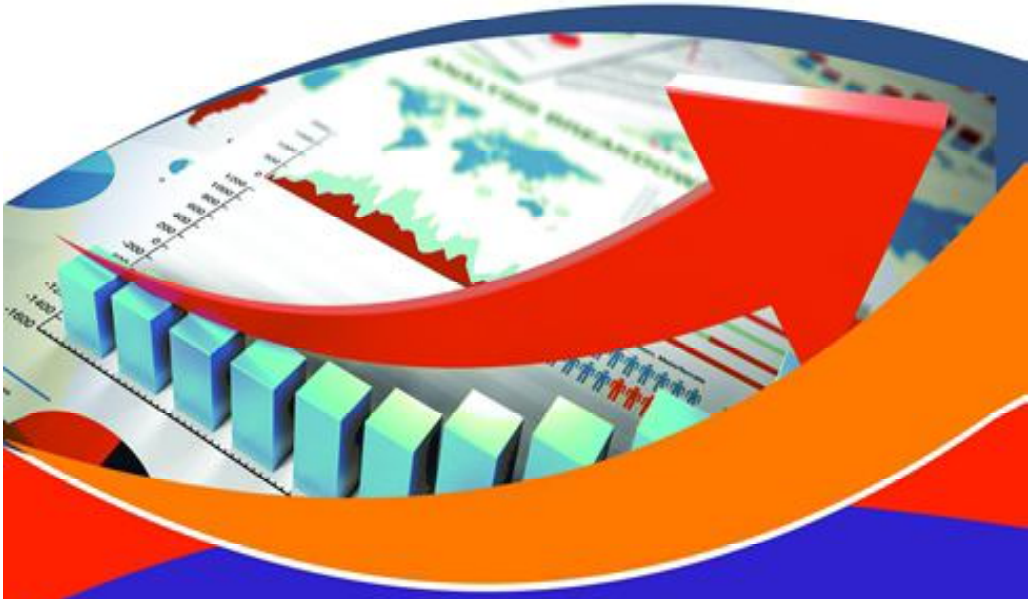
# MANAGERIAL ECONOMICS - II



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# MANAGERIAL ECONOMICS – II

**(As per the New Syllabus of Mumbai University for S.Y. BMS, Sem. III)**


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# PREFACE

Managerial Economics is a core subject under management studies.

Recently, University of Mumbai has introduced a new curriculum for Management Studies in degree course at the undergraduate level.

Though there is no dearth of books on the subject of economics/business economic/managerial economics, none of them by themselves can adequately fulfill the requirements of this new syllabus. The present authors, thus, makes a humble attempt to fill up the gap and help the student community by giving their a suitable textbook catering to their special needs.

This textbook is intended to serve as a comprehensive/standard textbook on 'Managerial Economics' paper for the S.Y. BMS (Third Semester) Degree course of the Mumbai University, with a new approach.

This book is the outcome of long years of teaching and writing experience of the authors.

The author humbly claims the following distinctive features of the book:

- It thoroughly discusses the new syllabus of the Mumbai University for the S.Y. BMS (Third Semester) Degree course paper on 'Managerial Economics'.
- In the framework of the book, special care has been taken to avoid gaps in the sequential arrangement of topics and logical development of concepts and ideas of economic theory and their relevance to business economics.
- Topics covered are discussed, as far as possible, in a fairly self-contained manner.
- It is self-explanatory.
- It is lucid and simple.
- Brief Case Studies and examples on certain topics have been incorporated in the relevant chapters.

With these features, the authors earnestly hope that the book will provide added utility to the students and the teaching fraternity alike, and it will serve them most in their learning/teaching pursuit.

The authors will gratefully acknowledge any constructive suggestions from the students and teaching fraternity for the improvement of the text in future editions.

**Authors**

# SYLLABUS

## Managerial Economics – II

**Learning Objectives:**

1. The aim is to impart understanding of evolution and operation of economic policies.
2. To discuss the effect of macroeconomic policies on managerial decisions.
3. To understand factors determining growth, inflation, business decisions, etc.
4. To improve understanding of how macroeconomic policy influences business cycles.
5. To understand basic economic principles related to global market and exchange rate.

| Unit | Name of the Topic | No.of Lectures |
|---|---|---|
| Unit - 1 | Introduction to Macroeconomics: Macroeconomic Aggregates and Concepts<br>(a) Circular Flow of Income, National Income and Related Concepts,and Calculation of National Income (Numerical), National Income and Deflator, Concept of Human Development Index (H.D.I.), Concept of Inclusive Growth, Supply of Money, Demand for Money, Concept of Inflation and Stagflation.<br>(b) Determination of Income and Employment – Keynesian Theory – Consumption Function, MEC, Multiplier, Business Cycles – Phases Features. | 17 |
| **Unit - 2** | **International Economics:**<br>(a) Concept of International Trade, Distinction between Domestic and International Trade.<br>(b) Classical Theory of International Trade – Absolute, Equal and Comparative Cost Difference, Factor Endowment Theory.<br>(c) Balance of Payment (B.O.P.) - Structure, Disequilibrium and Measures to Correct B.O.P. disequilibrium. | **12** |
| **Unit - 3** | **Policy Environment: Meaning Elements of Marketing Mix**<br>(a) Monetary Policy – Objectives and Instruments – Product Development.<br>(b) Fiscal Policy – Objectives and Instruments.<br>(c) Economic Stabilisation – IS-LM Model (Effect of Monetary and Fiscal Policy on National Income, Rate of Interest)<br>(d) Trade Policy: Free Trade and Protection. | **17** |
| **Unit - 4** | **Global Markets and Institutions:**<br>(a) WTO – Agreements and Implications, Contentions Issues, Dispute Settlement Mechanisms.<br>(b) World Bank – Structure – Purpose and Functions.<br>(c) Exchange Rate System (Fixed, Flexible and Managed Exchange Rate Systems). Foreign Exchange Market, Feature, Functions, Participant, Factors Affecting Exchange Rate, Foreign Exchange Quotation and its Different Types | **14** |

