



National income of a country means the sum total of incomes earned by the citizens of that country during a given period, over a year.

1. National Income Accounting Equation: $Y = C + I + G + (X - M)$
2. Where:
 - Y = National Income
 - C = Personal Consumption Expenditure
 - I = Private Investment
 - G = Government Spending
 - X = Net Exports (Exports - Imports)

Why Quantifying Economic Growth Matters

- **Big Picture Understanding:** Economic indicators, especially growth metrics like GDP, provide a snapshot of a nation's economic health.
- **Investor Insights:** Analyzing growth data helps investors understand if financial markets accurately reflect economic realities. This guides investment strategies.
- **Stage of Development:** Economic growth rates vary based on a country's development stage (developed vs. emerging). Comparing nations at similar stages offers a more accurate picture.
- **Economic Drivers:** Tracking growth reveals what sectors drive an economy (e.g., consumer spending in the US). This knowledge aids in understanding economic trends.



Gross Domestic Product (GDP):

- 1) Definition: Total market value of all final goods and services produced within a country's domestic territory in a financial year.
- 2) Key Points:
 - a) Monetary Measure: GDP is a monetary measure of the annual output.
 - b) Avoids Double Counting: Includes only the value of final goods and services, avoiding double counting.
 - c) Current Production: Encompasses goods and services currently produced in the year.
 - d) Domestic Territory: Reflects the value of goods and services produced within the country's domestic territory by nationals or non-nationals.



Gross National Product (GNP): is the total market value of all final goods and services produced in a year.

1. GNP includes net factor income from abroad whereas GDP does not.
2. Therefore, $GNP = GDP + \text{Net factor income from abroad}$.
3. $\text{Net factor income from abroad} = \text{factor income received by Indian nationals from abroad} - \text{factor income paid to foreign nationals working in India}$.

