JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

HRD 2103: GENERAL ECONOMICS

NATIONAL INCOME

Meaning and Measurement

National income means the total value of goods and services produced annually in a country. In other words, the total amount of income accruing to a country from economic activities in a year's time, is known as national income. It includes payments made to all resources in the form of wages, interest, rent and profits.

Concepts of National Income

A. Gross National Product (GNP)

GNP is the total measure of the flow of goods and services at the market value resulting from current production during a year in a country, including net income from abroad. GNP includes four types of final goods and services:

1. Consumers goods and services to satisfy the immediate wants of the people,

2. Gross private domestic investment in capital goods consisting of fixed capital formation, residential construction and inventories of finished and unfinished goods,

3. Goods and services produced by the government, and

4. Net exports of goods and services i.e the difference between value of exports and imports of goods and services, known as net income from abroad.

Three approaches to GNP

1.   Income Approach to GNP

The income approach to GNP consists of the remuneration paid in terms of money to the factors of production annually in a country. Thus, GNP is the sum total of the following items:

1. **Wages and salaries**
2. **Rents**
3. **Interest**
4. **Dividends**
5. **Mixed incomes**: These include profits of unincorporated business, self-employed persons and partnerships.
6. **Undistributed corporate profits** that's, Profits which are not distributed by companies.
7. **Direct taxes** levied on individuals, corporations and other businesses.
8. **Indirect taxes:** e.g excise duties and sales tax. These taxes are included in the prices of commodities. But revenue from these goes to the government treasury and not to the factors of production.
9. **Depreciation/Capital consumption allowance:** Since this sum also is not a part of the income received by the factors of production, it is, therefore, also included in the GNP.
10. **Net income earned from abroad:** This is the difference between the value of exports of goods and services and the value of imports of goods and services. If this difference is positive, then it is added to the GNP and if it is negative it is deducted from the GNP.

2. Expenditure approach to GNP
From the expenditure view point, GNP is the sum total expenditure incurred on goods and services during one year in a country. It includes the following items:

1. **Private consumption Expenditure**

It includes all types of expenditure on personal consumption by the individuals of a country. It also the expenditure incurred on services of all kinds like fees for school, doctor, lawyer and transport. All these are taken as final goods.

2. **Gross domestic private investment**

Under this comes the expenditure incurred by private enterprise on new investment and on replacement of old capital. In particular, the increase or decrease the inventory is added to or subtracted from it. The inventory includes produced but unsold manufactured and semi-

manufactured goods during the year and the stocks of raw material, which have to be accounted for in GNP. It does not take into account the financial exchange of shares and stocks because their sale and purchase are not real investment. But depreciation is added.

3. Net foreign investment

It means the difference between exports and imports of export surplus. The difference of value between exports (X) and imports (M), whether positive or negative, is included in the GNP.

4. Government Expenditure on Goods and services

The expenditure incurred by the government on goods and services is a part of the GNP. However, expenditure on transfer payments is not added, because these payments are not in exchange for goods and services produced during the current year.

Thus, GNP according to the expenditure method = private consumption expenditure (C) + Gross Domestic private investment (I) + net foreign investment (X-M) + Government Expenditure on goods and services (G) = C+I+(X-M) +G.

GNP estimated by either the income or the expenditure method would work out to be the same, if all the items are correctly calculated.

3. Value Added approach to GNP
The difference between the value of material output and inputs at each stage of production is called value added. If all such differences are added up for all industries in the economy, we arrive at the GDP by value added. Its calculation is shown in below;

The table is constructed on the supposition that the entire economy for purposes of total production consists of three sectors. They are agriculture, manufacturing, and others, consisting of the tertiary sector.

GDP BY VALUE ADDED

Industry	Total output	Intermediate purchases	Value added
(1)	(2)	(3)	(4) = (2-3)

a. Agriculture	70	45	25
b. Manufacturing	55	25	30
c. Others	30	10	20
Total	**155**	**80**	**75**

(B) GNP at Market Prices

When we multiply the total output produced in one year by their market prices prevalent during that year in a country, we get the Gross National Product at market prices. Thus, GNP at market prices means the gross value of final goods and services produced annually in a country plus net income from abroad. It includes the gross value of output of all items from (1) to (4) mentioned under GNP.