# PAPER PATTERN

**Maximum Marks: 75**

**Time: 2.5 Hours**

**Note:** 1. All questions are compulsory subject to internal choice.

2. Figures to right indicate full marks.

Q. 1. Attempt any 2 Questions (15 Marks)

(a) (7.5 Marks)

(b) (7.5 Marks)

(c) (7.5 Marks)

Q. 2. Attempt any 2 Questions (15 Marks)

(a) (7.5 Marks)

(b) (7.5 Marks)

(c) (7.5 Marks)

Q. 3. Attempt any 2 Questions (15 Marks)

(a) (7.5 Marks)

(b) (7.5 Marks)

(c) (7.5 Marks)

Q. 4. Attempt any 2 Questions (15 Marks)

(a) (7.5 Marks)

(b) (7.5 Marks)

(c) (7.5 Marks)

Q. 5. Attempt any 2 Questions (15 Marks)

# CONTENTS

# 1 CHAPTER

# Macroeconomic Aggregates and Concepts

## 1. Introductory Nature and Scope of Macroeconomics

Macroeconomics is the study of the aggregate behaviour of the economy as a whole. It is concerned with the macroeconomic problems such as the growth of output and employment, national income, the rates of inflation, the balance of payments, exchange rates, trade cycles, etc. In its study, we examine the interrelationships and interaction among various aggregates, their determinants and causation.

According to Prof. Ackley: "Macroeconomics deals with economic affairs 'in the large', it concerns the overall dimensions of economic life."

In short, macroeconomics deals with the major economic issues, problems and policies of the present times.

Macroeconomics is the study of the major economic "aggregates" or totals.

National income, money, total investment, savings, unemployment, inflation, balance of payments, exchange rates, etc. are the crucial economic aggregates.

Methodology of macroeconomics, however, differs from that of the micro-economics. In micro-economic analysis, it is assumed that the total output and the general price level of the economy are given; and then an explanation is provided for the determination of equilibrium price and output of an individual product. In macroeconomic analysis, we assume that the distribution of income and relative prices as given and seek to explain determination of total output/income and the general price level.

It must, however, be recognised that in reality changes in microeconomic variables carry their impact on the macroeconomic variables, and *vice versa*. Therefore, a complete understanding of economic science requires the study of both micro and macroeconomics.

Keynes prescribed macroeconomics as a policy-oriented science to deal with the problems like unemployment, inflation etc.

It follows that the scope of macroeconomics is confined with the behaviour of the economy in total. It does not examine individual behaviour.

It relates to the economy-wide total or aggregates and problems of general nature. Its policies are general.

The subject-matter of macroeconomics include the theory of income and employment, theory of money and banking, theory of trade cycles and economic growth.

Macro concepts relate to aggregates in units and behaviour of total. These are macroeconomic variables. We may illustrate a few macroeconomic concepts as under.

## 2. Circular Flow of Income

The economic system contains the flow of goods and services in the transactions between two economic sectors: households and firms. There is a circular flow of economic activity. Households sell their productive services as factor of production to the firms and earn their income. Thus, firms' spendings become households' income. Households buy the final goods and services produced by the firms. Thus, households' total expenditure becomes the income of the firms, which is equal to the value of final output of the firms. The range of firms constitute the productive area of the economy. Activities and transactions which take place within the boundaries of firms — 'the productive area' — are regarded as intermediate transactions, or inter industry relations. Values are created in the productive area. All net values added together determine the value of the final output, *i.e., GNP*. The final output flows from the productive area of firms to the consumption area of households. This point has been illustrated diagrammatically in Fig. 1.1.

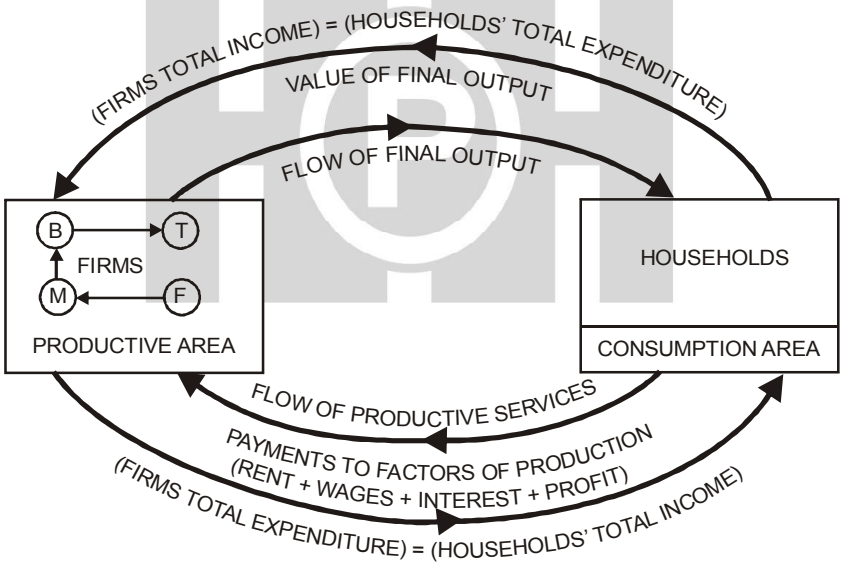


**Fig. 1.1**

In Fig. 1.1, one can observe that intermediate transactions occur within the productive area or firms. It represents intermediate transactions from the farmer (*F*) to the flour mill (*M*), to the baker (*B*), to the trader or merchant (*T*) — all taking place within the boundaries of the firms. The firms sell their final output to consumers — the households. Thus, there is a flow of final goods from the productive area or firms to the consumption area or households. Household's total expenditure = the value of final output = the income of the firms' sector. Again, there is a flow of productive services of factors from households to firms. The factors are rewarded in the form of rent, wages, interest

and profits. The total factor income = the aggregate values of factors services = the total expenditure of firms = the total income of households. In short, total expenditure of firms = total income of households and total expenditure of households = total income of firms = the value of final output. Thus, the final value of output is just the same as final expenditure. It follows thus:

Total output = Total expenditure ... (1)

Again, total expenditure = total income ... (2)

Total output = total income ... (3)

## 3. Concept of National Income

The total income of the nation is called "national income." The aggregate economic performance of the whole economy is measured by the national income data. In fact, national income data provide a summary statement of a country's aggregate economic activity.

