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FOR CA FOUNDATION JUNE 2024 (NEW SYLLABUS)

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- Most watched educator for Accounting Standards Online Author of Best selling Books on Accounting Standards



CA INDRESH GANDHI BUSINESS LAWS

- CA, B.com Faculty for CA Foundation - Law & BCR CA Intermediate - Law & Audit
- He is a practicing CA having vast experience in auditing & taxation. Started teaching at young age of 19 years. Known for his examples which helps in retaining concepts.

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- CA, B.com Faculty for CA Foundation- Quantitative Aptitude/ Maths, Statistics & LR CA Intermediate- Cost and Management Accounting First attempt Chartered Accountant and a Teacher by Passion
- Known for his approach of starting concepts from scratch and explaining the same concepts in different ways so that everyone can understand it.



EXAM DAY

20 JUNE 2024

CA FOUNDATION ROADMAP

2 MONTHS SELF STUDY REVISION PRE-EXAM MARATHONS

15 APR 2024

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QUANTITATIVE APTITUDE CA PRANAV POPAT	PAPER 3	11:30 AM TO 1:30 PM	3,999/-
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[•REC] RECORDED MODE

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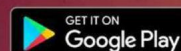


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CA Mohnish Vora (MVSIR)

- CA, CFA LEVEL 1, B.COM
- Faculty for
 - CA Foundation- Business Economics
 - CA Intermediate- Financial Mgt & Strategic Mgt
- 4+ years of teaching experience
- Passionate about teaching, started teaching at a young age
- Known for making difficult concepts easy by innovative examples, charts, summary & tricks
- Taught thousands of students on various online platforms in a short span of time
- Author of Best selling Books on Economics, BCK, FM



CA Foundation June 2024

ULTIMATE CA

Paper 4 – Business Economics Complete Batch Details by CA Mohnish Vora (MVSIR)

Details	Option 1 (Regular Batch)	Option 2 (Exam Oriented Batch)
Starting Date	Already started	12 th Feb, 2024
End Date	15 th Apr. 2024	15 th Apr, 2024
Chapters that will be covered live	All Chapters (Chp 1 & 2 are already completed)	Micro Eco Chp 3, 4, Macro Eco Chp 5, 6, 7, 8, 9 & 10
FM Chapters to be covered in recorded form	Chp 1, 2 & 5 (If a student joins now, then chp 1, 2 & 5 will have to be covered in recordings of detailed batch)	Chp 1, 2 & 5 (Students will have to cover from YouTube revision, will upload after batch ends)
Printed Books to be provided	4 Books Micro Economics Shastra Macro Economics Shastra MCQ Shastra Super Chart Book (All Chp)	3 Books Macro Economics Shastra MCQ Shastra Super Chart Book (All Chp)
Schedule	Mon to Sat (6 days a week)	
Timing	1.45 PM to 3.15 PM	

- Both batches will be merged from 12 Feb.
- What will Regular Batch students get extra compared to Exam Oriented Batch Students?
 - ✓ Chp 1, 2 & 5 (new class recordings) & Micro Economics Shastra Book
- Then, why should we enroll in Exam-Oriented Batch?
 - ✓ Yes, if you want to cover all new topics in DETAIL
 - ✓ Could not clear in Dec 2023 exams- then this is THE BATCH FOR YOU.

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CA Foundation
June 24 & Dec 24
Macro Economics

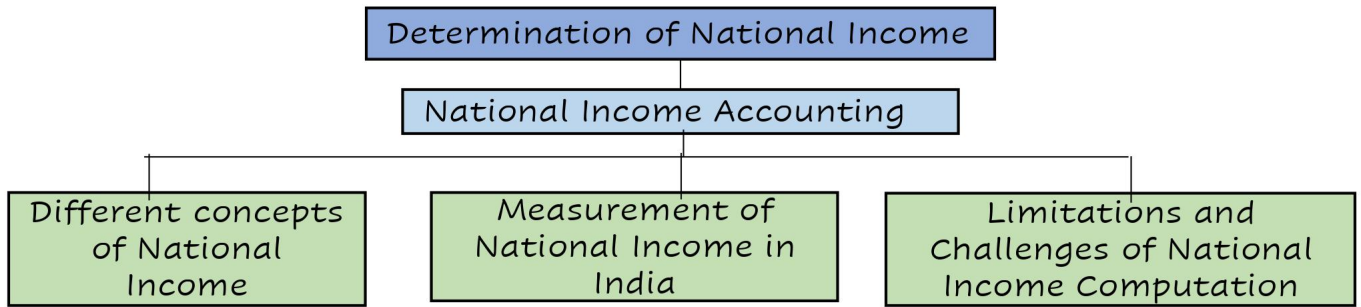
Chapter 6
**Determination of
National Income**

Macro Economics Shastra
by MVSIR



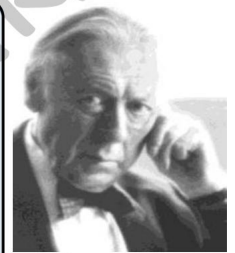
UNIT-1: NATIONAL INCOME ACCOUNTING

CHAPTER OVERVIEW

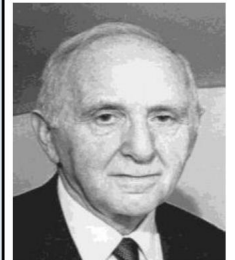


1.1 | NATIONAL INCOME ACCOUNTING - INTRODUCTION

- National Income Accounting, pioneered by Nobel prize-winning economists **Simon Kuznets** and **Richard Stone**, is the **system of macro-economic accounts** from-
 - ❑ the stage of **production** of goods and services, to
 - ❑ the stage of their **final disposal**.
- Like any other accounting system, the national income accounts **first define concepts** and then **construct measures** corresponding to these concepts.
- National Accounts help us to understand how the various **transactions** from the stage of **production** of goods and services to the stage of their **final disposal** are **interrelated** and give us an idea of the **working** of an economy.
- It helps to meet the **needs of Government, private analysts, policy makers** and decision takers.



Richard Stone



Simon Kuznets

- The **Central Statistical Organization (CSO)** in the Ministry of Statistics and Programmed Implementation (MoSP&I) is **responsible** for the **compilation of National accounts statistics**.
- At the **State level, State Directorates of Economics and Statistics (DESS)** have the responsibility of compiling their State Domestic Product and other aggregates.

1.2 | USEFULNESS AND SIGNIFICANCE OF NATIONAL INCOME ESTIMATES

National income accounts are fundamental aggregate statistics in macroeconomic analysis and are extremely useful, especially for the emerging and transition economies.

- 1) It helps businesses to **forecast the future demand** for their products.
- 2) Estimates of national income show **composition & structure** of national income in terms of **different sectors** of the economy, the **periodical variations** in them and the **broad sectoral shifts** in an economy over time.
- 3) Sectoral contribution to National Income information is used by the government to decide various **sector-specific development policies** to increase growth rates.



- 4) National income statistics also provide a **quantitative basis** for **macroeconomic modelling** and analysis, for **assessing and choosing economic policies** and for objective statements as well as **evaluation** of governments' economic policies.
- 5) National income estimates throw light on **income distribution** and the possible **inequality in the distribution** among different income categories. It facilitates the process of **comparisons of structural statistics**, such as ratios of investment to growth, taxes proceeds and fiscal deficit, or government expenditures to GDP.
- 6) **International comparisons** in respect of **incomes** and **living standards** assist in determining **eligibility for loans**, and/or other funds or conditions under which such loans, and/or funds are made available.
- 7) Combined with financial and monetary data, national income data provides a **guide to make policies** for **growth** and **inflation**.

1.3 | DIFFERENT CONCEPTS OF NATIONAL INCOME

- ✓ The **production** side of the economy **transforms inputs**, such as labor and capital, into **output**, GDP.
- ✓ **Inputs** such as labor and capital are called **factors of production**, and
- ✓ The **payments made to factors**, such as wages and interest payments, are called **factor payments**.

1.3.1 | GROSS DOMESTIC PRODUCT

Gross domestic product (GDP) is a measure of-

- 1) **monetary value** of
- 2) all **final**
- 3) **economic** goods and services,
- 4) **gross of depreciation**,
- 5) **produced**
- 6) **within domestic territory** of a country
- 7) **during a given time period**.