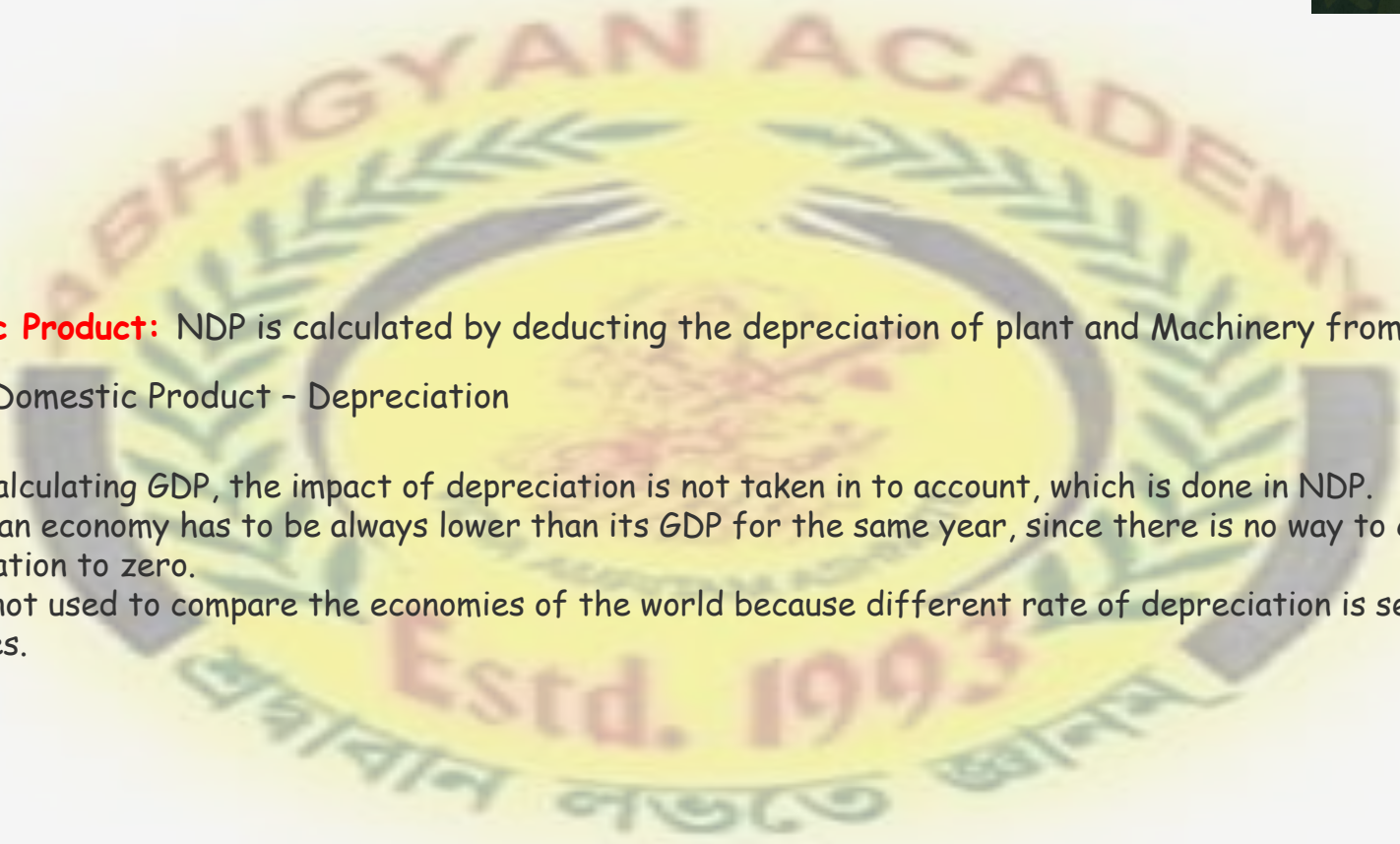
GNP vs. GDP



Value of all goods & services made by a country's residents & businesses, regardless of production location



Measures production inside of a country, no matter who makes it



Net Domestic Product: NDP is calculated by deducting the depreciation of plant and Machinery from GDP.

$\text{NDP} = \text{Gross Domestic Product} - \text{Depreciation}$

- While calculating GDP, the impact of depreciation is not taken in to account, which is done in NDP.
- NDP of an economy has to be always lower than its GDP for the same year, since there is no way to cut the depreciation to zero.
- NDP is not used to compare the economies of the world because different rate of depreciation is set by different countries.

Net National Product: NNP in an economy is the GNP after deducting the loss due to depreciation.

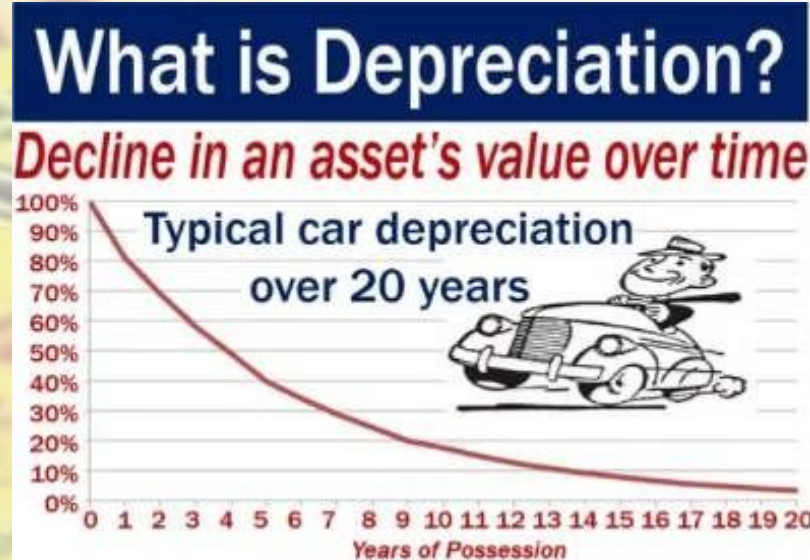
$$NNP = GNP - \text{Depreciation}$$

NNP at Factor Cost: It is the value of NNP when the value of goods and services is taken at the production cost.

NNP at Market Price: It is the value of NNP at consumer cost.

$$NNP \text{ at market cost} = NNP \text{ at factor cost} + \text{Indirect taxes} - \text{Subsidies}$$

Personal Income: Sum of all incomes received by individuals or households in a given year.



