
UNIT 7 EVOLUTION OF NATIONAL INCOME ACCOUNTING WITH SPECIAL REFERENCE TO INDIA

Structure

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7.0 OBJECTIVES

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

- describe the evolution of national income accounting in India;
- discuss the national accounting procedure in pre-independence India; and
- critically evaluate the present state of national income accounting in India.

7.1 INTRODUCTION

In many advanced countries of the world, we have information on the growth of national income in the past. A comprehensive indicator of this nature is very useful in tracing the economic history of the nation. Unfortunately information on this topic is not available for India in any reliable form and we cannot say with certainty that, today, our level of per capita income is higher or lower than that in 1900 or in 1850 and by how much. In this respect our knowledge about the period 1850 to 1900 is nearly non-existent. The position is somewhat better in respect of the first half of the 20th century. A fairly large number of estimates, of course, of very uneven quality are available for the period. After independence, time series (annual) estimates of national income and related aggregates are available.

The evolution of national income in general is discussed in section 7.2. Section 7.3 discusses its evolution in India. The discussion on evolution of national income in India is bifurcated between the Pre-Independence period and Post-Independence period, with emphasis on the latter. For a comprehensive review

of the estimates prepared for the pre-independence period one may refer to M. Mukherjee's book *National Income of India, Trends and Structures* (1969).

7.2 EVOLUTION OF NATIONAL INCOME ACCOUNTING IN INDIA

The idea of national income can be traced back to the 17th century when Sir William Petty of England made the first known estimate in 1665. Gregory King followed Petty in giving a breakdown of national income, as well as aggregate figures for 1688. His estimates included the national income, the national expenditure, and the national saving as well as the distribution of these aggregates among the different social and occupational classes.

In France, Boisguilleberts introduced the concept of measurable national income and prepared the first estimate of national income of his country in the last quarter of seventeenth century. A number of estimates were published during the 18th and the 19th century by different researchers for England, France and some other European countries. England was, however, the acknowledged leader in this field. This tendency of preparing estimates of national income continued for the first two decades of the 20th century. England was, however, the acknowledged leader in this field. This tendency of preparing estimates of national income continued for the first two decades of the 20th century. In **United States** the initial estimates were made only in 1843 by George Tucker. Adam Smith, Karl Marx, Alfred Marshall, A.A. Walras and J.M. Keynes laid the modern theoretical groundwork for national income analysis.

In the inter-war decades of the twenties and thirties, national income estimates were stimulated by the problems of reconstruction and the Great Depression. In 1918, estimates were being prepared for 13 countries, and by 1939 for thirty-three countries. Most of these were private efforts, with aids from non-governmental institutes. Among the pioneering individuals are Simon Kuznets in the U. S., Colin Clark in England and Ragnar Friesch in Norway.

Nine countries began making official estimates, extending them back in time to develop a continuous series. In 1944, national income estimators of England, Canada and the US met in Washington to establish uniform procedures. The result was the first international agreement on the conceptual methods and presentation of national income estimates. During and after World War II, the responsibility for national income estimates became almost universally a government task. Increasingly, these estimates began to be used for fiscal programmes and government planning. By 1957, ninety-two countries were preparing national income estimates. At international level, League of Nations for the first time published in 1939 national income estimates for 26 countries giving the estimates for all or part of the period 1929 to 1938. Estimates for half the countries were compiled as official estimates and for the rest as academic or other private studies.

When the Second World War ended there was an immediate need for comparable measures of national income as a basis for apportioning the expenses of international organisations. To help address this need, a Sub-Committee on National Income Statistics of the League of Nations Committee of Statistical Experts was formed. The Committee submitted its report in 1947. The Report gave the concepts and definitions of national income and related aggregates and the methodology of their estimation based on the experience in

national accounting accumulated in the early post-war years. By 1950 the United Nations Statistical Office was able to assemble estimates from country sources for National Income Statistics, 1938-48 for several years from 41 countries. A standardised System of National Accounts (SNA) was published in 1952 and a revised version in 1953.

