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Economy & Agriculture

SIERRA INNOVATIONS

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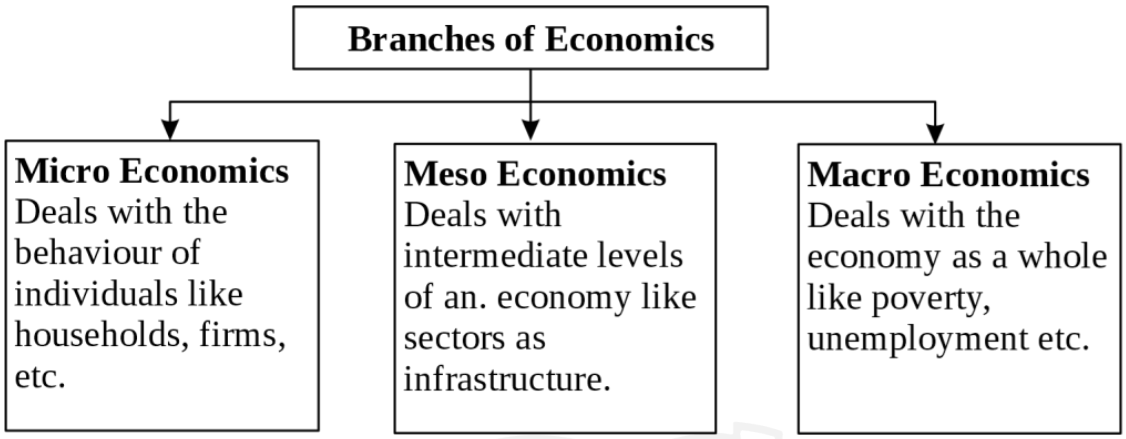
1 CHAPTER

Basic Concepts of Economy

Economics is a social science concerned with the production, distribution and consumption of goods and services.



Types Of Economy

- **Capitalist Economy**: Based on **laissez faire** with minimal government intervention. Private enterprises decide production, pricing, and supply based on market demand, and prices are determined by supply and demand forces.
- **Socialist Economy**: The government controls output and pricing, focusing on distributing goods based on need rather than affordability. Essential services like health care are provided free to citizens.
- **Mixed Economy**: Combines elements of both capitalism and socialism. The government intervenes to achieve social goals, redistributes wealth through taxes, and promotes social objectives alongside private sector activity.
- **Open Economy**: Engages in economic relations with the rest of the world. The demand for domestic goods includes domestic consumption, investment, government spending, and exports minus imports. Exports provide an additional demand for domestic goods and services.
- **Closed Economy**: Has no economic interactions with other countries. In a closed economy, saving, investment, GDP, and GNP are equal, while in an open economy, these may differ due to international trade.

Schools of Economic Thought

- **Classical View:** Believes in free markets as the most efficient way to allocate resources and advocates for limited government involvement, acting only as a fair and strict referee.
- **Keynesian View:** Argues that markets alone cannot efficiently allocate resources and it supports active government intervention to reallocate resources and stabilize the economy.

Structural Composition of an Economy

- **Primary Sector**: Refers to industries involved in the extraction of natural resources or the production of raw materials. Examples include fishing, farming, mining and more.
- **Secondary Sector:** Encompasses industries involved in the manufacturing of usable or finished goods. Examples include heavy industries such as steel, automotive and light industries such as food and cosmetics.

- **Tertiary Sector:** Refers to industries that offer services to businesses or end consumers. Examples include healthcare, insurance and more.
- **Quaternary Sector:** Involves industries focused on the creation and dissemination of knowledge. Examples include research and development, education etc.
- **Quinary sector:** Involves the highest levels of decision-making in an economy. Examples include NITI Aayog members, scientists.

Sectors of Economy

- **Formal Sector:** This sector consists of businesses that are officially registered with the government and are governed by various regulations, such as the Companies Act, Factories Act and Labour laws etc.
- **Informal Sector:** This sector consists of businesses that operate without legal regulation or the maintenance of regular financial records. Examples include landless laborers, farmers and vendors.

The **Real sector** of an economy drives economic output and GDP growth, encompassing activities like farming or textile production, which directly contribute to the economy's productivity and meet aggregate demand. It is essential for economic sustainability. In contrast, the **Financial sector** includes institutions providing financial services such as banks, insurance companies and investment firms, which generate revenue through loans and mortgages.

Goods

- Goods are products or services that satisfy people's needs and wants. They can be physical items, services, or a mix of both, and anything that offers value to consumers is considered a good.

