1 Unit

National Income and Social Accounts

LONG QUESTION ANSWERS

Q. 1. What do you mean by National Income? Also Discuss the various related concepts of National Income.

Ans. Meaning of National Income. By National Income we mean the sum total of factor incomes earned by normal residents of a country during the period of one year.

$$NY = \sum_{i=1}^{n} FY_i$$

NY	=	National income
S	=	Sum of total (Σ is called sigma)
FY	=	Factor income
n	=	all normal residents of a country

National income is also defined as the sum total of the market value of final goods and services, produced by normal residents of a country in one year.

According to **Marshall**, "The labour and capital of a country, acting upon its natural resources, produce annually a certain net aggregate of commodities, material and immaterial, including services of all kinds. The limiting word "net' is needed to provide for using up of raw and half-finished commodities and for the wearing out and depreciation of plant which is involved in production ; all such waste must, of course, be deducted from the gross produce before the true or net income can be found. And net income due on account of foreign investments must be added in. This is the true net annual income or revenue of the country, or the national dividend."

In the words of **A.C. Pigou**, "The national dividend is that part of the objective income of the community including, of course, income derived from abroad, which can be measured in money."

In the words of **Prof. J.R. Hicks**, "The national income consist of a collection of goods and services reduced to a common basis by being measured in terms of money".

Concepts of National Income :

1. Gross Domestic Product (GDP).
2. GDP at Constant Prices and Current Prices.
3. GDP at Factor Cost and GDP at Market Price.
4. Net Domestic Product.
5. Gross National Product (GNP).
6. Net National Product (NNP).
7. NNP at Factor Cost or National Income.
8. Private Income
9. Personal Incofne
10. Personal Disposable Income.

Following is a brief description of these concepts :

1. Gross Domestic Product (GDP) : Gross domestic product is the money value of all final goods and services produced in the domestic territory of a country during an accounting year. Domestic, territory is defined to include : (i) Territory lying within the political frontiers, including territorial water of the country, (ii) Ships and aircrafts operated by the residents of the country between two or more countries, (iii) Fishing vessels, oil and natural gas rigs, and floating platform operated by the residents of the country in the international waters, (iv) Embassies consulates and military establishments of the country located abroad.

2. GDP at Constant Prices and Current Prices : If the domestic product is estimated on the basis of the prevailing prices, it is called GDP at current prices. On the other hand, if GDP is measured on the basis of some fixed prices, that is prices prevailing at a point of time or in some base year, it is known as GDP at constant prices or real gross domestic product.

3. GDP at Factor Cost and GDP at Market Price : GDP at factor cost is estimated as the sum of net value added by

different producing units and the consumption of fixed capital. Since the net value added gets distributed as income to the owners of factors of production, we can also estimate GDP as the sum of domestic factor incomes and consumption of fixed capital. The market value of goods and services is not the same as the earnings of the factors of production. GDP at market prices include indirect taxes and exclude the subsidies given by the government. Therefore, in order to arrive at GDP at factor cost we must subtract indirect taxes from and add subsidies to GDP at market price. Thus,

$GDP_{FC} = GDP_{MP} - IT + S$,

where IT = indirect taxes and S = subsidies.

4. Net Domestic Product : When depreciation allowance (also called capital consumption allowance) is subtracted from GDP, we get net domestic product. Thus, NDP = GDP – depreciation.

5. Gross National Product (GNP) : Gross national product is defined as the sum of the gross domestic product and net factor incomes from abroad *i.e.*, incomes earned by country's residents abroad minus incomes earned by foreign residents from the country. Thus, GNP=GDP + NFIA (net factor income from abroad).

Two things must be noted in regard to GNP. *First,* it measures the market value of annual output. It is a *monetary measure. Secondly,* it includes the market value of final goods and ignores transactions involving intermediate goods. Final goods are those goods which are being purchased for final use and not for resale or further processing.