As the work relating to national accounting progressed in different developing and developed countries of the World and as there were many improvements and extensions in this field of research; a revised SNA was issued in 1968. This revised SNA is the basis of preparing national accounts of different countries of the world. By the early 1970s, about 120 countries were reporting national accounts statistics to the United Nations for inclusion in the Year Book, and 40 more were added a decade later. SNA of 1968 has again been revised in 1993. The revised SNA has to replace the 1968 SNA over years to come.

7.3 EVOLUTION OF NATIONAL INCOME IN INDIA

7.3.1 Pre-Independence Period

The estimate of National Income in India was, for the first time, prepared by Dada Bhai Naoroji for the year 1867-68. Since then various estimates have been prepared from time to time by different persons. Estimates for seven points of time are available for the second half of the 19th century and 35 point estimates are available for the pre-independence period of the 20th century. In addition, a few time series estimates have been prepared for the first half of the 20th century or a part of the period (See M. Mukherjee, 1969). The following table gives certain broad details about the more important of the estimates prepared by different researchers.

Table 7.1: Estimates of National Income: Before Independence

Author	Territory covered	Year when attempted	Year for which estimated	Per Capita Income (Rs.)
1. Dr. Dada Bhai Naoroji	British India	1876	1868	20
2. Baring and Barbour	"	1882	1882	27
3. Lord Curzon	"	1901	1897-98	30
4. William Digby	"	1902	1899	18
5. F.G. Atkinson	"	1902	1875	27.3
6. F. G. Atkinson	"	1902	1895	35.2
7. Sir B. N. Sarma	"	1921	1911	50
8. Findlay Shirras	"	1922	1921	107
9. Shah and Khambhata	Whole of India	1924	1921	74
10. Wadia and Joshi	British India	1925	1913-14	44.3
11. Vakil and Muranjan	Whole of India	1926	1910-14	58.5
12. V. K. R. V. Rao	British India	1938	1931-32	62

Source: Rao, V.K.R.V., (1940), *The National Income of British India*, 1931-32, Pub: Macmillan and Co. London, p.2.

The estimates prepared by individual researchers related to different time periods, and their method of estimation as well as geographical coverage varied. There were conceptual differences among estimators which made their results divergent. Also the estimates were at current prices, and therefore, were incomparable without adjustment for price changes.

The estimates were severely limited by data availability. Estimates of agricultural production were unreliable. Estimates of industrial production were patchy in the extreme. In spite of these difficulties it is highly creditable for the researchers to prepare the estimates of national income of India.

7.3.2 Post-Independence Period

National Income Committee

Since independence, to meet the requirements for planning and policy, due attention has been given to the development of official estimates of national income and related aggregates. Recognising the need for providing estimates of national income on a regular basis, the Government of India set up 'The National Income Committee' in August 1949 under the Chairmanship of P.C. Mahalanobis with D. R. Gadgil and V.K.R.V. Rao as members.

The Committee was asked to make recommendations regarding the compilation of estimates of national income, the improvement of statistical data on which the estimates were to be based and to suggest measures to promote research in the field of national income.

To assist the Committee a 'National Income Unit (NIU)' was set up. It was for the first time that this Committee provided the estimates of national income for the entire Indian Union. The estimates and details of the methodology adopted were published in the first and final reports of the National Income Committee brought out by the Ministry of Finance in 1951 and 1954, respectively. The Committee recommended preparation of national income estimates on a regular (annual) basis.

Accepting this recommendation, the Government of India transferred the entire establishment of NIU, then working for the Committee, to the Ministry of Finance to take charge of the work on a regular basis. The work of estimation was later transferred to the Central Statistical Organisation (CSO) and a full fledged National Income Division was created which is now designated as National Accounts Division (NAD) in conformity with the expansion of its activity.

The Final Report of the Committee gave the sector-wise estimates of national income for the years 1948-49 to 1950-51. As per the methodology and the pattern of presentation recommended by the NIC, the first official estimates of national income at constant prices were prepared by the CSO with base year 1948-49. These estimates at constant prices along with the corresponding estimates at current prices and the accounts of the public authorities were published in 1956 in the publication 'Estimates of National Income'. This series commonly known as the conventional series was continued to be published till 1966 under the same title.

