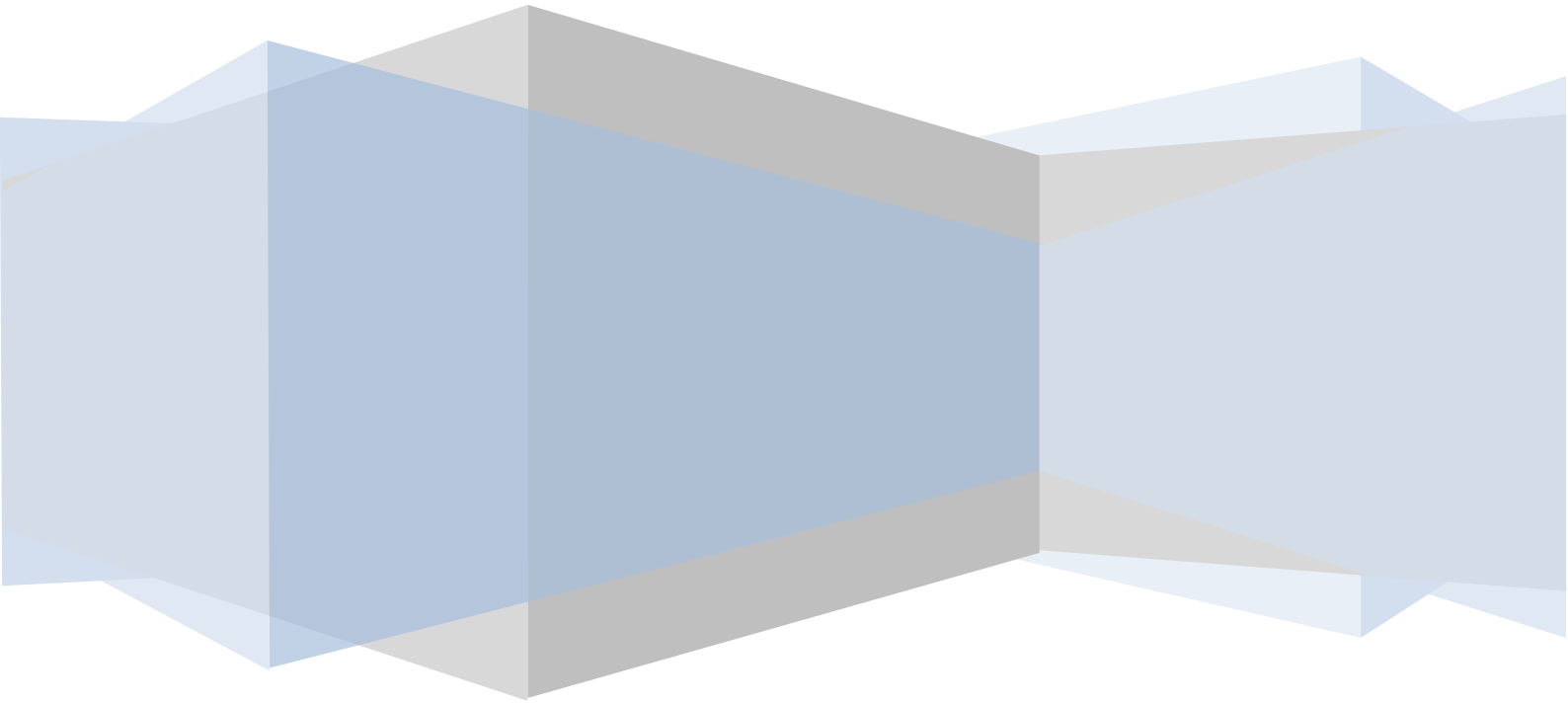
IIPA 2022

Chapter 6: GDP calculation methods

Short Answers

CSM 05: Economic and Social Development- Sustainable Development, Poverty, Inclusion

Compiled by Prof. Ashok Vishandass



This chapter contains:

- **Nominal GDP**
- **Real GDP**
- **Nominal GDP and Real GDP**
- **GDP Deflator**
- **GDP and Welfare**
- **Value Added Method**
- **Expenditure Method**
- **Income Method**
- **Methods of Calculating National Income**
- **Economic Growth and Economic Development**

Contents

1 Nominal GDP 1

1.1 Nominal GDP 1

1.2 Conclusion 1

2 Real GDP 2

2.1 Real GDP 2

2.2 Conclusion 2

3 Nominal GDP and Real GDP 3

3.1 Nominal GDP 3

3.2 Real GDP 3

3.3 Difference between Nominal GDP and Real GDP 3

3.4 Conclusion 4

4 GDP Deflator 5

4.1 GDP Deflator 5

4.2 Formula of GDP Deflator 5

4.3 Difference between GDP and Inflation 5

4.4 Significance of GDP Deflator 6

4.5 Conclusion 6

5 GDP and Welfare 7

5.1 Interrelation between GDP and Welfare 7

5.2 GDP is not a clear measure of Welfare 7

5.3 Conclusion 7

6 Value Added Method 8

6.1 Value Added Method 8

6.2 How to calculate National Income by Value Added Method? 8

6.3 Illustration 9

6.4 Precautions while using Value Added Method 10

6.5 Conclusion 10

7 Expenditure Method 11

7.1 Expenditure Method 11

7.2 How to calculate National Income by Expenditure Method? 11

7.3 Illustration 12

7.4 Precautions while using Expenditure Method 13

7.5 Conclusion 13

8 Income Method 14
8.1 Income Method 14
8.2 How to calculate National Income by Income Method? 14
8.3 Illustration 14
8.4 Precautions while using Income Method 15
8.5 Conclusion 15
9 Methods of Calculating National Income 16
9.1 How is National Income calculated? 16
9.1.1 Value Added Method 16
9.1.2 Income Method 17
9.1.3 Expenditure Method 17
9.2 Conclusion 17
10 Economic Growth and Economic Development ..... **Error! Bookmark not defined.**
10.1 Economic Growth ..... **Error! Bookmark not defined.**
10.2 Economic Development ..... **Error! Bookmark not defined.**
10.3 Economic Growth vs Economic Development ..... **Error! Bookmark not defined.**
10.4 Why Economic Growth and Economic Development are important? ... **Error! Bookmark not defined.**
10.5 Conclusion ..... **Error! Bookmark not defined.**

1 Nominal GDP

Nominal GDP can be defined as the value of all the goods and services used to calculate the GDP of the country **at the current prices**. The current prices mean prices in the year in which the GDP is to be found out. Nominal GDP is an important concept to understand for the UPSC IAS Exam.

1.1 Nominal GDP

- To calculate the **Gross Domestic Product (GDP)** we consider the value of all the goods and services produced in the country in a particular financial year. A financial year starts on **April 1st and ends on March 31st.**
- Nominal GDP is the value of all goods and services used in calculating GDP at the current prices.
- For instance, if the nominal GDP is calculated for the year 2019-2020, then the prices during the year 2019-2020 must be considered for calculating the nominal GDP.
- Consider a country producing only 10 units of cloth of 10 crores each in 2019-2020. Therefore the nominal GDP for 2019-2020 is 100 crores.
- However, in reality, the calculation of GDP is not that easy as the number of goods and services are in huge numbers in the range of hundreds of thousands.

Facts: In the year 2020-21, nominal GDP, or GDP at current prices, is expected to reach **197.46 lakh crore for India.**

1.2 Conclusion

Nominal GDP generally represents the size of the economy and can be used to compare a quarter-on-quarter growth of the economy. Nominal GDP is used to compare economies by removing the bias created by the base year and gauging the growth based on current prices.