In real terms, national income is the flow of goods and services produced in an economy in a particular period — a year.

Modern economy is a money economy. Thus, national income of the country is expressed in money terms. A National Sample Survey has, therefore, defined national income as: "money measures of the net aggregates of all commodities and services accruing to the inhabitants of a community during a specific period."

> More elaborately, however, we may say that national income is a money measure of value of net aggregate of goods and services becoming available annually to the nation as a result of the economic activities of the community at large, consisting of households or individuals, business firms, and social and political institutions.

An important point about national income is that it is always expressed with reference to a time interval. It is meaningless to speak of the income of an individual without mentioning the period over which it is earned, say per week, per month, or per year. Similarly, it is meaningless to talk of national income without mentioning the period over which it is generated. This is because national income is a flow and not a stock, *i.e.,* income is generated every year, and at different rates and, therefore, it is necessary to mention the period during which that income is generated. National income is usually measured and shown with reference to a year or as annual flow; it is, thus, an amount of total production per unit of time.

Like many other terms in common use, the concept "national income" has various connotations. For instance, national income is variously described. Some times, it is known as "national income" at other times, "national product", or "national dividend." As a matter of fact, all these terms mean one and the same thing.

In national income accounting, thus, the concept of national income has been interpreted in three ways, as: (1) National Product, (2) National Dividend, (3) National Expenditure.

***National Product:*** It consists of all the goods and services produced by the community and exchanged for money during a year. It does not include goods and services which are not paid for, such as hobbies, housewives' services, charitable work, etc.

***National Dividend:*** It consists of all the incomes, in cash and kind, accruing to the factors of production in the course of generating the national product. It represents the total of income flow which will exactly equal the value of the national product turned out by the community during the year.

***National Expenditure:*** This represents the total spending or outlay of the community on the goods and services (of all types, capital as well as consumption) produced during a given year. Since income is the source of expenditure, national expenditure constitutes the disposal of national income, which is evidently equal to it in value or in other words, National Expenditure equals National Income.

Indeed, one man's income is another man's expenditure. When a person buys milk, it is his expenditure, but this very expenditure is the milkman's income. When the milkman spends part of this income in buying sugar, it becomes income for the sugar merchant and so on. In a sense, therefore, the sum of expenditure of all agents of production is equal to the total income received by the factors of production during that year. National Income can, therefore, be also defined as a sum of the expenditure on producer goods, consumer goods and services of agents of all production.

In fact, there is a fundamental equality between the total income of the community and its total expenditure, as one's expenditure becomes another's income in the economy. Hence, there is a large circular flow established in which each expenditure creates an income, which in its turn is spent and creates other incomes. Therefore, this total national income will be equal to the total national expenditure.

Briefly, the identity of the three factors of the flow of national income may be expressed as follows:

National Expenditure = National Product = National Income or Dividend.

When we analyse, the above three concepts, we find that national income is nothing but "the total flow of wealth produced, distributed and consumed." National income is not a stock but it is a flow. It is not that the income is first earned and then gradually spent or distributed, or alternatively, it is not that the expenditure first takes place and then an income is earned. As a matter of fact, the process of income creation and income distribution goes on at one and the same time.

Incidentally, Keynes has suggested three approaches to national income, which are more suitable and practicable in the macro analysis of income and employment, as follows:

1. Income-expenditure approach: in which total expenditure on consumption and investment goods constitute total income.

2. Factor-income approach: in which national income is measured as the aggregate of incomes received by all the factors of production.

Keynes wrote: Y = F + Ep where, Y stands for national income, F stands for payments received by land, labour and capital owners, and Ep refers to entrepreneurial profits.

3. Sales proceeds minus cost approach: in which Keynes considered that national income is based on aggregate sales minus cost.

In fact, Keynesian analysis has revolutionised thinking on the national income analysis. Prior to Keynes's General Theory, national income data was not collected officially from the economic analysis point of view. Keynes developed a theory which showed how consumption and investment expenditure

can affect the national income flow. From the Keynesian analysis, modern concepts of national income have been evolved which are more dynamic in content.

Modern economists consider national income as a flow in three forms: income, output and expenditure. When goods are produced by the firms, factors of production comprising households are paid income, these income receipts are spent by the household sector on consumption and their savings are mobilised by the producers for investment spending. Likewise, a circular flow is constituted between income and expenditure. Obviously, income, output, and expenditure flows are always equal per unit of time. There is, thus, a triple identity: Output = Income = Expenditure.

## 4. Concepts Associated With National Income and Related Concepts

### (A) Gross National Product (GNP)

To calculate national income, we add up all the goods and services produced in a country. Such a total represents the gross value of final products turned out by the whole economy in a year, which is technically called Gross National Product. The word "gross" indicates the inclusion of the provision for the consumption of capital assets, *i.e.,* depreciation or replacement allowances.

GNP, thus, may be defined as the aggregate market value of all final goods and services produced during a given year. The concept of final goods and services stands for finished goods and services, ready for consumption of households and firms, and exclude raw materials, semi-finished goods and such other intermediary products. More specifically, all sales to households, business investment expenditures, and all government expenditures are treated as final products. But, intermediary goods purchased by business firms are obviously regarded as final goods. For example, when a textile mill purchases a machine or showroom, it is regarded as final goods, but when it buys cotton, it is not regarded as final goods. This is to avoid double counting because when cotton is transformed into cloth, its value will be included in the price of cloth.