Revised Series with base 1960-61: Subsequent to the publication of the Final Report of the NIC, there were various studies on the sources of data and

suitability of the methods adopted by the NIC in the preparation of national income estimates. With the gradual improvement in the availability of basic data over the years, a review of methodology of national income estimation and its extension to other fields of macro-economic aggregates was undertaken with a view to update the data base and to shift the base year from 1948-49 to a more recent year. Special efforts in this regard were made for a comprehensive review of all available data both published and unpublished. The first results of these efforts were presented in the **National Income Statistics - Proposals for a Revised Series**, for National Income Estimates 1955-56 to 1959-60 (CSO, 1961). These proposals were sent for comments to experts in the field of national income and to various official and non-official research organisations. These proposals were also discussed at a seminar specially convened for the purpose. In the light of the views expressed by various experts, several follow-up studies were undertaken. The 'proposals' as improved/amended on the basis of the studies along with estimates as per the revised series of national income with 1960-61 as the new base for estimates at constant prices were published in the **'Brochure on the Revised Series of National Produce 1960-61 to 1964-65'** (CSO, 1967) replacing the earlier series with base 1948-49.

During this period two other developments took place. First, the name of National Income Unit was changed to National Income Division (NID). Secondly, the Brochure of 1967 used the term 'National Product' in place of the term 'National Income'. The main improvements in the new series related to:

- a) agriculture where all-India estimates are obtained by aggregating the state-wise estimates which are based on the fully revised estimates of output of agricultural commodities, revised yield rates of minor crops, livestock products and agricultural bye-products, wider empirical base for data on prices and use of latest data on cost of deductions;
- b) large scale manufacturing where the detailed data thrown up by the **Annual Survey of Industries** along with the provisional index of industrial production with 1960 base, have been used;
- c) unorganised sectors like unregistered manufacturing, transport other than railways, trade, hotels and restaurants and other services where the national sample survey data supplemented by the results of other available surveys and the 1961 Census of population based work force estimates have been used'
- d) construction, where expenditure and commodity flow approach instead of income approach have been adopted;
- e) real estate and ownership of dwelling, where the estimates have been prepared on the basis of number of residential houses reported in the 1961 Census; and
- f) Public Administration and Defence.

After the Brochure on the estimates of national product in 1967, two other Brochures; one, on the **'Estimates of Savings in India, 1960-61 to 1965-66'** and the other on the **'Estimates of Capital Formation in India - 1960-61 to**

1965-66' were brought out by the CSO in 1969. The estimates of savings in the economy have been split up into three sectors - Public Sector, Private Corporate Sector and Household Sector. The Brochure, on capital formation, gives the estimates of gross and net capital formation in India, both at current and 1960-61 prices separately for (i) Construction, (ii) Machinery and Equipment, and (iii) Changes in stocks. The other classification of the capital formation was into (i) Public Sector split-up into General Administration and Defence, and Public Sector Undertakings and (ii) Private Sector split up into Corporate Sector and Household Sector.

After the introduction of the new series the title of the annual publication was changed to 'Estimates of National Product. A need was felt gradually from time to time to incorporate the estimates of private consumption expenditure, saving, capital formation, factor incomes, consolidated accounts of the nation and detailed accounts of the public sectors. The title of the publication was therefore, again changed to the present title '**National Accounts Statistics (NAS)**' with effect from January 1975 to depict the expanded scope of the publication.

Further to meet the demand of the users a special supplement "National Account Statistics, 1960-61 to 1972-73 - Disaggregated Tables (CSO, 1975)" was brought out. This publication included disaggregated tables on output, input, value added, private consumption expenditure, saving and capital formation. While the publication presented the estimates at current prices for the years 1960-61 to 1972-73, those at constant (1960-61) prices were presented for the entire period of 1950-51 to 1972-73. From the subsequent issue, the NAS 1976, all those tables presented in the special supplement became regular features of the NAS.