(C) GNP at Factor Cost

GNP at factor cost is the sum of the money value of the income produced by and accruing to the various factors of production in one year in a country. It includes all items mentioned above under Income Approach to GNP less indirect taxes. GNP at market prices always includes indirect taxes levied by the government on goods which raise their prices. But GNP at factor cost is the income which the factors of production receive; in return, for their services alone. It is the cost of production. Thus, GNP at market prices is always higher than GNP at factor cost. Therefore, in order to arrive at GNP at factor cost, we deduct indirect taxes from GNP at market prices. Again, it often happens that the cost of production of a commodity to the producer is higher than price of a similar commodity in the market. In order to protect such producers, the government helps them by granting by granting monetary help in the form of a subsidy equal to the difference between the market price and the cost of production of the commodity. As a result, the price of the commodity to the producer is reduced and equals the market price of similar commodity.

GNP at Factor Cost=GNP at Market Prices – indirect Taxes + Subsidies.

(D) Net National Product (NNP)

GNP includes the value of total output of consumption goods and investment goods. But the process of production uses p a certain amount of fixed capital. Some fixed equipment wears out, its other components are damaged or destroyed, and still others are rendered obsolete through technological changes. All this process is termed depreciation or capital consumption allowance.

In order to arrive at NNP, we deduct depreciation from GNP. The word 'net' refers to the exclusion of that part of total output which represents depreciation.

So NNP = GNP – Depreciation.

(E) NNP at Market Prices
NNP at Market Prices is the net value of final goods and services evaluated at market prices in the course of one year in a country. If we deduct depreciation from GNP at market prices, we get NNP at market prices.

So NNP at market prices = GNP at market Prices - Depreciation

(F) NNP at Factor Cost
Net national Product at factor cost is the net output evaluated at factor prices. It includes income earned by factors of production through participation in the production process such as wages and salaries, rents, profits, etc. It is also called National income. This measure differs from NNP at market prices in that indirect taxes are deducted and subsidies are added to NNP at market prices in order to arrive at NNP at factor cost.

Thus, NNP at factor cost = NNP at Market Prices – Indirect taxes + subsidies

=GNP at market prices – depreciation – indirect taxes + subsidies=National income

Normally, NNP at market prices is higher than NNP at factor cost because indirect taxes exceed government subsidies. However, NNP at market prices can be less than NNP at factor cost when government subsidies exceed indirect taxes.

(G) Domestic Income or Gross Domestic Product (GDP)
Income generated (or earned) by factors of production within the country from its own resources is called domestic income or domestic product. Domestic income includes:

a. Wages and salaries
b. Rents including imputed house rents
c. Interest
d. Dividends
e. Mixed incomes consisting of profits of incorporated firms
f. Self-employed persons, partnerships etc

g. Direct taxes

Since domestic income does not include income earned from abroad, it can also be sown as: **Domestic Income = National Income – Net income earned from abroad.** Thus, the difference between domestic income and national income is the net income earned from abroad. If we add net income from abroad to domestic income, we get national income, i.e, National Income = Domestic Income Less Net Income earned from abroad. But the net national income earned from abroad may be positive or negative. If exports exceed imports, net income earned from abroad is positive. In this case, national income is greater than domestic income. On the other hand, when imports exceed exports, net income earned from abroad is negative and domestic income is greater than national income.

(H) Private income
Private income is income obtained by private individuals from any source, productive or otherwise, and the retained income of corporations. It can be arrived at from NNP at Factor cost by making certain additions and deductions. The additions include transfer payments such as pensions, unemployment allowances, sickness and other social security benefits, gifts and remittances from abroad, windfall gains from lotteries or from horse racing, and interest on public debt. The deductions include income from government departments as well as surpluses from public undertakings, and employees' contribution to social security schemes like provident funds, life insurance, etc.

