

e. Excluding the expenditure incurred on pre-owned goods

Table-1 shows the summarize calculation of national income by three methods:

Table-1 : Calculation of National Income by Three Methods		
Value-added Method	**Income Method**	**Final Ependiture Method**
Sum Total of GVAmp by all industrial sectors. Les : consumption of fixed capital Less : net indirect taes	Sum Total of factor income paid out by industrial sectors = compensation of employees + rent + interest + profit = NDPfc	PFGE + GFCE + GDCF + Net exports Les : consumption of fixed capital Less : net indirect taes
Add : NFIA	Add : NFIA	Add : NFIA
= NNPfc	= NNPfc	= NNPfc
= National Income	= National Income	= National Income

Which method is to be used depends on the availability of data in a country and the purpose in hand.

16.3.4 Product Method

According to this method, the total value of final goods and services produced in a country during a year is calculated at market prices. To find out the GNP, the data of all productive activities, such as agricultural products, wood received from forests, minerals received from mines, commodities produced by industries, the contributions to production made by transport, communications, insurance companies, lawyers, doctors, teachers, etc. are collected and assessed at market prices. Only the final goods and services are included and the intermediary goods and services are left out.

16.3 DIFFICULTIES OR PROBLEMS IN MEASURING NATIONAL INCOME

There are many difficulties in measuring national income of a country accurately.

The difficulties involved in national income accounting are both conceptual and statistical in nature. The six major difficulties faced in the measurement of national income are 1. problems of definition i.e. What should we include in the National Income? Ideally we should include all goods and services produced in the course of the year, but there are some services which are not calculated in terms of money, e.g., services of housewives. (2) Lack of Adequate Data: The lack of adequate statistical data makes the task of estimation of national income more acute and difficult. (3) Non-availability of Reliable Information: The reason of illiteracy, most producers has no idea of the quantity and value of their output and do not follow the practice of keeping regular accounts. (4) Choice of Method: The selection of method while calculating National Income is also an important task. The wrong method leads to poor results. (5) Lack of Differentiation in Economic Functioning: In all the countries the occupational specialisation is still incomplete so that there is a lack of differentiation in economic functioning. An individual may receive income partly from farm ownership and partly from manual work in industry in the slack season. (6) Double Counting: Double counting is also an important problem while calculating national income. If the value of all goods and services totalled, the total will overtake the national output, because some goods are currently consumed being used in the making of others. The best way to avoid this error is to calculate only the value of those goods and services that enter into final consumption.

There are many more conceptual and statistical problems involved in measuring national income by the income method, product method, and expenditure method.

We discuss them separately in the light of the three methods:

16.4.1 Problems in Income Method

The following problems arise in the computation of National Income by income method:

1. Owner-occupied Houses:

A person who rents a house to another earns rental income, but if he occupies the house himself, will the services of the house-owner be included in national income. The services of the owner-occupied house are included in national income as if the owner sells to himself as a tenant its services.

For the purpose of national income accounts, the amount of imputed rent is estimated as the sum for which the owner-occupied house could have been rented. The imputed net rent is calculated as that portion of the amount that would have accrued to the house-owner after deducting all expenses.

2. Self-employed Persons:

` Another problem arises with regard to the income of self-employed persons. In their case, it is very difficult to find out the different inputs provided by the owner himself. He might be contributing his capital, land, labour and his abilities in the business. But it is not possible to estimate the value of each factor input to production. So he gets a mixed income consisting of interest, rent, wage and profits for his factor services. This is included in national income.

3. Goods meant for Self-consumption:

In under-developed countries like India, farmers keep a large portion of food and other goods produced on the farm for self-consumption. The problem is whether that part of the produce which is not sold in the market can be included in national income or not. If the farmer were to sell his entire produce in the market, he will have to buy what he needs for self-consumption out of his money income. If, instead he keeps some produce for his self-consumption, it has money value which must be included in national income.

4. Wages and Salaries paid in Kind:

Another problem arises with regard to wages and salaries paid in kind to the employees in the form of free food, lodging, dress and other amenities. Payments in kind by employers are included in national income. This is because the employees would have received money income equal to the value of free food, lodging, etc. from the employer and spent the same in paying for food, lodging, etc.

16.4.2 Problems in Product Method

The following problems arise in the computation of national income by product method:

1. Services of Housewives:

The estimation of the unpaid services of the housewife in the national income

presents a serious difficulty. A housewife renders a number of useful services like preparation of meals, serving, tailoring, mending, washing, cleaning, bringing up children, etc.

She is not paid for them and her services are not including in national income. Such services performed by paid servants are included in national income. The national income is, therefore, underestimated by excluding the services of a housewife.

The reason for the exclusion of her services from national income is that the love and affection of a housewife in performing her domestic work cannot be measured in monetary terms. That is why when the owner of a firm marries his lady secretary, her services are not included in national income when she stops working as a secretary and becomes a housewife.

