UNIT 13 CLASSIFICATION OF ECONOMIC TRANSACTIONS AND TRANSACTORS

Structure

13.0 OBJECTIVES

After going through this unit, you would be able to:

- describe the relationship between transactors and transactions;
- discuss the role and purpose of classification of economic activities and transactors; and
- explain the classification of total output from the viewpoint of producers, users and income receivers.

13.1 INTRODUCTION

In any macro economic system, three basic 'flows' are found very crucial. These relate to "products", "final expenditures" or "disposition of total product", and "incomes" generated. These flows are the result of the multitude of transactions, which take place through purchases and sales of goods and services. These also include purchase and sale of factor services like labour and capital.

All those who perform these economic transactions are known as transactors. They are closely related to each other and can be further disaggregated. This requires an elaborate classification of the transactors operating in the economy. What is the nature of the basic linkages between the main flows of transactions and the transactors is discussed on the following sections.

13.2 PURPOSE OF CLASSIFYING THE TRANSACTIONS AND TRANSACTORS

The classification of the economic transactions and transactors can be useful in many ways. Some of important uses of such a classification are discussed below:

First, disaggregated figures as compared to aggregated figures give a better analytical understanding of the economy. For instance, if the national output falls, aggregate data do not tell us which units of production are responsible for the fall in output.

Second, the disaggregated analysis can help better in formulating economic policies required for increasing national output and managing the macro economy.

Third, the classified accounts, in general, help in the preparation of activity accounts through the use of the principle of double entry accounting system. As a result, the different types of inter-relationships emerging out of the process of disaggregation through classification can help in understanding the basic structure of the modern economic system.

Given the important merits, it is useful to classify the economic transactions and transactors into broad classes. This can be done from the point of view of total supply of output, the final uses or the disposition of total output, and also from the perspective of income receivers. We first take up the total supply of goods and services, domestic production, and producers.

Check Your Progress 1

1) Draw a distinction between a transactor and a transaction.

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2) What are the advantages of classifying the transactions and transactors into groups?

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13.3 CLASSIFICATION OF ECONOMIC TRANSACTIONS RELATING TO TOTAL SUPPLY OF GOODS AND SERVICES AND PRODUCERS

Broadly speaking, there are two groups of transactors, domestic and foreign. They undertake different types of economic activities. Domestic transactors include consumers, producers and the government. They also engage in transactions with foreign transactors. All such foreign transactors are treated as a separate sector, known as 'rest of the world' sector. These sectors contribute towards total supply of goods and services in a given period of time. This implies total output comes from two sources: domestic production (supplied by the resident producers), and imports (supplied by the rest of the world). Both sources are discussed in detail on the following pages:

a) **Output emerging from domestic producers and production:** Goods and services are constantly flowing out of the innumerable units of production. These producing units can be classified into the following categories:

b) **Industries:** Industries are establishments whose activities are intended to be self-sustaining, whether through production for the market or for own use. These industries constitute all the establishments who produce goods and services for sale in the market. The prices would be fixed in a manner that the cost of production is covered along with a profit margin.

The outputs of industries are termed as commodities. The value of output would consist of: value of intermediate consumption (non-durable goods and services that are used of in the process of production), compensation of employees, cost of capital used, consumption of fixed capital, indirect taxes paid by the producers less of subsidies.

Industries include the following categories:

i) All the public sector enterprises including departmental enterprises (like railways, posts and telegraphs, government, forestry etc.) and non-departmental enterprises (like public sector corporate units);

ii) Private corporate sector enterprises (both financial and non-financial);

iii) Private unincorporated enterprises;

iv) Own account activity of households and private non-profit bodies, such as, farm produce (including forestry, fishing, hunting, mining etc.) for self consumption; and

v) Own account construction of dwellings meant for own use.

As per the International Standard Industrial Classification (ISIC) of all economic activity (1968), the major divisions of industries are as follows:

a) Agriculture, hunting, forestry and fishing

b) Mining and quarrying

c) Manufacturing

d) Electricity, gas and water

e) Construction

f) Wholesale and retail trade and restaurants and hotels

g) Transport, storage and communications

h) Financing, insurance, real estate and business services and

i) Communities social and personal services.

2) **Producers of Government Service (PGS):** This sector consists of all departments, establishments and bodies of the government, including Central and State Governments, and local bodies. Their activities may be classified into the following:

   i) Production of collective services: Collective services of the government include wide range of activities, which can be classified into the following categories:

      a) General public services including general administration, external affairs, public order and safety and general research; (b) Defence; (c) Education; (d) Health; (e) Social security and welfare services; (f) Housing; (g) Community and social services; (h) Economic services like railway transport, post and telegraph and telephone services etc.; (i) Other services, such as public debt transactions; transfers of general character to other governments services in the periods of national disasters; Others not classified elsewhere.

   ii) Production of commodities: In some countries, the government itself produces commodities. However, the scale of such services varies significantly. Many governments own and control arm and ammunition factories, building and road construction, telecommunication, rail and air services etc. Since these activities of the government administrative departments are meant for sale to the public at some price, they are termed as "commodities".

3) **Producers of Private Non-profit Services to Households (PPNSH):** This sector consists of voluntary organisations or associations of individuals, who have organised themselves to carry on some specific activities to serve the interests of the households. These agencies may comprise trade unions; churches; charitable institutions; religious and spiritual organisations; research, development and scientific institutions; recreational centres; professional organisations, schools, hospitals, etc. They may be incorporated or unincorporated.

   These producers generally provide services to households on non-profit or below the cost to the household. Their production is not termed as 'commodities'. However, in some cases, PPNSH may also produce goods and services for sale in the market at a price, which would cover the cost of production. These goods may include books, periodicals, pamphlets etc. which is essential for sick and disabled persons.

4) **Producers of other Domestic Services to Households (DSH):** These services include services provided by domestic servants; maidservants; gardeners, driving schools etc. Since there is no evaluation of their costs, their services are not treated as commodities. These are considered other goods and services and the values of the output is considered to consist of compensation of employees.

   a) **Output emerging out of the Transactions with the rest of the world (imports):** Like domestic production, imports can be classified into: (i) Commodities and; (ii) Other goods and services. Imports of "other goods and services" include two types of services.

b) Direct purchases abroad by resident households. This would include such purchases as made by tourists, travelling businessmen and government officials, crews, border and seasonal workers and diplomatic and military personnel stationed abroad. Their purchases include goods purchased in the rest of the world on the spot or brought into the country of residence and of services including local transportation.

   It should be made clear that in case of resident households, all purchases made abroad irrespective of the nature of goods or services purchased become part of the inputs of "other goods and services".

c) Direct purchases abroad by government agencies on current account. These include purchases for the government's extra-territorial bodies, such as embassies, consulates etc. The direct purchases made by government on capital account (durable capital goods) form part of imports of commodities.

All other expenditures on imports of goods and services (other than direct purchases abroad made by the resident households and producers of government services of the given country) are accounted for in the imports of "commodities". They include imports of merchandise as well as other services like transportation, insurance, handling and other services. Imports of all the commodities are evaluated at c.i.f. value, i.e. cost of goods plus insurance and freight charges.

On the basis of above discussions, total supply of goods and services can be classified into "commodities" and "other goods and services".

Commodities constitute (i) gross domestic outputs contributed by industries, producers of government services and producers of private non-profit services to households and, (ii) imports. The imports include, imports of merchandise c.i.f., transport and communication services by non-resident carriers, insurance services, direct purchases abroad on capital account, Miscellaneous commodities (like repair charges, management and consultation fees, advertising fees, gifts in kind, etc.), and adjustments of merchandise imports to change of ownership basis.

Other goods and services constitute (i) gross domestic output produced by PGS, PPNSH, and DSH and (ii) imports comprising direct purchases abroad by resident households and by producers of government services.