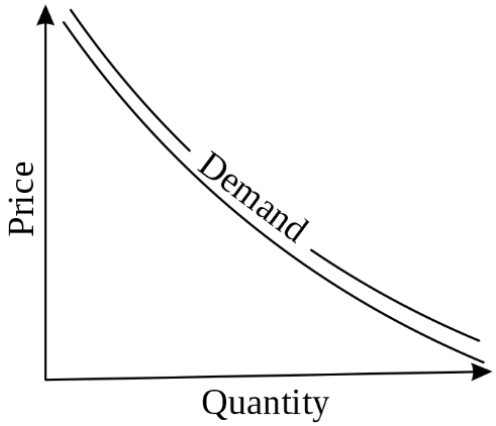
Types of Goods in an Economy:

- **Intermediate goods**: Products used by producers as inputs in the production process. Example: Rubber for tyres.
- **Final goods**: Items intended for final consumption, without further transformation or production. Example: Bicycle.
- **Consumer goods**: Goods purchased by consumers for personal use. Example: Sugar.
- **Capital goods**: Durable items utilized in the production process, such as machinery and tools.
- **Luxury goods**: Products for which demand increases with higher income levels. Example: Gold.
- **Complementary goods**: Goods that are used together. Example: Bread and butter, pen and refill.
- **Substitute goods**: Products that serve as alternatives to each other. Example: Tea and coffee.
- **Veblen (Snob) goods**: Goods for which demand increases as their price rises, often because people perceive them as better. Example: A rolex watch, private jets.
- **Giffen goods**: Goods where demand increases as prices rise, often considered inferior goods. Example: Bajra.
- **Public goods**: Goods that are non-rivalrous (one person's consumption doesn't reduce availability for others) and non-excludable. When the government provides a commodity for free, the opportunity cost shifts from the consumers to taxpayers. This means that while individuals receive the good at no cost, the expense is covered by the general population through taxes. Example: Parks, defense.
- **Private goods**: Goods that are both rivalrous (one person's consumption limits others') and excludable (can be restricted to specific users). Example: Club membership, houses.
- **Merit goods**: Goods with positive externalities, such as education or healthcare.
- **Demerit goods**: Goods with negative externalities. Example: liquor, cigarettes.

Stock and Flows

- Stocks refer to assets or goods that are present at a particular moment in time, while flows represent the quantities occurring over a specified period.
- Capital goods, like machinery, are considered stocks, whereas the changes in capital goods over time are classified as flows.

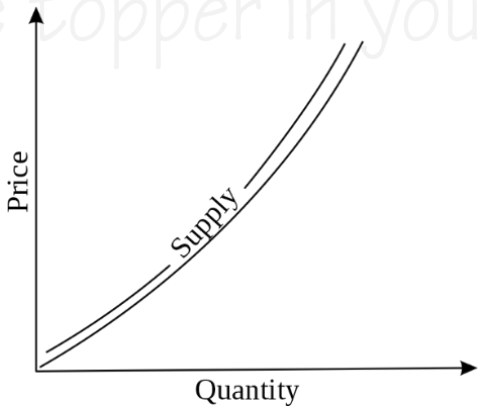
Law of Demand



- The Law of Demand states that, assuming all other factors are unchanged, when the price of a good or service increases, the quantity demanded by consumers decreases, and vice versa.
- For example, if smartphone prices fall, consumers are more likely to buy more. This inverse relationship between price and demand is a key principle in economics. However, this law applies only to normal goods.

1. **Demand Curve**
   - ✓ A price change usually leads to an inverse change in quantity demanded, with the demand curve sloping downward.
   - ✓ In some cases, a price decrease can reduce demand, and a price increase can boost it, causing the curve to slope upward.
   - ✓ The Speculative Effect can also reverse this trend, as consumers anticipate future price hikes.
   - ✓ Factors such as changes in income, prices of related goods and preferences can shift the demand curve.
   - ✓ An increase in these factors shifts the curve rightward, while a decrease shifts it leftward.
2. **Elasticity of Demand**
   - ✓ It measures how responsive the quantity demanded of a good or service is to price changes. It reveals how sensitive consumers are to variations in price.
3. **Types of Elasticity of Demand**
   - ✓ **Perfectly Elastic**: Infinite change in quantity for a small price change.
   - ✓ **Perfectly Inelastic**: No change in quantity regardless of price changes.
   - ✓ **Relatively Elastic**: Large change in quantity for a small price change.
   - ✓ **Unitary Elastic**: Proportional change in quantity and price.
   - ✓ **Relatively Inelastic**: Small change in quantity for a large price change.

Law of Supply



- The Law of Supply states that as prices rise, the quantity supplied increases, and as prices fall, the quantity supplied decreases.
- For instance, higher coffee prices encourage farmers to grow more, while lower prices reduce production. This reflects the direct relationship between price and supply.

1. **Elasticity of Supply**
   - ✓ It measures how responsive the quantity supplied of a good or service is to price changes.
   - ✓ It helps understand how producers adjust their output in response to price fluctuations.
2. **Types of Elasticity of Supply**
   - ✓ **Relatively Elastic Supply**: Quantity supplied changes more than proportionally to price.
   - ✓ **Unitary Elastic Supply**: Quantity supplied changes proportionally to price.
   - ✓ **Relatively Inelastic Supply**: Quantity supplied changes less than proportionally to price.