Monetary Value

Price x Number of Units of ALL Goods & Services Produced



Car	Shirt	House	Airplane Journeys	Total
100 Cars	500 Shirts	50 Houses	1000 Tickets	1650 ?????
Rs 5,00,000	Rs 1,500	Rs 60,00,000	Rs 4000	????
Rs 5,00,00,000	Rs 7,50,000	Rs 30,00,00,000	Rs 40,00,000	Rs 35,47,50,000

Analysis of Definition of GDP (For Knowledge Purpose)

1) Monetary Value

- **Money** enables us to **measure** and **find aggregate** of different types of **products expressed in different units** of measurement by **converting them in terms of Rupees**, say **tonnes of wheat** may, thus, be added with **millions of apples** and with **value of services such as airplane journeys**.

**2) Final Goods**

- Final goods are **used either-**
 - ✓ for **consumption** [Household sector]; **or**
 - ✓ for **investment**. [Business Sector]
- They are **neither resold nor undergo further transformation** in process of production.

Intermediate Goods

- Intermediate goods refer to those goods which are **used either for**
 - ✓ **resale** or
 - ✓ for **further production in the same year**.
- They **do not end up in final consumption**, and are **not capital goods** either.
- They have **derived demand**. Intermediate goods are **used up in the same year**; if they remain for more than one year, then they are **treated as final goods**.

3) Economic Activities

- GDP includes those goods & services, which are **produced through economic activity** → **exchanged in market & valued at market price**

4) Depreciation

- The **monetary value of an asset decreases** over time due to **use, wear and tear or obsolescence**. This decrease is measured as depreciation or **consumption of fixed capital (CFC)**. [**Capital consumption**- Use of asset during production process]
- Gross value **includes** depreciation.

5) Produced

- GDP is a **measure of production activity**. It covers all **production activities recognized by UN System of National Accounts (SNA)**, developed by **United Nations**, called the '**production boundary**'.

6) Domestic Territory

- Domestic refers to '**the geographic confines**' of a country. For example,
 - if a **Chinese citizen works temporarily in India**, his production will be **included** in GDP of India.
 - MV Foods Ltd, an Indian company produces 50,000 bottles of soft drink in USA → will **not be included** in GDP of India

7) Flow Measure

GDP is a '**flow**' measure of output per time period and **includes only those G/S produced in current period**

Exclusions from GDP

- 1) Transfer Payments/Income** - **Transfer income** refers to any **income** which a person **receives without providing any goods** or services in return to the payer. Government **making a payment, without goods** or services being **received in return**. Eg- social security benefits, unemployment compensation etc.
- 2) Financial transactions** - **Stocks & bonds** which are **exchanged during the period** are **not included** - do not directly involve current production. However, **value of services that accompany sale and purchase** (e.g. fees paid to real estate agents and lawyers) **is included**.
- 3) Sale of 2nd Hand goods**
- 4) Non-reported output** - **illegal transactions**. Eg - narcotics and gambling

**NOMINAL GDP VS REAL GDP**➤ **Gross Domestic Product****1. Nominal GDP or GDP_{MP} → (GDP at Current Prices)**

Gross domestic product (GDP) is the value of all-

- ✓ final goods and services
- ✓ produced in the country
- ✓ within a given period.

It includes the value of goods produced, such as houses and mobiles, and the value of services, such as telecom, health, insurance. The output of each of these is **valued at its market price**, and the values are added together to get GDP_{mp}

1. Real GDP → (GDP at Base Prices or GDP at Constant Prices)

Nominal GDP increases over time for two reasons:

- a) The production of most of goods increases over time
- b) The prices of most goods also increase over time.

If our goal is to **measure production** and its **change over time**, we need to **eliminate the effect of increasing prices** on our measure of GDP. That's why **Real GDP** is constructed as the sum of the quantities of final goods times constant prices (rather than current prices)



	2012-13	2022-23
Number of Cars Produced in a year	100 units	120 units
Price per car	Rs 5,00,000	Rs 9,00,000
Total Value	5,00,00,000	10,80,00,000

Total Value of Cars has increased by 116%

But, whether ACTUAL production has also increased by 116% ?

No, production of cars has only increased by 20%.

➤ Changes in GDP due to **changes in prices** fail to correctly explain the **performance** of the economy in producing goods and services. Thus concept of **Real GDP** is important.

➤ For making **comparisons of GDP at different points of time**, we need to compute **Real GDP**.

➤ **Real GDP** is calculated in such a way that the goods and services produced in a particular year are **evaluated at some constant set of prices** or constant prices. In other words, it is calculated **using the prices of a selected 'base year'**.



	2012-13 (Base Year)
BY Production	100 units
BY Price	Rs 5,00,000
BY GDP	5,00,00,000

	2022-23 (Current Year)
CY Production	120 units
BY Price	Rs 5,00,000
Real GDP of 2012-13	6,00,00,000

- **Nominal GDP changes** from year to year for **two reasons**.
 - 1) The **quantity** of goods and services **produced changes**, and
 - 2) When **market prices change**.
- **Real GDP** is the value of GDP **estimated using base year prices**.
 - ✓ It is an **inflation adjusted** measure → **not affected by change in price**
 - ✓ It **changes only when** there is actual **change in the quantity of output produced**.
- Hence, Real GDP is a **better measure** of **economic well being** than Nominal GDP, as it shows the **true picture** of change in production of an economy.

Real GDP at (2011-12) Prices in Q1 2022-23 is estimated to attain a level of ₹ 36.85 lakh crore, as against ₹ 32.46 lakh crore in Q1 2021-22, showing a **growth of 13.5 percent** as compared to 20.1 percent in Q1 2021-22

Real GDP Growth Rate and Inflation Rate



GDP Deflator

Calculation of real GDP gives a useful measure of inflation → **GDP deflator**. It is the ratio of nominal GDP in a given year to real GDP of that year

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

GDP deflator, can be used to '**deflate**' or **take inflation out of GDP**. In other words, the GDP deflator is a **price index used to convert nominal GDP to real GDP**

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



- The deflator measures the **change in prices** that has occurred **between** the **base year** and the **current year**.
- It measures the current level of prices relative to the level of prices in the base year.
- Since nominal GDP & real GDP must be the same in base year, **deflator for the base year** is **always 100**.

Inflation is a closely monitored aspect of macroeconomic performance and a significant variable guiding macroeconomic policy. **Using the GDP deflator**, the **inflation rate between two consecutive years** can be **computed** using the following procedure-

$$\text{Inflation rate in year 2} = \frac{\text{GDP deflator in year 2} - \text{GDP deflator in year 1}}{\text{GDP Deflator in year 1}} \times 100$$

GDP Deflator in India is expected to reach **154.87 points** by the end of 2022, according to analysts' expectations.

In the long-term, the India GDP Deflator is projected to trend around **167.94** points in **2023** and **175.67** points in **2024**.

Inflation Rate in 2023 = $(167.94 - 154.87) / 154.87 * 100$

Inflation Rate in 2023 as compared to 2022 will be **8.439 %**.

Illustration - 1

Find out GDP Deflator? Interpret It

Years	Nominal GDP	(In Billion Rs.)	
		Real GDP	GDP Deflator
2014	500	500	100
2015	800	650	123.08
2016	1150	800	143.75
2017	1300	950	136.84
2018	1550	1190	130.25
2019	1700	1240	137.10

Solution - 1

A deflator above 100 is an indication of price levels being higher as compared to the base year. From years 2015 through 2019, we find that price levels are higher than that of the base year, the highest being in the year 2016. If the GDP deflator is greater than 100, then nominal GDP is greater than real GDP. If the GDP deflator next year is less than the GDP deflator this year, then the price level has fallen; if it is greater, price levels have increased.

Illustration - 2

The nominal and real GDP respectively of a country in a particular year are Rs. 3000 Crores and Rs. 4700 Crores respectively. Calculate GDP deflator and comment on the level of prices of the year in comparison with the base year.

**Solution - 2**

Nominal GDP = Rs. 3000 crores

Real GDP = Rs. 4700 crores

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

The price level has fallen since GDP deflator is less than 100 at 63.83.