*****

2 Real GDP

Real GDP can be defined as the value of all the goods and services used to calculate the GDP of the country at the **base year prices**. In other words, it can be said that Real GDP is the GDP of the country adjusted to inflation. The Real GDP is calculated at base year prices to negate the effect of inflation and have a reasonable comparison. Real GDP is an important concept to understand for the UPSC IAS Exam. In this article, we will see the meaning of nominal GDP and a few examples of the same.

2.1 Real GDP

- To calculate the Gross Domestic Product (GDP) we consider the value of all the goods and services produced in the country in a particular financial year. A financial year starts on **April 1st and ends on March 31st.**
- Real GDP is the value of all goods and services used in calculating GDP at the **base year prices.**
- Let us consider an example if we have to find the Real GDP of the economy in 2020-2021 with the base year of 2019-2020.
- Let us consider a country producing only 10 units of cloth of 10 crores each in 2019-2020. Therefore the nominal GDP for 2019-2020 is 100 crores and the Real GDP is also 100 crores.
- The price of cloth has increased to 11 crores in 2020-2021 and the country still produces 10 units of cloth.
- Therefore, nominal GDP in 2020-2021 is 10 units multiplied by 11 crores which gives us a nominal GDP of 110 crores.
- The real GDP of 2020-2021 considers the 2019-2020 price of the cloth which is 10 crores, therefore for 10 units of cloth produced the Real GDP is 100 crores.
- Though there is a growth of 10 crores in nominal terms, it is because of inflation. The Real GDP growth in the above case is zero.

Facts: In the year 2020-21, real GDP or Gross Domestic Product (GDP) at constant prices (2011-12) is predicted to be **Rs 135.13 lakh crore for India.**

2.2 Conclusion

Real GDP represents the growth of the economy. Real GDP is used to compare different financial years to understand the growth of the economy. To achieve accurate values of the Real GDP the base year has to be as close to the calculating year as possible to reduce the errors caused in calculation due to the base year effect.

*****

3 Nominal GDP and Real GDP

The difference between Nominal GDP and Real GDP is that **Nominal GDP is calculated at current prices and Real GDP is adjusted for inflation**. In simpler words, Nominal GDP is the value of goods and services produced in the country in the past year at current prices. On the other hand, Real GDP is the value of goods and services produced in the country in the past year calculated at base-year prices. In this article let us see what nominal and real GDP with examples is and look at the difference between them.

3.1 Nominal GDP

- The value of all goods and services used in calculating GDP at the current price is called the nominal GDP.
- Current prices mean prices in the year of GDP calculation. If we are calculating the GDP of 2019-2020, then calculating GDP at 2019-20 prices gives nominal GDP.

For instance, consider a country producing only 10 units of cloth of 10 crores each in 2019-2020. Therefore the nominal GDP for 2019-2020 is 100 crores.

3.2 Real GDP

- The Value of all goods and services used in calculating GDP at the base year price is called the Real GDP. It can also be understood as Nominal GDP adjusted for the inflation compared to the base year gives Real GDP.
- Let us consider an example if we have to find the Real GDP of the economy in 2020-2021 with the base year of 2019-2020.

- Using the previous example, the price of cloth has increased to 11 crores in 2020-2021 and the country still produces 10 units of cloth.
- Therefore, nominal GDP in 2020-2021 is 10 units multiplied by 11 crores which gives us a nominal GDP of 110 crores.
- The real GDP of 2020-2021 considers the 2019-2020 price of the cloth which is 10 crores, therefore for 10 units of cloth produced the Real GDP is 100 crores.

3.3 Difference between Nominal GDP and Real GDP

Parameter	Nominal GDP	Real GDP
Meaning	Nominal GDP is the money value of all goods and services used in calculating	Real GDP is the money value of all goods and services used in calculating

	GDP at the current price	GDP at the base year price
Calculation	Nominal GDP includes inflation value	Real GDP doesn't include inflation value
Represented in	Current Year Prices	Base Year Prices
Indicates	Absolute increase in value of goods in a year or size of the economy	Real increase in productivity or growth of the economy
Used to compare	Inflation across different quarters in the same year	GDP growth for different financial years
Growth Analysis	It is not explicitly visible without knowing the inflation status	Gives a clear indication of growth or slowdown in the economy

3.4 Conclusion

Nominal GDP generally represents the size of the economy; however, the Real GDP represents the growth of the economy. To achieve accurate values of the Real GDP the base year has to be as close to the calculating year as possible to reduce the errors caused in calculation due to the base year effect.