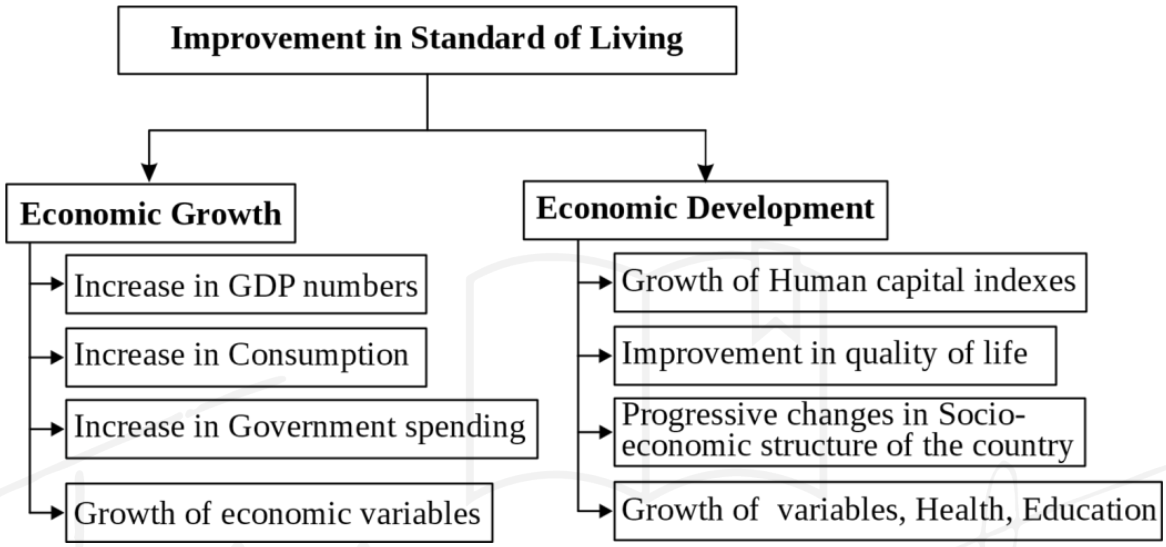
Income and Cross Elasticity

- **Income Elasticity**: Measures the response of quantity demanded or supplied to income changes.
- **Cross Elasticity**: Analyzes how the quantity demanded or supplied of one good responds to price changes of another good.

Economies of Scale

- Economies of scale occur when a company becomes more efficient in production, leading to cost advantages. Companies can lower product costs and increase production to achieve economies of scale.
- Example: Large supermarket chains benefit from economies of scale due to greater cash flow and a larger customer base. By purchasing groceries in bulk from suppliers, they reduce costs, enabling them to sell at lower prices compared to independent grocers.

Economic Growth V/s Economic Development



Important Economists and Their Books

Economist/Author	Book Title	Key Concept / Contribution
Gunnar Myrdal	Economic Theory and Under-developed Regions	Circular cumulative causation; regional inequality
Albert O. Hirschman	The Strategy of Economic Development	Unbalanced growth strategy in development economics
Nicholas Kaldor	Strategic Factors in Economic Development	Importance of manufacturing and increasing returns
Adam Smith	The Wealth of Nations (1776)	Classical economics; invisible hand; division of labor
Thomas R. Malthus	An Essay on the Principle of Population (1798)	Population grows geometrically, food supply arithmetically

Circular Economy

- A circular economy is an economic model aimed at **eliminating waste** and **continually reusing resources**, in contrast to the traditional **linear model** of "take-make-dispose".
- Promotes recycling, reusing, and energy-efficient systems.
- Reduces the need for primary resource extraction.
- Promotes **closed-loop systems** to minimize waste.
- Waste from one process can become input for another.
- Encourages lean manufacturing and **industrial symbiosis**.

Care Economy vs Monetized Economy

The **care economy** consists of **unpaid or underpaid work** related to caregiving and domestic activities, largely performed by women at home. In contrast, the **monetized economy** includes market-based economic activities that contribute to **GDP**.

Key difference-

Aspect	Care Economy	Monetized Economy
Nature of Work	Unpaid domestic and care tasks (e.g., cooking, childcare)	Market-based goods and services exchanged for money
GDP Valuation	Not included in GDP or national accounts	Directly contributes to GDP and national income
Gender Composition	Largely female-dominated, often invisible	Male-dominated historically; increasingly gender-diverse
Workplace	Mainly at home or within communities	Formal/informal markets (factories, shops, offices)
Regulation	Lacks formal contracts or wages	Covered by labour laws, minimum wage, and protections
Social Perception	Seen as moral/familial duty	Viewed as productive economic participation
Time Investment	Women spend **4.5 hours/day**, men **0.5 hours/day** (NSO 2019)	Paid work is compensated monetarily

Integrating Care Economy into Monetized Economy through Women Empowerment:

1. **Recognition and Measurement:**
   - ✓ Conduct **Time Use Surveys** and adopt **satellite accounts** to value unpaid care work.
   - ✓ Example: India's **Time Use Survey 2019** revealed gender disparities; countries like **Australia and South Korea** include care work in GDP accounts.
2. **Expansion of Paid Care Work:**
   - ✓ Formalize child care, elderly care, and domestic help through **certified paid positions**.
   - ✓ Example: **Kerala** invests in Anganwadi modernization, creating employment for women.
3. **Upskilling and Certification:**
   - ✓ Use **Skill India** and **Domestic Workers Sector Skill Council** for professional training.
   - ✓ Example: **NSDC programs** train women in geriatric care, hospitality, and child services.
4. **Women-Led Microenterprises and Cooperatives:**
   - ✓ Empower women to run income-generating services based on care skills.
   - ✓ Example: **Kudumbashree (Kerala)** supports SHGs in community kitchens and daycare centres.
5. **Policy and Legal Reforms:**
   - ✓ Extend **social security** and labor protections to informal caregivers.
   - ✓ Example: **e-Shram Portal** registers and protects unorganized workers, including domestic help.
6. **Gender-Sensitive Infrastructure:**
   - ✓ Investment in **public transport, water, sanitation** reduces women's unpaid workload.
   - ✓ Example: **Ujjwala Yojana** saves time in firewood collection, freeing women for economic work.