In an open economy (an economy subject to international trade), GNP may be obtained by adding up:

1. The value of all consumption goods which are currently produced.

2. The value of all capital goods produced which is defined as Gross Investment. Gross investment, in the real sense, here implies the increase in inventories plus gross products of buildings and equipments. It, thus, includes the provision for the consumption of capital assets, *i.e.,* depreciation, or replacement allowances.

3. The value of government services which are measured in terms of governmental expenditure on various goods and services for rendering certain services to the benefit of the entire community.

4. The value of net products, *viz.,* the difference between total exports and total imports of the nation. This value may be positive or negative.

5. The net amount earned abroad. This represents the difference between the income received by the nationals from abroad on their foreign investment, minus the income paid by them abroad on the foreigner's investment.

GNP at market price, thus, represents:

GNP = C + I + G + (X – M) + (R – P),

where,

C stands for consumption goods,

I stands for capital goods/or gross investment,

G stands for government services,

X stands for exports,

M stands for imports,

R stands for income receipts from abroad, and

P stands for income paid abroad.

In a closed isolated economy, however, GNP = C + I + G.

GNP is the basic social accounting measure of the total output. It represents the final products, ready for consumption, valued at current market prices.

### (B) Gross Domestic Product (GDP)

When we take the sum total of values of output of goods and services in the country, without adding net factor incomes received from abroad, the figure so obtained is called Gross Domestic Product (GDP).

GDP = C + I + G + (X – M).

This is measured at market prices.

A measurement of GNP has been illustrated in the Table 1.1 below.

**Table 1.1: Final Output (GNP)**

| *Item* | *Value of Current Market Price (₹ Crores)* |
|---|---|
| Consumption (C) | 654 |
| Investment (I) | 334 |
| Government Purchases (G) | 123 |
| Net Exports (X – M) | + 15 |
| Net Income from the rest of world (R – P) | + 2 |
| Total | 1128 |

In measuring GNP, each finished product is multiplied by its price. Thus, the relative importance of particular goods is expressed by its relative price. Further, with changes in prices the GNP also changes. During inflation, thus GNP appreciates simply on account of rising prices. To know the real GNP, therefore, we must deflate a given GNP total from the market price to the constant price.

GDP at factor cost is obtained as follows:
GDP at market price + (S – T),
where, S = Government subsidies, and T = Indirect taxes.

GNP represents the measure of the economic output in an economic system. The final output included in the GNP is composed of the following uses: (1) Consumption, (2) Investment, (3) Government spendings, and (4) Net exports. As Schultze points out, all output flows to one of these four uses.

The consumption expenditure component of national product constitutes the expenditure on durable goods, perishable goods, and services which are marketed during the year.

The investment component implies that part of the current product which is not consumed but used for adding further or replacing the real capital assets. It refers to gross investment. Gross investment minus depreciation (for replacement requirement) is equal to net investment.

### (C) Net National Product (NNP)

It refers to the value of the net output of the economy during one year. NNP is obtained by deducting the value of depreciation or replacement allowance of the capital assets from the GNP. To put it symbolically: NNP = GNP – D, where D = depreciation allowances. This value is measured at current prices, while GNP is expressed at current market prices. Net National Product, in fact, is the value of total consumption plus the value of net investment of the community.

Depreciation means wear and tear of machinery in the process of production. Machines used for production have to be replaced at some future time, as due to their constant use they become useless over time. Similarly, some machinery becomes out of date with the passage of time. This old type of machinery needs to be replaced by an up-to-date one, if competitive efficiency is to be maintained. Thus, when the amount of estimated depreciation and obsolescence, *i.e.,* capital consumption, is subtracted from Gross National Product, we get Net National Product.

### (D) National Income at Market Price and National Income at Factor Costs

In the national income analysis, usually a distinction is made between national income at market price and national income at factor costs. National income at market price means the money value of goods and services produced. It is the price of the aggregate output and services at current market prices. This price also includes some element of taxes and subsidies.

Gross domestic product at factor cost = Income earned by the factor of production + Depreciation.
Net Domestic Product at factor cost = Income earned by the factor of production – Depreciation + Taxes – Subsidy.
National Income at market price = National Income at factor cost + Taxes – Subsidies – Depreciation.

A simple example will illustrate this point.

Let us suppose that the price of a bottle of beer is ₹ 6. In this case, the national income at market price is ₹ 6. But there is some element of tax in the above price. Let us suppose, the tax is ₹ 2. Then,

the national income at factor cost is ₹ 4, because the factor of production which has contributed to the production of one bottle of beer will get only ₹ 4 and the balance of ₹ 2 will go to the government as tax.

Let us now analyse the implications of the elements of subsidy. Let us suppose the fair price of a kilogram of sugar is ₹ 4, but its actual cost of production is ₹ 5. The difference of ₹ 1 between the actual cost of production (₹ 5) and the fair price shop price (₹ 4) is borne by the State. In this case, the national income at market price is ₹ 4, but it is ₹ 5 at factor cost because the factors of production would receive ₹ 5 for the production of one kilogram of sugar.

## 5. Other Related Concepts and Relationships

### (1) Personal Income

(1) Personal income is the total money income received by individuals in the community. Personal income is the aggregate earned and unearned income. Undistributed profits of the corporations reduce the personal income of individuals to that extent. Thus, personal income (PI) = NI - undistributed profits, (U). Again personal income includes transfer payments made by government as well as the private business sector to individuals.

Thus, personal income (PI) = NNP + transfer payments (R)

$\therefore$ PI + NI + R – U.

### (2) Disposable Personal Income

Disposable personal income is the sum of the consumption and saving of individuals. Thus, DI = C — S.

Disposable personal income (DPI) rather than National Income is the determinant of consumption, because the consumption of a person depends on his take away home pay.