It may be mentioned that one has to take out the value of inputs (intermediate consumption) for all the producers of goods and services produced and made available in the economy out of the total output to work out the value added.

Disposition of total supply: intermediate consumption and final uses

Intermediate Consumption

a) **Intermediate Consumption by Non-Financial Industrial Establishments**: Intermediate consumption covers non-durable goods and services used up in production, including repair and maintenance, research and development and exploration cost. It also includes indirect outlays on financing capital formation, such as flotation costs for loans and transfer costs involved in the purchase and sale of intangible assets and financial claims.

Intermediate consumption is, as for as possible, valued at purchasers' values at the moment of use. That is, it takes into account cost incurred on the goods and services to the point of delivery to the consuming establishment.

The non-financial industries themselves use a significant part of the total supply of goods and services as intermediate consumption. This refers to non-durable goods and services, which are used up in the process of production. Non-durable goods may have an expected lifetime of use of less than a year.

In case of **industries**, the intermediate consumption would consist of commodities either produced by domestic industries, or obtained from imports. All expenditures on such goods and services incurred by industrial units, which are meant to be provided to employees with an intention to provide them benefits should be treated as compensation of employees. They should not be considered as expenditure on intermediate consumption. But expenditures incurred on travelling, entertainment and on other such items meant for the promotion of business should be treated as intermediate consumption.

Expenditures on minor repairs and maintenance of fixed assets, which are not supposed to lengthen the life of a fixed asset, should be treated as intermediate consumption. Expenses on major repairs expected to lengthen the life of the fixed assets are treated as expenditure on fixed capital formation.

Commodities consumed in research, development and exploratory activities of industries, by convention, form part of intermediate consumption because producer is not sure of some concrete benefits that would emerge out of such activities. A similar approach is followed in respect of expenditure on advertising market research, and public relation activities.

b) **Intermediate Consumption By Financial Establishment:** Financial establishments include: (i) banks and other intermediaries and (ii) those entities handling insurance and pension funds. Banks and other financial intermediaries earn incomes in two ways:

First, they charge to certain services to their customers, such as, collection charges in respect of cheques, discounting charges in respect of bank drafts etc.

Second, they earn from the difference between the interest receipts on loans and advances given by them and the interest payments made by them on the deposits of their customers.

With a view to attracting deposits they render many banking services to their customers free of cost. It, therefore, becomes necessary to impute service charges. The imputed value of service charges is taken as a difference between the interest receipt and the interest paid by the banks. Thus, the total value of their output is taken as the sum of the exact service charges received by them and imputed value of service charges. Their intermediate consumption is represented by their current expenditure exclusive of factor payments. The gross value of outputs of banks and other financial intermediates becomes intermediate consumption of non-financial industrial establishments.

In the case of insurance (casualty), intermediate consumption amounts to current expenditure exclusive of factor payments. The value of output is taken as the difference between the premiums received and the claims paid. For life insurance, the service charges is considered equal to the excess of premiums received over the sums of claims paid and the net addition to actuarial reserves.

In the case of pension funds, service charge is taken as equal to the administrative expenses of these funds.

c) **Intermediate consumption in respect of PGS, PPNSH and DSH:** The intermediate consumption of PGS and PPNSH consists the following four items. One, purchases of goods and services on current account less sales of similar second-hand goods and scraps and wastes. Two, value of goods in kind received as transfers or gifts from foreign governments, except those received for distribution to households without renovation or alteration. Three, durable goods acquired primarily for military purposes. Four, goods and services paid for by the government but furnished by private suppliers to individuals, provided that the individuals have no choice of supplier.

Governments also make purchases of strategic materials and goods of special importance to the nation. Such purchases are treated as capital formation in the form of addition to stocks and not as intermediate consumption. All purchases for military purposes by the PGS are treated as intermediate consumption even if they are like these of durable fixed assets. This is because PGS do not use them for production of goods and services for sale on the market. However, family dwellings for military personnel, defence office buildings etc. should not be treated as intermediate consumption but as fixed capital formation. Construction of schools, hospitals, airfields, or roads for use by the armed forces are treated as intermediate consumption, though these facilities might be put to civilian use at times also.

The intermediate consumption of PGS would consist of both ‘Commodities’ and ‘Other goods and services’. ‘Commodities are obtained from industries, from imports and also from PPNSH. “Other goods and services” in case of PGS comprise direct purchases abroad by government on current account. Intermediate consumption of PPNSH may consist of “Commodities” purchases from industries from imports, and from PGS.

In case of DSH, there is no intermediate consumption of “commodities”. In this case, there is no difference in the value of total output, product and net output.

Given the information on the goods and services and intermediate consumption, Gross Domestic Product can be worked out in two ways:

i) Gross value of outputs (measured at producers prices) emerging from industries, PGS, PPNSH and DSH, minus the value of intermediate consumption at purchasers prices plus indirect taxes less of subsidies.

ii) Gross value of output measured at approximate basic value plus indirect taxes net of subsidies at the aggregated domestic level minus intermediate consumption measured at purchaser prices.

Check Your Progress 2

1) Name the different transactors involved in total supply of goods and services.

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2) Who are the key domestic producers in an economy from the viewpoint of national income accounts?

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3) Describe the important economic activities included in industries as a producing sector.

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13.4 CLASSIFICATION OF TRANSACTIONS RELATING TO USES OF FINAL OUTPUT

After having discussed the sources of the total supply of and the suppliers of commodities and other goods and services, it may be important to discuss the uses and the users of the total supply of goods and services.

Final users: These would include: (1) consumers of the domestic economy comprising government bodies, resident households, and private non profit bodies; (2) producers of domestic economy comprising industries, producers of government services and producers of private non profit services to households; (3) residents of the given country.

Use of final goods and services: It is also known as disposition of final output. This can be looked at both as gross domestic product and, as total supply of final goods and services. The uses of gross domestic product are: (1) Final consumption expenditure; (2) gross capital formation constituting fixed assets and addition to the stocks; (3) net exports (exports minus imports). The details of these uses are given below:

Final consumption expenditure: The domestic final consumption is made up of the actual consumption expenditure of resident households, government bodies and Private non-profit institutions serving households. It is measured at purchasers prices.

The expenditure on final consumption of the households includes their outlays on non-durable and durable goods and services (like medical care, education, entertainment etc.) measured at purchasers prices reduced by net sales of second-hand goods and of scraps and wastes. Such expenditure also includes agriculture goods produced for self-consumption, imputed gross rent of owner-occupied dwellings, and payments made as wages and salaries by an employer, such as food, shelter or clothing and other fringe benefits. The employers' expenditures on employees in respect of recreational, educational, and medical services has to be excluded from the final consumption of the households.

Final Consumption of Government (PGS) and Private Non-Profit Bodies (PPNSH): PGS and PPNSH produce a variety of goods and services. Their consumption expenditure is measured as the total services they produce for their own use and is valued at cost.

Government final consumption expenditure is equal to the service produced by general government for its own use. Since these services are not sold, they are valued in the gross domestic product at their cost to the government.

The expenditure of private non-profit institutions serving households includes purchases and the value of transfers of goods and services received in kind, compensation of employees, consumption of fixed capital, and indirect taxes paid by these institutions, less their sales of goods and services.

Gross domestic capital formation (GDCF): GDCF is the sum of the gross domestic fixed capital formation (GDFCF) and increases in stocks with the producers within the domestic territory of the country. GDFCF include purchases and own-account production of new producers durable goods, reduced by net sales to the rest of world of similar second-hand and scrapped goods. Fixed assets are durable goods whose lifetime of use is at least one year. GFCF out of domestic production inside the country would include the outlays on the following items. These are: additions to the stocks of fixed assets; on major repairs maintenance and alterations which are expected to extend the life of the assets; on improvement of land, reclamation, extension of timber tracts, mines, plantations, orchards, and similar agricultural holdings and, on breeding stocks, draught animals; dairy coffee etc.