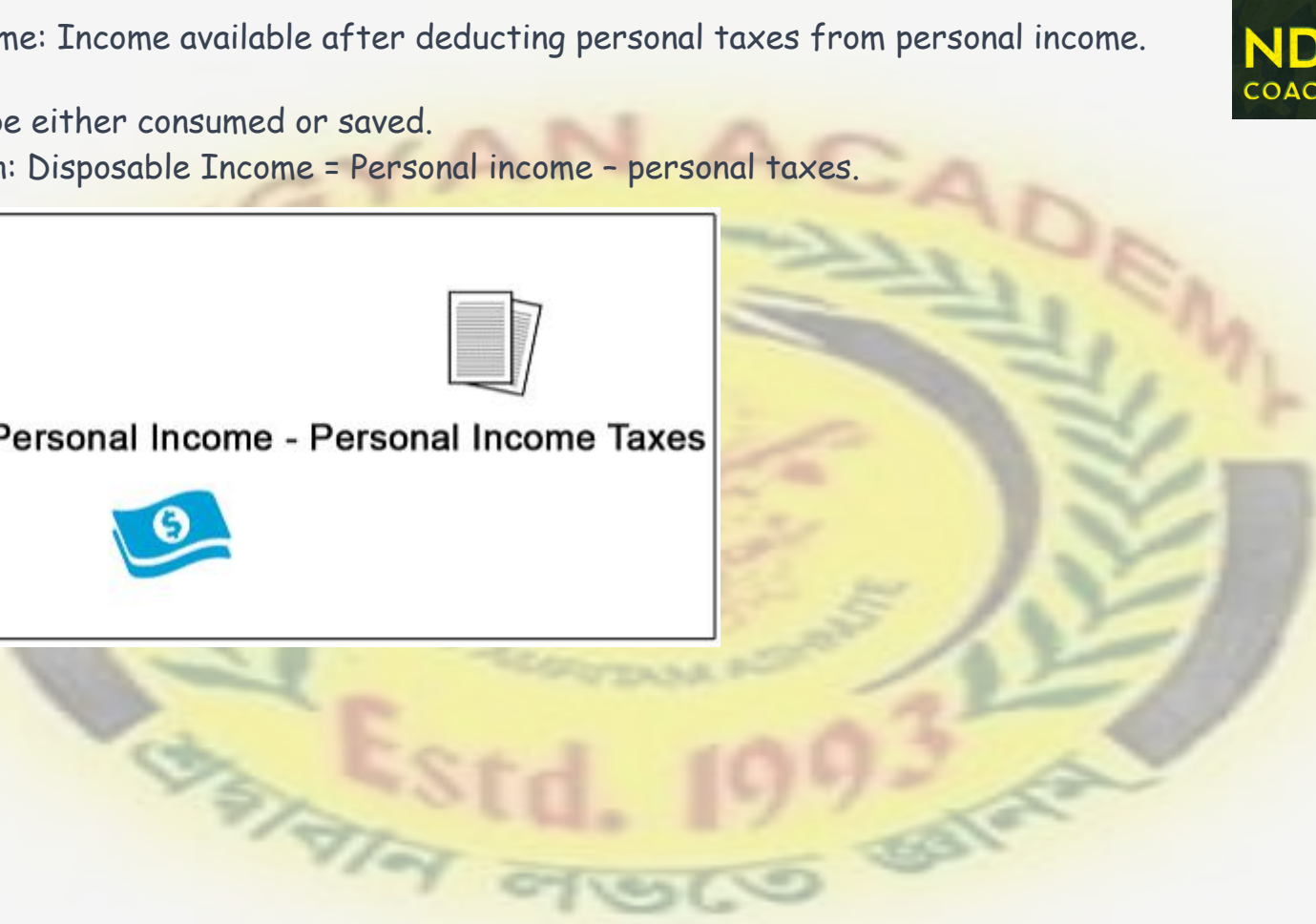
- In National Income there are some income, which is earned but not actually received by households such as Social Security contributions, corporate income taxes and undistributed profits.
- On the other hand there are income (transfer payment), which is received but not currently earned such as old age pensions, unemployment doles, relief payments, etc.
- Thus, in moving from national income to personal income we must subtract the incomes earned but not received and add incomes received but not currently earned.
- Calculation: $\text{Personal Income} = \text{National Income} - \text{Social Security contributions} - \text{corporate income taxes} - \text{undistributed corporate profits} + \text{transfer payments}.$

Disposable Income: Income available after deducting personal taxes from personal income.

- Use: Can be either consumed or saved.
- Calculation: Disposable Income = Personal income - personal taxes.



**Disposable
Income = Personal Income - Personal Income Taxes**
Formula



Nominal vs. Real GDP: Unveiling the True Story

Nominal GDP: Picture this - the total value of goods and services produced in a year, with a price tag attached (current market price). It's like measuring your wealth based on the current value of your house, regardless of rising or falling house prices.

Real GDP: Now, imagine adjusting that price tag to reflect stable purchasing power. This is real GDP, akin to knowing the intrinsic value of your house, unaffected by temporary market fluctuations.

The Problem with Nominal: Just like inflation can inflate your nominal paycheck without a real pay raise, nominal GDP can rise solely due to price hikes, not increased production. This distorts the true picture of economic growth.

Real to the Rescue: Real GDP strips away the price disguise, revealing the actual growth in production. It allows us to compare economic performance across years despite inflation or deflation.

In a nutshell:

- **Nominal GDP:** What it costs now, regardless of inflation.
- **Real GDP:** What it would cost in a fixed year, reflecting true production growth.