6. Net National Product (NNP) : Net national product is the *net* production of goods and services in a country during the year. It is GNP *minus* the value of capital consumed or depreciated during the year (NNP = GNP-Depreciation). NNP then is simply GNP adjusted for depreciation charges. NNP is also sometimes referred to as *National Income at Market Prices.* NNP is a better concept than GNP, because it makes proper allowance for the depreciation suffered by machinery, equipment, buildings, etc., during the year. This concept is also highly useful as it gives an idea of *net* increase in the total production of the country. It also proves helpful in the analysis of the long-run problem of maintaining and increasing the supply of physical capital in the country. NNP is, therefore, a highly useful concept for the study of 'Growth Economics'.

7. NNP at Factor Cost or National Income. National income is the total of all income payments received by the factors of production - land, labour, capital and organisation. It can be derived from the NNP (net national product) in the following manner:

National Income = Net National Product - Indirect Taxes + Subsidies - Profits accruing to the Government

8. Private Income. Private income is the income of the private sector obtained from any source, productive or otherwise, and the retained income of the corporations.

According to Central Statistical Organization, "Private Income is the total of factor income from all sources and current transfers from the government and rest of the world accruing to private sector.

9. Personal Income. Personal income is the total of all current income received by households from all sources. It is, in fact, the sum total of all types of factor income actually received by the households and current transfers.

Personal Income is the income actually received by the individuals and households from the all sources in the form of factor income and current transfers.

Personal Income = Private Income – Undistributed Profits Or Corporate Saving – Corporation Tax.

10. Personal Disposable Income. Personal disposable income is that part of personal income which the households can spend the way they like. It reflects purchasing power of the households. Disposable income is either spent or saved. In other words, Personal Disposable Income is the income remaining with individuals and households after deduction of all taxes levied against their income and their property by the government.

It is calculated by deducting direct taxes and miscellaneous fees, fines, etc. paid by the individuals from their income. Thus,

Personal Disposable Income = Personal Income – Direct Personal Tax – Miscellaneous Receipts of the Government Administrative Department or Miscellaneous fees and fines paid by the Households.

Q. 2. Explain the various methods of Measuring National Income.

Ans. There are three methods of measuring national income because national income can be looked at from three view points as total output, product or total expenditure. All these three are flows in the economy per period of time. They are three names for the same thing which is the aggregate output. As Cairncross has written, "The national income can be looked at in any one of the three ways : as the national income measured by adding up everybody's output....; as the national outlay measured by adding up the value of all the things that people buy and adding in their saving."

Since the volume of flows in a particular period of time must equal, we can closely define a fundamental accounting identity which applies in a hypothetical economy in a particular period. It is

Income = Product = Expenditure on product or, more formally

National Income = Net National Product

= Expenditure on net national product

and also,

National Income	=	Gross		Expenditure
+		National	=	on gross
Depreciation		product		national product

It is clear from this fundamental identity that the measure of national income must give us the same result whichever the way we adopt. We explain the three methods of measuring national income below. The three methods measure the same flow. When production takes places, factors of production are paid. There is an income flow and an output flow. Output is purchased by people through expenditures which give rise to income. Thus, income, output and expenditure are the three facets of the same coin.

Product Method or Value Added Method

Product Method or Value Added Method is that Method, which measures the national income by estimating the contribution of each producing enterprise to production in the domestic territory of the country in an accounting year. The entire output of final goods and services is multiplied by their respective market prices to find out the gross national product. The gross national product may be arrived at by adding up the values imparted to the intermediate goods and services during different process of production. Whether we employ the 'final products' method or the 'value added' method, the total money-value of the gross national product would be the same. From the gross national product so estimated, we have to deduct the gross depreciation of equipment and machinery involved in the process of production to arrive at the country's national income.

Value-added method measures the contribution of each producing enterprise in the domestic territory of the country. This method involves the following steps : (a) Identifying the producing enterprise and classifying them into industrial sectors according to their activities, (b) estimating net value added by each producing enterprise as well as each industrial sector and adding up the net value added by all the sectors.

All the producing enterprises are broadly classified into three main sectors, namely: (i) Primary sector which includes agriculture and allied activities, (ii) Secondary sector which includes manufacturing units and (iii) Tertiary sector which includes services like banking, insurance, transport and communications, trade and professions. These sectors are further divided into sub-sectors and each sub-sector is further divided into commodity group or service group.