Disposable income includes an unearned element (transfer payments) which is excluded in community's earned income estimates, *i.e.,* national income. Disposable income is the total income, earned and unearned, of individuals minus direct taxes.

Thus, DPI or simply DI = PI - T*d* where T*d* = direct personal taxes such as income tax, wealth tax, etc. DPI is also symbolised as Y*d* by money economists.

PI = Y*d* = C + S

Keynes, however, assumed that T*d* = 0.

$\therefore$ Y = Y*d* $\therefore$ Y = C + S

### (3) Personal Savisngs

Personal savings refer to the difference between disposable personal income and personal consumption expenditure.i.e. S = Y*d* – C

A bird's eyeview of the calculation of related concepts in national income data is presented in Table 1.2.

**Table 1.2: Relation of GNP, NI, Personal Income Saving (Imaginary Data)**

| | ₹ *Crores* |
|---|---|
| GNP | 500 |
| Capital consumption allowance | – 50 |
| Net National Product (NNP) | 450 |
| Indirect Taxes | – 60 |
| Subsidies | 10 |
| National Income (NI) | 400 |
| Corporate Profits | – 70 |
| Dividends | 15 |
| Government transfer payments and business transfer payments | 25 |
| Personal Income | 370 |
| Personal direct taxes | – 70 |
| Disposable Personal Income (DPI) | 300 |
| Personal consumption expenditure | – 275 |
| Personal savings | 25 |

## 6. Calculation of National Income: Methods of Estimation

In national income estimates, by definition, we have to count all those goods and services produced in the country and exchanged against money during a year. Thus, whatever is produced is either used for consumption or for saving. Thus, national output can be computed at any of the three levels, *viz.,* production, distribution and expenditure. Accordingly, we have three methods of estimating national income: *(A)* the census of products method, *(B)* the census of income method and, *(C)* the expenditure method.

### (A) The Census of Products Method or Output Method

This method measures the output of the country. It is also called the inventory method and involves the assessment, through census, of the gross value of production of goods and services produced in different economic sectors by all the productive enterprises in the economy. (For instance, the producing sectors in India are agriculture, forestry, fisheries, mining, industries, transport, commerce and other services.)

To the aggregated value of total output, real income earned from abroad is added (*i.e.,* add the net difference between the value of exports and imports). And indirect taxes like excise and customs duties, plus depreciation allowances are to be reduced from the total obtained. Thus, to this net difference of the income earned from the rest of the world, a symbolic expression for this method may be given as follows:

$$Y = (P - D) + (S - T) + (X - M) + (R - p)$$

where,

Y = total income of the nation,

P = domestic output of all production sectors,

D = depreciation allowance,

S = subsidies,

T = indirect taxes,

X = exports,

M = imports,

R = receipts from abroad, and

*p* = payments made abroad.

Mostly, this method is adopted in the calculation of national income. However, there are certain precautions against the danger of double counting, etc., which must be strictly avoided if a correct result is to be achieved.

The following precautions are necessary:

1. To avoid double counting, we must add only the final products. Raw materials and intermediate goods should not be included, as that would lead to double counting.

2. Goods for self-consumption by the producer should be excluded; they have not been marketed, so it is difficult to ascertain their true market value.

3. While evaluating the output, changes in the price levels between the years must be taken into account. It is usual to denote national income with reference to prices of a particular year.

4. Indirect taxes, included in prices, are to be deducted for getting the exact value of the products. Similarly, subsidies given by government to certain products should be added in evaluation of the product.

5. Add the value of exports or the income earned abroad and deduct the value of imports.

This method is widely used in the underdeveloped countries, but it is less reliable because the margin of error in this method is large. However, in India, this method is applied to agriculture, mining and manufacturers, including handicrafts. But the census of product method is not applied for the transport, commerce and communication sectors in India.

### (B) Census of Incomes Method

In this method, income of all factors of production is added together. The data is compiled from books of accounts, reports, and published accounts. The following classification of incomes is considered as comprehensive: *(a)* wages and salaries, *(b)* supplemental labour income (social security, etc.), *(c)* earnings of self-employed or professional incomes, *(d)* dividends, *(e)* undistributed profits, *(f)* interest, *(g)* profit of state enterprises. However, transfer payments like gift subsidies etc., are to be deducted from the total of factor incomes. Thus, National Income is equal to the factor incomes minus transfer payments.

This method is also called the Factor Cost Method. Thus, the national income of a country, at factor cost, is equivalent to the sum total of the disbursements of their (factors) income. The symbolic expression of this method is as follows:

$Y = (w + r + i + n) + (X - M) + (R - P)$ where

$w$ = *wages,* $r$ = *rent,* $i$ = *interest,* $n$ = profits.

However, certain precautions are necessary while following this method.

1. All transfer payments (government and personal) like gifts, pension, etc., are to be deducted. Similarly, gambling, being transfer activity, is to be excluded.

2. All unpaid services (like services of housewife) are to be excluded. Thus, only those services for which payments are made should be included.

3. Financial transactions and sales of old property (including land) are to be excluded, as they do not add anything to the real national income. Thus, all capital gains and losses which are related to wealth, but not to real income, should be excluded.

4. Direct tax revenue to the government should be subtracted from the total income as it is only a transfer of income. Or else, it should not be reckoned at all.

5. Similarly, government subsidies should be deducted.

6. Add the value of exports and deduct the value of imports.

7. Add undistributed profit of companies, income from government property and profits from public enterprises.

In India, the National Income Committee used the income method for adding up the net income from trade, transport, public administration, professional and liberal arts, and domestic services. Since, under Indian conditions, due to lack of popularity of personal accounting practices, it is difficult to ascertain the personal income of individuals, the income method is not wholly practicable.

### (C) The Expenditure or Outlay Method

National income on the expenditure side is equal to the value of consumption plus investment. In this method, we have to: *(i)* estimate private and public expenditure on consumer goods and services, *(ii)* add the value of investment in fixed capital and stocks, with due consideration for net positive or negative inventories, and *(iii)* add the value of exports and deduct the value of imports. This method is not as popular as the previous ones.