GDP Deflator:

It is an index of price changes of goods and services included in GDP. It is a price index which is calculated by dividing the nominal GDP in a given year by the real GDP for the same year and multiplying it by 100. Thus,

GDP Deflator

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

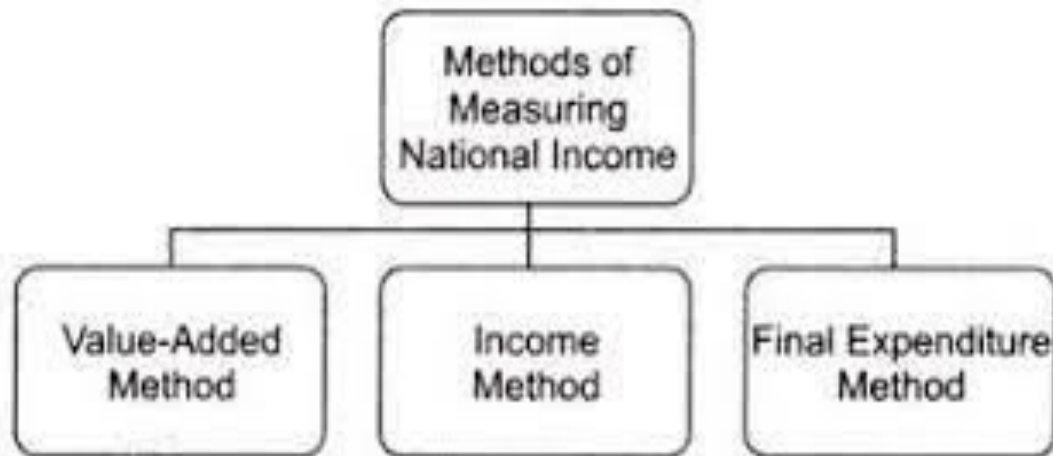
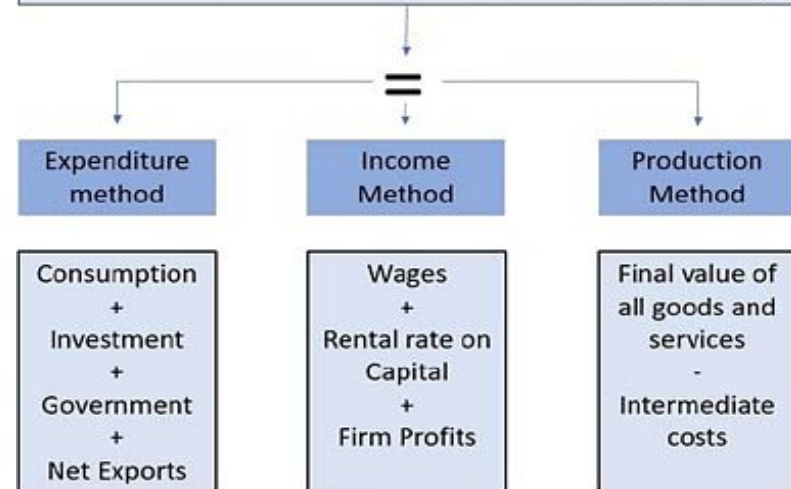


Figure-1: Different Methods of Measuring National Income

GROSS DOMESTIC PRODUCT (GDP)