7. **Promoting Men's Participation:**
   - ✓ Encourage shared household responsibilities through awareness and workplace policies.
   - ✓ Example: **Scandinavian countries** provide paternity leave, enabling women's workforce participation.
8. **Gender Budgeting:**
   - ✓ Allocate funds to empower women and reduce unpaid tasks.
   - ✓ Example: Union Budget's **Gender Budget Statement** supports **PM Matru Vandana Yojana** and **ICDS** programs.

2 CHAPTER

National Income Accounting

- National Income Accounting offers a system for evaluating the overall economic activity within a country.
- It employs several key indicators to assess the economy's performance, production, income, and spending. Key metrics used in this process include: Gross Domestic Product (GDP), Net Domestic Product (NDP), Gross National Product (GNP), Net National Product (NNP), Gross National Income (GNI) and Net National Income (NNI).

Economic Territory

- It refers to the area under a country's governance where people, goods and capital move freely.
- It encompasses political borders, including territorial waters and airspace, as well as embassies, consulates and military bases abroad (excluding those within the country's political boundaries).
- It also includes ships, aircraft, and other transport operated by residents internationally, such as Air India's global services, as well as fishing vessels, oil rigs, and floating platforms operated in international waters or areas where the country holds exclusive operational rights.

Normal Residents V/s Indian Citizens

- **Normal Resident:** A person who lives in a country and has their economic interests centered there, including both nationals (e.g., Indians in India) and foreigners (e.g., non-nationals in India).
- **Citizens:** Indian nationals living within India or abroad.

GDP & National Income

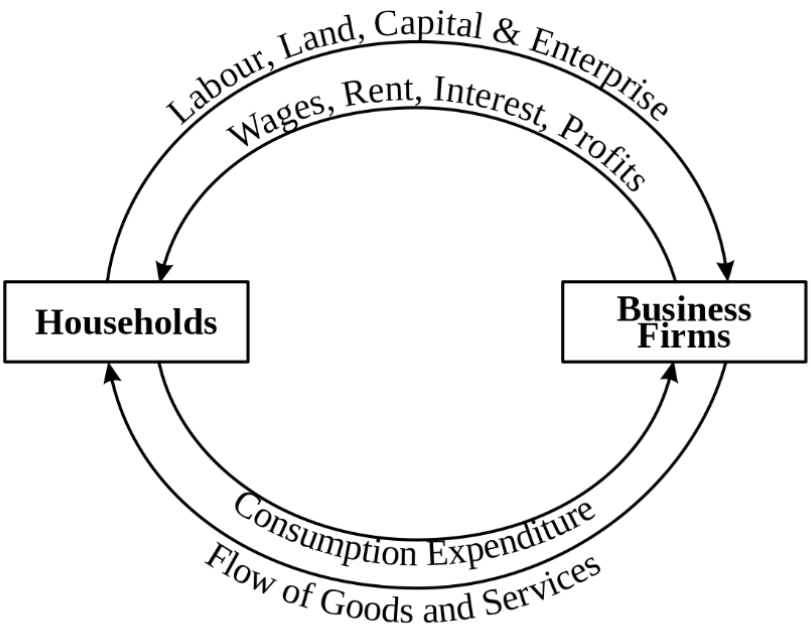
- **Gross Domestic Product (GDP):** It refers to the total market value of all final goods and services produced within a country's borders during a specific period (typically a year). It encompasses the output of both domestic and foreign companies operating within the country.
- **National Income (NI):** It is a measure of the total factor incomes earned by a country's citizens, regardless of whether they are earned domestically or internationally. **Example**:
  - ✓ If a Japanese company generates Rs 200 crore in India, it contributes to India's GDP but not to its National Income, as the earnings belong to the Japanese entity.
  - ✓ On the other hand, if an Indian company earns Rs 600 crore in Japan, it is included in India's National Income but not in GDP, as it was produced outside India.
- **Net Domestic Product (NDP):** It is calculated by deducting depreciation (the wear and tear on capital) from GDP.
  - ✓ **Formula**: NDP = GDP − Depreciation
  - ✓ **Example**: If GDP is Rs 5000 crore and depreciation is Rs 100 crore, then: NDP= 5000−100= Rs 4,900 crore.