Exports of goods and services: Exports are valued f.o.b. (free on board), whereas imports are valued c.i.f.(cost, insurance, and freight). In other words, f.o.b. values of exports include costs (like export duties, loading charges etc.), of transporting the goods up to the customs frontier of the exporting country. C.i.f. values of imports would mean import values include all charges like cost, insurance, and freight, which are to be met by exporters up to the customs frontier of the importing country.

Check Your Progress 3

1) How total supply of goods and services or gross domestic product is disposed off in an economy?

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2) Discuss the term intermediate consumption. What would be included in the intermediate consumption for producers of government services and private non-profit services to households?

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3) Write brief notes on (i) private final consumption expenditure and (ii) gross capital formation, as final uses of gross output.

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13.5 CLASSIFICATION OF TRANSACTIONS RELATING TO THE FLOW OF INCOME AND ITS DISPOSITION

It is evident from the above pages that resident producers can be classified as industries, government, private non-profit services, and domestic service providers. Similarly, gross supply of goods and services comprises domestic production and imports, which can be further classified into commodities and other goods and services.

In addition, there can be a third way of looking at the output, that is, output as a flow of income. This flow can be seen as a flow passing between producers and the suppliers of factors of production. Accordingly, gross incomes measured at market prices originating in the production process is the sum of incomes received in the domestic economy. It would consist of Compensation of employees, operating surplus and withdrawals from entrepreneurial incomes, consumption of fixed capital, and excess of indirect taxes over subsidies. These are discussed in detail below:

1) **Compensation of employees**: In national accounting, employees are the recipients of the income termed as compensation of employees. Employees include persons engaged in the activities of incorporated enterprises, government services (including members of the armed forces) private non-profit institutions and incorporated business properties of incorporated enterprises. Unpaid family members are excluded from the scope of employees.

   Compensation of employees includes: (a) wages and salaries in cash as well as in kind; (b) employers contributions to social security schemes; (c) employers' contribution to private pension, family allowances, contribution to health and other casualty insurance, life insurance etc.

2) **Operating surplus and withdrawals from entrepreneurial incomes**: Operating surplus is an income component and, it originates only in the case of industries. Other producers of the economy like PGS and PPNSH, do not have any operating surplus.

   Operating surplus at factor cost is estimated as producers value of outputs of industries minus values of intermediate consumption (measured at purchaser's prices) minus compensation of employees. Including indirect taxes and duties, one would get operating surplus at market prices.

3) **Consumption of fixed capital:** Consumption of fixed capital represents loss of fixed capital due to its use in the production processes. It is a measure of that part of gross product, which is set aside in every accounting year as an allowance for normal wear and tear, foreseen obsolescence and probable accidental damage to fixed capital not made good by repair.

   Damages due to abnormal natural calamities, unforeseen obsolescence, and depletion of natural resources etc. are to be considered as capital losses and would not form part of capital consumption. These would appear as changes in the balance sheet.

   Consumption of fixed capital is attributable to all the fixed assets of industries, PGS and PPNSH. However, on practical grounds, consumption of fixed capital is not provided for certain fixed assets of the PGS like roads, dams, backwaters or similar construction assets. Data in respect of these are not easily available. Therefore, in case of such government assets, it is assumed that normal repairs and maintenance expenditures are able to keep government repairs capital in fact.

4) **Indirect taxes:** These taxes are defined as taxes chargeable to the cost of production or sale of goods and services. They include: (a) import and export duties, (b) excise, sales, entertainment and turnover taxes, (c) real state, and land taxes, (d) levies on value added the employment of labour, (e) motor-vehicle, driving test, license, airport and passport fees, and (f) the operating surplus of government fiscal monopolies.

13.6 CLASSIFICATION OF INCOME RECEIVERS

It has been noticed above that receiving sectors are the domestic economic agents, who supply their factor services. Income receiving sectors are classified on institutional basis. The important reasons for undertaking such a classification is to take care of multiple production activities of one corporate unit. Institutional sectoring, therefore, helps in accounting for all the financial flows of the system. They can be classified in the following manner:

1) Non-financial enterprises – corporate and quasi corporate: It comprises public sector enterprises, non-financial corporate enterprises like corporations and joint stock companies, all large unincorporated public and private enterprises etc.

2) Financial institutions including central bank, public and private banks, insurance companies and all other entities engaged in financial transactions.

3) General government including central, state and local level governments.

4) Private non profit institutions serving households: These include all those institutions, which furnish services relating to education, health, culture, recreation, and other social and community services.

5) Household including private non-financial unincorporated enterprises: This category comprises all those households who are employees, or involved in agricultural and non-agricultural activities, or partnership firms not included in the category of non financial enterprises (item 1).

Check Your Progress 4

1) Explain how transactions are classified to indicate output as flow of income.

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2) List out the income receiving domestic economic sectors.

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3) Explain how total supply of goods and services or gross domestic product is disposed off in an economy.

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4) Discuss the term intermediate consumption. What would be included in the intermediate consumption for producers of government services and private non-profit services to households?

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13.7 LET US SUM UP

The total supply of goods and services comprises total outputs plus imports. In the production process, the suppliers of goods and services are: industries; producers of government services (PGS); producers of private non-profit services to households (PPNSH); and producers of domestic services (DSH); and the rest of the world sector. The first four are the domestic suppliers whereas the last sector deals with the imports and exports of goods and services of the given country. It is known as the rest of the world.

On the basis of above discussions, total supply of goods and services can be classified into "commodities" and "other goods and services.

When we deduct from the total supply (i.e. output) the goods and services going as intermediate consumption, the remaining part of the output is available for final uses. Intermediate consumption includes those goods and services, which are used by the producers of goods and services, as their inputs. Intermediate consumption is required for production of goods and services by industries, PGS, and PPNSH.

The total supply of goods and services is made available to the country for final uses. The final users are industries, resident households, government and private non-profit bodies. The final uses are consumption by residents, gross domestic capital formation, and exports.

It may be stated that final uses are made on the basis of incomes earned by the resident economic agents for the supply of their factor shares. The receivers of such incomes are classified as non-financial enterprises – corporate and quasi-corporate; financial institutions; general government; private non-profit institutions servicing households, and households including private non-financial incorporated enterprises.

13.8 KEY WORDS

Compensation of Employees : This can be used both as a domestic as well as national concept. As a domestic concept, it refers to the compensation of employees paid by resident producers. This includes payments to non-resident employees working in the country but excludes payments to resident employees temporarily working abroad. As a national concept, compensation received by residents households from domestic producers and that received from the rest of world are gathered together.

Gross Capital Formation : It is the sum of the increase in stocks and gross fixed capital formation.

Gross output of Goods and Services : It covers both the value of goods and services produced for sale, and the value of goods and services produced for own use.

Intermediate Consumption : It covers non-durable goods and services used up in production, including repair and maintenance, research and development and exploration costs.

Operating Surplus : It is defined as the excess of value added over the sum of compensation of employees, consumption of fixed capital, and net indirect taxes.

Private Final Consumption Expenditure : It is the sum of final consumption expenditure of households and that of private non-profit institutions serving households.

Value Added of Industries : Value added of industries at producers prices is equal to the gross output of the industries at producers prices less the value of their intermediate consumption at purchasers prices.

13.9 SOME USEFUL BOOKS

Beckman, Wilfred, 1980. *An Introduction to National Income Analysis*, Wiedenfeld and Nicolson: London (Chapters 5)

Lal. Ram N, (1985) *The System of National Accounts and Material Balances*, Allied Publishers Pvt Ltd, Delhi.