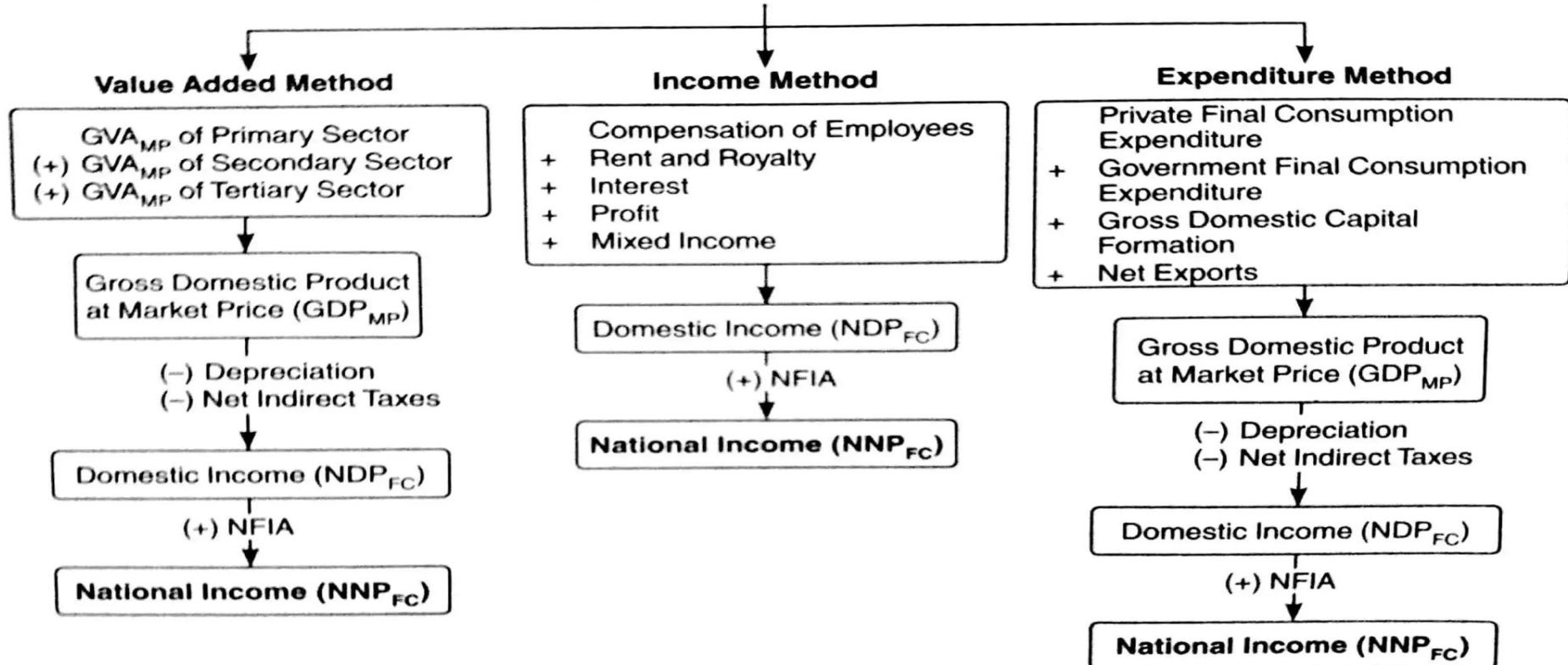


Method	Approach	Calculation Steps
Output (Production) Method	<ul style="list-style-type: none"> - Value-added approach. - Divides the economy into sectors. 	<ol style="list-style-type: none"> 1. Divide the economy into sectors (agriculture, manufacturing, etc.). 2. Calculate gross product by adding net values of production in each sector. 3. Deduct intermediate goods' purchase to find net value. 4. Sum net values of all sectors and add net factor income from abroad to get GNP. 5. Subtract depreciation to get NNP at market price. 6. Adjust for indirect taxes and subsidies to obtain NNP at factor cost (National Income).
Income Method	<ul style="list-style-type: none"> - Approaches from the distribution side. 	<ol style="list-style-type: none"> 1. Sum up incomes of all individuals, including rent, wages, salaries, interest, profits, and self-employed income. 2. Indicates the distribution of national income among different groups.
Expenditure Method	<ul style="list-style-type: none"> - Adds up expenditures on goods and services. 	<ol style="list-style-type: none"> 1. Sum up expenditures on consumer goods (C), private business investments (I), government purchases (G), and net exports (exports - imports, denoted by $X - M$). 2. Formula: $GDP = C + I + G + (X - M)$.

Measuring National Income: Three Main Approaches

National income reflects the total value of goods and services produced within a country in a year. It can be measured from three main perspectives:

RECONCILIATION OF 3 METHODS



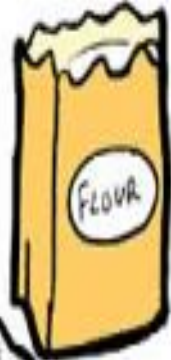
1. Production Method (Value-Added):

- Tracks value additions at each stage of production across various sectors like agriculture, manufacturing, and services.
- Deducts intermediate goods used to arrive at net output value for each sector.
- Summing up net values yields *Gross National Product (GNP)*.
- Subtracting depreciation from GNP gives *Net National Product (NNP)* at market price.
- Adjusting for taxes and subsidies gives NNP at factor cost (national income).

2. Advantages: Reveals sector contributions and importance. Requires comprehensive production data.

3. Disadvantages:

- **Housewife Services:** Not included due to difficulty in assigning monetary value, leading to underestimation.
- **Intermediate vs. Final Goods:** Double counting must be avoided; only final goods contribute to national income.
- **Second-hand Goods:** Transactions of these are excluded as they were originally counted when produced. Only brokers' fees are included.
- **Illegal Activities:** Income from these is not counted, although it may satisfy wants.
- **Consumers' Services:** Services from professions like doctors, lawyers, etc. are included as they satisfy needs, even though they produce no tangible goods.
- **Capital Gains:** Excluded as they don't reflect current production.
- **Inventory Changes:** Both increases and decreases in stock (at current prices) are included.
- **Depreciation:** Difficult to estimate true depreciated value, especially with price fluctuations.
- **Price Changes:** Can inflate or deflate national income figures, so adjustments using a price index are necessary for calculating real national income.



Intermediate Goods bought by cupcake shop



Final Good: Cupcakes



2. Income Method:

- Focuses on income earned by individuals and businesses.
- Sums up wages, salaries, rents, interest, profits, and income of self-employed.
- Reflects income distribution among different groups.

Advantages:

- Highlights income disparity.
- Requires detailed income data.