Note:

- **Depreciation** refers to the decline in the value of an asset over time due to usage and obsolescence.
- **Product Taxes and Subsidies** are taxes and subsidies directly applied to goods and services. Product taxes raise market prices, while subsidies lower them.
- **Intermediate Consumption** refers to goods and services that are consumed during the production process and are not included in GDP to prevent double-counting.
- **Net Factor Income from Abroad (NFIA)**: It represents the difference between the factor income earned by Indian residents abroad and the factor income earned by non-residents in India. (NFIA = Factor Income from Abroad to India – Factor Income from India to Abroad)

A. Circular Flow of Income

- Circular flow of income refers to the continuous movement of goods, services, production, earnings, and expenditure in an economy.
- Money circulates from producers to workers as wages, then back to producers as payments for goods.
- Factors of Production include land, labor, capital and entrepreneurship.
- Payments made for each factor are rent (for land), wages (for labor), interest (for capital), and profit (for entrepreneurship).



Circular Flow of Income in a Simple Two Sector Economy

Capital Output Ratio

- The Capital Output Ratio (COR) measures the amount of capital needed to produce one unit of output.
- It reflects the relationship between investment levels and the resulting increase in GDP, as well as the value of capital invested relative to the value of output produced.

- **Fixed capital** refers to long-term assets like buildings, machinery, and equipment, which provide ongoing benefits over time and support sustained operations. For example, a farmer's plough or a computer are considered fixed capital.
- In contrast, the **Working capital** pertains to short-term financial resources needed for daily operations, such as raw materials like petrol and yarn, which are used within a single production cycle.

Concepts Related to GDP

- **Nominal GDP:** It refers to the production of final goods and services in the current year, valued at the prices prevailing in that same year. No adjustments are made regarding the prices.
- **Real GDP:** It represents the current year's production of goods and services valued at base-year prices, which remain constant. This method provides a more accurate measure of GDP, as it avoids inflationary distortions that can inflate GDP figures in a given year due to high inflation rates.

Potential GDP

Potential GDP represents the maximum sustainable output an economy can produce using its resources at normal capacity without triggering inflation. It serves as a key **benchmark for policymakers** to evaluate economic performance and design growth strategies.

Determinants of Potential GDP

1. **Physical Capital Formation**
   - ✓ **Infrastructure Development:** Expansion of India's **National Highway network** from **91,287 km in 2014** to **146,195 km in 2025** exemplifies capital formation.
   - ✓ **Savings and Investment:** A **gross domestic savings rate of 29.3% (2023)** provides resources for productive investment.

2. **Human Capital**
   - ✓ **Education and Skills:** Reflected in the **Human Development Index (HDI)**, which improved to **0.685 in 2023**, indicating enhanced human capital formation.
   - ✓ **Labor Force Quality:** Skill development initiatives like the **Skill India Mission** augment workforce productivity.
3. **Technological Progress**
   - ✓ **Innovation Capacity:** Development of **digital infrastructure** through the **Digital India initiative**.
   - ✓ **Research and Development:** Investments in scientific research and technological advancement support higher productivity.

Factors Inhibiting India's Potential GDP

1. **Structural Constraints**
   - ✓ **Infrastructure Bottlenecks:** Despite improvements, inadequate physical infrastructure constrains productive capacity.
   - ✓ **Resource Underutilization:** Inefficient allocation and use of resources reduce potential output.
2. **Social and Demographic Challenges**
   - ✓ **Income Inequality:** According to **HDI Report 2025**, inequality reduces India's HDI by **30.7%**.
   - ✓ **Gender Gap:** Low **female labor force participation** limits economic potential.
3. **Institutional Factors**
   - ✓ **Regulatory Environment:** Complex regulations and bureaucratic procedures hinder business operations.
   - ✓ **Market Inefficiencies:** Imperfect markets and information asymmetries negatively affect resource allocation.

- **Preston Curve:** It is a visual representation that illustrates the correlation between a country's per capita income (typically measured as GDP per capita) and its average life expectancy.
- **GDP Deflator:** The GDP deflator, also known as the implicit price deflator, is a measure of inflation. It represents the ratio of the value of goods and services produced in a specific year at current prices to the value of those goods and services at base-year prices.

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

If **GDP Deflator = 1**, there is no change in price level.
If **GDP Deflator > 1**, it indicates an increase in the price level.
If **GDP Deflator < 1**, it indicates a decrease in the price level.

Methods of GDP Calculation

- **Product/Value Added Method:**
  - ✓ It is the method to calculate GDP by summing the value added by each firm, which is the difference between a firm's output value and the cost of intermediate goods.
  - ✓ **Example**: A farmer produces wheat worth Rs 100, and a biscuit manufacturer uses Rs 50 worth of this wheat to produce biscuits worth Rs 200. The value added by the farmer is Rs 100, and the value added by the biscuit maker is Rs 150 (Rs 200 - Rs 50). Therefore, Gross Value Added = 100 + 150 = 250
    Formula: GDP $= \sum$(Value Added of All Firms)

- **Expenditure Method:**
  - ✓ The Expenditure Method calculates GDP by summing total spending in the economy, including consumption (C), investment (I), government spending (G) and net exports (X - M), where X represents exports and M represents imports.
  - ✓ **Example:** If consumers spend Rs 200 on domestic goods, businesses invest Rs 300, the government spends Rs 400, exports are Rs 200 and imports are Rs 100, then: GDP = 200 + 300 + 400 + (200−100) = Rs 1000.
    Formula: GDP = {C + I + G + (X-M)}
- **Income Method:**
  - ✓ The Income Method calculates GDP by summing all incomes earned by residents and firms, including wages, interest, profits and rent.
    Formula: GDP = ∑(Wages + Interest + Profit + Rent)

India's GDP Calculation Methodology – Pre and Post 2015

India's methodology for estimating **Gross Domestic Product (GDP)** underwent a significant revision in 2015 to align with international standards and reflect structural changes in the economy.