Revised Series with base 1970-71: The base year of the revised series was subsequently changed from 1960-61 to 1970-71 (hereafter referred to as 1970-71 series) and the estimates according to 1970-71 series were published in NAS, January 1978. These estimates had the same scope, coverage and methodology as for earlier series included in NAS October, 1976 (latest available for 1960-61 series). These estimates were based on the latest available data from various sources, like population Census, livestock Census, various sample surveys and ad-hoc studies undertaken in the NAD. The detailed methodology of the estimation used in this revised series was published in the special publication known as "**National Accounts Statistics: Sources and Methods**, April 1980".

New Series with Base 1980-81: The period revision of the series continued and CSO released a new series of national accounts aggregates with 1980-81 as base year (hereafter referred to as '1980-81 series') in February 1988. This series has been introduced after a comprehensive review of the data base as well as the methodology employed in the estimation of various aggregates. It also involved a number of revisions arising out of the latest available data. The revisions brought about for the '1980-81 series' are the results of a large number of studies including those for the estimation for consumption of fixed capital, based on the estimates of fixed capital stock prepared by the NAD. The improvements proposed for the '1980-81 series' were considered in depth at the Pune Seminar and Conference of the Indian Association for Research in National Income and Wealth (IARNIW) held in December, 1984 and

November, 1985 respectively. These proposals and the consequent changes were discussed in detail by the Advisory Committee on National Accounts Specially convened for this purpose in April 1986 and June 1987.

For this series, efforts have been made to use as much current data as possible. For instance, the proportions based on the old bench mark surveys have replaced. Further, the results of the latest population Census, livestock Census, All India Debt and Investment Surveys, follow-up surveys of Economic Census (EC), Cost of Cultivation Studies, etc. have been made use of. The EC and its follow-up surveys have been particularly designed to fill the data gap pertaining to unorganised segments of the non-agricultural sectors of the economy.

The estimates of this series were initially brought out for 1980-81 to 1985-86, through a Brochure issued in February, 1988. The usual NAS publication with 1980-81 series was issued in May, 1988 and since then we are having the estimates with 1980-81 as base year. CSO brought out a special publication - **National Accounts Statistics - Sources and Methods, 1989.** This publication has discussed in details, the improvements and revisions made in the new series, the methodology adopted in preparing the estimates, and the source material utilised for the purpose. The concepts and definition have also been explained.

Revised Series of National Accounts with 1993-94 as Base

The series with base 1980-81 has now (in the year 1999) replaced by the Revised Series with 1993-94 as base. The detailed methodology of the revised series has not yet been published. Broadly, the following revisions have been affected in the series:

- i) the estimation of income from unregistered manufacturing and service activities have been made on the basis of new estimates of work force based on NSSO Surveys instead of estimates derived from population censuses.
- ii) Several new products have been included in many a sectors. For example, in the agricultural sector several horticulture and floricultural crops have been added.
- iii) Improvement has been affected in the coverage of existing products.
- iv) There is methodological improvement in applying a new indicator of constant price estimates for banking and insurance. There is also an improvement in allocation of imputed banking charges to industries and final uses.
- v) There is a major change in the use of the data generated from the Annual Survey of Industries (ASI). This change is made possible by the reduction of time lag in the availability of data from about 3 years to about 9-10 months.

So far (in 1999) the data in the revised series is available only for the period 1993-94 to 1997-98. CSO has also decided to change the base every five years.

Check Your Progress 1

- 1) Write a brief note (in 100 words) on the early attempts on estimating the national income in Europe.

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- 2) i) State very briefly attempts made to estimates the nation income of India before the Independence. What were their limitations?
ii) State five prominent names that brought out the estimates.
 - 3) Complete the following sentence.
i) The Government of India set ‘The National Income Committee’ in under the chairmanship of
ii) The other members of the Committee were
 - 4) CSO brought out the first estimates of National Income at constant prices at the prices of the year
 - 5) State till now, how many times base year for the estimates of NI have been revised. Give the years for each revision.