Disadvantages

- **Owner-Occupied Houses:** Imputed rent must be estimated for houses the owner lives in, as if the house was rented out.
- **Self-Employed Persons:** Difficult to separate income into distinct factors of production (land, labor, capital), leading to mixed income estimates.
- **Goods for Self-Consumption:** Value of farm goods consumed by the farmer must be estimated for inclusion.
- **Wages Paid in Kind:** The value of goods/services offered to employees as part of compensation must be included.

3. Expenditure Method:

- Tracks all spending on goods and services within a year.
- Includes personal consumption expenditure (C), private investment (I), government spending (G), and net exports ($X-M$).
- Yields Gross Domestic Product (GDP).

Advantages:

- Captures all economic activity.
- Requires comprehensive spending data.

Expenditure Method Disadvantages

- **Government Services:** Difficult to determine if they are final or intermediate goods. In practice, typically all are considered final goods.
- **Transfer Payments:** Excluded as they don't reflect current production (e.g., pensions, subsidies).
- **Durable-use Consumer Goods:** Typically counted as consumption expenditure, even though used over multiple years (except new houses, which are investment).
- **Public Expenditure:** Distinguishing between consumption and investment expenditure can be challenging.

GDP's Achilles Heels: Why it's Not the Perfect Yardstick

- GDP, while widely used, isn't flawless. Here's a quick rundown of its shortcomings:
- **Blind to Quality:** GDP measures growth, not progress. It misses important aspects like well-being, happiness, and environmental impact.
- **Shadowy Corners:** Black money and the informal sector thrive under the radar, escaping GDP's grasp.
- **Barter Blindness:** Transactions outside the formal system, like bartering, remain invisible to GDP.
- **Careless Omission:** Unpaid care work, a cornerstone of society, goes unnoticed by GDP.
- **Social Silences:** Volunteering and environmental costs find no place in GDP calculations.
- **Poverty Ignored:** The gap between rich and poor doesn't show up in GDP.

Despite these limitations, GDP remains a valuable tool. It offers a quantitative indicator of economic activity, which, when used with caution and complemented by other metrics, can paint a more nuanced picture of a nation's prosperity.

India's GDP Chronicles:

- Central Statistics Office (CSO) oversees GDP calculation in India.
- Base year revised from 2004-05 to 2011-12 in 2015.
- Shift from factor cost to market cost at constant prices for GDP measurement.
- Sector-wise GVA estimates now at basic prices instead of factor cost.

Intermediate consumption

is the cost of raw materials and other inputs which are used up in production.

The value of the inputs, or intermediate consumption, going into producing this chair are £30.



is the goods or services which are produced.
In this case the **chair** is the output and is worth £50.

This means that the **GVA** from this chair is:

$$£50 - £30 = £20$$

What is Gross Value Added?

Gross value added (GVA), is defined as the value of output minus the value of intermediate consumption. It helps to measure the contribution made by an individual producer, industry or sector.

Decoding the GDP Equation: A Concise Breakdown

- Understanding GDP requires navigating a web of related terms: GVA at Basic Prices and Factor Cost, and Product vs. Production taxes. Here's a simplified explanation:
- GVA at Basic Prices: Think of it as the value added by each sector minus costs of raw materials. Add Production taxes (land revenue, stamps) - Production subsidies (farm subsidies) to get this figure.
- GDP at Market Prices: Start with GVA at Basic Prices, then add Product taxes (sales tax, import duties) - Product subsidies (food, fuel subsidies). This final sum represents the total market value of all goods and services produced in a year.
- Data Expansion: To enhance accuracy, India recently widened its data pool from a limited "Annual Survey of Industries" to information from all companies registered with the Ministry of Corporate Affairs. This shift provides a more comprehensive picture of the economy.



Which of the following is true about real GDP?

Statement I: It is adjusted for changes in prices.

Statement II: It is always equal to nominal GDP.

Statement III: It increases whenever aggregate output increases.

- a. I only
- b. II only
- c. III only
- d. I and III



Which of the following statements are correct

1. GDP evaluated at current market price is used for comparison of GDPs of different countries.
2. Nominal GDP is the value of GDP at the current prevailing prices.
3. Real GDP is evaluated at constant prices.

Correct answer code is:

- a. Only 1
- b. Only 1 and 2
- c. Only 2 and 3
- d. All of the above





Which of the following statement(s) is/are correct about GDP Deflator?