Thus, **Private Income = national income (or NNP at Factor cost) +transfer payments interest on public debt-social security-profits and surpluses of public undertakings**

(I) Personal income
Personal income is the total income received by the individuals of a country from all sources before payment of direct taxes in one year. Personal income is never equal to the national income, because the former includes the transfer payments whereas they are not included in national income. Personal income is derived from national income by deducting undistributed corporate profits, profit, taxes, and employees 'contributions to social security schemes. These three components are excluded from national income because they do reach individuals. But business and government transfer payments, and transfer payments from abroad in the form of gifts and

remittances, windfall gains, and interest on public debt which are a source of income for individuals are added to national income.

Thus, Personal Income =National Income – Undistributed Corporate profits –profit taxes-Social Security Contribution+ Transfer payments + Interest of Public Debt.

Thus, differs from Private income because it excludes Undistributed Corporate profits. Personal income differs from private income in that it is less than the latter because it excludes undistributed corporate profits.

Thus, **personal income = private income – undistributed profits-profit taxes.**

(J) Disposable income

Disposable income or personal disposable income means the actual income which can be spent on consumption by individuals and families. The whole of the personal income cannot be spent on consumption, because it is the income that accrues before taxes have actually been paid. Therefore, in order to obtain the disposable income, direct taxes are deducted from personal income.

Thus, Disposable income=personal income-direct taxes.

But the whole of the disposable income is not spent on consumption and a part of it is saved. Therefore, the disposable income is divided into consumption expenditure and saving.

Thus, disposable income = consumption expenditure – savings.

If disposable income is to be deducted from national income, we deduct indirect taxes plus subsidies, direct taxes on personal and on business, social security payments, undistributed corporate profits or business savings from it and add transfer payments and net income from abroad to it.

Thus, **disposable income = national income-business savings-indirect taxes plus subsidies-direct taxes on persons-direct taxes on business-social security payments+ transfer payments= net income from abroad**

(K) Real Income

Real income is national income expressed in terms of a general level of prices of a particular year taken as a base. National income is the value of goods and services produced as expressed in terms

of money at current prices. But it does not indicate the real state of the economy. It is possible that the net national product of goods and services this year might have been less than that of the last year, but owing to an increase in prices, the NNP might be higher this year. On the contrary, it is also possible that NNP might have increased but the price level might have fallen, as a result of which national income would appear to be less than that of the last year. In both the situations, the national income does not depict the real sate of the country. To rectify such as a mistake, the concept of real income has been evolved.

In order to find out the real income of a country, a particular year is taken as the base year when the general price level is neither too high nor too low and the price level for that year is assumed to be 100. Now that general level of prices of the given year for which the national income (real) is to be determined is assessed in accordance with the prices of the base year. For this purpose, the following formular is employed.

Real NNP = NNP for the current year x $\frac{\text{Base year index (=100)}}{\text{current year index}}$

Suppose 1960 is the base year and the national income for 1999 is Shs 20,000 Million and the index number for this year is 250. Hence, Real National income for 1999=20,000*100/250 = Shs. 8,000 Million. This is also known as NI at constant prices.

(L) Per Capita Income
The average income of the people of a country in a particular year is called Per Capita Income for that year. This concept also refers to the measurement of income a current price and at constant prices. For instance, in order to find out the per capita income for 2019, at current prices, the national income of a country is divided by the population of the country in that year.

Per capita income for 2019 = $\frac{\text{National Income for 2019}}{\text{Population in 2019}}$

Similarly, for the purpose of arriving at the Real Per Capita income, this very formular is employed.

Real per capita income for 2019 = $\frac{\text{Real national income for 2019}}{\text{Population in 2019}}$

This concept enables us to know the average income and the standard of living of the people. But it is not very reliable, because in every country due to the unequal distribution of national income,

a major portion of it goes to the richer sections of the society and thus income received by the common man is lower than the per capita income.