7.4 CONTENTS OF THE NATIONAL ACCOUNTS STATISTICS IN INDIA

The National Accounts Statistics (NAS) are prepared by the Central Statistical Organisation (CSO). NAS present the estimates onwards both at current and constant prices is the statistics are divided into 5 parts:

Part I - ‘Macro-Economic Aggregates’ This part presents the summary statements of macro-economic aggregates and their relationship, growth rate, implicit price and quantity deflators, consolidated accounts of the nation covering all principal transactions of the economy and performance of the Public Sector.

Part II - ‘Domestic Product’. This part presents statements on gross and net domestic product by kind of activity (agriculture, forestry, fishery, mining, manufacturing, etc.) along with their percentage distribution.

Part III - Consumption, Saving, Capital Formation and Capital Stock. This part provides the estimates of private final consumption expenditure (PFCE) domestic saving, capital formation and capital stock.

The estimates of saving are presented by type of institution. The estimates of gross and net capital formation are presented by type of assets, by type of institutions and by industry of use . The estimates of net capital stock have been given by type of institution and by industry of use.

Part IV - ‘Public Sector Transactions . This part deals with the transactions of the Public Sector. Along with details of value added, consumption expenditure, saving and capital formation, this part also presents the economic accounts separately for administrative departments and departmental and non-departmental enterprises. Purpose-wise details of both current and capital

expenditures of administrative departments also presented in this part. Separate presentation of accounts in respect of railways and communication is a special feature .

Part V - ‘Disaggregated Statements. This part contains disaggregated tables which include the details of gross value of output, input, and value added for each of the sectors. Besides, disaggregated estimates in respect of saving relate to financial assets and liabilities of the household sector. Capital formation by type of assets and by type of institution and external transaction accounts are also presented in this part. This part also contains Factor Incomes and Property Incomes by organised and unorganised sectors and by economic activity (sectors).

This publication also presents at the end a section on ‘Notes on Methodology which provides information on the revision in the estimates indicating broadly the changes in the methodology, new source material used, etc., for the benefit of the user.

Check Your Progress 2

- 1) State the main parts of the present National Accounts Statistics published by CSO.

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- 2) What information does the ‘Notes on Methodology’ given at the end of the National Accounts Statistics present?

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7.5 LET US SUM UP

The evaluation of national income can be traced back to the first known estimate of national income by Sir William Petty of England in 1665. A few other estimates were issued by the end of 17th century. A number of estimates were published the 18th century and 19th century by different researchers of England, France and a few other countries. In USA the initial estimators were made only in 1843 by George Tucker. By the end first four decades of 20th century, thirty three countries had started compiling estimates of national income. In 1944, a meeting of national income estimates was held in Washington to established uniform procedures for preparing the estimates. A standardised system of national accounts (SNA) was published in 1952 and a revised version in 1953. SNA was revised in 1968. Most of the countries are at present following SNA 1968. The latest revised SNA is available for 1993.

In India, the first estimate of national income were prepared by Dada Bhai Naoroji for 1867-68. Since then various estimates were prepared from time to time until the task of preparing these estimates was given to the CSO. The first official estimates were given by the National Income Committees. The first estimates by CSO were published in 1956 in the publication ‘Estimates of

National Income'. Since then the estimates are being regularly published by the CSO. With the passage of time, new and improved data sources as well as improved methodology has been used for preparing the estimates. The base periods have been changed a number of times. The present base period is 1993-94. Now there is a plan to change it every five years. The scope of the publication has been enlarged by the inclusion of estimates of private consumption expenditure, saving and capital formation and the division of the sector-wise national income into different factors of production as well as between organised and unorganised sectors of the economy. The name of the publication is changed to **National Accounts Statistics**, and in place of 'national income' SCO uses the terminology national product.

7.6 KEY WORDS

Assets	:	Goods which produce a stream of returns in the future
Macro-economic Aggregates	:	Indicators that provide an understanding about the state of the overall economy, like inflation, unemployment, national income
Unorganised Sector	:	Sector which is engaged in industrial production but is outside the factory method of production and where each unit employs few workers.

7.7 SOME USEFUL BOOKS

Sam Rosin; 1963, *National Income: Its Measurement, Determination and Relation to Public Policy*; Hot, Rinchart and Winston Inc., New York,.