To express it in symbolic terms,

$Y = (C + I + G) + (X - M) + (R - P)$ where,

C = Consumption Expenditure,

I = Investment Expenditure, and

G = Government Purchases.

The Bowley-Robertson Committee has suggested the adoption of the Census of Products Method for major sectors of India, and the Census of Income Method for some minor sectors, while the National Income Committee relied mainly upon the Census of Income Method. However, none

of the above methods alone is perfect. Therefore, an integrated computation of them will give a wider perspective of the estimate.

The process of calculation of national income (by using the above discussed three methods) has been illustrated in a summarised way, with hypothetical data of an imaginary economy, in Table 1.3 (A, B and C).

**Table 1.3: Estimate of the National Income of Country X during a given Year**

| *A* | *Income Method* | *₹ (Crores)* |
|---|---|---|
| | Income: Wages, salaries, etc. | 1,000 |
| | Profits: Private and Public Operations | 500 |
| | Rent | 200 |
| | Interest | 100 |
| | Total domestic income: | 1,800 |
| | Less: Stock appreciation | – 250 |
| | Residual error | – 50 |
| | Net property income from abroad | 100 |
| | FNP | 1,600 |
| | Less: Capital consumption | – 150 |
| | National Income | 1,450 |
| *B* | *Expenditure Method* | *₹ (Crores)* |
| | Consumer's expenditure (C) | 1,100 |
| | Public authorities' current expenditure on Goods/Services (G) | 600 |
| | Gross Capital formation (Investment) at home including increase in stocks (I) | 500 |
| | Total domestic expenditure at market prices | 2,200 |
| | Plus exports and income from abroad | 600 |
| | Minus imports and income paid abroad | – 250 |
| | Less Taxes in expenditure | – 1,000 |
| | Plus subsidies | 50 |
| | GNP at factor cost | 1,600 |
| | Less: Capital consumption | – 150 |
| | National Income | 1,450 |
| *C* | *Output Method* | *₹ (Crores)* |
| | Agriculture, Forestry and Fishing | 250 |
| | Mining and Quarrying | 100 |
| | Manufacturing | 200 |
| | Construction | 100 |

| | | |
|---|---|---|
| Gas, electricity and water | | 50 |
| Transport and communication | | 200 |
| Distributive Trades | | 300 |
| Insurance, banking and finance | | 200 |
| Public administration and defence | | 150 |
| Other services | | 100 |
| | Total domestic output | 1,800 |
| Less: Stock appreciation | | – 250 |
| Residual error | | – 50 |
| Net property income from abroad | | 100 |
| | GNP at factor cost | 1,600 |
| | Less: Capital consumption | – 150 |
| | National Income | 1,450 |

To be more realistic on this account, we have purposely assumed that the results in these three methods are not identical due to incomplete information. Thus, the expenditure statistics are taken as data. The difference between expenditure statistics and income and output statistics is regarded as a residual error in the above table.

## 7. Difficulties in Estimating National Income

While estimating national income statisticians and economists usually encounter the following sets of difficulties: *(i)* conceptual and *(ii)* statistical or practical.

The conceptual problem relates as to how and what is to be included and what is not, in the measurement of national income. Logically, the concept of national income would imply that everything that is produced must be reckoned.

However, by definition, we consider only those things which are exchanged for money or carry some price. By convention, on the basis of the availability of information, certain guidelines have been laid down in the process of national income estimates.

A few of them are:

**1. Farm products kept for self-consumption:** These are to be included as national income and estimated by a guess and at the rate of market price of agricultural products that have been marketed.

However, output of food from domestic poultry or vegetables grown home or terrace gardens etc. are not included in national income, as no accurate estimate of their production is available.

**2. Services of housewives:** These are not to be included in national income as they have no price and no market for the services rendered for their own household work. But the value of the services of domestic servants are to be considered as national income. Obviously then, a person who marries his maidservant reduces the national income to that extent.

**3. Unpaid services** are not reckoned as national income.

**4. Defence services,** being indirectly productive must be included as national income. Their value will be equivalent to the defence expenditure incurred by the government.

**5. Double Entry:** There are statistical problems too. Great care is required to avoid double counting, otherwise there will be an exaggerated valuation of national output. Again, statistical data may not have perfect reliability when they are compiled from numerous sources. Skill and efficiency of the statistical staff and co-operation of people at large are also equally important in estimating national income.

**6. Problems of unorganised sector:** In India, a special conceptual problem is posed by the existence of a large, unorganised and non-monetised subsistence sector where still barter system still prevails for transacting goods. Here, a proper valuation of output is very difficult. A large part of India's national income is, therefore, a guess work without much accuracy.

**7. Rural Occupation:** Further, rural folk in India have no specific employment. Their occupation is of divergent nature. A person is a farmer as well as a carpenter at one and the same time. So, it is very difficult to decide the structure of national income by industrial origin.

**8. Stastical Problems:** Further, in a country like India, statistical difficulties are still more severe. Some of these are:

1. Accurate and reliable data are not adequate, as far as output in the subsistence sector is not completely informed. Small-scale and cottage industries also do not report their targets. Indigenous bankers do not furnish reliable data and so on.

2. India, is a country with large regional diversities. Thus, different languages, customs, etc. also create a problem in computing the estimates.

3. People in India are indifferent to the National Income Committee's inquiries. They are also non-co-operative also.

4. Statistical staff is also untrained and inefficient.

Therefore, national income estimates in our country are not very accurate nor are they adequate.

## 8. National Income Deflator

National Income Deflator is generally derived in terms of GDP. GDP deflator is derived from the national income accounts as a ratio of GDP at current prices to GDP at constant prices. The scope and coverage of the GDP deflator is wider than any other measure, for it encompasses the entire spectrum of economic activities including services. At present, the GDP deflator is available only annually with a long lag of over one year and hence has very limited use for the conduct of policy.