National Accounts Statistics – Sources and Methods, April 1989, Central Statistical Organisation (CSO), Government of India.

National Accounts Statistics, 1998, Central Statistical Organisation (CSO), Government of India

United Nations, 1995. *National Accounts Statistics – Main Aggregates and Detailed Tables*. Part II and I, New York.

13.10 ANSWERS OR HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) See section 13.2

2) See section 13.2

Check Your Progress 2

1) See section 13.3

2) See section 13.3

3) See section 13.3

Check Your Progress 3

1) See section 13.4

2) See section 13.4

3) See section 13.4

Check Your Progress 4

1) See section 13.5

2) See section 13.6

3) See section 13.5

4) See section 13.6

UNIT 14 SYSTEM OF NATIONAL INCOME ACCOUNTS: THE BASIC STRUCTURE

Structure

14. 0 OBJECTIVES

After going through the unit, you shall be able to:

- describe the emergence of the system of national income accounts;
- explain system of national income accounts and its relationship with circular flow of income and double entry book keeping system;
- discuss the classification of economic activities and transactors;
- list the types of national income accounts; and
- discuss the interrelationship among the different types of accounts.

14.1 INTRODUCTION

The system of national accounts (SNA) provides a comprehensive and detailed framework for the systematic and integrated arrangement of transaction flows in an economy. The different transactions may relate to macro-economic aggregates, such as national income, output, investment, consumption, saving etc. The multitude of transactions actual or imputed are recorded in different groups or classes. These are classified in terms of kind of activity (known as "kind-of-activity" classification) and as institutional sectors.

The system of national income accounts brings together an articulated and coherent system data relating to national income and other related macro economic variables. This includes data on production and goods and services and outlay and capital and finance accounts for institutional sectors and sub-sectors.

Data as classified and integrated into different national income accounts and the arrangement of transactions are regarded important for understanding how an economic system functions. This helps in facilitating interrelationships and interactions not only among the variables but also among the different sectors of the economy.

These relationships and interactions can be better understood if accounts are clearly presented, carefully classed and analytically consolidated. In this context, one has to appreciate the concept of circular flow of income and, the principle of 'double entry system of accounts'. Before these issues are discussed, it may be worthwhile to briefly focus on the evolution of the system of national income accounting.

14.2 HISTORICAL BACKGROUND OF NATIONAL INCOME ACCOUNTING

The work on system of national income accounts actually began only after the Second World War. The measurement of national income in the perspective of international comparisons was taken as the goal of national income accounts. Therefore, in 1947, a serious effort was made. A sub-committee on National Income Statistics of the League of Nations recommended a set of nine tables to present national income statistics to be followed by nations.

In 1953, Statistical Commission of the United Nations published another report- "A system of National Accounts and Supporting Tables". This report, for the first time, presented a set of six accounts based on an underlying structure of production, appropriation, capital reconciliation and external transactions for four basic sectors of the economy of a country.

There was an unprecedented amount of work done in the field of national income statistics in the next fifteen years. A revised system of National Accounts in the form of United Nations report entitled "A System of National Accounts (SNA)" in 1968 was presented. This report provided a comprehensive framework for systematic and integrated recording of the transaction flows in an economy. The 1968 'SNA' presented a set of 20 accounts broken of down into three classes: (1) consolidated accounts of the Nation; (2) accounts related to production, consumption, expenditure and capital formation accounts; and (3) income and outlay and capital finance accounts.

This system was again revised in 1993. In that year a very detailed and comprehensive report on national accounting system was published on the System of the National Accounts (SNA). All the major international institutions engaged in the field of economic statistics participated in the preparation of these accounts. The new system of accounts was likely to be fully implemented by the year 1999. Some merits of the revised system are discussed below:

First, this report provided additional information at many levels, which was found useful in better understanding of the economy.

Second, it gives information for economy's productive assets and the wealth of its inhabitants at particular points of time.

Third, it includes external accounts displaying the links between domestic economy and the rest of the world.

Fourth, it provided more harmonised system of accounts, which is related to other statistical systems (like balance of payment statistics, input-output statistics, national balance sheets; employment statistics, population statistics etc.

Fifth, the revised accounting system on the whole gives many new analytical and policy concerns of countries and international organisations.

Sixth, this system introduces certain amount of flexibility into the old system. For instance, it permits more flexible use of classifications of transactors, transactions and assets with the availability of data and other country specific circumstances while retaining the central conceptual framework.

It is important to note that the new accounting system (1993) requires massive data collection and thorough revisions and refinements in the existing flows of statistical information.

Check Your Progress 1

Note: i) Space is given below each question for your answer.

ii) Check your answer(s) with those given at the end of the unit.

1) What is the meaning of the system of national accounts? Explain briefly.

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2) Discuss the emergence of system of national income accounts.

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3) Describe the merits of the revised system of national accounts.

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14.3 SYSTEM OF NATIONAL INCOME ACCOUNTS FOR A SIMPLE ECONOMY

The basic rationale behind national income accounting can perhaps best be made clear by taking a simple economy. Such an economy may be defined as an economic system, in which, there is no government, no foreign trade and no saving and investment.

Given a simple economy as described above, there would be two broad classes of transactions (purchase by producers of factor services from consumers and, expenditures undertaken by consumers on goods produced by producers), and two broad categories of transactors (producers and consumers). Producers will involve the hiring of factors of production and the supply of output. The second class of transactions involves consumers, who supply services, which are known as 'factor services'. They also will be buying output with the factor incomes received against rendering the factor services to producers. These transactions can be shown in the simple accounts in the following manner:

Production account	
Payments(Rs.)	Receipts(Rs.)
Wages and the like = 100	Sales to consumers = 100
Consumption Account	
Payments	Receipts
Consump. expenditures = 100	Wages and the like = 100

The above system of transactions and the interaction between producers and consumers can be seen as an important production process. This has the following features:

1) Producers are the main key players to the production process. They organise production and coordinate different inputs required for production.

2) The production of final goods and services is a continuous process. And it takes place in the economy all the time.

3) The production process is such that shows exchange as well as interdependence between producers and consumers. Producers require the services of other factors of production. These are known as "factor services". The Supply of these factor services is used to produce goods and services. The flow of factor services and that of goods and services are known as 'real flows'.

   The suppliers of factor services have to be compensated. The compensation may take the forms of wages and salaries, rent, interest, dividends and retained profit of the producers. These represent "income flows".

4) Income flows as generated in the above step (i.e., step 3) are used for the purchase of final goods and services by consumers or purchase of capital goods by the producers.

14.4 NATIONAL INCOME ACCOUNTS AND THEIR RELATIONSHIP WITH CIRCULAR FLOW OF INCOME

As explained in the above section, the process of generating real and final flows keeps on going continuously. It not only gets closely related to the system of national income accounting, but it becomes the core of national income accounting system. However, the emphasis remains more on real flows.

In the production process of generating two main flows – final product and final income, output or produce is equal to income. Total output is considered as the total supply of goods and services. From the value of total supply of goods and services, if one deducts the value all intermediate goods used by all the production units, one is left with the total value of product. Thus, product is equal to income and, the same is equal to total value of output minus total value of intermediate consumption.