When a teacher teaches his own children, his work is also not included in national income. Similarly, there are a number of goods and services which are difficult to be assessed in money terms for the reason stated above, such as painting, singing, dancing, etc. as hobbies.

2. Intermediate and Final Goods:

The greatest difficulty in estimating national income by product method is the failure to distinguish properly between intermediate and final goods. There is always the possibility of including a good or service more than once, whereas only final goods are included in national income estimates. This leads to the problem of double counting which leads to the overestimation of national income.

3. Second-hand Goods and Assets:

Another problem arises with regard to the sale and purchase of second-hand goods and assets. We find that old scooters, cars, houses, machinery, etc. are transacted daily in the country. But they are not included in national income because they were counted in the national product in the year they were manufactured.

If they are included every time they are bought and sold, national income would increase many times. Similarly, the sale and purchase of old stocks, shares, and bonds of companies are not included in national income because they were included in national income when the companies were started for the first time. Now they are simply financial transactions and represent claims.

But the commission or fees charged by the brokers in the repurchase and resale of old shares, bonds, houses, cars or scooters, etc. are included in national income. For these are the payments they receive for their productive services during the year.

4. Illegal Activities:

Income earned through illegal activities like gambling, smuggling, illicit extraction of wine, etc. is not included in national income. Such activities have value and satisfy the wants of the people but they are not considered productive from the point of view of society. But in countries like Nepal and Monaco where gambling is legalised, it is included in national income. Similarly, horse-racing is a legal activity in England and is included in national income.

5. Consumers' Service:

There are a number of persons in society who render services to consumers but they do not produce anything tangible. They are the actors, dancers, doctors, singers, teachers, musicians, lawyers, barbers, etc. The problem arises about the inclusion of their services in national income since they do not produce tangible commodities. But as they satisfy human wants and receive payments for their services, their services are included as final goods in estimating national income.

6. Capital Gains:

The problem also arises with regard to capital gains. Capital gains arise when a capital asset such as a house, some other property, stocks or shares, etc. is sold at higher price than was paid for it at the time of purchase. Capital gains are excluded from national income because these do not arise from current economic activities. Similarly, capital losses are not taken into account while estimating national income.

7. Inventory Changes:

All inventory changes (or changes in stocks) whether positive or negative are included in national income. The procedure is to take changes in physical units of inventories for the year valued at average current prices paid for them.

The value of changes in inventories may be positive or negative which is added or subtracted from the current production of the firm. Remember, it is the change in inventories

and not total inventories for the year that are taken into account in national income estimates.

8. Depreciation:

Depreciation is deducted from GNP in order to arrive at NNP. Thus depreciation lowers the national income. But the problem is of estimating the current depreciated value of, say, a machine, whose expected life is supposed to be thirty years. Firms calculate the depreciation value on the original cost of machines for their expected life. This does not solve the problem because the prices of machines change almost every year.

9. Price Changes:

National income by product method is measured by the value of final goods and services at current market prices. But prices do not remain stable. They rise or fall. When the price level rises, the national income also rises, though the national production might have fallen.

On the contrary, with the fall in the price level, the national income also falls, though the national production might have increased. So price changes do not adequately measure national income. To solve this problem, economists calculate the real national income at a constant price level by the consumer price index.

16.4.3 Problems in Expenditure Method

The following problems arise in the calculation of national income by expenditure method:

(1) Government Services:

In calculating national income by, expenditure method, the problem of estimating government services arises. Government provides a number of services, such as police and military services, administrative and legal services. Should expenditure on government services be included in national income?

If they are final goods, then only they would be included in national income. On the other hand, if they are used as intermediate goods, meant for further production, they would not be included in national income. There are many divergent views on this issue.

One view is that if police, military, legal and administrative services protect the

lives, property and liberty of the people, they are treated as final goods and hence form part of national income. If they help in the smooth functioning of the production process by maintaining peace and security, then they are like intermediate goods that do not enter into national income.

In reality, it is not possible to make a clear demarcation as to which service protects the people and which protects the productive process. Therefore, all such services are regarded as final goods and are included in national income.

(2) Transfer Payments:

There arises the problem of including transfer payments in national income. Government makes payments in the form of pensions, unemployment allowance, subsidies, interest on national debt, etc. These are government expenditures but they are not included in national income because they are paid without adding anything to the production process during the current year.

For instance, pensions and unemployment allowances are paid to individuals by the government without doing any productive work during the year. Subsidies tend to lower the market price of the commodities. Interest on national or public debt is also considered a transfer payment because it is paid by the government to individuals and firms on their past savings without any productive work.