METHODS OF MEASURING NATIONAL INCOME

There are four methods of measuring national income. The method to be employed depends on the availability of data in a country and the purpose in hand.

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.

Income method

According to this method, the net income payments received by all citizens of a country in a particular year are added up i.e net incomes that accrue to all factors of production by way of net rents, net wages, net interest and net profits are all added together but incomes received in the form of transfer payments are not included in it. The data pertaining to income are obtained from different sources, for instance, from income tax department in respect of high-income groups and in case of workers from their wage's bills.

Expenditure method

According to this method, the total expenditure incurred by the society in a particular year is added together and includes personal consumption expenditure, net domestic investment, government expenditure on goods and services, and net foreign investment. This concept is based on the assumption that national income equals national expenditure.

Value added method

Another method of measuring national income is the value added by industries. The difference between the value of material outputs and inputs at each stage of production is the value added. If all such differences are added up for all industries in the economy, we arrive at the gross domestic product.

DIFFICULTIES OR LIMITATIONS IN MEASURING NATIONAL INCOME

There are many conceptional 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.

PROBLEMS IN INCOME METHOD

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

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 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.

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.

Goods mean for self-consumption

In underdeveloped 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.

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, 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.

PROBLEMS IN PRODUCT METHOD

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

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, services are not included 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 reasons stated above, such as painting, singing, dancing etc as hobbies.

Intermediate and Final goods

The greatest difficult 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.

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

Illegal activities

Income earned through illegal activities like gambling, smuggling, illicit extractions 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 legalized, it is included in national income. Similarly, horse racing is a legal activity in England and is included in national income.

Consumers services

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.

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 is sold at a 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.

Inventory changes

All inventory changes (or changes in stocks0 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.

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.

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.

PROBLEMS IN EXPENDITURE METHOD

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

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 of the production process by maintaining peace and security, 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.

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 and 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.

Durable-use consumers' goods

Durable-use consumers' goods also pose a problem. Such durable-use consumers' goods as scooters, cars, fans, TVs, furniture, 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

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 is investment expenditure. 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.

PROBLEMS OF MEASUREMENT IN A DEVELOPING ECONOMY

In developing economy, complete and reliable information relating to the various methods

of estimating national income are not available due to the following problems:

Non-monetised sector

There is a large non-monetised sector in a developing economy. This is the subsistence sector in rural areas in which a large portion of production is partly exchanged for the other goods and is partly kept for personal consumption. Such production and consumption cannot be calculated in national income.

Lack of occupational specialization

There is the lack of occupational specialization in such a country which make the calculation of national income by product method difficult. Besides the crop, farmers in a developing country

are engaged in supplementary occupations like dairying, poultry, cloth making etc. But income from such productive activities is not included in the national income estimates.

Non-market Transaction

People living in rural areas in a developing country are able to avoid expenses by building their own huts, tools, implements, garments and other essential commodities. Similarly, people in urban areas having kitchen gardens produce vegetables which they consume themselves. All such productive activities do not enter the market transactions and hence are not included in the national income estimates.

Illiteracy

The majority of people in such a country are illiterate and they do not keep any accounts about the production and sales of their products. Under the circumstances, the estimates of production and earned incomes are simply guesses.

Non-availability of Data

Adequate and correct production and cost data are not available in a developing country. Such data relate to crops, forestry, fisheries, animal husbandry, and the activities of petty shopkeepers, small enterprises, construction works, etc. for estimating national income by the income method, data on unearned incomes and on persons employed in the service sector are not available. Moreover, data on consumption and investment expenditures of the rural and urban population are no available for the estimation of national income by the expenditure method. Moreover, there is no machinery for the collection of data in such countries.

IMPORTANCE OF NATIONAL INCOME ANALYSIS

National income data are of great importance for the economy of a country. These days the national income data are regarded as accounts of the economy, which are known as social account. These refer to net national income and net national expenditure, which ultimately equal each other. Social accounts tell us how the aggregates of a nation's income, output and product result from the income of different individuals, products of industries and transactions of international trade. Their main constituents are inter-related and each particular account can be used to verify the

correctness of any other account. Based very much on social accounts, the national income data have the following importance.