Pre-2015 Methodology

- **Base:** Calculations were based on **factor cost**, focusing on income received by factors of production (land, labor, capital, entrepreneurship).
- **Base Year:** 2004-05 was used for constant price estimates.
- **Data Sources:** Relied heavily on the **Annual Survey of Industries (ASI)** and limited coverage of the **unorganized sector**.
- **Guidelines:** Followed **1993 System of National Accounts (SNA)**.
- **Limitations:**
  - ✓ Limited incorporation of financial services and informal economic activities.
  - ✓ Underestimation of certain sectors, particularly corporate and services.

Post-2015 Methodology

- **Base:** Shifted to **market prices**, including **indirect taxes and subsidies**.
- **Base Year:** Updated to **2011-12** to better reflect structural changes.
- **Data Sources:** Incorporates **MCA21 database**, improving coverage of the corporate sector.
- **Guidelines:** Adopted **2008 UN System of National Accounts (SNA)** for international compatibility.
- **Improvements:**
  - ✓ Enhanced coverage of **financial and unorganized sectors**.
  - ✓ Better reflection of **consumption, investment, and services output**.
  - ✓ More accurate **price deflators** and expenditure estimates.

Key Impact of the Revision

- Broader data sources and **improved sectoral coverage** increased the reliability of GDP estimates.
- Structural shifts in the economy, such as **growth of services and informal enterprises**, are now better captured.
- Facilitates **international comparability** of India's economic statistics.

Price Concepts

- **Factor Cost (FC):** It is the production cost that excludes taxes and subsidies, reflecting the income earned by producers. It encompasses wages, rent, interest and profits.

- **Basic Price:** It includes the factor cost along with production taxes (such as property taxes on factories) minus production subsidies (like government assistance for factory operations).
  - ✓ **Example**: If a manufacturing unit's factor cost is Rs 100 crore, with Rs 15 crore in production taxes and Rs 10 crore in subsidies, the basic price would be:100 +15 − 10 = Rs 105 crore
  - ✓ Basic Price = Factor Cost + Production Taxes − Production subsidies
- **Market Price (MP):** It includes the basic price, plus product taxes (such as VAT or sales tax), minus product subsidies, representing the final price paid by consumers. Market Price = Basic Price + Product Taxes − Product Subsidies.
  - ✓ **Example**: If an item's basic price is Rs 500, with Rs 50 in product taxes and Rs 20 in product subsidies, then: Market Price = 500 + 50 − 20 = Rs 530.

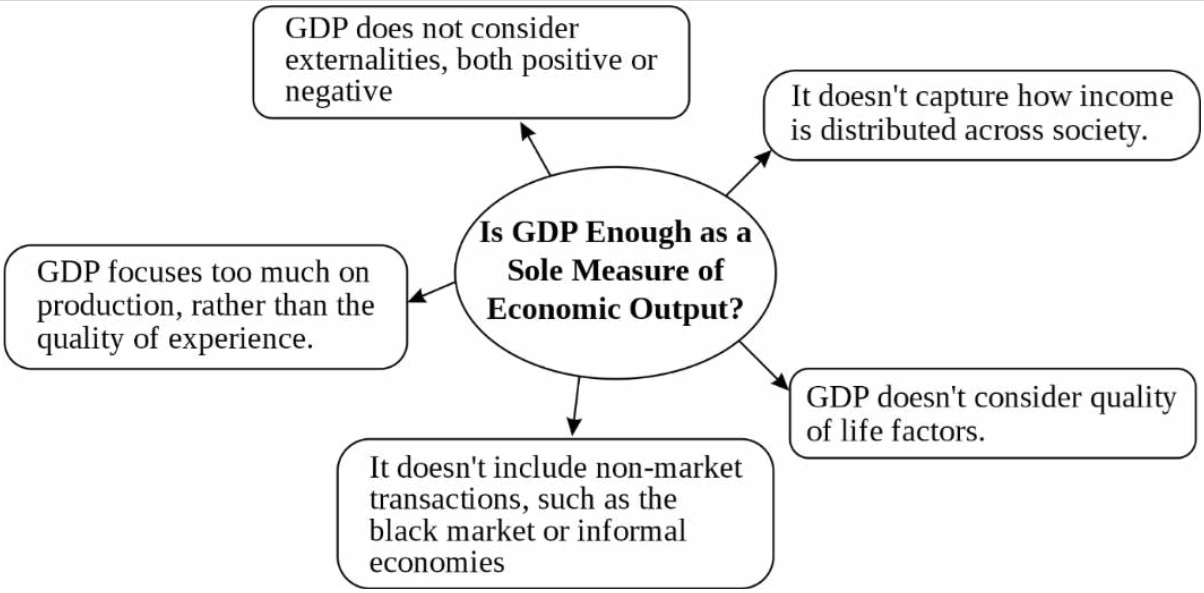
Income Metrics

- Macroeconomic identities and concepts, such as Gross National Product (GNP), Net National Product (NNP), National Income (NI), Personal Income (PI) and Personal Disposable Income (PDI), are essential for understanding income distribution in an economy.
- These metrics also reflect the impact of factors like depreciation, taxes, subsidies and transfers.