14.5 SYSTEM OF NATIONAL INCOME ACCOUNTS AND THE NATURE OF 'DOUBLE ENTRY ACCOUNTING' SYSTEM

National income accounts and double entry accounting systems are closely related to each other. This can better be understood through the following steps:

i) Any transaction requires two transactors, the one who pays and the one who receives. Two transactors may turn out to be the same. For instance, imputed rental value used in the case of a self-occupied home represents the same transactor.

ii) Each transactor has to have an earmarked account to record his receipts on credit side and his payments on the debit side.

iii) Credit item for one becomes debit item for the other. It is because receipt of one transactor is a payment by the other.

iv) Both aspects, thus, of each transaction appear simultaneously in double entry accounting system, once as a receipt as one account and again as a payment on another account.

v) The double entry accounting system is not exactly receipts or payments. It is because the transactions recorded on credit and debit sides are the right to receive and the liability to pay rather than being actual receipts and payments.

vi) All the accounts in double entry system are made to balance. That is, there remains equality between two sides of every account. The discrepancy between credits and debit sides has to be resolved the same way an individual preserves balance between his incomes and expenditure. When an individual receives more than what he spends, he will have saved. By adding the savings of this account to the debit side, two sides are balanced. Similarly, if there is an excess of debit over credits, an item representing borrowing could be added to the credit side in order to maintain equality of the two sides of an account.

Check Your Progress 2

1) Define the production process. Bring out its essential features.

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2) What is circular flow of income? Discuss its relationship with the system of accounts?

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3) Write a note on double entry accounting system.

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14.6 CLASSIFICATION OF ECONOMIC TRANSACTORS AND TRANSACTIONS AND THEIR IMPORTANCE

There are three basic economic activities, which are closely related to each other. These are production, consumption and capital formation. Production activity relates to the creation of income by production units, and also to the distribution of income among factor owners. Consumption activity deals with disposal of income on consumption and saving. Accumulation activity involves capital formation, borrowing, lending etc. Thus, the main economic activities undertaken by transactors can be categorized into the following five activities: (i) creation of income; (ii) distribution of income; (iii) disposal of income; (iv) capital formation and (v) borrowing and lending.

Broadly speaking, there are two groups of transactors, domestic and foreign, who undertake different economic activities. Domestic transactors include consumers, producers and the government. They also engage in transactions with foreign transactors and all such foreign transactors are treated as a separate sector. It is called 'rest of the world' sector.

System of Accounts and their Construction

Accounts can be constructed in many ways. One way is to construct an account on the basis of major forms of economic activity. This is known as 'functional classification' of accounts, since they are based on a classification of transactions according to function.

The other way of constructing the accounts is through 'sectoring' the economy. Here, the sectors could usefully refer to different geographic regions of a country, separate branches of industry, or the various institutional divisions of our society. Since sectoring on functional lines does not divide up economic activity into accounts identifiable with particular individuals or agencies, both the sectoral and functional aspects are kept in mind while constructing the accounts. This is clear from the following example:

Let us take the example of a worker or a farmer. A worker ordinarily engages in a multiplicity of transactions. He works for wages or profits, buys consumer goods, saves, invests, and so forth. Thus, the transactions of a worker fall in different accounts. But it is a very good idea, if people and organisations responsible for the transactions are divided into sectors.

It is in this background, accounts have to be made more meaningful. And this can be done if accounts are constructed in such a manner that gives both functional as well as institutional details.

14.7 DIFFERENT TYPES OF ECONOMIC ACCOUNTS

Generally speaking, there are three important classes of accounts that can be set up for any transaction. These are the following:

1) Production account: It is also known as operating account. It deals with the receipts and payments associated with the productive activities of a transactor.
2) Appropriation account: It indicates all the current receipts and payments including those, which may not even, arise out of productive activities. Transfer payments is one such example.
3) Capital accounts: This account shows transactions of a capital nature that affect transactor's balance sheet of assets and liabilities.

It may be mentioned that classification of the economy into different sectors and the classification of accounts into different kinds of accounts are two different questions. In this chapter, we shall show that only one account for each of the sectors of the economy. However, as shown below, it is not essential to use the same kind of the account for each sector. For instance, production account is used for the productive sector, whereas appropriation account is used both for household and government sector. Rest of the world sector, which uses all embracing consolidated account showing capital and current transactions. Similarly, capital account corresponds to the economy as a whole and not to any sector.

Thus, all the transactions of a sector get included in one or more of these groups of activities. These transactions can be of current and capital nature. Accounts relating to creation, distribution and disposal of income are known as current transactions, whereas those transactions relating to capital formation, borrowing and lending are termed as capital transactions.

In all, there is a "five-account system" that provide the "nucleus of an interlocking social accounting framework that shows how the different major categories of final output enter into the transactions of the rest of the economy.

These accounts are:

1) Production account;
2) Capital account;
3) Household account;
4) Government account;
5) Rest of the world account.

Format of the Accounts

The format of the above mentioned is discussed below:

1. Production Account

Debit	Credit
1 National income	1 Private consumption
1.1 Wages	2 Public consumption
1.2 Distributed profits	3 Gross domestic capital formation
1.3 Undistributed profits	4 Exports
1.4 Direct taxes paid by firms	5 Minus Imports
2 Depreciation	
3 Net indirect taxes	
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Gross National Product at market prices	Expenditure on gross national product at market prices

2. Capital Account

Debits	Credits
1 Gross domestic capital formation	1 Savings by households
2 Net investment overseas	2 Savings by government
	3 Savings by firms
Total investment	Total savings

3. Household Account (or income and outlay account)

Debits	Credits
1 Private consumption	1 Wages and distributed profits
2 Direct taxes on households	2 Transfer payments from government
3 Savings by households	
Expenditure and savings of households	income of households

4. Government Account

Debits	Credits
1 Public consumption 2 Transfer payments 3 Savings by government	1 Net indirect taxes 2 Direct taxes by firms 3 Direct taxes by households
Total current expenditure and savings of government	Total current revenue of government

5. Rest of the World Account

Debits	Credits
Exports less imports	Net investment abroad

The "five-account system" discussed above shows that the social accounting framework is a "nucleus of an interlocking system". It shows the following features:

First, all the transactions entering into one account have their origin somewhere else. Production account on its credit side records private consumption, which is debited to household account; Public consumption, which is debited to government account; gross domestic capital formation which is debited to capital account; and exports less imports is debited into rest of world account.

Second, the production account simply shows the value of what the productive sector finally produces and what are the claims on this product. One can also find out the relationship between national income (or net national product at factor cost)and GNP at market prices.

Third, the capital account shows that savings and investments are always equal. In other words, as described by Beckerman, it would imply ". . . all output that was non-consumption must be equal to that part of income that was not spent on consumption".

Fourth, household account is a consolidated appropriation account which shows all its current receipts and payments. Transfer payments in the case of household sector from the government appear on the credit side. These include old-age pensions, grants to students, sickness or unemployment benefits, and the like.

Fifth, the government account like the account for the household sector is a consolidated appropriation account. It shows all the current receipts and payments.

Sixth, the rest of the world account is little confusing. There are two explanations:

i) Rest of the world account is not the account of a sector as is the case with household account or government account or capital account. It is simply a consolidated account and refers to all the other economies taken together.

ii) There can be many sub-categories of transaction, which are ignored. One such example is of current transfers, both between persons and governments, which enter the balance of payments but do not necessarily enter the production account. The nature of many entries would be the same on both sides, though the amount shown will be quite different.

In such a situation, an excess of exports over imports is one way by which the given country may add to its stock of wealth, namely by carrying out net investment overseas. Conversely, it is by borrowing from the given country the rest of the world is able to buy more from the given country than it sells. This implies that if there is trade deficit on foreign trade on the debit side of the rest of the world, it must show on its credit side the corresponding borrowing from the given country. This would mean that the rest of the world would show, on the credit side, the net investment abroad by the given country.