For calculating the net product of the industrial sector we need to know about gross output of the sector, the raw materials and intermediate goods and services used by the sector and the amount of depreciation. For an individual unit, we subtract from

the value of its gross output, the value of raw material and intermediate goods and services used by it and from this, we subtract the amount of depreciation to get net production value added by each unit. Adding value-added by all the units in one sub-sector, we get value added by the subsector. By adding net products of all the sub-sectors, we get value-added or net product of sector. For the economy as a whole, we add net products contributed by each sector to get Net Domestic Product. If the information regarding the final output and intermediate goods is available in terms of market prices, we can easily convert it in terms of factor costs by subtracting net indirect taxes to it. If we add or subtract net income from abroad, we get Net National Product at factor cost which is nothing but National Income.

Precautions regarding Product Method

Following precautions must be taken into account while using the products method:

1. Value of the sale and purchase of second hand goods is not included in value added.
2. Commission earned on account of the sale and purchase of second hand goods is included in the estimation of value added.
3. Own account production of goods of the producing units is taken into account while estimating value added.
4. Value of intermediate goods is not included in the estimation of value added.
5. Imputed value of production for self-consumption is taken into account.
6. Imputed rent on the owner occupied house is also taken into account.
7. Services for self-consumption is not considered while estimating value added.

2. Income Method. According to this method, the incomes accruing to all the factors of production during the process of production are aggregated together to arrive at the national income of the country. This is known as *national income at factor cost.*

As is well known, the various factors of production are paid remuneration for the services rendered by them in production. These payments are known as factor payments. They represent the *costs* of the producers. But for the factors of production they constitute *factor-incomes* which have to be aggregated to estimate the national income of the country. Thus, according to this method, the national product is obtained by adding up the factor-incomes accruing to the concerned factors during the process of production.

Precautions while using Income Method

The following precautions are to be taken while income method:

1. Transfer earnings like old age pensions, unemployment allowances, scholarships, pocket expenses, etc. should not be included in national income.
2. Income from illegal activities like smuggling, theft, gambling etc. should not be included in national income.
3. Sale proceeds of second hand goods like second hand car, second hand house, second hand TV sets are not included in national income.
4. The sale proceeds of shares and bonds are not included in national income.
5. Windfall gains, like lotteries and capital gains should not be included as there is no value addition corresponding to windfall gains.
6. Imputed rent of owner occupied houses is included in national income.
7. Imputed value of production of goods for self-consumption should be included but value of self-consumed services should not be included.
8. Indirect taxes like sales tax, excise duty, etc. tend to increase the market price of goods and services. These are included in the estimation of national income at market price but are not to be included while estimating national income at factor cost.

9. Corporate tax, dividends and undistributed profits are all the components of corporate profits. Once profit is included in the estimation of national income, any of these components should not be separately added.
10. Income tax is paid out of compensation of employees. It should not be separately added in the estimation of national income.

3. Expenditure Method. Expenditure method is the method which measures final expenditure on gross domestic product at market price during an accounting year. Final expenditure is equal to the gross domestic product at market price. This is also called 'Income Disposal Method or Consumption and Investment Method.

Labour gets wages, land gets rent, capital gets interest and entrepreneur gets profit. The factor *incomes* of all the producing units form the subject-matter of calculation of national income by income method.

Only incomes earned by owners of primary factors of production are included in national income. Transfer incomes such as pensions of retired workers and social security reliefs will be excluded from national income. Labour income includes apart from wages and salaries, bonus, commission, employer's contribution to provident fund and compensations in kind. Non-labour income includes dividend undistributed profits of corporations before taxes, interest, rent, royalties, profits of unincorporated enterprises and of government enterprises.

Normally, it *is* difficult to separate labour income from capital income because in many instances people provide both labour and capital services. In order to overcome this difficulty a new category of incomes, called mixed income, is introduced which includes all those incomes which are difficult to separate.

Precautions while using Expenditure Method

The following precautions are to be taken while using expenditure method:

1. Final Expenditure is to be taken into account to avoid error of double counting.

2. The intermediate expenditure is not included in the calculation of national income.
3. Expenditure on second hand goods is not included.
4. Expenditure on shares and bonds is not included in total expenditure, as these are mere paper claims and are not related to the flow of final goods and services. Such expenditures do not cause any value addition.
5. Expenditure on transfer payments by the government is not included in total expenditure, e.g. old age pension, scholarship, etc. Because transfer payments do not cause any value addition in the economy.