M. Mukherjee; 1969, *National Income of India: Trends and Structure*; Statistical Publishing Society, Calcutta,.

D. P. Bhatia; 1996, *National Accounting: Concepts and Estimates*, Khanna Publishers, New Delhi,

Central Statistical Organisation; 1989, *National Accounts Statistics: Sources and Methods*,.

7.8 ANSWERS OR HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

- 1) See sub-section 7.3.1 and answer.
- 2) See sub-section 7.3.1 and answer.
- 3) (i) 1949; P.C. Mahalanobis
(ii) D.D. Gadgil and V.K.R.V. Rao
- 4) See sub-section 7.3.2 and answer.
- 5) See sub-section 7.3.2 and answer

Check Your Progress 2

- 1) See section 7.4 and answer
- 2) See section 7.4 and answer

UNIT 8 APPLICATIONS OF NATIONAL INCOME ACCOUNTS

Structure

- 8.0 Objectives
- 8.1 Introduction
- 8.2 Applications
 - 8.2.1 Measure of Standard of Living
 - 8.2.2 Comparison Across Time and Space
 - 8.2.3 Sectoral Distribution of Income
 - 8.2.4 Income Distribution by Factors of Production
 - 8.2.5 International Comparison of National Income
- 8.3 Planning and Policy Purposes
 - 8.3.1 Data Base of the Economy
 - 8.3.2 Monitoring the Movements of Different Economic Flows
 - 8.3.3 Casual Relationship between Macro Variables
- 8.4 Let Us Sum Up
- 8.5 Key Words
- 8.6 Some Useful Books
- 8.7 Answers or Hints to Check Your Progress Exercises

8.0 OBJECTIVES

After going through the units, you will be able to:

- explain the use of national accounts in measuring standard of living;
- describe the process of comparison of national income across time and space;
- discuss the use of national income accounts for policy purposes and planning; and
- analyse the use of a database of the economy in studying relationships among macro-variables in the economy

8.1 INTRODUCTION

There are several important uses of the estimates of national income and related aggregates. These uses vary from validation of basic data to the complex analytical issues relating to policy formulation. National income estimates not only provide a single figure but also provide supply estimates by broad sectors of the economy. The aggregate as well as sector-wise estimates of national income throw light on the functioning of the economy. Because of the importance of the estimates, CSO in India has been preparing and publishing the estimates since 1956. Over period of time the extent of the coverage has been enlarged, the data base as well as the methodology has improved. In this

unit we discuss some of the important uses of the estimates of national income and its related aggregates like consumption and investment.

8.2 APPLICATIONS

8.2.1 Measure of Standard of Living

The estimates of national income and per capita income (derived by dividing the total national income by the population) give us an average income and standard of living of the people. Economic welfare depends to a considerable degree on the level of national income and its distribution. Therefore, to know about the level of economic welfare it is essential to have estimates of national and per capita income.

Here it may be mentioned that there are certain problems in taking per capita income as the only measure of standard of living or that of development of the economy. The per capita income may be high even when only a few people are very rich and a vast majority of people are poor. The process of economic development is a complex phenomenon and is influenced by many factors. If the income of a vast majority of people are low but free health and educational services are provided, the standard of the people will be better than if no free services are provided. Also the well being of the people depends on the composition of the output. If luxuries are being produced in relatively greater quantities than necessities, there will be shortage of goods for the poor people.

Nowadays in addition to national income, a number of development indicators are being suggested for evaluating standard of living or development. Growth in national income is possible without development, but for development growth is essential.

8.2.2 Comparison Across Time and Space

By comparing national income over a period of time we can know whether the economy is growing or not. If national income increases over years, it means the economy is growing and if national income is falling, it indicates that the economy is declining.

For having meaningful comparison of national income over time the effect of change in prices has to be removed. If the money value of national income of an economy is increasing by 2% every year and if the prices are also increasing by 2%, then there is no real growth in the economy and it is stagnant. The comparison of the estimate of national income over time can be done only in real terms i.e. if the estimates are prepared at constant prices. Because of this reason, the CSO is preparing the estimates of national income both at current and constant prices.