14.8 INTEGRATING THE ACCOUNTS

All the above mentioned accounts can be integrated together with the help of a set of simple equations. This is shown as below:

i) Production account:

$$Y_h + T_f + T_i + S_f = C_h + C_g + GDCF + X - M$$

ii) Capital account:

$$GDCF + (X - M) = S_h + S_g + S_f$$

iii) Household account:

$$C_h + S_h + T_h = Y_h + TP_h$$

iv) Government account:

$$C_g + TP_g + S_g = T_i + T_f + T_h$$

v) Rest of world account:

$$X - M = (X - M)$$

The different symbols are defined as under:

Y_{h} = Wages and distributed profits

T_{f} = Direct taxes paid by firms

T_{i} = Net indirect taxes less subsidies

T_{h} = Direct taxes paid by households

C_{h} = Private consumption

C_{g} = Public consumption

TP_{g} = Transfer payments from government

S_g = Savings by government

S_{f} = Depreciation and undistributed profits

S_h = Savings by households

GDCF = Gross domestic capital formation

X = Exports

M = Imports

Check Your Progress 3

1) What are the different accounts? Bring out the different transactions entered in different types of accounts.

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2) Name the transactions, which are found common in production and capital accounts, and also in household and government accounts.

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3) What is the value of GNP if household income(wages and distributed profits) = Rs.800, direct taxes paid by firms = 120 and Firm's saving (depreciation and undistributed profits) = Rs.80.

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14.9 LET US SUM UP

National income accounting is a systematic way of arranging the multitude of transactions. This arrangement helps in understanding how an economic system functions. However, this requires that accounts are clearly presented, carefully classed and analytically consolidated.

The system of national income accounts can be better understood if one is familiar with concepts like the circular flow of income, the 'double entry system of accounts' and, the issues relating to the presentation, classification and consolidation of accounts.

The historical background of National Income accounts shows that the work on national income accounts actually began only after the Second World War particularly in 1947. Since then, there was an unprecedented amount of work done in the field of national income statistics. A revised system of National Accounts in the form of United Nations report entitled “A System of National Accounts (SNA)” in 1968 was presented. This system continued to dominate till 1993. In that year a very detailed and comprehensive report on national accounting system was published on the System of the National Accounts (SNA). This continues to be in use since then.

Broadly speaking, there are three important classes of accounts that can be set up for any transaction. These are Production account, capital account and appropriation account.

It, however, is not essential to use the same kind of the account for each sector. For instance, production account is used for the productive sector, whereas appropriation account is used both for household and government sector. Rest of the world sector, which uses all embracing consolidated account showing capital and current transactions. Similarly, capital account corresponds to the economy as a whole and not to any sector.

In all, there is a “five-account system” that provide the “nucleus of an interlocking social accounting framework that shows how the different major categories of final output enter into the transactions of the rest of the economy. These accounts are:(1) Production account;(2) Capital account; (3) Household account; (4) Government account; and (5) Rest of the world account. These accounts are inter linked to each other as the same transaction appears in different accounts. This is true for gross domestic capital formation, which appears both in production account as well as capital account. Similarly transfer payments and direct taxes on households appear in household account as well as in government account. There are many other examples.

14.10 KEY WORDS

Account: This represents variety of transactions that take place in the economy in different groups, that are considered important.

Appropriation account: It indicates all the current receipts and payments including those even which may not arise out of productive activities. Transfer payments is one such example.

Capital accounts: This account shows transactions of capital nature that affect transactor’s balance sheet of assets and liabilities.

Circular flow of income: This refers to the flow of expenditures on output and factor services passing between domestic firms and domestic households simultaneously taking place in the production process.

Double entry accounting: It refers to a system in which each transaction appears, once as a receipt in one account and again as a payment in another account.

Government account: It is defined as a consolidated appropriation account, which shows all current receipts and payments to the government sector.

Gross fixed capital formation: This refers to all the outlays undertaken on fixed assets (like construction, plant machinery and equipment) by the private and public sectors.

Household account: It deals with the receipts of incomes by private individuals and their expenditures of these incomes on private consumption.

National income accounting: It is simply a systematic way of classifying the different economic activities that take place in the economy in different classes.

Production account: It is also known as operating account. It deals with the receipts and payments associated with the productive activities of a transactor.

Rest of the world account: It is simply a consolidated account for all the other economies taken together, with which the given country trades.

Transaction: It generally refers to an economic activity during a particular period of time.

Transactors: This term refers to all those who carry out the different transactions.

14.11 SOME USEFUL BOOKS

Beckerman, Wilfred., (1980), *An Introduction to National Income Analysis*, Wiedenfeld and Nicolson: London (Chapters 5)

Dornbusch, Rudiger, Stanley Fisher and Richard Startz, (1999), *Macro Economics*. McGraw- Hill International Editions,: Boston. Chapter 1)

Hicks, J.R., M.Mukherjee, and S.K.Ghosh, 1984, *The Framework of the Indian Economy – An Introduction to Economics*, OUP: Delhi.

National Accounts Statistics – Sources and Methods, April 1989, Central Statistical Organisation (CSO), Government of India.

Central Statistical Organisation (CSO) 1998, *National Accounts Statistics.*

Samuelson, P.A. and W.A. Northaus (1998), *Economics*, McGraw- Hill Book Company: New York.

14.12 ANSWERS OR HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) See section 14.2

2) See section 14.2

3) See section 14.2

Check Your Progress 2

1) See section 14.3

2) See section 14.4

3) See section 14.5

Check Your Progress 3

1) See section 14.7

2) See section 14.7

3) Rs. 1000

UNIT 15 CONSOLIDATED ACCOUNTS OF A NATION: THE BASIC STRUCTURE

Structure

15.0 OBJECTIVES

After going through this unit, you should be able to:

- discuss the meaning and importance of consolidated accounts of the nation;
- list the types of consolidated accounts and describe their presentation;
- describe disaggregation of consolidated accounts; and
- present an overview of the consolidated accounts of India.

15.1 INTRODUCTION

The consolidation of accounts, in simple words, would mean integrating and combining the accounts of all the sectors of the economy. Since the focus of these accounts is larger, the consolidated accounts of a nation give a summarized view of the economic transactions, which take place in an economy. More specifically, they depict an aggregated picture of the income, product, expenditures and other such macro economic variables.

The analysis of consolidated accounts, therefore, would give a comprehensive picture of the macro-economic behaviour of the country. In the process of this analysis, one gets a fair idea about the economic conditions and the strategic inter-connections between various facets of the economy.

15.2 TYPES OF CONSOLIDATED ACCOUNTS OF THE NATION

There are four consolidated accounts of the nation. These are as under:

Account 1: Gross Domestic Product and Expenditure Account

Account 3: National Disposable Income and its Appropriation

Account 5: Capital Finance Account

Account 6: External Transactions Accounts

In consolidated accounts, the sector accounts are put together. For instance, there are five different accounts for each sector (as per SNA system), taking the nation as a whole. These sector accounts are consolidated into – Production, Consumption Expenditure and the Capital Formation accounts. These three are further aggregated and consolidated into a single account named as Gross Domestic Product and Expenditure Account. Income and Outlay accounts of sectors have been consolidated into National Disposable Income and its Appropriation Account. Capital Finance Accounts of sectors are consolidated into Capital Finance Accounts of the nation. External transaction account records external transactions of the nation. This account serves two purposes:

First, it records all the economic activities dealing with foreign transactions of an economy. Second, it makes the national accounting system completely compatible and articulated as it fulfills the requirement of double entry book keeping. In this way, all transactions, domestic or foreign are recorded twice in the system.

15.3 PRESENTATION OF CONSOLIDATED ACCOUNT OF THE NATION

The accounts, in general, can be presented in many ways. One important way is the conventional system, in which debits are taken on one side and credits on the other. The second important way is presentation of accounts through equations showing different types of accounts. The third different method is with the help of a flow diagram. It is also known as diagrammatic representation. This method is often considered economical as one arrow can be used to represent credit and debit at the same time.

The fourth method is known as "matrix" approach. In this method, all the transactions taking place between different sectors or accounts are shown in a set of rows and columns. Rows represent credits and columns represent debit. Since, as it has already been shown, a credit by one sector is a debit for another, any transaction will appear in one tranactor's row and in another transactor' column. Thus, a simple matrix can be constructed to represent the different transactions taking place in an economy.