Illustration - 3

Find nominal GDP if real GDP = 450 and price index = 120

Solution - 3

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

$$\text{Nominal GDP} = 450 \times \frac{120}{100} = 540$$

Illustration - 4

Suppose nominal GNP of a country in 2010 is given at Rs. 600 Crores and price index is given as base year 2010 is 100. Now let the nominal GDP increases to Rs. 1200 Crores in 2018 and the price index rises to 110, find out real GDP?

Solution - 4

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

$$\text{Nominal GDP} = 1200 \times \frac{100}{110} = 1090.9 \text{ crores}$$

Net Domestic Product (NDP)

As you know capital wears out, or depreciates, while it is being used to produce output,

$$\text{Net Domestic Product (NDP)} = \text{GDP} (-) \text{ Depreciation.}$$

NDP thus comes closer to measuring the net amount of goods and services produced in the country in a given period of time.

It is the total value of production minus the value of capital used up in producing that output.

Other considerations such as asset obsolescence and complete destruction are also taken into account by the NDP.

$$\text{NDP MP} = \text{GDP MP} - \text{Depreciation}$$

As you are aware, the basis of distinction between 'gross' and 'net' is depreciation or consumption of fixed capital.

$$\text{Gross} = \text{Net} + \text{Depreciation} \quad \text{or} \quad \text{Net} = \text{Gross} - \text{Depreciation}$$

**Domestic Vs National**

- The term '**national**' refers to **normal residents of a country** who may be **within or outside the domestic territory** of a country and is a **broader concept** compared to the term '**domestic**'.
- The term '**domestic**' refers to **production done by people WITHIN the domestic territory**

Net Factor Income from Abroad (NFIA)

NFIA is the **difference** between the aggregate **amount that a country's citizens and companies earn abroad**, and the aggregate **amount that foreign citizens and overseas companies earn in that country**.

NFIA = Net compensation of employees
+ Net income from property and entrepreneurship
+ Net retained earnings

National = Domestic + Net Factor Income from Abroad

Gross National Product (GNP)

- **Gross National Product (GNP)** is a measure of the market value of all final economic goods and services, gross of depreciation, **produced within the domestic territory** of a country **by normal residents** during an accounting year **including net factor incomes from abroad**.
- It is the **total income earned by a nation's permanent residents** (called **nationals**). It **differs from GDP** by **including income that our citizens earn abroad** and **excluding income that foreigners earn here**.

GNP MP

=

GDP MP

+

Factor income earned by the domestic factors of production employed in the rest of the world

-

Factor income earned by the factors of production of the rest of the world employed in the domestic territory

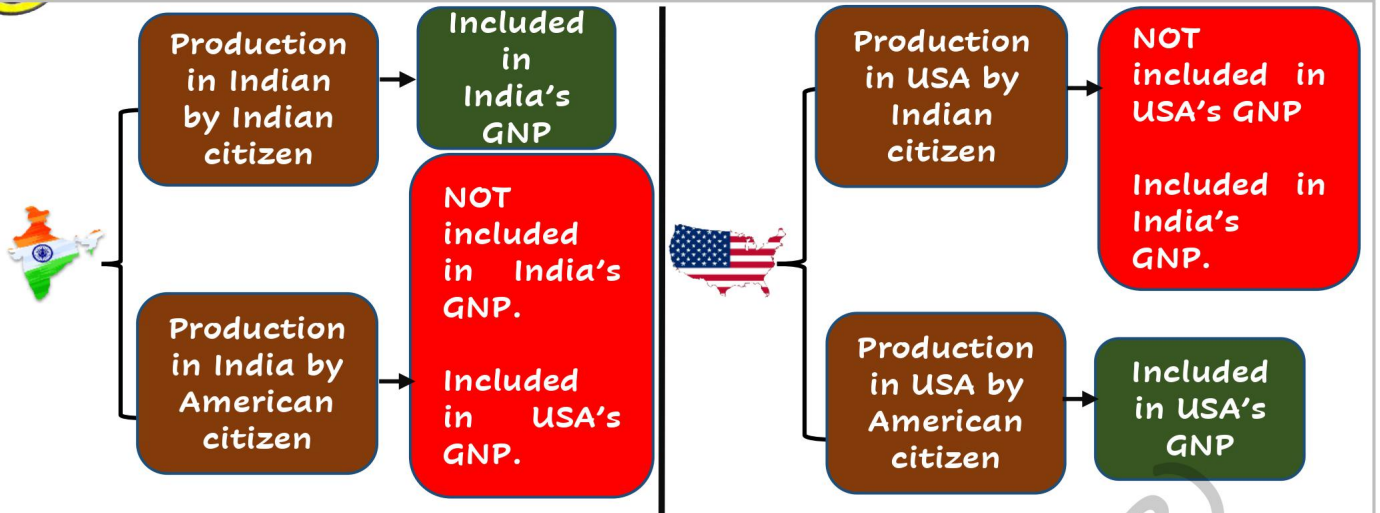
Net Factor income from abroad (NFIA)

GNP MP = GDP MP + Net Factor Income from Abroad

OR

GDP MP = GNP MP - Net Factor Income from Abroad

If Net Factor Income from Abroad is **positive**, then **GNP MP** would be **greater** than **GDP MP**.



		GDP	GNP
1.	Earnings from production in India that accrue to foreign residents or foreign-owned firms	Included	Excluded
2.	Profits earned in India by X Company, foreign-owned firm	Included	Excluded
3.	Earnings of Indian corporations overseas	Excluded	Included
4.	Earnings of Indian residents working overseas	Excluded	Included
5.	Profits earned by Company Y, an Indian company in UK	Excluded	Included

➤ **Net National Product at Market Prices (NNPMP)**

Net National Product at Market Prices (NNPMP) is a measure of the market value of all final economic goods and services, produced by normal residents within the domestic territory of a country including Net Factor Income from Abroad during an accounting year excluding depreciation.

$$\text{NNP MP} = \text{GNP MP} - \text{Depreciation}$$

$$\text{NNP MP} = \text{NDP MP} + \text{Net Factor Income from Abroad}$$

$$\text{NNP MP} = \text{GDP MP} + \text{Net Factor Income from Abroad} - \text{Depreciation}$$

Note:



Market Price Vs Factor Cost



Land



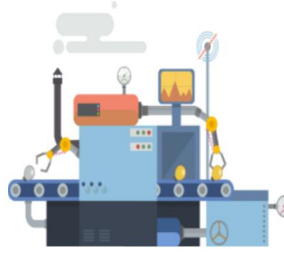
Rent



Labour



Wages



Capital



Interest




Entrepreneur



Profit

Factors of Production (Inputs)

Factor Cost

Cloth	+	Thread	+	Buttons	+	Labour		Cost= Rs 1200 + Profit= Rs 400	 Shirt	
Rs 900		Rs 50		Rs 50		Rs 200	Factor Cost= Rs 1600	Market Price= Rs 1500		
Total = Rs 1200							+ GST (IDT) = Rs 200			
							- Subsidy= Rs 300			Market Price = Rs 1500

Factor Cost + Indirect Taxes - Subsidy = Market Price

Net Indirect Taxes = Indirect Taxes - Subsidy

Indirect Taxes and Subsidies

Independent of the volume of actual production

Paid or received on per unit of product

Production Taxes & Production Subsidies

- Examples of **production taxes** are land revenues, stamps and registration fees and tax on profession, factory license fee, taxes to be paid to the local authorities, pollution tax etc
- Examples of **production subsidies** are subsidies to railways, subsidies to village and small industries.

Product Taxes & Product Subsidies

- Examples of **product taxes** are excise duties, sales tax, service tax and import export duties.
- Examples of **product subsidies** are food, petroleum and fertilizer subsidies.



Industry	(Rs. in crore) Gross Domestic Product		Percentage change over previous year
	Previous Year	Present Year	
	Q2	Q2	Q2
1. agriculture, forestry and fishing	131,550	135,789	3.2
2. mining and quarrying	25,509	24,774	-2.9
3. manufacturing	187,763	192,849	2.7
4. electricity, gas and water supply	22,894	25,137	9.8
5. construction	91,556	95,489	4.3
6. trade, hotels, transport and communication	311,166	342,080	9.9
7. financing, ins., real est. and business services	208,644	230,627	10.5
8. community, social and personal services	169,390	180,511	6.6
GDP at factor cost	1,148,472	1,227,254	6.9

Factor Cost vs Basic Price vs Market Price

At this stage, we need to clearly understand the difference between the concepts: 'market price' and 'factor cost and Basic Price

GDP at Basic Price excludes any taxes on products the producer receives from the purchaser and passes on to the government (**Eg: GST or Sales Tax or Services Tax**) but includes any subsidies the producer receives from the government and uses to lower the prices charged to purchasers. In simple terms, the basic price is the subsidized price without tax.