1. **Gross National Product**: GNP measures the total economic output of a country, including income earned by its domestic factors of production abroad, minus income earned by foreign factors within the country. It is calculated as GDP plus net factor income from abroad. **Formula:** GNP = GDP + Net Factor Income from Abroad.
2. **Net National Product:** NNP is calculated by deducting depreciation from GNP. NNP= GNP - Depreciation.
3. **National Income (NI):** It is the NNP evaluated at market prices, adjusted for indirect taxes and subsidies. It indicates the income earned by the factors of production within the country.
   Formula: NI = NNP at Market Prices − Net Indirect Taxes (Indirect Taxes - Subsidies) = NNP at Factor Cost
4. **Personal Income (PI):** It represents the income received by households from National Income and is calculated by subtracting undistributed profits, corporate taxes, and net interest payments made by households, while adding transfer payments received from the government and firms.
   - ✓ **Undistributed Profits** refer to the portion of profit earned by firms and government enterprises that is not distributed among the factors of production.
   - ✓ Households also receive transfer payments (e.g., prizes, pensions) from the government and firms, which are added to the calculation of Personal Income.
     Formula: PI = NI − Undistributed Profits − Net Interest Payments Made by Households − Corporate Tax + Transfer Payments
5. **Personal Disposable Income (PDI):** It refers to the income available to households after subtracting personal taxes (e.g., income tax) and non-tax payments (e.g., Fees) from Personal Income (PI). It represents the amount of income households can use for their consumption or savings.
   Formula: PDI = PI − Personal Tax Payments − Non-Tax Payments.

B. Difference Between GVA & GDP

Aspect	GVA	GDP
Definition	Value of goods and services produced after deducting intermediate goods and services.	Market value of all final goods and services produced within the country.
Focus	Insight from the input or supplier side.	Insight from the output or consumer side.
Calculation Approach	Generally calculated sector-wise.	Calculated for the whole economy.
Price Basis	Calculated at Basic Prices.	Calculated at Market Prices.



Other Methods to Gauge Economic Well-Being

- **Green GDP:** It is an economic measure that incorporates the environmental consequences of a nation's economic growth. It is determined by deducting the costs associated with environmental damage and the depletion of natural resources from the country's Net Domestic Product (NDP).
- **Gross National Happiness (GNH):** It is a method of assessing a country's development by prioritizing the well-being of its people. It serves as an alternative to the traditional measure of GDP**.** Adopted first in Bhutan.
- **Genuine Progress Indicator (GPI):** GPI is proposed as an alternative or supplement to GDP for measuring economic growth. It assesses the impact of economic production and consumption on environmental and social factors. GPI considers whether these factors contribute positively or negatively to overall health and well-being.

DID YOU KNOW

The Greendex is a survey created by National Geographic and GlobeScan to assess the environmental sustainability of individuals' consumer habits. It evaluates the environmental impact of the average consumer in various countries, taking into account both personal choices and those influenced by external factors. The Greendex compares countries based on similar behaviors and attitudes towards sustainability.

HDI & IHDI

The Human Development Index (HDI) captures average achievements in health, education, and income but does not reveal how these gains are distributed within society. The **Inequality-Adjusted Human Development Index (IHDI)** corrects this limitation by adjusting HDI values for inequalities, thereby reflecting the actual human development experienced by people.

- India's IHDI shows a 30.7% loss in human development potential due to inequality revealing a substantial gap between average progress and truly inclusive growth.

Distinguishing HDI and IHDI

Aspect	HDI	IHDI
Methodology	Uses average achievements in health, education, and living standards	Adjusts HDI using Atkinson inequality index
Data Approach	Aggregated country-level data	Distribution-sensitive analysis
Focus	Overall development level	Inclusiveness of development outcomes

HDI Framework

- Based on life expectancy, mean years of schooling, and GNI per capita.
- Provides a snapshot of average human development achievements.
- India ranks 130th with an HDI of 0.685 (2023).

IHDI Enhancement

- Introduces inequality penalties in all three HDI dimensions.
- Shows actual distribution of well-being across people.
- India's IHDI is 0.475, highlighting the scale of inequality despite HDI improvement.

India's Performance: Key Inequality Dimensions

- **Regional Disparities**
  - ✓ Kerala has the highest HDI; Bihar remains the lowest.
  - ✓ Gender inequality significantly depresses IHDI.
  - ✓ Caste barriers and social exclusion continue to widen developmental gaps.
- **Sectoral Variations**
  - ✓ **Health:** pronounced rural–urban inequality, especially in maternal mortality.
  - ✓ **Education:** digital divide restricts equitable access to learning.
  - ✓ **Income:** top 1% owns 22% of national wealth, magnifying income disparities.