*****

4 GDP Deflator

The **GDP Deflator** measures the average change of prices of all goods and services in the economy. The GDP Deflator is also known as the **Price Deflator** and **Implicit Price Deflator.** It is an indication of overall inflation across all goods and services in the economy compared to the base year. The topic of GDP Deflator is important for UPSC IAS Exam. In this article let us see what is GDP Deflator, the formula to calculate GDP Deflator and the difference between GDP Deflator and Inflation.

4.1 GDP Deflator

- The total output of goods and services is referred to as the **gross domestic product (GDP).**
- However, the statistic does not account for the impact of inflation or rising prices when GDP rises and declines.
- The GDP price deflator tackles this by demonstrating the impact of price changes on GDP by first defining a **base year** and then comparing **current prices** to base year prices.
- Simply expressed, the GDP price deflator indicates how much a change in GDP is influenced by price increases.
- It tracks the prices paid by businesses, the government, and consumers to reflect the magnitude of price level fluctuations, or inflation, within the economy.

4.2 Formula of GDP Deflator

Example: If the nominal GDP is 110 crores and the real GDP is 100 crores then the GDP Deflator is given by

GDP Deflator = 110/100 x 100 = 110

- This indicates that the overall economy has undergone inflation which is an increase in price levels.
- If the GDP Deflator is 100 and less than 100 then it indicates that there is zero average inflation and deflation or reduction of prices across the economy respectively.

4.3 Difference between GDP and Inflation

Parameter	GDP Deflator	Inflation
Meaning	The changes in prices for all of the goods and services produced in an economy.	The changes in prices for certain goods and services are used for the calculation of Inflation.

Index	Represented as GDP Deflator	Represented as Consumer Price Index (CPI) and Wholesale Price Index(WPI)
Number of Items used to calculate	All goods and services in the economy.	Approximately 700 for WPI and 450 for CPI
Published by	Ministry of Statistics and Programme Implementation (MoSPI)	CPI: Central Statistic Office (MoSPI) WPI: Office of Economic Advisor (Ministry of Commerce)

4.4 Significance of GDP Deflator

- Economists can compare the amount of real economic activity from one year to the next by using the GDP price deflator.
- When compared to other measures such as the **consumer product index (CPI)** and the **wholesale price index (WPI)**, it is much broader.
    - It computes inflation for the entire economy, rather than just a basket of specific goods, as CPI or WPI do.
- Any shift in consumption patterns or structural reforms is factored directly into the GDP deflator. Although CPI and WPI are available on a monthly basis, they do not provide a clear picture of economic inflation.
- As people respond to changing prices, new expenditure patterns are allowed to appear in the deflator.

4.5 Conclusion

GDP Deflator is an index that measures the price level changes of all goods and services in the economy as a whole. Comparing it to inflation indices such as CPI and WPI will give insights regarding the general price level changes apart from items captured by WPI and CPI.

*****

5 GDP and Welfare

Gross Domestic Product (GDP) is the price value of all the goods and services produced in a country in the past year. GDP per capita is a measure of how developed a country is. **Welfare** on the other hand is the overall wellbeing of the society including happiness, health, and economic wellbeing. GDP and Welfare are interconnected with each other. In this article, let us see the interrelationship between GDP and welfare and whether GDP indicates welfare.

5.1 Interrelation between GDP and Welfare

- Increasing the GDP of any country will result in **more GDP per capita**.
- More GDP per capita means more income to the people which they can spend on their basic necessities such as food, clothing, shelter, education, and healthcare.
- More income would result in **more tax revenue for the government** as well, which they can again spend on public welfare.
- Many Scandinavian countries attained development and welfare through increased GDP.