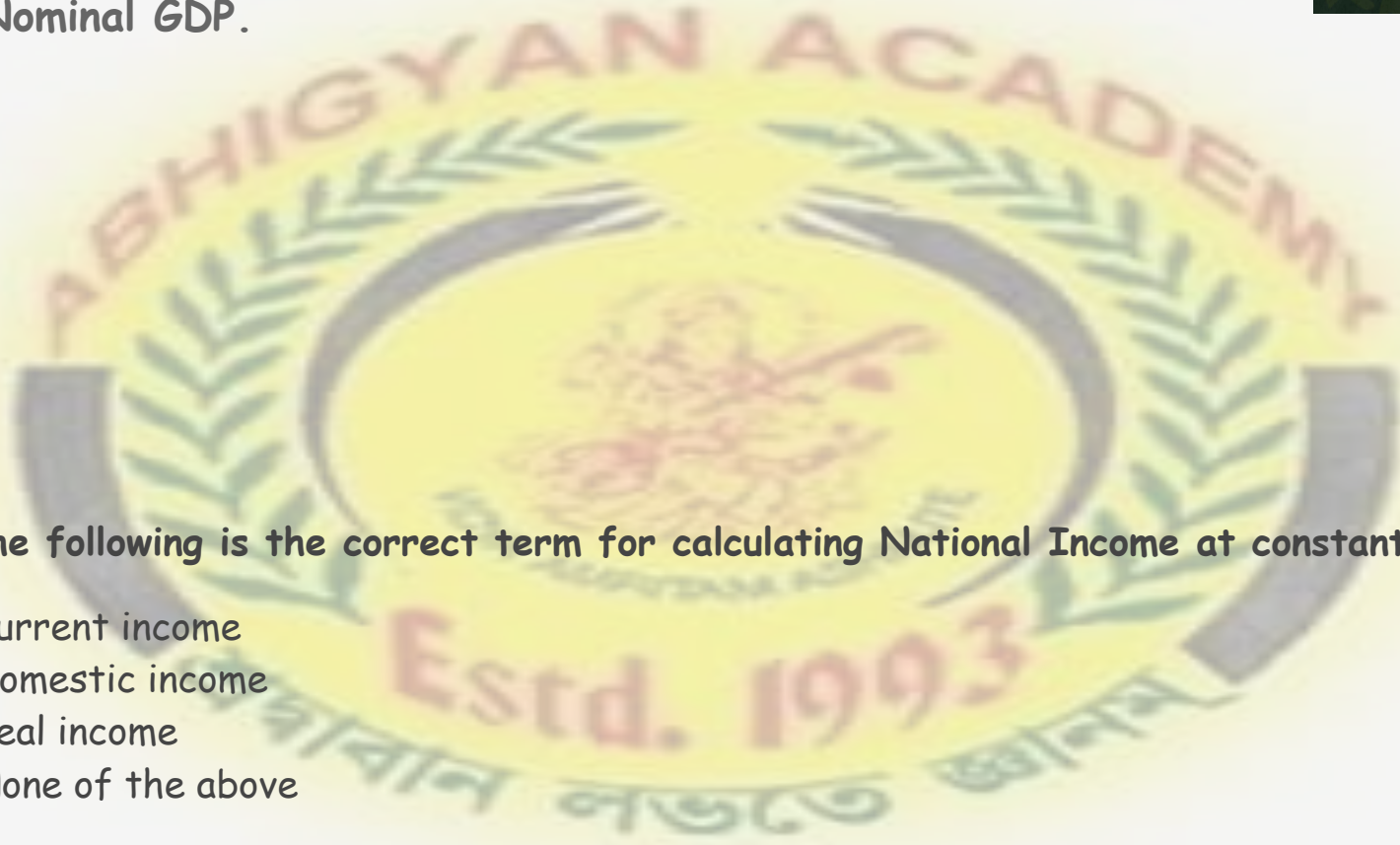
1. The GDP Deflator measures the ratio of nominal to real GDP.
2. GDP Deflator measures the change in the price level between the base year and the current year.
3. GDP deflator does not include prices of imported goods.

Correct answer code is:

- a. Only 1 and 2
- b. Only 2 and 3
- c. Only 1 and 3
- d. All of the above



If Real GDP is Rs 200 and Price Index (with base = 100) is 110, calculate Nominal GDP.



Which of the following is the correct term for calculating National Income at constant prices?