The incomes of different regions can be compared to study the regional disparities in incomes. Some of the regions may be more developed while some others may be less developed e.g. Punjab is more developed than Assam. The per capita income, along with certain other indicators, gives us an idea of regional disparity. These estimates of different states are a guide in deciding the allocation of central funds to various states.

8.2.3 Sectoral Distribution of Income

The estimates of national income show contributions of different sectors of the economy, such as agriculture, manufacturing, transport, electricity services etc. From the sectoral break downs of national income, one could study the broad sectoral shifts in an economy over time. For example, based on the sectoral estimates it can be said that agriculture is overwhelmingly important for the Indian economy. In fact in the past Indian economy used to be called an agricultural economy. The contribution of gross value added from agriculture decreased from 35.8% in 1980-81 to 22.2% in 2000-2001 (at 1993-94 prices). The contribution from manufacturing industries increased from 13.8% to 17.2% during the same period. The contribution from other sectors also showed an increase over this period. This shows that over period of time there is a shift from agriculture (in 1950-51, the contribution from agriculture was 50.2%) to manufacturing and other sectors. That means more emphasis is being given to infrastructure and industries.

8.2.4 Income Distribution by Factors of Production

National income estimates throw light on the distribution among different categories of income such as wages, profits, rent and interest. The distribution of income into wage and non-wage income is of special importance, since the inequality in the personal distribution of income depends to a great extent on the share of working class (wages) and the share of property owners. From the **size distribution** of income one can have an idea about the number of people who are poor.

8.2.5 International Comparison of National Income

National accounts are used for reporting to international agencies like U.N. Statistical Office. **U. N. Year Book on National Accounts** gives national and per capita incomes of more than 120 countries. The national accounts statistics should confirm to standard, internationally accepted concepts, definition and classifications. The resulting data are widely used for international comparisons of the volumes of major aggregates such as GDP or GDP per head, and also for comparisons of structural statistics, such as ratios of investment, taxes, or government expenditures to GDP. Such comparisons are used by economists, journalists and other analysts to evaluate the performance of one economy against that of other similar economies. They can influence popular and political judgements about the relative success of economic programmes in the same way as developments over time within a single economy. Data bases consisting of a set of national accounts for groups of countries can also be used for econometric analysis.

Levels of GDP, alternatively, gross national income (GNI) per head in different countries, are used by international organisations to determine eligibility for loans, and or other funds or conditions on which such loans, and or funds are made available and also to determine the share of their contributions to expenditures of various international bodies.

There are certain inherent problems in the international comparison of the estimates of national incomes of different countries, because of different currencies and different set of prices prevailing in these countries. For comparing the values of goods and services produced or consumed per head,

data in national currencies must be converted into a common currency by means of purchasing power parities and not exchange rates. It is well known that, in general, neither market nor fixed exchange rates reflect the relative internal purchasing powers of different currencies. Exchange rate converted data cannot, therefore, be interpreted for measuring the standard of living of different countries.

Check Your Progress 1

- 1) Briefly describe how national income accounts can be used to measure standard of living.

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- 2) What measures have to be ensured for a meaningful comparison of national income estimates across time and span?

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8.3 PLANNING AND POLICY PURPOSES

National income estimates also contain the estimates of consumption, saving and capital formation. Information regarding consumption, saving and investment is indispensable for studying the economic growth and for planning. The rate of saving and investment in an economy determines the rate of growth of the economy.

The whole concept of long-term development depends on current level of income and investment obtained from national income statistics. The projections and target setting depends upon the sectoral breakdown of national income.

At a more sophisticated level, extensive use of data on consumption expenditure can be made to study the disparities in the level of living and also the changes over period of time. The estimates of people under poverty line can be obtained from the consumption data.