5.2 GDP is not a clear measure of Welfare

- GDP only mentions GDP per capita and whether a country's economy is growing or not.
- Increasing GDP per capita **doesn't give a picture of rising inequality or poverty** in an economy.
- For instance, according to the Oxfam report between 2000 and 2019, India's per capita gross domestic product (GDP) increased fivefold, from $443 in 2000 to $2014 in 2019.
- This doesn't mean it was distributed evenly, the 1% of the people accumulated 21 % of the total income of 2019 which shows grave inequality.
- **More GDP doesn't translate into more happiness**, despite being one of the world's wealthiest countries, the United States ranks 19th in terms of happiness.

5.3 Conclusion

The Gross Domestic Product (GDP) is a measure of a country's economic growth rather than welfare. The increasing GDP has to be distributed evenly by the government to ensure that inequality and poverty are reduced in society.

*****

6 Value Added Method

Value Added Method of National Income calculation is estimated at the **production level**. The value-added at each producing unit is calculated to estimate the overall value-added in producing goods and services in the economy. The **net-factor income from the rest of the world** is added to this to estimate the National Income.

National Income Estimation is an important topic for UPSC IAS Exam Economy Subject for Prelims and General Studies Paper 3 in Mains. In this article let us see what is the value-added method, how to calculate national income by value-added method and the precautions to be taken while estimating by this method.

6.1 Value Added Method

- This method is used to estimate national income at the production level.
- National income is the value of final products and services generated in a country's domestic territory plus net factor income from the rest of the world at the production level (ROW).
- The goods and services produced by each producing unit is the gross output value at market prices.
- To calculate the net value added at **factor cost** (of all producing units) we deduct the value of intermediary goods, net indirect taxes and the depreciation value. This is the **Net Domestic Product at factor cost.**
- Net Factor Income from the rest of the world is added to the net domestic product at factor cost to get **Net National Product at factor cost.**

6.2 How to calculate National Income by Value Added Method?

In this method following steps are involved:

1. To begin, all of an economy's producing firms are divided into three industrial sectors based on their activities. These are the following:

- **Primary sector:** The primary sector is made up of production units that rely on natural resources. Agriculture, forestry, fishing, mining, and other productive enterprises are included.
- **Secondary sector:** This sector includes those manufacturing units that convert inputs into outputs, such as turning wood into a chair. Construction, manufacturing, electricity, gas, and water supply are all part of it.
- **Tertiary sector:** This sector's producing units provide a wide range of services, including banking, trade, and transportation. This is often referred to as the **service sector.** Transportation, communication, and banking services are all part of this industry.

2. Each producing unit of the economy's net value added is determined from its gross value of output, which is calculated by multiplying the entire volume of items produced by their prices.

- We acquire the net value added at **factor cost (FC)** of the producing units by subtracting the sum of the value of **intermediate goods (IG), depreciation, and net indirect taxes (NIT)** from the value of output. **Or**
- **Net value added at FC = Gross value of output - IG - Dep - NIT**
- We derive the net value added at FC of a sector by aggregating the net value added at FC of all the producing units in that sector.
- Net Domestic Product at Factor Cost is calculated by adding the net value added at FC of all three sectors in a country's domestic territory.

3. Finally, adding net factor income from ROW to **net domestic product (NDP)** at factor cost yields **net national product (NNP)** at factor cost.

- NDP at FC will be more than net national product at factor cost (National Income) if net factor income from ROW is negative, and national income will be bigger than NDP at FC if it is positive.

6.3 Illustration

To understand better let us consider a numerical illustration to calculate the Net National Product at Factor Cost.