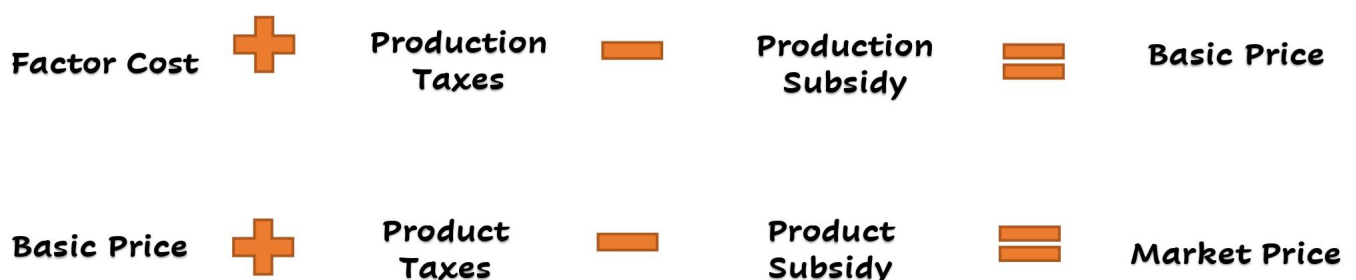
Basic price = factor cost + Production taxes - Production subsidy
Relationship between Factor Cost and Basic Price:

Factor cost + production tax - production subsidies = Basic prices.

Relationship between Basic Price and Market Price:

Basic Price + Product tax - Product Subsidy = Market Price.

Note: Thus, market price includes both product tax as well as production tax while excluding both product and production subsidies.



**Operating Surplus**

Operating Surplus = Income from Property + Income from Entrepreneurship
OR

Operating Surplus = Rent + Interest + Profit

Mixed Income of Self- employed

- Mixed income is the income of self-employed persons like doctors lawyers barbers shopkeepers farmers etc. These persons work both as producers and as suppliers of factor services to themselves independently. Some part of their income relates to wage income and the rest part to property income.
- The **remuneration of the self-employed** is treated as mixed income. It is defined as the income that is received, over a given reference period, by individuals, **for themselves or in respect of their family members**, as a result of their current or former involvement in self-employment jobs
- It earned from the production process by the enterprises which are **not incorporated**. They **use their own land, labour, capital & entrepreneurship**. Thus the **factor incomes** (rent, wages, interest, profit) **cannot be seperately estimated** as mostly they do not make their books of accounts.

Gross Domestic Product at Factor Cost (GDP_{FC})

Gross domestic product (GDP) at factor cost is GDP at market prices minus net indirect taxes. The **money value of output** produced **within a country's domestic limits** in a year, as received by the factors of production, is measured by GDP at factor cost.

Thus, we find that the basis of distinction between market price and factor cost is **net indirect taxes** [i.e., **Indirect taxes (-) Subsidies**]

	Gross Domestic Product at Factor Cost (GDP_{FC})
=	GDP MP – Indirect Taxes + Subsidies
OR	
	Compensation of employees
+	Operating Surplus (rent + interest+ profit)
+	Mixed Income of Self- employed
+	Depreciation
=	Gross Domestic Product at Factor Cost (GDP_{FC})

**Net Domestic Product at Factor Cost (NDP_{FC}) or Domestic Income**

Net Domestic Product at Factor Cost (NDP_{FC}) is defined as the **total factor incomes earned by the factors** of production. In other words, it is sum of domestic factor incomes or GDP_{FC} net of depreciation.

As mentioned above, market price includes indirect taxes imposed by government. We must deduct indirect taxes and add the subsidies in order to calculate that part of domestic product which actually accrues to the factors of production. The measure that we obtain so is called Net Domestic Product at factor cost.

	Net Domestic Product at Factor Cost (NDP FC)
=	NDP MP – Indirect Taxes + Subsidies
OR	
=	NDP MP – Net Indirect Taxes

	Net Domestic Product at Factor Cost (NDP FC)	} Factor Income earned in domestic territory (FID)
=	Compensation of employees	
+	Operating Surplus (rent + interest+ profit)	
+	Mixed Income of Self- employed	

Net National Product at Factor Cost (NNP_{FC}) or National Income

National Income is defined as the **factor income** accruing to the **normal residents** of the country during a year. It is the **sum of domestic factor income** and **net factor income from abroad**. In other words, national income is the value of factor income generated within the country plus factor income from abroad in an accounting year.

If NFIA is **positive**, then **national income** will be **greater** than **domestic factor incomes**.

Factor Income earned in Domestic Territory (NDP_{FC})	+	Net Factor Income from Abroad (NFIA)	=	National Income (NNP FC)
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Per Capita Income

The GDP per capita is a measure of a country's **economic output per person**. It is obtained by dividing the country's gross domestic product, adjusted by inflation, by the total population.

It serves as an **indicator** of the **standard of living of a country**.

$$\text{GDP Per Capita} = \frac{\text{Real GDP}}{\text{Total Population}}$$

**3 Golden Rules of NI**

- 1) Gross – Depreciation = Net
- 2) MP = FC + IDT - Subsidy or MP = FC + NIT
- 3) Domestic + NFIA = National

Personal Income

- While national income is income earned by factors of production, Personal Income is the **income received** by the **household** sector including **Non-Profit Institutions Serving Households**.
- Thus, national income is a measure of income earned and personal income is a **measure of actual current income** receipts of persons from **all sources** which **may or may not be earned from productive activities** during a given period of time. Eg- transfer payments such as social security benefits, unemployment compensation, welfare payments etc.
- Individuals also contribute income which they do not actually receive; eg, **undistributed corporate profits & contribution of employers to social security**.
- Personal income **excludes** retained earnings, indirect business taxes, corporate income taxes and contributions towards social security.
- Households **receive interest payments** from the firms and governments; they also **make interest payments** to firms and governments.
- As such, the **net interest paid** by households to firms and government is also deducted from national income.
- Personal income forms the **basis for consumption expenditures** and is derived from national income as follows-

Note: Social Security benefits are payments made to qualified retirees and disabled people, and to their spouses, children, and survivors.

**We can use multiple formulas to calculate Personal Income.
Use formulas as per data given in question.**

1st Formula (Basic Concept)

	Personal Income
=	National Income
+	Income received but not earned
-	Income earned but not received

3rd Formula

	Personal Income
=	National Income
-	Income from prop & ent. accruing to govt admin dep.
-	Saving of non-dept ent.
-	Saving of private corporates
-	Corporate profit tax
+	National debt interest
+	Current transfers from govt. & ROW

2nd Formula

	Personal Income
=	National Income
-	Undistributed profits
-	Net interest payments made by households
-	Corporate Tax
+	Transfer Payments to the households from firms and government

4th Formula

	Personal Income
=	Private Income
-	Undistributed Profits
-	Corporate Tax



- An important point to remember is that **national income** is **not** the **sum of personal incomes** because **personal income includes transfer payments** (eg. pension) which are **excluded from national income**.
- Further, **not all national income accrues** to individuals as their personal income.

For Knowledge Purpose

- **Non-profit institutions serving households**, abbreviated as **NPISH**, consist of non-profit institutions which are not mainly financed and controlled by government, and which provide goods or services to households for free or at prices that are not economically significant. Examples include **churches and religious societies, sports and other clubs, trade unions and political parties**.
- NPISH are private, non-market producers which are separate legal entities. Their main resources, apart from those derived from occasional sales, are derived from **voluntary contributions in cash or in kind** from households in their capacity as consumers, from payments made by general governments, and **from property income**.

Disposable Personal Income (DI)

Disposable personal income is a measure of the amount of the **money in the hands of the individuals** that is **available for their consumption or savings**. Disposable personal income is **derived from personal income** by subtracting the direct taxes paid by individuals and other compulsory payments made to the government.

$$DI = PI - \text{Personal Income Taxes} - \text{Non tax payments}$$

Net National Disposable Income (NNDI)

a) Net National Disposable Income (NNDI)

The amount of good/services, domestic economy has at its disposal.