(3) Durable-use Consumers' Goods:

Durable-use consumers' goods also pose a problem. Such durable-use consumers' goods as scooters, cars, fans, TVs, furniture's, etc. are bought in one year but they are used for a number of years. Should they be included under investment expenditure or consumption expenditure in national income estimates? The expenditure on them is regarded as final consumption expenditure because it is not possible to measure their used up value for the subsequent years.

But there is one exception. The expenditure on a new house is regarded as investment expenditure and not consumption expenditure. This is because the rental income or the imputed rent which the house-owner gets is for making investment on the new house. However, expenditure on a car by a household is consumption expenditure. But if he spends the amount for using it as a taxi, it is investment expenditure.

(4) Public Expenditure:

Government spends on police, military, administrative and legal services, parks, street lighting, irrigation, museums, education, public health, roads, canals, buildings, etc. The problem is to find out which expenditure is consumption expenditure and which investment expenditure is.

Expenses on education, museums, public health, police, parks, street lighting, civil and judicial administration are consumption expenditure. Expenses on roads, canals, buildings, etc. are investment expenditure. But expenses on defence equipment are treated as consumption expenditure because they are consumed during a war as they are destroyed or become obsolete. However, all such expenses including the salaries of armed personnel are included in national income.

16.4 USES OF NATIONAL INCOME DATA

Modern Governments take unusual pains in the collection of national income data for a number of reasons. Raising national income is the important goal of all economic activity. Economic welfare of a country depends upon what goods and services are made available for the consumption of its people.

The following are the main uses of national income statistics:

(i) National income data are used to measure economic welfare of the community. Other things being equal, economic welfare is greater if national income is greater.

(ii) National income figures give us an idea as to the standard of living of a community.

(iii) The national income figures are further useful in helping us to assess the pace of economic development of a country. If they do not measure progress precisely, at least they will show us the trends.

(iv) The study of national income statistics is also useful in diagnosing the economic ills of a country and suggesting remedies.

(v) The national income data are used to assess the saving and investment potential of the community. The rate of saving and investment is ultimately dependent on the national income.

(vi) We can make inter-temporal comparisons, i.e., comparisons between two periods of time in the country in order to form an idea of the economic conditions prevalent in the respective periods.

(vii) We can also make inter-country comparisons by taking the national income data of two countries. This will help us to know where we stand among the world economies.

(viii) National income data also enable us to assess inter-sectoral growth of an economy. This information is useful in planning development of the various sectors.

(ix) The national income data also offer a reasonable basis for forecasting future economic events. This will enable a country to foresee the probable results of a particular economic policy.

(x) Another use of the national income estimates is that they throw light on inter-class distribution of national income. One can judge the standard of welfare of the various sections of the community. All modern societies aim at reducing inequalities of incomes and this is not possible without the aid of national income data.

(xi) Above all, the national income data are used for planned economic development of the country. In their absence all planning will be a leap in the dark.

In. Samuelson's words, "By means of statistics of national income, we can chart the movements of a country from depression to prosperity, its steady long-term rate of economic growth and development, and finally, its material standard of living in comparison with other nations."

16.5 Limitations of National Income Accounts

There is no doubt that the national income data are highlyuseful and even necessary for a modern society. But we should take care not to attach to them exaggerated importance. They cannot be taken as absolutely reliable nor can they be taken as an infallible guide to economic policy.

*They suffer from certain limitations***:**

(i) Theyare onlyrough approximations with all the care taken and the expense incurred in their preparation. We have, therefore, to be very careful in their use.

(ii) The national income figures measure moneyincomes rather than real income. Any attempt at inflating or deflating money incomes in order to ascertain real income will create a host of other uncertainties.

(iii) Inter-temporal comparisons, i.e., comparisons between two differ-ent periods in the country are not possible. This is due to the fact that a number of changes must have occurred in the meantime to render the comparison meaningless.

(iv) Inter-country comparisons too are also not very fruitful. This is due to the fact that economic conditions of the two countries as well as the nature of goods and services that have entered into calculation may be widely different.

(v) The national income estimates do not justify any forecasting owing to a large measure of approximation in their calculation. On their basis we cannot say that a certain policy will produce the desired results.

16.6 SUMMARY

The national income estimates serve a very useful purpose and improvement both in the data and in the techniques no doubt has added to their validity.

The three alternative methods used for measuring national income are as follows: 1. Value Added Method 2. Income Method 3. Expenditure Method.

Since factor incomes arise from the production of goods and services, and since incomes are spent on goods and services produced, three alternative methods of measuring national income are possible.

Value Added Method

This is also called output method or production method. In this method the value added by each enterprise in the production goods and services is measured. Value added by an enterprise is obtained by deducting expenditure incurred on intermediate goods such as raw materials, unfinished goods (purchased from other firms from the value of output produced by an enterprise.