Calculate the Net National Product at Factor Cost if the (i) Gross value of output at Market Price 10000 (ii) Depreciation 500 (iii) Indirect taxes 750 (iv) Economic subsidies 150 (v) Intermediate consumption 3600 (vi) Net factor income from ROW 250

We know that,

Net value added at FC (Net Domestic Product at Factor Cost) = Gross value of output - IC - Dep - NIT

To calculate Net Indirect Taxes we deduct subsidies from indirect taxes.

=> Net Indirect Taxes (NIT) = 750 - 150 = 600

∴ Net Domestic Product at Factor Cost = 10000 - 3600 - 500 - 600

=> Net Domestic Product at Factor Cost = 10000 - 4700 = 5300

To get Net National Product at Factor Cost we need to add net factor income to Net Domestic Product at Factor Cost.

∴ Net National Product at Factor Cost = Net Domestic Product at Factor Cost + Net Factor income

=> Net National Product at Factor Cost = 5300 + 250 = 5550

6.4 Precautions while using Value Added Method

- **Self-consumption output:** That output that is produced for self-consumption and whose value can be assessed must be included in the production estimates because it is part of the current year's production.
- **Sale of second-hand products:** Because the value of these commodities had previously been included in national income, the sale of second-hand goods should not be included in national income.
- **Commissions paid to brokers** for the sale and purchase of used items should be included because they are payments for services rendered in the current year.
- **Intermediate Items:** It is not necessary to add the value of intermediate items because this would result in double counting.
- **Housewife services** should not be included because evaluating them is difficult.

6.5 Conclusion

Value Added Method of National Income estimation is one of the simplest methods to calculate the Net National Product. However, there are instances of double-counting while calculating the value-added in the case of items like second-hand products. Therefore necessary care must be taken while calculating the National Income by Value Added Method.

*****

7 Expenditure Method

Expenditure Method of National Income estimation used the final expenditure on finished items from all sectors of the economy. The different sectors expenditures include Private final consumption expenditure, Government final consumption expenditure, Gross Investment and Net exports (Exports - Imports). The **net-factor income** from the rest of the world is made use to estimate the National Income.

The expenditure method of National Income estimation is important along with value-added and income-based methods for the UPSC IAS Exam. In this article, let us see what is the expenditure method, how to calculate national income by expenditure method and the precautions to be taken while estimating by this method.

7.1 Expenditure Method

- The expenditure method can also be used to calculate national income during the **disposition phase**.
- It calculates national income by calculating final expenditure on GDP at market prices. Final expenditure refers to money spent on finished items.
- The goods that are demanded for final consumption and investment are known as final goods.
- All four sectors of the economy, namely households, businesses, the government, and the rest of the world, create demand for final consumption and investment.
- From the estimated GDP at market prices after summing up all final expenditures, we deduct net indirect taxes and the consumption of fixed capital (depreciation) to get the Net Domestic Product at Factor Cost.
- **Net Factor Income** from the rest of the world is added to the **net domestic product at factor cost** to get **Net National Product at factor cost.**

7.2 How to calculate National Income by Expenditure Method?

The main steps involved in measuring national income by this method are:

- Calculate the following expenditures on all sectors of the economy's ultimate products.
    - Final consumption expenditure in the private sector.
    - Final consumption expenditures by the government.
    - Gross Investment
    - Net Exports (exports - imports).
- Gross domestic product at market price is the sum of all the aforementioned expenditures on final products across all sectors of the economy.
- Next, subtract **fixed-capital consumption (depreciation)** and **net indirect taxes** from the gross domestic product at market prices to arrive at the **net domestic product at factor cost.**

NDPFC = GDPmp - Consumption of fixed capital - Net indirect tax (indirect taxes - subsidies)

- **Finally, add net factor income from overseas to the net domestic product at factor cost to get the net national product at factor cost, which is national income.**

NNPFC (National Income) = NDPfc + Net factor income from abroad

7.3 Illustration

To understand better let us consider a numerical illustration to calculate the Net National Product at Factor Cost.

Calculate national income from the data given below by expenditure method.