Economic policy in the short run is formulated on the basis of an assessment of the recent behaviour and the current state of the economy and a view of a better forecast, about likely future developments. Short-term forecasts are made by using econometric models. Over the medium or long term, economic policy has to be formulated in the context of a broad economic strategy which may need to be quantified in terms of a plan. Most of the elements which make up a medium or long term economic plan consist of national account flows, and it may be impossible to draw up such a plan without them. A good macro economic model which accurately reflects the past performance of the economy may be indispensable for planning and forecasting.

For target setting at sector levels the forecasts for the macro aggregates are transformed into sectoral levels by making use of certain other models like consumption model and certain other assumptions like reduction in poverty. Having sector level forecasts of the macro variables the targets of production can be set by making use of an input-output or any other similar disaggregated model.

Economic policy-making and decision-taking take place at all level of government and also within public and private corporations. Large corporations have their own macro economic models tailored to their own requirements, for which they need national accounts data. The investment programmes of these corporations must be based on long-term expectations about future economic developments that require national accounts data.

For budget making and deciding about the taxation policy the government required detailed data regarding production levels of different industries, their demands, etc. By looking at the detailed sector wise estimates, the government can decide about the stimulus to be given to different sectors for growth.

No development plan is possible without national income estimates. These estimates are essential for fixing targets of production and employment. The achievements of the targets laid down in the plans can be known from the changes in national income and its various components.

8.3.1 Data Base of the Economy

National income estimates lay the strong foundations of the data base of the economy. For having reliable estimates of national income, we must have a reliable data base. Over period of time studies and surveys are conducted to improve the data base of the economy.

8.3.2 Monitoring the Movements of Different Economic Flows

National accounts data provide information covering both different types of economic activities and the different sectors of the economy. It is possible to monitor the movements of different economic flows such as production, household consumption, capital formation, wages, profits, etc. (the flows of goods and services being carried out at constant and current prices). Moreover information is provided about certain key balancing items and ratios which can be defined and measured within an accounting frame-work. One such example is the trade balance, and the other is the share of income which is saved or invested by different sectors of the economy or the economy as a whole. National accounts also provide the back ground against which movements of short term indicators, such as monthly indices of industrial production, or of consumer or producer prices, can be interpreted and evaluated.

8.3.3 Causal Relationship between Macro Variables

National accounts are also used for investigating the causal relationship at work within an economy. Such analysis usually takes the form of the estimation of the parameters of functional relationship between different economic variables by applying econometric methods to time series data compiled within a national accounting framework. (The relationship between consumption, investment and income) The types of macroeconomic models used for such investigations may vary according to objective of the analysis as well as the stage of development of the economy. Advances in computers have made it possible for the econometric analysis of large macroeconomic models. Many econometric software packages have been developed and the models could be used even by institutions having only limited resources available for this purpose.

Check Your Progress 2

- 1) How are national income estimates useful for planning and policy purposes?
.....
.....
- 2) In what way do national income estimates help in monitoring the movements of different economic flows?
.....
.....

8.4 LET US SUM UP

A vast amount of applications exist for the estimates of national product and various other aggregates like consumption expenditure, capital formation and saving. The applications range from validity of the data base to the highly technical economic models. Comparison of the economies can be done over time and space. Regional economies in a country can be compared. It gives an idea of the standard of living of the people. International comparison of economies, although having some problems, is of paramount importance. Budget for an economy is dependent on the data provided by the authorities estimating national product. Estimates of national income and other related aggregates are extensively used for planning and policy formulating.

8.5 KEY WORDS

- Causal Relationship** : A relationship among variables showing which are caused by which
- Standard of Living** : The basic level of consumption pattern determined by the level of income

8.6 SOME USEFUL BOOKS

United Nations,(1993) *System of National Accounts*

Central Statistics Organisations, Ministry of Statistics & Programme Implementation. Government of India, *National Accounts Statistics* (2005)

Studenski, Paul., *The Income of Nation: Theory and Methodology*

Agarwala S.K., *National Income Accounting*; Bookland Publishing Co. Bunglow Road, Delhi.

8.7 ANSWERS OR HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

- 1) See sub-section 8.2.1
- 2) See sub-section 8.2.2

Check Your Progress 2

- 1) See section 8.3
- 2) See sub-section 8.3.2