The main advantage of this presentation is that the two aspects of transactions are recorded by a single entry and can be observed more quickly. It is space saving and more analytical.

It may be mentioned that matrix approach can further be extended to construct a similar matrix for inter-industry flows. That implies, transactions, which take place between different industries can also be shown through rows and columns. Such a matrix is termed as an input-output table.

In this chapter, we stick to the conventional approach of representing the accounts as other approaches are beyond the scope of this chapter.

15.4 THE BASIC FORMAT OF CONSOLIDATED ACCOUNTS

The format of consolidated accounts of the nation is discussed below in Table 1.

Table 1: Consolidated Accounts of the Nation

Debit or Outgoings(Rs.)		Credit or Incomings(Rs.)	
1 Compens of employees(=15)	596.	6.Government final consumption expenditure (=12)	165
2.Operating Surplus (=17)	216	7.Private final consumption expenditure (=13)	659
3. Conspn of fixed capital(=27)	74	8.Increase in stocks(=22)	23
4. Indirect taxes (=19)	137	9.Gross fixed capital formation (=23)	161
5. Less Subsidies (=20)	23	10.Exports of goods and services (=32)	196
		11.Less imports of goods and services (=36)	204
Gross domestic product at market price	1000	Expenditure on gross domestic product at market price	1000

Account 3. National Disposable Income and Its Appropriation

Outgoings		Incomings	
12.Govt final consp exp (=6)	165	15. Compen of employees from domestic activities (=1)	596
13. Pvt final consp exp (=7)	659	16. Compensation of employees from ROW (=33-37)	0
14. Saving (=26)	106	17. Operating surplus (=2)	216
		18. Property & entrepreneurial income from ROW, net (=34-38)	19
		19. Indirect taxes (=4)	137
		20. Less Subsidies (=5)	23
		21. Other current transfers from ROW, net (=35-39)	-15
Appropriation of disposable income	930	Disposable Income	930

Account 5. Capital Finance

Outgoings		Incomings	
22. Increase in Stocks (=8)	23	26. Savings (=14)	106
23. Gross fixed cap forma (=9)	161	27. Consp of fixed capital (=3)	74
24. Purchases of intangible assets from ROW, net (=44)		28. Capital transfers from ROW, net (=42)	0
25. Net lending to ROW (=30)	-4		
Gross accumulation	180	Financing gross accumulation	180
29. Net acquisition of financial assets (=45)	67	30. Net lending to the rest of the world (=25)	-4
		31. Net incurrence of liabilities (=43)	71
Net acquisition of financial assets	67	Net incurrence of liabilities and net lending to the rest of the world	67

Account 6. External Transactions

Payable		Receivable	
Current transactions			
32. Exports of goods and services (=10)	196	36. Imports of goods and services (=11)	20 4
33. Compen of employees from ROW (=16+37)	8	37. Compen of employees to ROW (=33-16)	8
34. Property & entrepreneurial income from ROW (=18+38)	39	38. Property & entrepreneurial income to ROW (=34-18)	20
35. Other current transfers from the rest of the world (=21+39)	15	39. Other current transfers to ROW (=35-21)	30
		40. Surplus of the nation on current transactions (=41)	- 4
Current receipts	258	Disposable of current receipts	25 8
Capital Transactions			
41. Surplus of the nation on current transactions (=40)	-4	44. Purchases of intangible assets from ROW, Net (=24)	0
42. Cap trf from ROW,net (=28)	0	45. Net acquisition of foreign financial liabilities (=29)	67
43. Net incurrence of foreign liabilities (=31)	71		
Receipts	67	Disbursements	67

In the above format showing consolidated accounts, each transaction in the beginning has been assigned a serial number. The same transaction has also been assigned a figure in the bracket at the end. This indicates that the given entry is repeated on the reverse side in some other account. For example, "1(=15)" indicates that the entry 1 in account 1 has its reverse entry with serial number 15, which is found in Account 3.

It may be also be noticed that in account 6, some entries relating to the 'Rest of the World', like 16, 18, and 21 have been entered on net basis in Account 3. However, their reverse entries are entered on gross basis in Account 6. For example, in Account 3, entry 16, i.e. compensation of employees from the rest of the world is taken on a net basis (i.e. receipt less payment). Its reverse entry in Account 6 is in two parts - entry 33 as a receipt and entry 37 as a payment. Entry 14 i.e. saving in Account 3 is 'net saving' not gross saving. Net saving plus consumption of fixed capital adds up to gross saving.

A careful review of the above mentioned accounts indicate the following:

1) **Gross Domestic Product and Expenditure Account** is based on "domestic" concept of product and its composition. First three items represent gross payments made for the purchases of factor services. This amounts to GDP at factor cost. By considering item 4 and 5, we get GDP at market prices.

   On the credit side, item 6, i.e., government final consumption expenditure is estimated as the sum total of government expenditure on intermediate consumption, compensation of employees, consumption of fixed capital, and indirect taxes minus commodity and non commodity sales. It is known as services produced by the producers of government services for own use. Item 7 is final consumption expenditure of resident households on the domestic market plus direct purchases abroad by resident households plus services produced by producers of non-profit services for own use. The next two items (8 and 9), i.e., increase in stocks and gross fixed capital formation represent gross domestic capital formation.

   This account basically shows the allocation of factor incomes (items 1-5) on the one hand, and demand for final products generated by the domestic sources [which includes consumers (Items 6+7), and investors (Items 8+9)] and foreign source (Item 10 and 11) on the other.

   This account holds a special significance as it helps in estimating GDP at market prices through expenditure as well as income methods. The credit side gives final expenditure method, and the debit side gives income-distribution method to estimate GDP at market prices.

2) **National Disposable Income and its Appropriation Account**: This gives national aggregates, such as, sources of net national disposable income and its allocation between consumption and saving. On the credit side, items 15 and 17 put together represent NDP at factor cost. This together with item 16 and 18 would give the value of net national income at factor cost. The sum of items 15 to 20 equals NNP at market prices. If all the items 15 to 21 are taken, one would get Net National Disposable income. This includes NNP at market prices and Net current transfers from the rest of the world.

   On the debit side, Items 12 and 13 record consumption expenditure of residents. Item 14 records 'saving'. It is 'net saving' as distinguished from gross saving which equals 'net saving + provision for depreciation'. Adding all together, one will get Net National Disposable Income.

3) **Capital Finance Account**: This account depicts the sources of gross domestic capital formation (also known as domestic formation of gross physical assets) and the forms in which the capital accumulation takes place in the economy.

   The account, as shown above, has two parts. The account shows the real flows above the dotted lines and financial flows below the dotted line. The financial flows constitute both the financial assets and liabilities, including transactions in gold, currency, deposits, bills, bonds, equities, loans, trade credits etc.

   On the debit side of this account, Item 22 and 23 taken together shows gross domestic capital formation. Adding items 24 and 25, i.e., investment in intangible assets and formation of financial assets by resident economic agents respectively, one gets capital accumulation by resident economic agents. Intangible assets are those assets, which are not matched by liabilities. Patents, copyrights and trademarks, leases in respect of land and exclusive rights to exploit mineral deposits etc. are some good examples. The debit side is basically the "use" side of the capital accumulation.

   The credit side of the account portrays "sources" of financing capital formation. It enlists items 26 to 31. Items 26 and 27 together represent gross savings out of current income. The other source is the capital transfers from the rest of the world.

4) **External Transactions Accounts:** It explains all the external transactions of resident economic agents. While recording transactions with the rest of the world, all the transactions of the first three consolidated accounts are considered. It is because exports by a country to the rest of world are incomings of that country, but it is an outgoing item for the rest of the world. The same way, imports are outgoings of the given country, but they are incomings for the rest of world. Thus, each external transaction indicated in the previous accounts has got its counterpart in this account. The system is fully articulated and balanced.