In most systems of national accounts, the GDP deflator measures the ratio of nominal (or current price) GDP to the real (or chain volume) measure of GDP. The formula used to calculate the deflator is:

$$\text{GDP deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$

In short, national income deflator is a general way of referring to the price index which measures the average level of the prices of all the goods and services comprising the national income or GDP.

The nominal GDP of a given year is computed using that year's prices, while the real GDP of that year is computed using the base year's prices.

The formula implies that dividing the nominal GDP by the GDP deflator and multiplying it by 100 will give the real GDP, hence "deflating" the nominal GDP into a real measure.

It is often useful to consider implicit price deflators for certain subcategories of GDP, such as car engine. In this case, it is useful to think of the price deflator as the ratio of the current year price of a good to its price in some base year. The price in the base year is normalized to 100. For example, for car engine, we could define a "unit" to be a car with a specific level of horse power, capacity, torque and so on. A price deflator of 200 means that the current year price of this car engine is twice its base year price, i.e., price inflation. A price deflator of 50 means that the current year price is half the base year price, i.e., price deflation. This can lead to a situation where official statistics reflect a drop in prices, even though they have stayed the same. Consider the example of the car engine. From year to year, assume that the price of a new car stays the same, but the engine power doubles. This would result in a price deflator of 50, though the consumer would have to spend the same amount of money on both systems.

The GDP deflator provides an alternative to the Consumer Price Index (CPI). The CPI is based upon a basket of goods and services while the GDP deflator incorporates all of the final goods produced by an economy. This allows the GDP to more accurately capture the effects of inflation since it's not limited to a smaller subset of goods.

## 9. Human Development Index

The idea of Human Development Index was signed by A.K. Sen and Mahbul ul Haq.

The Human Development Index (HDI) refers to an index which is used to reflect a country's level of human development. It is the basic measure used by the United Nations Development Programme (UNDP) to gnage a country's development of its human resources.

The measurement of the HDI includes parameters such as:

- Life expectancy
- Literacy
- Educational Attainment
- Per Capita Real Income (GDP at constant price) to reflect general standard of living in the country.

As such, the life expectancy at birth is reviewed as an index of the country's population health and longevity.

Secondly in the literacy rate measurement, 2/3 weight is assigned to the adult literacy rate.

Thirdly, in determination of knowledge and education level, primary, secondary and tertiary education groups enrollment ratio is considered with 1/3 weight.

Forth, per capita GDP is used to perceive standard of living. It is measured in logarithmic term.

The Human Development Index is, thus, measured as an average of the following general indices.

Life Expectancy Index (LEI)

Per Capita GDP Index ($GDP_{PCI}$)

That means:

$$HDI = \left[ \frac{LEI + EDI + GDP_{PCI}}{3} \right]$$

It follows that a high HDI implies a higher level of development and vice versa.

A high development level is represented by the HDI more than 80. Developed countries, such as North Amercia, Western Europe in East-Asia and some developing countries in South-east Asia, Central and South Amercia, Eastern Europe and the oil-rich Arabian Per insures countries have a high HDI.

The HDI below 50 implies a low level of human development of the country.

As per the 2008 report, Iceland ranked number one for having the highest. HDI 96.8. The USA is ranked 12 with HDI 95.1.

Pakistan has a lowest HDI at 56.2. Bangladesh 52.4.

Out of 177, countries reported Pakistan is ranked at 136, while India at 128 and China at 81 Spot.

Critics mention some drawbacks of the HOI, Such as:

- It has failed to consider ecological and environmental factors.
- Inappropriate treatment of income level.
- It lacks year-to-year comparability
- It is a redundant measure.

## 10. Concept of Inclusive Growth

The concept of inclusive growth has gained wide importance in several countries including India. Inclusive growth implies participation in the process of growth and also sharing of benefit from growth. Growth is considered to be pro-poor as long as poor benefit in absolute terms, as reflected in some agreed measure of poverty. Growth with equity is the only road to success. It has been globally recognized that high national income growth alone does not address the challenge of employment promotion, poverty reduction and balanced regional development. Nor does growth in itself improve human development. Consequently, all the efforts of government – in agricultural and rural development, in industry and urban development, in infrastructure and services and in education and health care sought to promote inclusive growth.

The concept of inclusive growth deals with social justice and inclusion of all the people making economic growth a participatory process. By now, the concept of Inclusive growth is internationally accepted as a means of abolishing poverty, social exclusion and income/economic inequality by all

governments and international finance and development organizations. But the concept of inclusive growth is not scientifically, precisely defined by social scientists and bodies like UNDP. However, attempts are made to define/interpret the concept of inclusive growth which may be briefed as

## Definition of Inclusive Growth

According to OECD Development Committee's policy statement is on pro-poor growth has a difference between pro-poor. Therefore, inclusive growth is that the pro-poor approach is mainly interested in the welfare of the poor while inclusive growth is concerned with opportunities for the majority of the labour force, poor and middle-class alike rapid and sustained poverty reduction requires inclusive growth that allows people to contribute to and benefit from economic growth. Rapid pace of growth is unquestionably necessary for substantial poverty reduction, but for this growth to be sustainable in the long run, it should be broad-based across sectors, and inclusive of the large part of the country's labour force.

This definition of inclusive growth implies a direct link between the macro and micro determinants of growth. The micro dimension captures the importance of structural transformation for economic diversification and competition, including creative destruction of jobs and firms (World Bank, 2009).

Dr. K.C. Chakrabarty, Deputy Governor of RBI, depicted the concept as: "Inclusive growth as the literal meaning of the two words refers to both the pace and the pattern of the economic growth. The literature on the subject draws fine distinction between direct income redistribution or shared growth and inclusive growth". The inclusive growth approach takes a longer term perspective as the focus is on productive employment rather than on direct income redistribution, as a means of increasing incomes for excluded groups".