National income data form the **basis of national policies** such as employment policy, because these figures enable us to know the direction in which the industrial output, investment and savings, etc change, and proper measures can be adopted to bring the economy to the right path.

In the present age of planning, the national data are of great importance**. For economic planning**, it is essential that the data pertaining to a country's gross income, output, saving and consumption from different sources should be available. Without these, planning is not possible. Similarly, the economists propound short run well long-run economic models or long-run investment models in which the national income data are very widely sed.

The national income data are also **made use of by the research scholars of economics**. They make use of the various data of the country's input, output, income, saving, consumption, investment, employment, etc, which are obtained from social accounts.

National income data are **significant for a country's per capita income** which reflects the economic welfare of the country. The higher the per capita income, the higher the economic welfare and vice versa.

National income statistics enable 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. Similarly, the regional distribution of income is revealed. **It is only on the basis of these that the government can adopt measures to remove the inequalities in income distribution and to restore regional equilibrium**. With a view to removing these personal and regional disequilibria, the decisions to levy more taxes and increase public expenditure also rest on national income statistics.

INTERLATIONSHIPS AMONG DIFFFERENT CONCEPTS

The interrelationships among the various concepts of national income can be shown in the form of equations as under:

1. Gross National Product (GNP) = Gross National Expenditure (GNE)

2. Gross Domestic Product (GDP) = GNP less Net Income from abroad

3. GNP at market prices = GNP at factor cost less indirect taxes-subsidies

4. NNP at market prices = GNP at market prices less depreciation

5. Net domestic product = NNP at market prices less net factor income from abroad

6. NNP at factor cost or national income or national product = NNP at market prices less indirect taxes+ subsidies

7. NDP at factor cost or domestic income or domestic product = National income less net factor income from abroad

8. Private income= NNP at factor cost + government and business Transfer payments +current Tranfers from broad in the form of gifts and remittances+ windfall gains + interest on public debt and consumer interest less social security contributions-income from government departments and property-profits and surpluses of public corporations (or undertakings)

> Or

> =income from domestic product accruing to private sector+ interest on public debt=net factor income from abroad + transfer payments + current transfers from the rest of the world (or abroad)

9. Personal income= private income less saving for private corporate sector (or undistributed corporate profits)-corporation tax (or profit taxes)

10. Personal disposable income or disposable income =personal income-direct taxes paid by households (or direct personal taxes) and miscellaneous fees, fines, etc

> Or

> =NDP at factor cost+ transfer payments+ net factor income from abroad less corporation tax less undistributed corporate profits less social security payments less direct personal taxes

> Or

> = National income at factor cost + transfer payments + net income from abroad-corporate tax-undistributed corporate profits-social security payments less direct personal taxes less indirect taxes + subsidies

EXERCISES

1. From the data pertaining to the Kenyan economy given below, calculate;

(a) GNP at factor cost
(b) NNP at factor cost
(c) Net Domestic Product at Factor Cost,
(d) Net Domestic Product at Market Prices

	Kshs. Billions
GNP at Market Prices	97,503
Net factor income from abroad	-201
Capital consumption allowance	5,699
Net indirect taxes	10,576

2.   On the basis of the following information relating to the Kenyan economy given below, estimate;
(a) GNP at market prices
(b) Private income
(c) Personal income
(d) Personal disposable income

	Kshs. Billions
Net domestic product at factor cost	81,429
Income from domestic product accruing to the government sector	2,333
Net factor income from abroad	(-)201
Indirect taxes	12,876
Subsidies	2,300
Interest on national debt	964
Transfers from government administrative departments	1,981
Other current transfers from the rest of the world	1,271
Corporation tax	1,251
Undistributed corporate profits	464
Direct taxes paid by households	2,100
Consumption of fixed capital	5,699

3. On the basis of the following information, calculate Net National Product at Market prices and disposable personal income.