- **NNDI** = NNPFC + Net IDT + Net Current Transfers from rest of world (Receipts less payments)

OR

- **NNDI** = NNI + net taxes on income and wealth receivable from abroad + net social contributions and benefits receivable from abroad.

b) Gross National Disposable Income (GNDI) =

- **GNDI** = NNDI + Depreciation

☐ Ignore "Govt's transfer payment" in above calculation

Note:

**Example**

Calculate **Gross National Disposable income** from the following data

Particulars	(in Rs. Crores)
NDP at factor cost	6000
Net factor income to abroad	-300
Consumption of fixed capital	400
Current transfers from government	200
Net current transfers from rest of the world	500
Indirect taxes	700
Subsidies	600

Solution - 2

	Particulars	Amount
	NDP at factor cost	6,000
+	Consumption of fixed capital	400
	GDP at factor cost	6,400
+	Net factor income to abroad	-300
	GNP at factor cost	6,100
+	indirect taxes	700
-	Subsidies	(600)
	GNP at market prices	6,200
+	Net current transfers from rest of the world	500
	Gross National Disposable income	6,700

Domestic Income may be categorized into

Income from domestic product accruing to the public sector which includes

- income from property and entrepreneurship accruing to government administrative departments and
- savings of non-departmental enterprises.

Income from domestic product accruing to private sector

= NDP FC

- Income from property and entrepreneurship accruing to government administrative departments

- Savings of non-departmental enterprises

**For Knowledge Purpose**

The **public sector** is classified into **two groups**-Government Sector and Non-Departmental Enterprises.

- 1) The **Government Sector** is comprised of
 - **Producers of government services**, viz., administrative departments of government and
 - **Departmental enterprises** like Railways, Communication and other departmental enterprises.
- 2) **Non departmental enterprises** consist of **Financial** enterprises and **Non-financial** enterprises. These enterprises have **separate boards of directors** and present profit and loss accounts and balance sheets.
 - **Financial Enterprises**- **RBI**, Financial corporations **LIC, GIC**
 - **Non-Financial Enterprises**- other undertakings/ enterprises of central, state, union territory governments and local authorities under the industry groups of agriculture, forestry and logging, fishing. Eg **IOCL** etc

PRIVATE INCOME

Private income is a measure of the income (**both factor income and transfer income**) which **accrues to private sector** from **all sources within and outside** the country.

	Private Income
=	Factor income from net domestic product accruing to the private sector
+	Net factor income from abroad
+	National debt interest
+	Current transfers from government
+	Other net transfers from the rest of the world

Particulars	Includes	Remarks
National Income	Earned Income recd. or not recd.	All sectors
Personal Income	Earned Income recd. & Transfer Income recd.	Household sector including NPISH
Private Income	Earned Income recd. or not recd. & Transfer Income recd. or not recd.	Private Sector
Income from Domestic Product accruing to Private Sector	NDP _{fc} - Public Sector Income	Private Sector

**Illustration - 5**

From the following data, calculate NNPFC, NNPMP, GNPMP and GDPMP.

Item	Rs. In crores
Operating surplus	2000
Mixed income of self-employed	1100
Rent	550
Profit	800
Net indirect tax	450
Consumption of fixed capital	400
Net factor income from abroad	-50
Compensation of employees	1000

Solution - 5

GDPMP = Compensation of employees + mixed income of self-employed + operating surplus + depreciation + net indirect taxes

(Note: operating surplus = rent + profit + interest)

= 1000 + 1100 + 2000 + 400 + 450 = 4950

GNPMP = GDPMP + NFIA = 4950 + (-50) = 4900

NNPMP = GNPMP - consumption of fixed capital = 4900 - 400 = 4500 NNPFC or

NI = NNPMP - NIT = 4500 - 450 = 4050 Crores

Illustration - 6

From the following data, estimate National Income and Personal Income.

Item	Rs. In crores
Net national product at market price	1,891
Income from property and entrepreneurship accruing to government administrative departments	45
Indirect taxes	175
subsidies	30
Saving of non-departmental enterprises	10
Interest on National debt	15
Current transfers from government	35
Current transfers from rest of the world	20
Saving of private corporate sector	25
Corporate profit tax	25



Solution - 6

$$\begin{aligned} \text{National Income} &= \text{Net national product at market price} - \text{Indirect taxes} + \text{Subsidies} \\ &= 1,891 - 175 + 30 = 1746 \text{ crores} \end{aligned}$$

$$\begin{aligned} \text{Personal Income} &= \text{National income} - \text{Income from property and entrepreneurship accruing to government administrative departments} - \text{Saving of non-departmental enterprises} + \text{National debt interest} + \text{Current transfers from government} + \text{Current transfers from rest of the world} - \text{Saving of private corporate sector} - \text{Corporate profit tax} \\ &= 1746 - 45 - 10 + 15 + 35 + 20 - 25 - 25 \\ &= 1711 \text{ Crores} \end{aligned}$$

Illustration - 7

Calculate the aggregate value of depreciation when the GDP at market price of a country in a particular year was Rs. 1,100 Crores. Net Factor Income from Abroad was Rs. 100 Crores. The value of Indirect taxes - Subsidies was Rs. 150 Crores and National Income was Rs. 850 Crores.

Solution - 7

Given

GDPMP = 1100 Crores, NFIA = 100 Crores, NIT = 150 Crores, NNPF = 850 Crores

$$\therefore \text{GDPFC} = \text{GDPMP} - \text{NIT} = 1100 - 150 = 950$$

$$\text{GNPF} = \text{GDPFC} + \text{NFIA} = 950 + 100 = 1050$$

$$\text{NNPF} = \text{GNPF} - \text{Depreciation}$$

$$850 = 1050 - \text{Depreciation}$$

$$\text{Depreciation} = 1050 - 850 = 200 \text{ Crores.}$$

Illustration - 8

On basis of following information, calculate NNP at market price and Disposable personal income

Item	Rs. In crores
NDP	14900
Income from domestic product accruing to government	150
Interest on National debt	170
Transfer payment by government	60
Net private donation from abroad	30
Net factor income from abroad	80
Indirect taxes	335
Direct taxes	100
Taxes on corporate profits	222
Undistributed profits of corporations	105



Solution - 8

NNP at market price = NNP at factor cost + indirect tax - subsidies

Where NNP at factor cost = NDPPC + NFIA
 = 14900 + 80 = 14980

Therefore, NNPMP = Therefore, NNP MP = 14980 + 335 - 262 = 15053

Disposable personal income (DI) = PI - Personal income tax

PI = NI + income received but not earned - income earned but not received

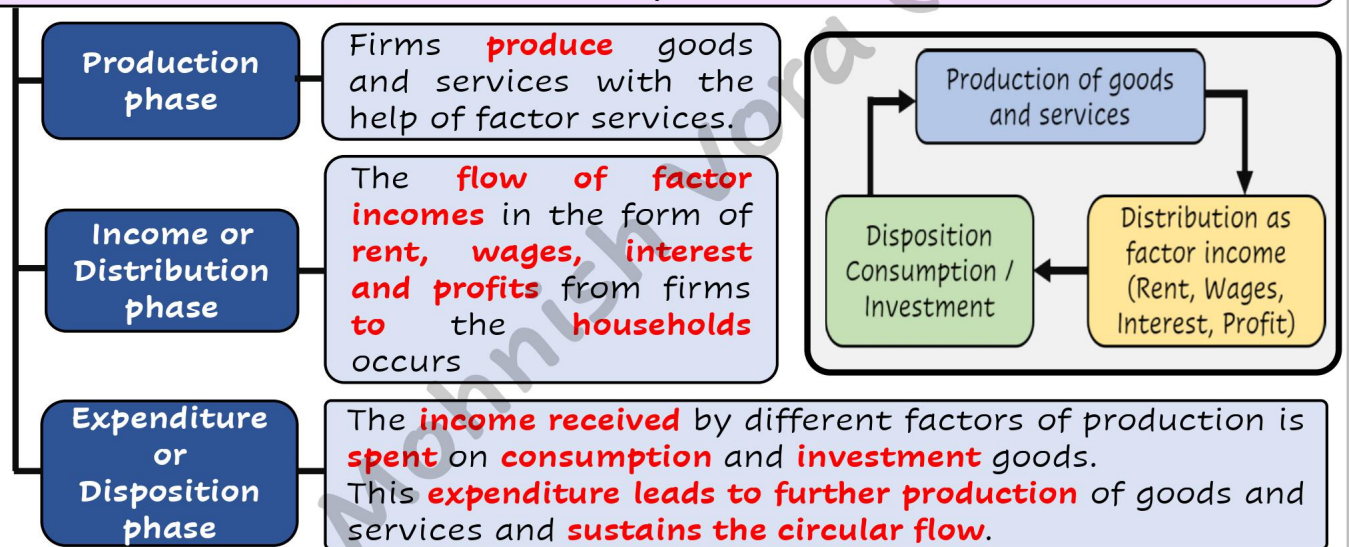
= 14980 + 170 + 60 + 30 - 150 - 222 - 105 = 14763