Item (In crores) - (i) Personal consumption expenditure 3500 (ii) Consumption of fixed capital 50 (iii) Net fixed capital formation 1250 (iv) Change in stock 500 (v) Exports 400 (vi) Imports 750 (vii) Net indirect taxes 40 (viii) Governments' consumption expenditure 1600 (ix) Net factor income from abroad (-) 10

We know that,

NDPFC = GDPmp - consumption of fixed capital - Net indirect tax (indirect taxes - subsidies)

Gross investment = Net fixed capital formation + Change in stock = 1250+500 = 1750

Net Exports = Exports - Imports = 400-750 = -350

GDP at market price is given by adding private final consumption expenditure, Government final consumption expenditure, Gross Investment and Net exports (Exports - Imports)

GDP at market price = 3500+1600+1750-350=6500

∴ NDPFC = GDPmp - consumption of fixed capital - Net indirect tax (indirect taxes - subsidies)

=> NDPFC = 6500-50-40 = **6410**

To get Net National Product at Factor Cost we need to add net factor income to Net Domestic Product at Factor Cost.

∴ Net National Product at Factor Cost = Net Domestic Product at Factor Cost + net factor income

=> **Net National Product at Factor Cost = 6410 - 10 = 6400**

7.4 Precautions while using Expenditure Method

The main precautions required to be taken in estimating national income by expenditure method are:

- To **avoid double-counting**, expenditure on intermediary items should not be included.
- **Transfer payments**, such as gifts, contributions, taxes, and scholarships, should not be included in national income.
- **Expenditure on the purchase of used goods** should not be included because the cost of these items has already been deducted when they were purchased for the first time.
- **Bond and stock purchases** should not be included because they are financial activities.

7.5 Conclusion

The expenditure Method of National Income estimation uses the final expenditures. However, these methods have certain drawbacks of double counting when expenditure is calculated at the intermediary levels. Moreover, expenditure across different levels is not available in a transparent manner.

*****

8 Income Method

Income Method of National Income Estimation uses the income paid to all factors of production at the **distribution level**. This sum gives the **net domestic product at factor cost** or **net value added at factor cost**. To obtain the net national income the **net factor income** from the rest of the world is added to it.

The income method is one of the methods of national income estimation and is important for UPSC IAS Exam. In this article, let us see what is the income method, how to calculate national income by income method and the precautions to be taken while estimating by this method.

8.1 Income Method

- At the **distributional level**, the income method is used to calculate national income.
- National income is calculated using this method by summing the incomes obtained by all factors of production for their factor services over the course of a year.
- This sum gives the net domestic product at factor cost or net value added at factor cost.
- To obtain the net national income the net factor income from the rest of the world is added to it.

8.2 How to calculate National Income by Income Method?

- To begin, divide the production units into three categories: **primary, secondary, and tertiary**. The classification is identical to that used in the value-added approach.
- Calculate the following factor incomes paid out by each industrial sector's production units.
    - Employees' remuneration
    - Rent
    - Interest
    - Profit
    - Accounting
    - Mixed-income of self-employed.
- The total of the above factor incomes paid out equals the industrial sectors' net value added at factor cost.
- Add together all of the industrial sectors' factor payments to get the net domestic product at factor cost.
- Finally, to arrive at net national product at factor cost, add net factor income from overseas to the net domestic product at factor cost.

8.3 Illustration

To understand better let us consider a numerical illustration to calculate the Net National Product at Factor Cost.

Calculate national income from the data given below by the income method.

Item (In crores) - (i) Employers contribution to social security 75 (ii) Interest 160 (iii) Rent 130 (iv) Dividends 45 (v) Undistributed profit 10 (vi) Net factor income from abroad –10 (vii) Wages and salaries 450

We can say that, **NDPFC = (i)+(ii)+(iii)+(iv)+(v)+(vii)**

∴ NDPFC = 75+160+130+45+10+450

=> **NDPFC = 870**

To get Net National Product at Factor Cost we need to add net factor income to Net Domestic Product at Factor Cost.