	Kshs. Billions
Net domestic product at factor cost	15,480
Income from domestic product accruing to government	140
National debt interest	170
Transfers payments by government	240
Net private donations from abroad	30
Net earned income from abroad	80
Indirect taxes	1,330
Direct taxes	335
Subsidies	100
Taxes on corporate profits	222
Undistributed profits of corporations	105

PAST PAPER QUESTIONS

QUESTION ONE

a. What is meant by the term "disposable income"? (4 marks)

b. Describe the problem of double counting which occurs when estimating national income and state the ways in which the problem can be resolved. (6 marks)

QUESTION TWO

The data below relates to various parameters in an economy.

	Sh. 'billions'
Indirect taxes (inclusive of subsidies)	275.5
National income	4,415
Depreciation	395

Assume subsidies of 20% of the indirect taxes.

Required:

a. Compute the net national product (NNP) and gross national product (GNP) values of this economy. (5 marks)

b. Why is the gross national product (GNP) lower than gross domestic product (GDP) is less developed nations? (5 marks)

c. Explain the short-comings of using the national income statistics as an indicator of the standards of living or economic welfare. (10 marks)

(Total: 20 marks)

QUESTION THREE

(i) Highlight the problems associated with the income approach of measuring national income.

(3 marks)

(ii)The data below relates to various parameters in an economy:

Government expenditure (G)	20
Investment expenditure (I)	35
Consumption expenditure (C)	70+0.9(Y-T)
Taxes (T)	25+0.2Y

Required: Compute the equilibrium level of national income. (6 marks)

QUESTION FOUR

a. Describe the value-added approach of measuring national income. (6 marks)

b. Explain six problems associated with the value-added approach of measuring national income.

(6 marks)

c. The following data relates to the national income parameters of your country in billions of shillings:

$C=56+0.8Y^d$

$G=800$

$I=400$

T=20+0.1Y

X=20

M=80+0.2Y

Where C=Consumption expenditure
    G=Governments expenditure
    I=Investment
    T=Taxes
    X=Exporters
    M=Imports
    Y^d=Disposable income

Required:

i.   The equilibrium consumption in terms of national income.   (2 marks)

ii.   The marginal propensity to save.   (2 marks)

iii.   The equilibrium level of national income.   (4 mark)

iv.   Discuss the limitations of using national income statistics as a measure of comparison between standards of living in different countries.   (10 marks)

QUESTION FIVE

a.   The estimate levels of national income parameters of a certain small economy are as given below:

	Sh. "million"
Gross national product (market price)	637
Indirect taxes	42
Subsidies	12.6
Depreciation allowance	51.1
Personal income taxes	55.9
Government transfers	100.5
Business taxes	26.2

Required:

i.   Net national income at factor cost.   (2 marks)

ii.   Net national product at market price.   (1 mark)

iii.   The level of disposable income in the economy.   (3 marks)

b.   Citing suitable examples, distinguish between the terms "leakages" and "injections" as used in national income statistics.

The following data relate to the economy of country Z.

	Sh. "billion"
Total expenditure on goods and services	450
Purchase of intermediate goods	110
Imports	50
Exports	40
Government transfer payments	20
Net indirect taxes	25
Net factor income from abroad	-25

Required:

   i.   Gross national product at market price and at factor cost.   (4 marks)

  ii.   Gross domestic product factor cost.   (2 marks)

QUESTION SIX

Outline the different approaches used in the measurement of the national income of a country.

The following data relate to the economy of county Y.

	Sh. "million"
Government spending	8,000
Autonomous consumption	10,000
Investment	2,000
Net exports	1,000

Required:

The equilibrium national income of a country Y, given that the country's marginal propensity to consume equals 0.6.   (6 marks)

QUESTION SEVEN

a.   Distinguish between "gross domestic product at market price" and "gross national product at factor cost"   (4 marks)

b.   Using a diagram, outline the circular flow of income in an open economy. (8 marks)