Therefore, DI = 14763 - 100 = 14663 Crores

4. MEASUREMENT OF NATIONAL INCOME IN INDIA

CIRCULAR FLOW OF INCOME

- Circular flow of income refers to the **continuous circulation** of
 - ✓ **production**,
 - ✓ **income generation** &
 - ✓ **expenditure**
 involving different sectors of the economy.
- There are **three different interlinked phases** in a circular flow of income-



Data requirements & Outcomes of Different Methods of National Income Calculation

Method	Data required	What is measured
Value Added Method or Product Method or Industrial Origin or Net Output Method	The sum of net values added by all the producing enterprises of the country	Contribution of production units
Factor Income Method or Factor Payment or Distributed Share	Total factor incomes generated in the production of goods and services	Relative contribution of factor owners
Expenditure method or Income Disposal	Sum of expenditures of three spending units in economy, → govt., consumer households and producing enterprises	Flow of consumption and investment expenditures

**VALUE ADDED METHOD OR PRODUCT METHOD**

National income by value added method is the **sum total of net value added** at factor cost **across all producing units** of the economy. The value added method measures the **contribution of each producing enterprise** in the domestic territory of the country in an accounting year and entails consolidation of production of each industry less intermediate purchases from all other industries. This method of measurement **shows the unduplicated contribution by each industry** to the total output. This method involves the following steps:

Step 1. Identifying the producing enterprises and classifying them into different sectors according to the nature of their activities

All the producing enterprises are broadly classified into three main sectors namely:

- (i) Primary sector,
- (ii) Secondary sector, and
- (iii) Tertiary sector or service sector

These sectors are further divided into sub-sectors and each sub-sector is further divided into commodity group or service-group.

Step 2. Estimating the gross value added (GVAMP) by each producing enterprise (This is the same as GDPMP)

$$\begin{aligned} \text{Gross value added (GVA MP)} &= \text{Value of output} - \text{Intermediate consumption} \\ &= (\text{Sales} + \text{change in stock}) - \text{Intermediate consumption} \end{aligned}$$

Step 3. Estimation of National income

For each individual unit, Net value added is found out.

$$\sum (\text{GVA MP}) - \text{Depreciation} = \text{Net value added (NVA MP)}$$

By adding net value-added or net products of all the sub-sectors of a sector, we get the value-added or net product of that sector. For the economy as a whole, we add the net products contributed by each sector to get Net Domestic Product. We subtract net indirect taxes and add net factor income from abroad to get national income.

$$\text{Net value added (NVA MP)} - \text{Net Indirect taxes} = \text{Net Domestic Product (NVA FC)}$$

$$\text{Net Domestic Product (NVA FC)} + (\text{NFIA}) = \text{National Income (NNP FC)}$$

Important Points of Value Added Method

Value of Output in PS	+	Value of Output in SS	+	Value of Output in TS
- Intermediate Cons. in PS		- Intermediate Cons. in SS		- Intermediate Cons. in TS
= GVA by PS		= GVA by SS		= GVA by TS

Gross Value Added at Market Price (GVA mp) or GDP mp

- Depreciation + NFIA - Net IDT

National Income (NNP_{FC})



If Value of Output is not given separately

Value of Output	→	Sales + Change in Stock	} Where, Change in Stock = Cl. Stock - Op. Stock
- Intermediate		- Intermediate	
Consumption		Consumption	
Gross Value Added		Gross Value Added	

The values of the following items are **also included** as per Product Method

- own account production of fixed assets
- Imputed value of production of goods for self consumption (eg- agriculture)
- imputed rent of owner occupied houses
- Change in Stock

INCOME METHOD

Production is carried out by the **combined effort of all factors of production**. The factors are paid **factor incomes** for the services rendered. In other words, whatever is produced by a producing unit is distributed among the factors of production for their services.

Under Factor Income Method, also called **Factor Payment Method** or **Distributed Share Method**, national income is calculated by **summation of factor incomes paid** out by all production units within the domestic territory of a country as wages and salaries, rent, interest, and profit. By definition, it includes factor payments to both residents and non- residents.

Thus, **NDP_{fc} = Sum of factor incomes paid out by all production units within the domestic territory of a country**

	Compensation of Employees
+	Operating Surplus (R, I, P)
+	Mixed Income of Self-Emp
=	NDP_{fc}
+	NFIA
=	NNP_{fc} (National Income)

- Income earned by **owners of primary factors** of prod. are **included**. Thus, while wages of labourers will be included,
- **Pensions** of retired workers will be **excluded**.
- **Compensation of Employees includes** - wages and salary, bonus, D.A., commission, **employers' contri.** to PF and imputed value of pay in kind.
- **Non-labour income** - rent (actual & imputed), royalty, interest on loans for productive services
- **Profit** = Corp. taxes + Div + R.E.
- **Int. paid by govt.** on public debt, int. on consumption loans and interest paid by one firm to another are **excluded**.
- **Capital gains**, windfall profits, transfer incomes, **income from sale of 2nd hand goods** & financial assets & payments out of past savings are **not included**.
- However, **commissions, brokerages** and imputed value of services provided by owners of production units will be **included**.

**EXPENDITURE METHOD**

In the expenditure approach, also called Income Disposal Approach, national income is the aggregate final expenditure in an economy during an accounting year.

$$\text{GDPMP} = \sum \text{Final Expenditure}$$

In this approach to measuring GDP which considers the **demand side** of the products, we add up the value of the goods and services purchased by each type of final user mentioned below.

1. Final Consumption Expenditure**a) Private Final Consumption Expenditure (PFCE):**

- To measure this, the volume of final sales of goods and services to **consumer households** and **non-profit institutions serving households acquired** for **consumption** (not for use in production) are multiplied by market prices and then summation is done.
- It also includes the **value of primary products** which are **produced for own consumption** by the households, payments for domestic services which one household renders to another, the net expenditure on foreign financial assets or net foreign investment.
- Land and residential buildings purchased or constructed by households are not part of PFCE. They are included in gross capital formation.
- Thus, only expenditure on final goods and services produced in the period for which national income is to be measured and net foreign investment are included in the expenditure method of calculating national income.

a) Government Final Consumption Expenditure

- Since the collective services provided by the governments such as defense, education, healthcare etc. are **not sold in the market**, the only way they can be valued in money terms is by **adding up the money spent** by the government in the production of these services. This total expenditure is treated as consumption expenditure of the government.
- Government expenditure on **pensions, scholarships, unemployment allowance** etc. should be **excluded** because these are **transfer payments**.