Conclusion

In view of the above we may say that the three methods given above need different types of statistics. Product method requires a census of manufactures and agricultural output. Income method can use personal taxes data and the financial statements of different enterprises. Expenditure method requires extensive family-budget data. In developed economies such data are easily collected. Some countries, therefore, use all the three methods and obtain national income estimates consistent with one another.

Q. 3. Explain the difficulties in the measurement of National Income.

Or

Discuss the various difficulties in the calculation of National Income.

Ans. Although all methods are used almost in all countries to calculate national income, yet the calculation is a complex affair and is beset with the following difficulties :

1. Difficulty of Defining the 'Nation'. The first and foremost difficulty in the way of measuring National Income is the defining of nations in National Income. There is the difficulty of defining 'nation' in national income. National income doesn't only included income produced within the country, but also income earned in other countries, by way of shipping charges, interest, insurance and banking, minus any payments made to foreign countries

Therefore, the definition of nation goes beyond the political boundaries.

2. Non-Marketed Services. Another Important difficulty in the measurement of National income is that which kind of goods and services included in the National Income ? Commodities and services having money value are included in the national income but there are goods and services which may have no corresponding flow of money payments. Services performed for love, kindness and mercy and not for money have an economic value but have no money value. The difficulty is whether these services should be included in national income and how to measure their money value. For example, a paid maid servants services are included in the national income but later when she marries the master, she is not paid any more, through she continues to perform the services. There is, thus, a reduction in the national income.

3. Choice of Method. There are different methods of measuring National Income. It becomes difficult for the investigator/statistician which method to be used in the estimation of national income. It is, however, preferred to use these methods simultaneously depending upon the availability of data or statistics.

4. There is Little of Occupational Specialization. Another difficulty in the way of measuring national Income is that there is little of occupational specialization on the part of the people in underdeveloped countries. Most of people take up more than one activity to earn their livelihood. It becomes difficult to collect information about their incomes, etc. For example, the small farmers in India not only do farming, but also engaged themselves in other works to the industrial cities during. The slack season to supplement their meagre earnings from agriculture.

5. Which Stage to Choose. Regarding the stage of economic activity at which national income be calculated, it is agreed that any stage production, consumption and distribution may be adopted depending upon the function of the national income estimate is expected to discharge. If the aim is to show the economic progress and power of the economy, then the production stage would be more suitable, if the aim is to measure the welfare of individuals, then consumption stage would be more useful.

6. Double Counting. Another difficulty is of double counting usually associated with the inventory method. Double counting implies the possibility of a commodity like raw material or labour being included in national income more than once, e.g., a farmer sells wheat worth rupees one hundred to a mill-owner. The mill owner' further sells the wheat flour to a wholesale dealer, who further sells it to a retailer and who in turn sells it to consumer, if we calculate it at every stage, its money value will increase the eight hundred rupees but actually the increase in national income has been to the extent of two hundred rupees only. The best way to avoid this difficulty is to calculate only the value of all goods and service that enter into final consumptions.

7. Transfer Payment. Transfer Payment is another difficulty in calculating the National Income. Individual gets pension, scholarship, unemployment allowance and interest on public loans, but whether these should be included in national income is a difficult problem.

8. Price Changes. Another difficulty in calculating national income is the price changes. When the price level in the country rises the national income also shows an increase even though the production might have fallen. On the other hand, with a fall in price level, the national income shows decline even though the production might have gone up. Thus, due to price changes the national income cannot be adequately measured.

9. Self-Consumed, Bartered Production. Self-consumed and bartered production is also one of the important difficulty in the measurement of national income. A substantial part of the produce is not brought to the market to be exchanged with the measuring rod of money. It is either consumed directly by the producers or is exchanged for other goods and services. Only rough estimates are made about the part of the produce. This difficulty is mostly in rural areas in agricultural sector of the economy.