∴ Net National Product at Factor Cost = Net Domestic Product at Factor Cost + net factor income

=> **Net National Product at Factor Cost = 870 - 10 = 860**

8.4 Precautions while using Income Method

The following are some of the most important precautions to take when using the income distribution method to estimate national income.

- When calculating employee compensation, all benefits accruing to the employees, whether in cash or in-kind, must be taken into account.
- Only interest on loans taken for production should be included in interest estimates; interest on loans taken for consumption is not included in national income since it is treated as a transfer payment.
- Gifts, gifts, charities, taxes, fines, lottery winnings, and other transfer earnings are not factor incomes. These should not be taken into account when calculating national income.
- Revenue from the sale of used products should not be included because it is not revenue from goods created in the current year.

8.5 Conclusion

Income Method of National Income is one of the simplest methods of estimation of Net National Product at factor cost. However necessary precautions must be taken to ensure few payments must be exempted as well as added. This will ensure that the estimate is accurate enough and closer to other methods of income estimation.

*****

9 Methods of Calculating National Income

The value of goods and services produced by a country throughout a fiscal year is referred to as **National Income**. We have different methods to calculate national income. The most important methods of calculating national income are **Value Added method, Income method and Expenditure method.**

The understanding of methods of calculating national income is very important for the UPSC IAS Exam. In this article, we will see how national income is calculated and the methods of calculating national income.

9.1 How is National Income calculated?

- Goods and services are produced by the production units.
- They do it by utilising four production factors: **land, labour, capital, and entrepreneurship.**
- These four components of production work together to create goods and services, adding value to existing goods.
- This additional value, or net domestic product, is dispersed among the owners of the four components of production, who receive rent, employee compensation, interest, and profit in exchange for their contribution to the production of products and services.
- The profits earned by the owners of the factors of production are used to acquire goods and services from the production units for consumption and investment.
- In a nutshell, manufacturing generates revenue. Income is utilised to fund spending, and spending, in turn, fuels more production.

- As a result, there are three ways to calculate national income.

1. Value Added Method
2. Income Method
3. Expenditure Method

9.1.1 Value Added Method

- This method is used to estimate national income at the **production level.**
- National income is the value of final products and services generated in a country's domestic territory plus **net factor income** from the rest of the world at the production level.
- The goods and services produced by each producing unit is the gross output value at market prices.
- To calculate the net value added at **factor cost** (of all producing units) we deduct the value of **intermediary goods**, **net indirect taxes** and the **depreciation value**. This is the **Net Domestic Product at factor cost.**
- Net Factor Income from the rest of the world is added to the net domestic product at factor cost to get **Net National Product at factor cost.**

9.1.2 Income Method

- At the **distributional level**, the income method is used to calculate national income.
- National income is calculated using this method by summing the incomes obtained by all factors of production for their factor services over the course of a year.
- This sum gives the net domestic product at factor cost or net value added at factor cost.
- To obtain the net national income the net factor income from the rest of the world is added to it.

9.1.3 Expenditure Method

- The expenditure method can also be used to calculate national income during the **disposition phase.**
- It calculates national income by calculating **final expenditure** on GDP at market prices. Final expenditure refers to money spent on finished items.
- The goods that are demanded final consumption and investment are known as **final goods**.
- All four sectors of the economy, namely households, businesses, the government, and the rest of the world, create demand for final consumption and investment.
- From the estimated GDP at market prices after summing up all final expenditures, we deduct net indirect taxes and the consumption of fixed capital (depreciation) to get the **Net Domestic Product at Factor Cost.**
- **Net Factor Income** from the rest of the world is added to the net domestic product at factor cost to get Net National Product at factor cost.

9.2 Conclusion

The calculation of National Income is a very complex process. The above methods for national income estimation are used to ensure that there are no double-counting and missing entries from the factors of production. The national income is calculated at factor cost.

*****