World Bank (2006, PXIV,) has stated that inclusive economic growth can be achieved by "focusing on expanding the regional scope of economic growth, expanding access to assets and thriving market and expanding equity in the opportunities for the next generation of Indian citizens no matter whom they are or where they live."

Sen (2007) sets a necessary condition for inclusive growth in that the disparity in worker income between agriculture and non-agriculture should not widen.

The former Deputy Chairman (M.S. Ahluwalia) of the Planning Commission providing the following interpretation: (i) "Achieving a growth process in which the process in which the people in different walks in life...feel that they too benefit significantly from the process": and (ii) "poverty was one dimensional, but lack of inclusion now is multidimensional and interlinked with regional and caste issues... The plan is no longer about a model; it is now about pulling together a whole lot of forces and impulses... An inclusive strategy should provide for health, education and agriculture." (Eleventh Five Year Plan 2007-12).

In short, inclusive growth is an approach to economic development that is anti-protectionist, fuelled by market-driven growth and facilitated by government. It is non-reactive. It does not just respond to immediate macroeconomic concerns. It is a long-term strategy, extending across sectors and strata and focuses on productive employment rather than just income redistribution. Ultimately, inclusive growth empowers individuals so that they are better able to reap the benefits of globalisation and to withstand future economic shocks. It is, therefore, critical to poverty reduction as well as to sustainable economic growth.

## Need and Importance of Inclusive Growth in India

Inclusive growth is necessary for sustainable development and equitable distribution of wealth and prosperity. Achieving inclusive growth is the biggest challenge in a country like India. In a democratic country like India, bringing 600 million people living in rural India into the mainstream is the biggest concern. The challenge is to take the levels of growth to all section of the society and to all parts of the country. The best way to achieve inclusive growth is through developing people's skills.

The following factors lead to concentrate more on inclusive growth.

1. India is the 7th largest country by area and 2nd by population. It is the 12th largest economy at market exchange rate and 4th largest by PPP. Yet, India is far away from the development of the neighbourhood nation, i.e., China.
2. The exclusion in terms of low agriculture growth, low quality employment growth, low human development, rural-urban divide, gender and social inequalities, regional disparities etc. are the problems for the nation.
3. Reducing of poverty and other disparities and raising of economic growth are the key objectives of the nation through inclusive growth.
4. Studies estimated that the cost of corruption in India amounts to over 10% of GDP. Corruption is one of the ills that prevent inclusive growth.
5. Although child labour has been banned by the law in India and there are stringent provisions to deter this inhuman practice. Still, many children in India are unaware of education as their lives are spoiled by labour work.
6. Literacy levels have to rise to provide the skilled workforce required for higher growth.
7. Economic reforms in the country are overwhelmed by outdated philosophies and allegations by the politicians and opposition parties in India.
8. Achievement of higher growth of GDP growth for country as a whole is one of the boosting factor which gives the importance to the Inclusive Growth in India.
9. Inclusiveness benchmarked against achievement of monitorable targets related to (i) ncome and Poverty, (ii) education, (iii) health, (iv) women & children, (v) infrastructure and (vi) environment.

To conclude, the key components of the inclusive growth strategy included a sharp increase in investment in rural areas, rural infrastructure and agriculture spurt in credit for farmers, increase in rural employment through a unique social safety net and a sharp increase in public spending on education and health care.

## MODEL QUESTIONS

### PART – A

Answer in one sentence each

1. What is GDP?
2. What is net domestic product at market price?

3. State whether the following statements are TRUE or FALSE and rewrite them:
   (a) National income is a heterogeneous whole. [True]
   (b) National income is both a flow of goods and services and a flow of money incomes. [True]
   (c) GNp includes the values of raw materials. [False]
   (d) Dowry is a transfer payment, hence not included in national income. [True]
   (e) For determining NNP, depreciation allowances are added to the GNP. [False]
   (f) The value of exports are added in measuring the national income. [True]
   (g) Only output method is employed for estimating national income in India. [False]
   (h) Wine is not wealth. [False]
   (i) NNP can exceed GNP. [False]
   (j) Wedding gifts are a part of national income. [False]
   (k) A lottery prize is taxable, so it is a national income. [False]
   (l) National income includes black money income. [False]
   (m) Taj Mahal Hotel is a national wealth. [True]

**PART – B**

Answer in four sentences each

4. Distinguish between in three points:
   (a) Gross National Product and Net National Product.
   (b) NNP in market prices and NNP at factor cost.

**PART – C**

Answer in fifteen sentences each

5. Frame relationship between national income and welfare.

**PART – D**

Answer in about forty sentences each

6. Describe the methods of estimating national income.
7. Write a note on Human Development Index.

## PROJECTS AND ASSIGNMENTS

1. From the following figures calculate:

(a) Gross National Product; (b) Net Domestic Product; and (c) National Income.

| | ₹ Crores |
|---|---|
| Wages and Salaries | 15,000 |
| Profits and Rents | 10,050 |
| Payments to Foreigners for Assets held in India | 1,200 |
| Income from abroad | 950 |
| Depreciation | 2,000 |

2. Which of the following items will be included in national income estimate and which of them will be excluded from? Why? Or which of the following items would you consider in measuring national income? Give reasons:

(a) Old-age pension.
(b) Government's subsidy to fertilisers.
(c) Income tax.
(d) Services of a housewife.
(e) The value of an imported TV set.
(f) Purchase of an old house.
(g) Military expenditure.
(h) Value of smuggled goods.
(i) Central excise.
(j) Black money.
(k) Self-consumption of foodgrains by a farmer.
(i) Undistributed corporate profits.
(m) A husband's gift to his wife on her birthday.
(n) Sale of old furniture by a household.
(o) Salary of a professor.
(p) Dividend on equity shares.
(q) Payment of bonus to the workers.
(r) Economically Backward Class (EBC) Scholarship.
(s) Brokerage paid to an estate agent.