   This account has two parts current and capital transactions. The different entries recorded in both these accounts show that the reverse entries of external transactions of the first three consolidated accounts. The entries showing different transactions have already been discussed on the above pages.

Check Your Progress 1

1) What are the different types of consolidated accounts?

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2) How are the consolidated accounts of a nation presented?

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3) What is Capital Finance Account?

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15.5 DISAGGREGATION OF CONSOLIDATED ACCOUNTS OF THE NATION

The macro level transactions discussed in the consolidated accounts can further be disaggregated as per the classification of transactions. Here, two points are worth noting. One, the classification of different transactions has to be done on some basis, may be, in the form of institutional sectors. These sectors may be named as households, private non-profit institutions, corporate and quasi-corporate enterprises, financial institutions, general government and non-financial enterprises. Two, there will be an overlapping between the different transactions.

Disaggregation, thus, requires a simultaneous disaggregation of different related accounts. For instance, if gross domestic product account has to be disaggregated, it would require an analysis of the production accounts of the producers' accounts. These would include, industries, producers' of government services and private non-profit services to households, and domestic services to households. Simultaneously, there is need to undertake an analysis of income and outlay and capital finance accounts of various institutional sectors discussed above. The detailed study of disaggregated consolidated accounts is beyond the scope of this chapter.

15.6 CONSOLIDATED ACCOUNTS OF INDIA

It has already been brought out on the above pages that consolidated accounts are required to a comprehensive picture of the macro-economic behaviour of the country and also for sound policy making purposes.

In the case of India, consolidated accounts are prepared by Central Statistical Organisation, Ministry of Planning and Programme implementation, Government of India. The formats in which these accounts are presented are given below to acquaint the student with the Indian practice. The figures are hypothetical

Account 1: Gross Domestic Product and Expenditure (approximately rounded) (at current prices)

[2003-04; Rs. '000'crores]

1.1	Net domestic product at factor cost	2267
1.2	Consumption of fixed capital	254
1.3	Indirect taxes	323
1.4	Less subsidies	83
1.5	**Gross domestic product**	**2761**
1.6	Government final consumption expenditure	312
1.7	Private final consumption expenditure	1762
1.8	Gross fixed capital formation	627
1.9	Changes in stocks	8
1.10	Exports of goods and services	408
1.11	Less imports of goods and services	444
1.12	Discrepancies	86
1.13	**Expenditure on gross domestic product**	**2761**

Account 3: National Disposable Income and its Appropriation (at current prices)

[2003-04; Rs. ‘000 crores]

3.1	Govt final consumption expenditure	312
3.2	Private final consumption expenditure	1762
3.3	Saving	523
3.4	Statistical discrepancy	0.5
3.5	**Appropriation of national disposable income**	**2598**
3.6	Net domestic product at factor cost	2267
3.7	Compensation of employees from the rest of world	(-)3
3.8	Property & entrepreneurial income from the rest of world, net	(-)11
3.9	Indirect taxes	323
3.10	Less subsidies	83
3.11	Other current transfers from the rest of world	105
3.12	Disposable income	**2598**

Account 5: Capital Finance (at current prices)

[2003-04; Rs. ‘000’crores]

5.1	Gross domestic capital formation	304
5.1.1	Gross domestic fixed capital formation	272
5.1.2	Change in stocks	33
5.1.3	Errors and omissions	(-)1
5.2	Purchase of intangible assets n.e.c. from rest of the world	(-)20
5.3	Net lending to the rest of world	
		284
5.4	**Gross accumulation**	
		171
5.5	Domestic saving	112
5.6	Consumption of fixed capital	1
5.7	Capital transfers from rest of world, net	
		284
5.8	**Finance of gross accumulation**	

Account 6: External Transactions (approximately rounded) (at current prices)

[2003-04; Rs. '000 crores

Current transactions		
6.1	Exports of goods andservices	408
6.2	Compensation of employees from the rest of world	0.7
6.3	Property & entrepreneurial income from the rest of world	15
6.4	Other current transfers from the rest of world	106
6.5	Adjustment of merchandise exports to the change of ownership basis	3
6.6	**Current receipts**	**533**
6.7	Imports of goods and services	433
6.8	Compensation of employees from the rest of world	4
6.9	Property & entrepreneurial income from the rest of world	26
6.10	Other current transfers from the rest of world	1.6
6.11	Adjustment of merchandise imports to the change of ownership basis	9
6.12	Surplus of the nation on current transactions	50
6.13	**Disposal of current receipts**	**533**
Capital transactions		
6.14	Surplus of the nation on current transactions	50
6.15	Capital transfers from the rest of world	2.6
6.16	Net incurrence of foreign liabilities	84
6.17	**Receipts**	**136**
6.18	Purchase of intangible assets	
6.19	Net acquisition of foreign financial assets	136
6.20	**Disbursements**	**136**

Check Your Progress 2

1) What is the meaning of consolidated accounts of the nation? Explain with the help of Indian case.

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2) How are the consolidated accounts disaggregated?

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15.7 LET US SUM UP

The consolidation of accounts refers to combining the accounts of all the sectors of the economy. They depict an aggregated picture of the income, product, expenditures and other such macro economic.

There are four consolidated accounts of the nation. These are as under: Account 1: Gross Domestic Product and Expenditure Account; Account 3: National Disposable Income and its Appropriation; Account 5: Capital Finance Account; Account 6: External Transactions Accounts.

The accounts, in general, can be presented in many ways. The most important methods used for presenting the accounts are known as the conventional system, the equation method, the diagrammatic method, and the matrix approach. However, the most usual approach towards presenting the accounts is showing the accounts in the balance statement. India follows almost the established international procedures in presenting its consolidated accounts.

15.8 KEY WORDS

Capital Finance Account: This account depicts the sources of gross domestic capital formation (also known as domestic formation of gross physical assets) and the forms in which the capital accumulation takes place in the economy.

Consolidated accounts of the nation: These accounts give an integrated and combined view of all the sectors of the economy.

External Transactions Accounts: It explains all the external transactions of resident economic agents. While recording transactions with the rest of the world, all the transactions of the first three consolidated accounts are considered in this account.

Gross Domestic Product and Expenditure Account: This concept is based on "domestic" concept of product and its composition. This account basically shows the allocation of factor incomes on the one hand, and demand for final products generated by the domestic sources like consumers and investors and, foreign source on the other. This account helps in estimating GDP at market prices through expenditure as well as income methods

Matrix: It refers to a square array of ordered set of numbers $\{a_1, a_2, \dots, a_n\}$ from a field F.

National Disposable Income and its Appropriation Account: This account relates to the sources of net national disposable income and its allocation between consumption and saving.

15.9 SOME USEFUL BOOKS

Beckerman, Wilfred., (1980), *An Introduction to National Income Analysis*, Wiedenfeld and Nicolson: London (Chapters 5)

Hicks, J.R., M.Mukherjee, and S.K.Ghosh, (1984), *The Framework of the Indian Economy- An Introduction to Economics*, OUP, Delhi.

Lal. Ram N, 1985. *The System of National Accounts and Material Balances*, Allied Publishers Pvt Ltd, Delhi.

Central Statistical Organisation (CSO), *National Accounts Statistics*, (2005).

Samuelson, P.A. and W.A. Northaus, (1998), *Economics*, McGraw- Hill Book Company: New York. (Chapter 6)

United Nations, 1995. *National Accounts Statistics – Main Aggregates and Detailed Tables*. Part II and I.

15.10 ANSWERS OR HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) See section 15.2

2) See section 15.3

3) See section 15.4

Check Your Progress 2

1) See section 15.6

2) See section 15.5