2. Gross Domestic Capital formation

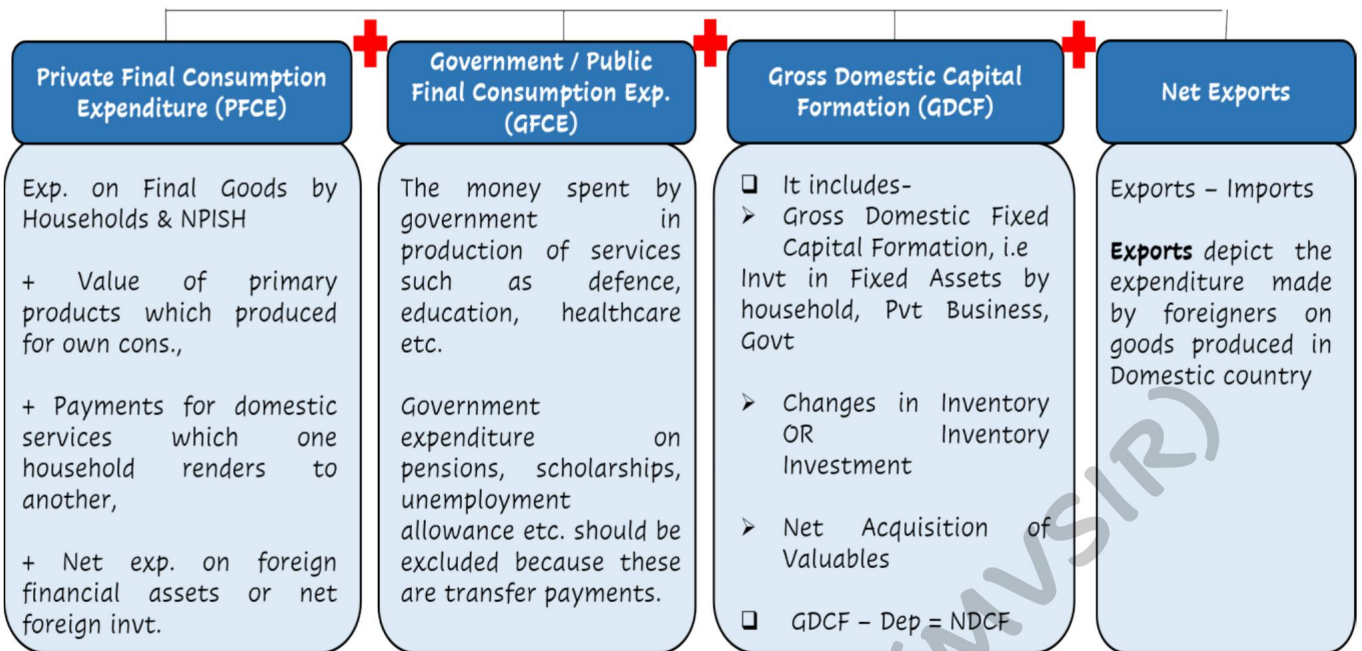
- Gross domestic fixed capital formation (Gross Investment) is that part of country's total expenditure which is **not consumed** but **added to** the nation's **fixed tangible assets and stocks**.
- It consists of the **acquisition of fixed assets** and the **accumulation of stocks**. The stock accumulation is in the form of **changes in stock**.
- Thus, gross investment includes final expenditure on machinery and equipment and own account production of machinery/equipment, exp. on construction, exp. on changes in inventories, and exp. on the **acquisition of valuables** such as, jewelry and works of art.

3. Net Exports (X-M)

- Net exports are the **difference** between **exports** and **imports** of a country during the accounting year. It can be positive or negative.



$$\text{GDP}_{mp} = \sum \text{Final Expenditure} = C + I + G + (X - M)$$



$$\text{GDP}_{MP} - \text{Depreciation} + \text{NFIA} - \text{Net IDT} = \text{NNP}_{FC}$$

Detailed Analysis of Income Method

	Compensation of Employees
+	Operating Surplus (R, I, P)
+	Mixed Income of Self-Emp
=	NDP_{fc}
+	NFIA
=	NNP_{fc} (National Income)

Income earned by owners of primary factors of prod. are included. Thus, while wages of labourers will be included, Pensions of retired workers will be excluded.

C.O.E. **includes** - wages and salary, bonus, Dearness allowance, commission, **employers' contribution** to PF and imputed value of pay in kind.

Non-labour income = rent (actual & imputed), royalty, interest on loans for productive services

Profit = Corp. taxes + Div + R.E.

Int. paid by govt. on public debt, int. on consumption loans and interest paid by one firm to another are **excluded**.

Capital gains, windfall profits, transfer incomes, income from sale of 2nd hand goods & financial assets & payments out of past savings are **not included**.

However, commissions, brokerages and imputed value of services provided by owners of production units will be **included**.

**Illustration - 9**

Calculate National Income by Value Added Method with the help of following data-

Particulars	Rs. In crores
Sales	700
Opening stock	500
Intermediate consumption	350
Closing stock	400
Net factor income from abroad	30
Depreciation	150
Excise Tax	110
Subsidies	50

Solution - 9

$NVA(FC) = GDP (MP) - Depreciation + NFIA - \text{Net Indirect Tax}$

Where $GVA(MP) = \text{Value of output} - \text{intermediate consumption}$

$\text{Value of output} = \text{Sales} + \text{change in stock}$

$$= 700 + (400 - 500) = 600$$

$GVA(MP) = 600 - 350 = 250$

Therefore $NI = 250 - 150 + 30 - (110 - 50)$

$$= 70 \text{ Crores}$$

Illustration - 10

Calculate the Operating Surplus with the help of following data-

Particulars	Rs. In crores
Sales	4000
Compensation of employees	800
Intermediate consumption	600
Rent	400
Interest	300
Net indirect tax	500
Consumption of Fixed capital	200
Mixed income	400

**Solution - 10**

$$\begin{aligned} \text{GVAMP} &= \text{Gross Value Output MP} - \text{Intermediate consumption} \\ &= (\text{Sales} + \text{change in stock}) - \text{Intermediate consumption} \\ &= 4000 - 600 = 3400 \end{aligned}$$

$$\text{GDPMP} = \text{GVAMP} = 3400 \text{ Crores}$$

$$\begin{aligned} \text{NDPMP} &= \text{GDPMP} - \text{consumption of fixed capital} \\ &= 3400 - 200 \\ &= 3200 \text{ Crores} \end{aligned}$$

$$\begin{aligned} \text{NDP}_{\text{FC}} &= \text{NDPMP} - \text{NIT} \\ &= 3200 - 500 = 2700 \text{ Crores} \end{aligned}$$

$$\begin{aligned} \text{NDP}_{\text{FC}} &= \text{Compensation of employees} + \text{Operating surplus} + \text{Mixed income} \\ 2700 &= 800 + \text{Operating Surplus} + 400 \end{aligned}$$

$$2700 - 800 - 400 = \text{Operating surplus} = 1500 \text{ Crores}$$

Illustration - 11

Calculate national income by value added method.

Particulars	(Rs. in crores)
Value of output in primary sector	2000
Intermediate consumption of primary sector	200
Value of output of secondary sector	2800
Intermediate consumption of secondary sector	800
Value of output of tertiary sector	1600
Intermediate consumption of tertiary sector	600
Net factor income from abroad	-30
Net indirect taxes	300
Depreciation	470

Solution - 11

$\text{GDPMP} = (\text{Value of output in primary sector} - \text{intermediate consumption of primary sector}) + (\text{value of output in secondary sector} - \text{intermediate consumption of secondary sector}) + (\text{value of output in tertiary sector} - \text{intermediate consumption of tertiary sector})$

$$\begin{aligned} \text{Value of output in primary sector} &= 2000 \\ - \text{Intermediate consumption of primary sector} &= 200 \\ + \text{Value of output in secondary sector} &= 2800 \\ - \text{Intermediate consumption in secondary sector} &= 800 \\ + \text{Value of output in tertiary sector} &= 1600 \\ - \text{Intermediate consumption of tertiary sector} &= 600 \end{aligned}$$

$$\text{GDPMP} = \text{Rs. 4800}$$

$$\text{NNP}_{\text{FC}} = \text{GDPMP} + \text{NFIA} - \text{NIT} - \text{Depreciation}$$

$$\text{NNP}_{\text{FC}} = \text{National income} = 4800 + (-30) - 300 - 470 = \text{Rs. 4000 Crores}$$

**Illustration - 12**

Calculate Net Value Added by Factor Cost from the following data

Particulars	(Rs. in crores)
Purchase of materials	85
Sales	450
Depreciation	30
Opening stock	40
Closing stock	30
Excise tax	45
Intermediate consumption	200
Subsidies	15

Solution - 12

$$\begin{aligned} \text{GVAMP} &= \text{Sales} + \text{change in stock} - \text{Intermediate consumption} \\ &= 450 + (30 - 40) - 200 \\ &= 240 \text{ Crores} \end{aligned}$$

$$\text{NVAMP} = \text{GVAMP} - \text{Depreciation}$$

$$\text{NVAMP} = 240 - 30 = 210 \text{ Crores}$$

$$\begin{aligned} \text{NVAFC} &= \text{NVAMP} - (\text{indirect tax} - \text{subsidies}) \\ &= 210 - (45 - 15) = 180 \text{ Crores} \end{aligned}$$