10. No Systematic Accounts. Majority of the producers do not keep any accounts of their produce because most of them are illiterate. They mostly produce for self-consumption, not for the market. Thus, the national income estimates are based only on guess work.

11. Inadequate and Unreliable Data. Another important difficulty in the way of calculating National Income is the Inadequate and Unreliable data. The available statistics in these countries are not only *inadequate* but also *unreliable*. For example, statistics pertaining to agriculture in India are not complete. We have no reliable estimates of production costs in Indian agriculture. There are no statistics worth the name for small-scale and medium industries.

12. The Existence of A Large Non-monetized Sector. The another important difficulty in the calculating of National Income is the existence of a large *non-monetized* sector in underdeveloped countries which makes the computation of national income difficult. A substantial part of the agricultural output in these countries does not reach the market at all. Either it is consumed at home by the agriculturists themselves or is exchanged for other goods and services in the village. This presents several difficulties in the calculation of income.

13. Illiteracy and Ignorance. The majority of the small producers in the underdeveloped countries are illiterate and ignorant, and are not in a position to keep any account of their productive activities. So they cannot give to the investigator information about the quantity or value of their output. Inevitably, an element of guesswork enters into the assessment of income or output in large sectors of the economy.

Q. 4. Discuss the importance of National Income Accounting.

Or

Explain the Significance (or uses) of National Income Accounting.

Or

Explain the main uses of National Income Accounting.

Ans. National Income is of great importance for the economy of a country. In these days the National Income data are regarded as the accounts of the economy. The importance of national income can be explained in the following paragraphs :

1. Estimation of National Income. National income accounting helps to show the level of production in the economy and the level of income of the people.

2. Structure of the Economy. National income accounting gives us the knowledge about the structure of the economy. We come to know how different sectors of the economy are interdependent.

3. Relative Significance of the Production Sectors. The estimation of national income gives us the knowledge about the relative significance of the production sectors of the economy. Production sectors of the economy include primary, secondary and tertiary sectors. National income accounting offers techniques of estimating output across these sectors. Accordingly, relative significance of these sectors is studied.

4. Factoral Distribution of Income. National income accounting gives us the knowledge about the distribution of national income in terms of rent, interest, profit and wages. It also facilitate to show the relative significance of the factors of production in the economy.

5. Inter-regional and International Comparison. Another importance of national income accounting is that it facilitates a comparison across different regions of a country and across different countries of the world.

6. Formulation of Policies. With the help of Estimation of national income we can formulate the policies for the economic growth and economic development of the country.

7. Economic Planning. For economic planning, the national income accounting is of great significance. For economic planning, it is very important that the data pertaining to a country's gross income, output, saving, consumption from different sources should be available. Without these economic planning is impossible.

8. Research Scholars of Economics. The national income accounting is very useful for the research scholars of economics. The research scholars of economics make use of the various data of the country's input, output, income, saving, consumption, investment, employment etc., which are obtained from social accounts.

9. Indicator of Economic Progress. Another great importance of national income accounting is that it is an indicator of economic progress. The economic welfare of the country is directly linked with the increase in its national income. Hence, national income presents clear economic picture of the economy.

10. Distribution of National Income. Distribution of national income is also one of the importance of national income accounting. National income data help us to know about the distribution of income in the country. From the data pertaining to wages, rent, interest and profits we learn of the disparities in the incomes of different sections of the society.

11. Inflationary and Deflationary Gaps. With the help of national income accounting we are in a position to get a idea about the inflationary and deflationary gaps. Hence, for accurate and deflationary policies, we need regular estimates of national income.

12. Budgetary Policies. With the help of the national income accounting we can formulate the budgetary policies. Modern governments try to prepare their· budgets within the frame work of national income data.

13. National Expenditure. With help of national income accounting we can get an idea how national expenditure is divided between consumption expenditure and investment expenditure.

14. Standard of Living. With the help of national income accounting we can compare the standards of living of people in different countries and of people living in the same country at different times.

