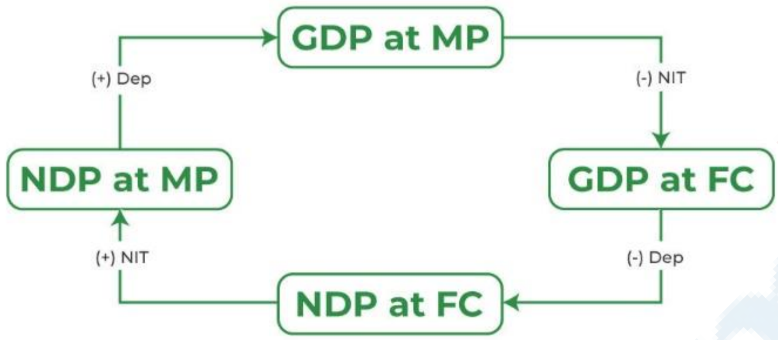
Handout 3 (GDP Calculation)

- **Gross Investment: Total spending on new physical assets.**
- **Net Investment = Gross Investment- Depreciation**
- **Net Domestic Product (NDP) = GDP – Depreciation**
- **Net National Product (NNP) = GNP – Depreciation**
- **Depreciation: Asset value decrease over time.**

GDP at Market price and GDP at Factor Cost



- **Market Price = Factor Cost + Indirect Taxes – Subsidies**
- **Net Indirect Taxes = Indirect Taxes – Subsidies**
- **GDP @M.P = GDP@F.C + Indirect Taxes – Subsidies**
- **GDP @M.P = GDP @F.C + Net Indirect Taxes**

Normal Residents of a Country:
- Citizens and institutions with economic ties.
- Foreign citizens residing over a year with economic ties.
- Citizens working in international organizations or foreign embassies.

Exclusions:
- Foreign visitors for travel.
- Foreign officials, diplomats, and military stationed in the country.

Domestic Versus National Concepts (Gross National Product (GNP))
- ***National product /Income*** *=Domestic Product + Net Factor Income from Abroad*
- ***Domestic product /income*** *= national product – net factor Income from abroad*
- **Gross National Product (GNP)** =GDP + NFIA(Net Factor Income from Abroad).

- **NFIA** = *Residents' income minus non-residents' income.*

Components of Net Factor Income from Abroad
- Net Compensation of Employees
- Net Income from Property and Entrepreneurship
- Net Retained Earnings of Resident Companies Abroad

GNP is the national income according to which IMF ranks the nations of the world.

Nominal GDP and Real GDP
- **Nominal GDP:** Measured in current market prices, includes inflation influence.
- **Real GDP:** Calculated at constant prices (base year).
- **National Income = Real NNP@ market price**

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

GDP Growth Rate (%) = {GDP of (Present year - Last Year) / Last Year} × 100

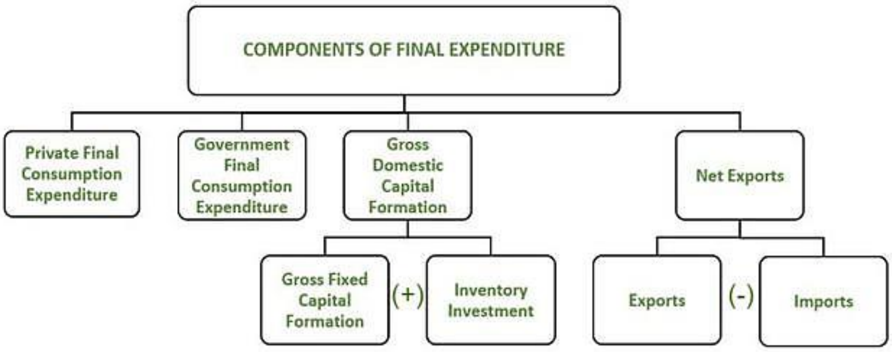
Per Capita Income

Per Capita Income = Total National Income / Total Population

How to measure GDP

Three different ways are used:
- Output Approach: GDP = Value of all final goods and services produced within the country's borders
- Income Approach: GDP = Total compensation of employees + Gross operating surplus + Gross mixed income + Taxes less subsidies on production and imports
- Expenditure Approach: GDP = Consumption + Investment + Government Spending + (Exports - Imports)

1. Private Final Consumption Expenditure (PFCE)
- Consumer Services: Banking, transport, education, etc.
- Consumer Non-Durable Goods: Food, clothes, etc.
- Consumer Durable Goods: Fridge, TV, etc.
- Total PFCE = Sum of all three categories.



2. Investment (I)/Gross Capital Formation (GCF):

- Business Fixed Investment: Spending on new machinery.
- Inventory Investment: Difference between produced and sold goods.
- Residential Construction Investment: Spending on housing units.
- Public Investment: Government spending on infrastructure.
- Total investment is also called Gross Capital Formation.

3. Government purchase of goods & services (G):

- Government Spending: Expenditure on goods & services, e.g., salaries.
- Transfer Payments: Payments to individuals, e.g., pensions, scholarships, food coupons, direct benefit transfers. Not counted in GDP.

4. Net Exports = Exports (X) – Imports (M)

GDP= C+I+G+(X-M)

Discrepancies between methods:

- Unrecorded final consumption transactions due to black and grey markets.
- Variation in data from MCA 21 and NSO's Annual Survey of Industries.
- Output approach (Production Method GVA) considered most accurate.