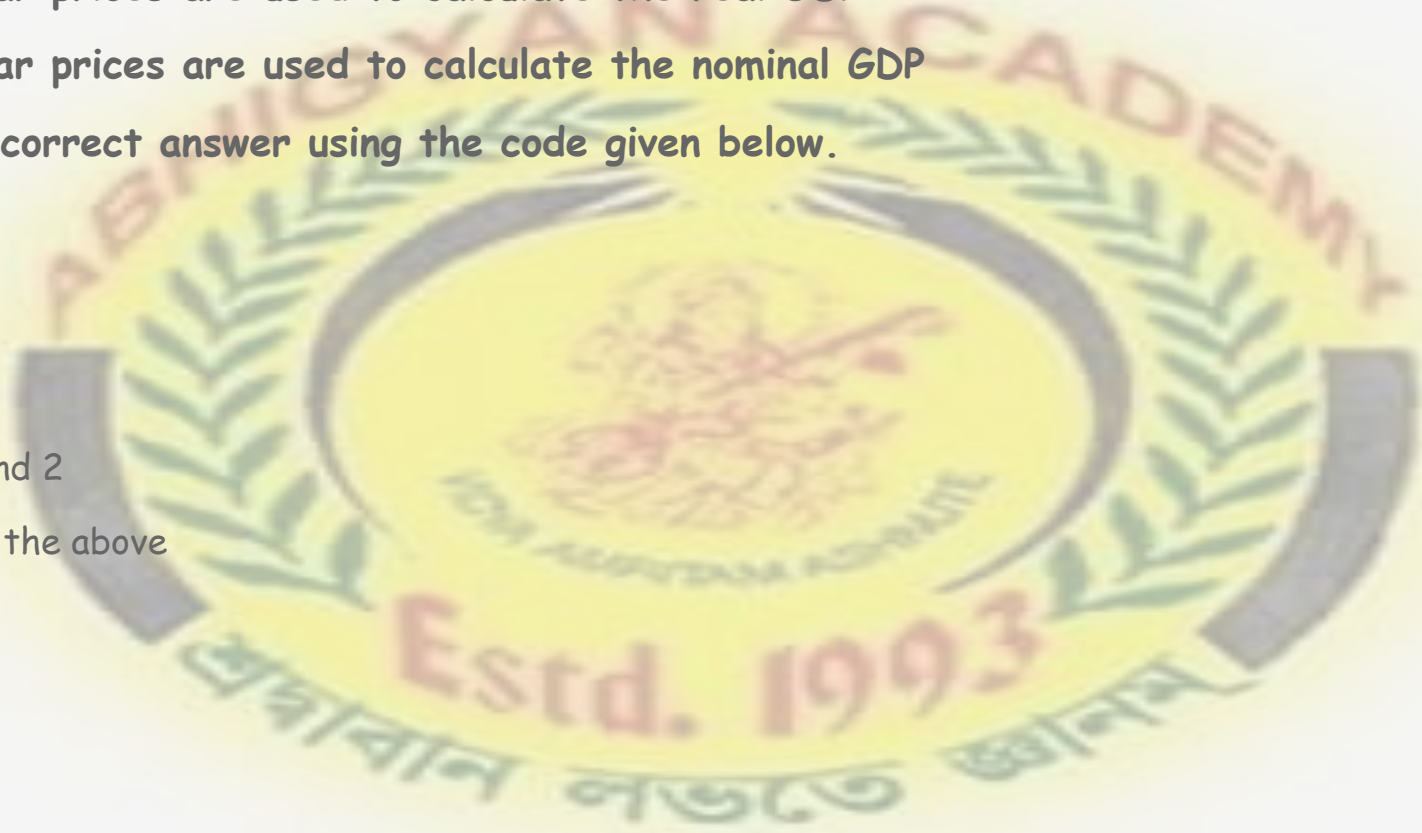
- a. Current income
- b. Domestic income
- c. Real income
- d. None of the above

Consider the following statements:

1. Base Year prices are used to calculate the real GDP
2. Base Year prices are used to calculate the nominal GDP

Select the correct answer using the code given below.

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) None of the above



1. Which of the following is the actual definition of transfer payments?
 - a. Transfer payments refer to the payments made as compensation to the employees within an organisation
 - b. Transfer payments refer to the payments made to workers on transferring from one job to another
 - c. Transfer payments refer to the payments made without any exchange of goods and services
 - d. None of the above
2. Which of the following is another term for the Net National Product at factor cost?
 - a. Personal Income
 - b. National Income
 - c. Gross National Product
 - d. Net Domestic Product
3. Answer: b Which of the following is true for Disposable Income?
 - a. Disposable Income is the difference between Private Income and Indirect Taxes
 - b. Disposable Income is the difference between Personal Income and Indirect Taxes
 - c. Disposable Income is the difference between Private Income and Direct Taxes
 - d. Disposable Income is the difference between Personal Income and Direct Taxes

1. Which of the following organisations calculate the Gross Domestic Product in India?
 - a. Reserve Bank of India
 - b. Indian Statistical Institute
 - c. National Statistical Office
 - d. None of the above
2. Which of the following is the correct definition for the Gross Domestic Product (GDP) of a country?
 - a. The Gross Domestic Product is the total monetary value of the economic transactions within a country in a given year
 - b. The Gross Domestic Product is the total value of both monetary and non-monetary goods and services in a country within a given year
 - c. The Gross Domestic Product is the total value of tradable goods produced in a country within a given year
 - d. None of the above