15. International Sphere. National income studies are very important in the international sphere. These estimates help us to fix the burden of international payments equitable amongst different

GENERAL DIFFICULTIES OF NATIONAL INCOME MEASUREMENT

The main difficulties involved in the national income measurement are as under:

1. Types of Goods and Services : The type of goods and services which should be included in national income pose a severe threat. The goods and services having money value are included in national income. There are other services which are performed for love, kindness, mercy etc. These services have no money value. The difficulty is that whether these goods and services be included in national income measurement.

2. Problem of Double Counting : The problem of double counting is associated with the inventory method. It means the possibility of a commodity being included more than once. Therefore, it becomes difficult to make precise estimate of national income.

3. Problem of Imputed Values : There are some goods and services which do not appear in the market for sale. In such cases, we have to impute values for them. The procedure of fixing values is very difficult and is beset with a number of problems.

4. Choice of Method : Another problem relates to the choice between different methods in the calculation of income. However, there is an agreement among all economists to use these methods simultaneously depending upon the availabilty of data.

5. Barter-Economy : In underdeveloped countries, there is still barter economy, where goods are exchanged for goods. A major part of the agricultural produce is consumed at the farm itself.

SIGNIFICANCE OR IMPORTANCE OF NATIONAL INCOME

National income accounts are highly useful to understand the problems of an economy.

Its significance has been discussed below :

1. Inflationary and Deflationary Gaps : National income statistics enable us to have an idea of inflationary and deflationary forces in an economy. In fact inflationary and deflationary gaps are the results of inconsistencies of certain sub-total related to national product and aggregate expenditure. The excess expenditure over the value of available output at base level of prices will result in inflationary gap. This inflationary gap will lead to a rapid increase in the general price level of the country. Similarly the excess of available output over the expected expenditure will lead to deflationary gap. In both circumstances, the study of national income is crucial.

2. Basis of Economic Welfare : National income analysis reflects the well-being of the inhabitants of the country. They enable us to compare the standard of living of the people in different countries or the people living in same country at different times. The higher the per capita income, higher will be the standard of living, the higher will be the economic welfare. Thus, we can measure the increase or decrease in the standard of living of the people with the help of national income.

3. Basis of Economic Policy : In the era of planning, national income statistics are regarded as comprehensive tool of economic policy. They throw light on the data pertaining to the country's gross income, output, saving, consumption etc. Without these estimates planning is almost impossible. Thus, it is through the national income statistics that we come to know the aggregate yield of the economy and lay down the future economic policy for development.

4. Basis of Economic Structure : National income statistics enable us to have a detailed knowledge of the economic structure of the country. They help us to know the contribution made to national income by the different sectors of the economy as mining, fisheries, transport and trade etc. They also reflect that where the economy is predominated by agriculture or industrial or tertiary activities. In this way, it makes a useful analysis of the structure of the economy.

5. Basis of the Distribution of National Income. The national income data helps us to know about the distribution of national income in the country. The data pertaining to wages, profits, interest enable us to learn about the disparities in income among the different sections of the society.

6. Basis of Budgetary Policies : The Government prepares their budget policies on the basis of national income statistics. Even taxation and borrowing policies are so framed to neutralise the fluctuations in the level of national income and employment. Moreover, Government intervenes directly by producing deficit or surplus budgets to control depression or inflation in an economy.

7. National Expenditure : National income statistics are useful to know how the national expenditure should be divided between consumption and investment expenditure. It enables us to provide for reasonable depreciation to maintain the capital stock of a community.

8. Inter-national Sphere : National income statistics play a pioneer role in fixing the burden of international payments among different countries and to determine the quotas of different countries to international organisations like, I.M.F., I.B.R.D., U.N.O. Moreover, national income statistics are required for international comparison of the burden of taxation. It is only on the basis of these statistics that the underdeveloped countries of the world have claimed aid from rich countries.

9. Distribution of Grants-in-aid : In the federal set up, national income estimates enable the central government to distribute the quantum of grant-in-aid among the state governments and make allocations as grants to various states on the basis of the estimate of national income.

10. Public Sector : National income estimates help us to understand the role of public as well as private sectors in the economy. In an economy, most of the activities are performed by the state. It means that public sector plays a dominant role.

11. Special importance for UDCs : Apart from above, national income statistics are of great importance to analyse the economic problems of under-developed countries. These figures give us an idea of the backwardness of the various sectors of the economy.