Illustration - 13

Calculate NI with the help of Expenditure method and income method with the help of following data:

Items	(Rs. in crores)
Compensation of employees	1,200
Net factor income from abroad	20
Net indirect taxes	120
Profit	800
Private final consumption expenditure	2,000
Net domestic capital formation	770
Consumption of fixed capital	130
Rent	400
Interest	620
Mixed income of self-employed	700
30	30
Govt. final consumption expenditure	1100
Operating surplus	1820
Employer's contribution to social security scheme	300



Solution - 13

By Expenditure method

GDPMP = Private final consumption expenditure + Government final consumption expenditure + Gross domestic capital formation (Net domestic capital formation + depreciation) + Net export
 = 2000 + 1100 + (770 + 130) + 30 = 4030 Crores

NNPFC or NI = GDPMP - depreciation + NFIA - NIT
 = 4030 - 130 + 20 - 120 = 3800 Crores

By Income method

NNPFC or NI = compensation of employees + operating surplus + Mixed income of self-employed + NFIA
 = 1200 + 1820 + 700 + 20 = 3740 Crores

Illustration - 14

From the following data calculate (a) Gross Domestic Product at Factor Cost, and (b) Gross Domestic Product at Market price

Items	(Rs. in crores)
Gross national product at factor cost	61,500
Net exports	(-) 50
Compensation of employees	3000
Rent	800
Interest	900
Profit	1,300
Net indirect taxes	300
Net domestic capital formation	800
Gross domestic capital formation	900
Factor income to abroad	80

Solution - 14

(a) **GDP at factor cost** = NDP at factor cost + Depreciation
 = Compensation of employees + Rent + Interest + Profit
 + Mixed income + (Gross domestic capital formation - Net domestic capital formation)
 = Rs. 3,000 + Rs. 800 + Rs. 900 + Rs. 1,300 + (Rs. 900 - Rs. 800)
 = Rs. 6100 Crores

(b) Gross Domestic Product at Market Price

= GDP at factor cost + Net Indirect taxes = Rs. 6100 + Rs. 300
 = 6400 Crores

Note:



Illustration - 15

Calculate NNPF. By expenditure method with help of following information-

Items	(Rs. in crores)
Private final consumption expenditure	10
Net import	20
Public final consumption expenditure	05
Gross domestic fixed capital formation	350
Depreciation	30
Subsidy	100
Income paid to abroad	20
Change in stock	30
Net acquisition of valuables	10

Solution - 15

Calculation of national income by expenditure method:

GDPMP = Government final consumption expenditure (Public final consumption expenditure) + Private final consumption expenditure + Gross domestic capital formation (Gross domestic fixed capital formation + change stock + Net acquisition of valuables) + Net export (Note: As net import is 20, hence, net export is -20)

$$= 5 + 10 + [350 + 30 + 10] + (-20) = 5 + 10 + 390 - 20 = 385 \text{ Crores}$$

NNPFC = GDPMP - Depreciation + Net factor income from abroad (Income from abroad - Income paid to abroad) - Net Indirect tax (Indirect tax - subsidies)

$$= 385 - 30 + [0 - 20] - [0 - 100] = 385 - 30 - 20 + 100 = 435 \text{ Crores.}$$

5. THE SYSTEM OF REGIONAL ACCOUNTS IN INDIA

- Regional accounts provide an integrated database on the innumerable **transactions taking place in the regional economy** and help **decision making at the regional level**. At present, practically all the states and union territories of India compute state income estimates and district level estimates.
- **State Income** or **Net State Domestic Product (NSDP)** is a measure in **monetary terms** of volume of **all goods & services produced** in **state** within a given **period of time** (generally a year) accounted **without duplication**.
- **Per Capita State Income** is obtained by **dividing the NSDP (State Income)** by the **midyear projected population** of the state.
- The state level estimates are **prepared by State Income Units** of respective State Directorates of Economics & Statistics (DESS). The **Central Statistical Organisation assists** the States in the **preparation** of these estimates by rendering **advice** on conceptual & methodological problems.
- In the preparation of state income estimates, certain activities such as **railways, communications, banking and insurance and central government administration**, that **cut across state boundaries**, and thus their **economic contribution cannot be assigned to any one state** directly are known as the '**Supra-regional sectors**' of the economy.
- The estimates for these supra regional activities are **compiled for the economy as a whole** and **allocated to the states** on the basis of **relevant indicators**.

**Indicators to allocate income of Supra-Regional Sectors (For Knowledge Purpose)****Railways**

The factor income namely, compensation of **employees**, **interest** and **profit** (including depreciation) at the national level are distributed among the zonal railways, in proportion to:

- **Total cost of staff** excluding the cost of staff engaged in railway workshops (manufacturing) and artisans (construction),
- **Capital** at charge, and
- **Net earnings**, respectively.

Banking & Insurance

The State-wise allocation of operating surplus of these activities is done on the basis of data obtained from concerned agencies on relevant indicators, viz. **Loans and advances** (Commercial Banks and Industrial Finance Corporation of India), **net premium income and sum assured** (LIC), **deposits** (Banking Department of RBI), **financial disbursements** (UTI), **investments and profits** (Cooperative Credit Societies).

6. GDP AND WELFARE

Can the **GDP** of a country be taken as an **index of welfare of people** in that country?

- There are many reasons to dispute the validity of GDP as a perfect measure of wellbeing. In fact, GDP **measures our ability to obtain many requirements to make our life better; yet leave out many important aspects** which ensure good quality of life for all.

GDP measures **exclude** the following which are **critical for the overall wellbeing** of citizens.

- a) Income distributions and, therefore, GDP per capita is a completely inadequate measure of welfare. Countries may have **significantly different income distributions** and, consequently, **different levels of overall well-being** for the **same level of per capita income**.
- b) Quality improvements in systems and processes due to **technological** as well as **managerial innovations** which reflect true growth in output from year to year.
- c) **Productions hidden from government** authorities, either because those engaged in it are **evading taxes** or because it is **illegal** (**drugs, gambling etc.**).
- d) **Nonmarket production** (with a few exceptions) and **Non-economic contributors** to well-being for example: **health of a country's citizens, education levels, political participation**, or other social and political factors that may significantly affect well-being levels.
- e) The **disutility of loss of leisure time**. We know that, other things remaining the same, a country's GDP rises if the total hours of work increase.



- f) **Economic 'bads'** for example: **crime, pollution, traffic congestion** etc which make us worse off.
- g) The **volunteer work and services** rendered **without remuneration** undertaken in the economy, even though such work can contribute to social well-being as much as paid work.
- h) Many things that contribute to our economic welfare such as, **leisure time, fairness, gender equality, security of community feeling** etc.,
- i) Both **positive and negative externalities** which are external effects that **do not form part** of **market transactions**
- j) The distinction between production that makes us better off and **production** that only **prevents us from becoming worse off**, for e.g. **defence expenditures** such as on **police protection. Increased expenditure on police** due to **increase in crimes** may increase GDP but these **expenses** only **prevent us from becoming worse off**. However, **no reflection** is made in national income of the **negative impacts of higher crime rates**. As another example, **automobile accidents** result in **production of repairs**, output of medical services, insurance, and legal services all of which are production included in GDP just as any other production.

7. LIMITATIONS AND CHALLENGES OF NATIONAL INCOME COMPUTATION

There are innumerable limitations and challenges in the computation of national income. The task is more complex in underdeveloped and developing countries.

There are many **conceptual difficulties** related to measurement which are difficult to resolve, such as:

- lack** of an **agreed definition** of national income,
- accurate distinction** between **final** goods and **intermediate** goods,
- issue of **transfer payments**,
- services of **durable goods**,
- difficulty** of **incorporating distribution of income**,
- valuation of a new good** at **constant prices**, and
- valuation** of **government services**

Other **challenges** related to measurement of National Income are-

- Inadequacy of data** and **lack of reliability** of available data,
- presence of **non-monetised sector**,
- production for **self-consumption**,
- absence** of **recording of incomes** due to **illiteracy and ignorance**,
- lack** of **proper occupational classification**, and
- accurate **estimation** of **consumption of fixed capital**

Note:

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