Value of output produced by an enterprise is equal to physical output (Q) produced multiplied by the market price (P), that is, P.Q. From the value added by each enterprise we subtract consumption of fixed capital (i.e., depreciation) to obtain net value added at

market prices (NVA_{MP}).

However, for estimating national income (that is, Net National Product at factor cost (NNP_{FC}) we require to estimate net value added at factor cost (NVA_{FC}) by each enterprise in the economy. NVA_{FC} can be found out by deducting net indirect taxes (i. e. indirect taxes less subsidies provided by the Government).

Under this method, the economy is divided into different industrial sectors such as agriculture, fishing, mining, construction, manufacturing, trade and commerce, transport, communication and other services. Then, the net value added at factor cost (NVA_{FC}) by each productive enterprise as well as by each industry or sector is estimated.

It follows from above that in order to arrive at the net value added at factor cost by an enterprise we have to subtract the following from the value of output of an enterprise:

1. Intermediate consumption which is the value of goods such as raw materials, fuels purchased from other firms
2. Consumption of fixed capital (i.e., depreciation)
3. Net indirect taxes.

Summing up the net values added at factor cost (NVA_{FC}) by all productive enterprises of an industry or sector gives us the net value added at factor cost of each industry or sector. We then add up net values added at factor cost by all industries or sectors to get net domestic product at factor cost (NDP_{FC}). Lastly, to the net domestic product we add the net factor income from abroad to get net national product at factor cost (NNP_{FC}) which is also called national income. Thus,

NI or NNP_{FC} = NDP_{FC} + Net factor income from abroad

This method of calculating national income can be used where there exists a census of production for the year. In many countries, the data of production of only important industries are known. Hence this method is employed along with other methods to arrive at the national income. The one great advantage of this method is that it reveals the relative importance of the different sectors of the economy by showing their respective contributions to the national income.

Income Method

This method approaches national income from distribution side. In other words, this method measures national income at the phase of distribution and appears as income paid and or received by individuals of the country. Thus, under this method, national income is obtained by summing up of the incomes of all individuals of a country. Individuals earn incomes by contributing their own services and the services of their property such as land and capital to the national production.

Therefore, national income is calculated by adding up the rent of land, wages and salaries of employees, interest on capital, profits of entrepreneurs (including undistributed corporate profits) and incomes of self-employed people. This method of estimating national income has the great advantage of indicating the distribution of national income among different income groups such as landlords, owners of capital, workers, entrepreneurs.

Expenditure method arrives at national income by adding up all expenditures made on goods and services during a year. Income can be spent either on consumer goods or capital goods. Again, expenditure can be made by private individuals and households or by government and business enterprises.

Further, people of foreign countries spend on the goods and services which a country exports to them. Similarly, people of a country spend on imports of goods and services from other countries. We add up the following types of expenditure byhouseholds, government and by productive enterprises to obtain national income.

1. Expenditure on consumer goods and services by individuals and households. This is called final private consumption expenditure, and is denoted by C.
2. Government's expenditure on goods and services to satisfy collective wants. This is called government's final consumption expenditure, and is denoted by G.
3. The expenditure by productive enterprises on capital goods and inventories or stocks. This is called gross domestic-capital formation, or gross domestic investment and is denoted by I or GDCF.

A greatest difficulty in the measurement of national income in the developing countries is general lack of adequate statistical data. Inadequacy, non-availability and unreliability of statistics is a great handicap in measuring national income in these countries.

Statistical information regarding agriculture and allied occupations, and household enterprises is not available. Even the statistical information regarding the enterprises in the organised sector is sketchy and unreliable. There is no accurate information available regarding consumption, investment expenditure and savings of either rural or urban population.

In under-developed countries like India, we face some special difficulties in estimating national income.

Some of these difficulties are:

(i) The first difficulty arises because of the prevalence of non-monetized transactions in under-developed countries like India, so that a considerable part of output does not come into the market at all. Agriculture still being in the nature of subsistence farming in these countries, a major part of output is consumed at the farm itself. The national income statistician, therefore, has to face the problem of finding a suitable measure for this part of output.

(ii) Because of illiteracy, most producers have no idea of the quantity and value of their output. They do not follow the practice of keeping regular accounts. This makes the task of getting reliable information from a large number of petty producers all the more difficult.

(iii) Because of under-development, occupational specialization is still incomplete so that there is a lack of differentiation in economic functioning. An individual may receive income partly from farm ownership, partly from manual work in industry in the slack season, etc.

(iv) There is a general lack of adequate statistical data and this makes the task of estimation all the more difficult.

(v) It is not easy to calculate the value of inventories, i.e., raw materials, semi-finished and finished goods in the custody of the producers. Obviously, any miscalculation on this score will vitiate the estimates of the output of productive enterprises.

(vi) The calculation of depreciation on capital consumption presents another formidable difficulty. There are no accepted standard

rates of deprecia-tion applicable to the