Why IHDI Is a Superior Indicator for Inclusive Growth

- **Comprehensive Assessment**
  - ✓ Aligns with SDG principle: Leave No One Behind.
  - ✓ Helps evaluate the reach of schemes like PM-JAY and Samagra Shiksha.
  - ✓ Identifies population groups excluded from development benefits.
- **Policy Relevance**
  - ✓ Supports targeted interventions under the Aspirational Districts Programme.
  - ✓ Informs implementation of NEP 2020 and expansion of Ayushman Bharat.
- **Development Planning**
  - ✓ Critical for monitoring SDG 10 (Reduced Inequalities).
  - ✓ Enables evidence-based budgeting and resource allocation.
  - ✓ Useful for infrastructure prioritisation under PM Gati Shakti.

The IHDI's ability to measure the distribution of human development rather than averages, makes it indispensable for India's pursuit of **equitable and inclusive growth**. It highlights not just how much progress has been made, but **who** is benefiting from it.

3 CHAPTER

Money and Money Supply

- The money and banking system comprises institutions like central and commercial banks that manage currency, regulate interest rates, and provide loans.
- It ensures economic stability, growth, and efficient resource allocation by facilitating the flow of money and credit.

Money & Its Evolution

- Money is defined as something widely accepted by society as a medium of exchange, serving as a unit of account, store of value, and a means for debt repayment.
- It emerged as a more efficient alternative to the barter system, where goods and services were exchanged directly without a monetary intermediary.
- The barter system faced challenges, such as the issue of "double coincidence of wants" (both parties needing what the other offers) and the difficulty of storing goods without loss of value.
- These problems led to the development of money as a common, easily transferable medium of exchange.

1. Functions of Money

- ✓ **Medium of Exchange:** Money eliminates the double coincidence of wants, enabling smooth economic transactions.
- ✓ **Unit of Account:** It standardizes the value of goods and services, making price comparison easy.
- ✓ **Store of Value:** Money preserves wealth, offering liquidity for spending and saving.
- ✓ **Standard of Deferred Payments:** It enables future payments in transactions.
- ✓ **Means of Payment:** Money settles debts, taxes and obligations.

Legal tenders

- Currency notes and coins are also called legal tenders as they **cannot be refused** by any citizen of the country for settlement of any kind of trans-action.
- Cheques drawn on savings or current accounts, however, can be refused by anyone as a mode of payment. Hence, **cheques are not legal tenders.**

2. Types of Money

- ✓ **Commodity Money:** Money with intrinsic value, such as gold or silver which holds worth independently of any government.
- ✓ **Paper Money:** Currency notes issued by the government or central bank, representing a monetary value.
- ✓ **Metallic Money:** Money made from precious metals like gold and silver, valued for portability, high density and convenience.

- ✓ **Bank Money:** Money held in demand deposits at commercial banks, accessible through cheques; considered "near money."
- ✓ **Fiat Money:** Government-issued money not backed by a physical commodity, deriving value from the issuing authority's guarantee, like currency notes and coins in India.
- ✓ **Plastic Money:** Physical cards, like debit, credit, or cash cards, used in place of cash transactions.
- ✓ **Helicopter Money:** A policy involving printing and distributing money to stimulate the economy through increased spending or tax cuts.
- ✓ **Bitcoins**: Bitcoin, introduced in 2009, is a digital currency that allows instant payments without the need for a central authority. It operates on an open-source protocol, and users can acquire Bitcoin through mining, exchanges, or peer-to-peer transactions.
- ✓ **Non-Fungible Token (NFT):** They are unique digital assets used to verify ownership of items like art or real estate and cannot be subdivided or exchanged one-to-one due to differing values. They are not banned but operate in grey zones.
- ✓ **Central Bank Digital Currency:** A CBDC is a digital legal tender issued by a central bank, backed by it for stability. Unlike cryptocurrencies, it's equivalent to fiat currency and exchangeable one-to-one. The RBI Governor recently highlighted the innovative features of India's **e-rupee**.

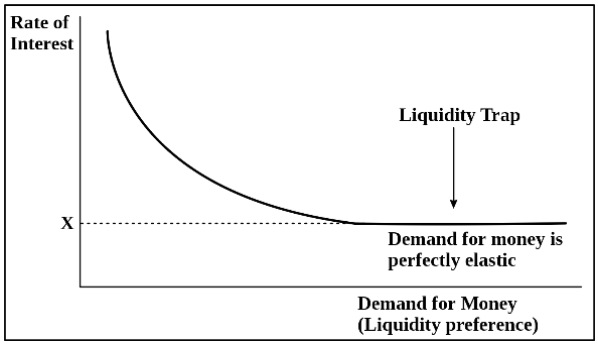
Digital Currency	**Cryptocurrency**
Normally backed by Central Bank (The RBI already introduced it in India)	Not backed by the central bank
Centralised	Decentralised
Not as transparent as only the sender, receiver and the banking authorities will be aware of the transactions	Transparent due to distributed ledger system; details regarding cryptocurrency transactions in public domain.

Demand & Supply of Money

1. Demand for Money:

- ✓ **Transaction Motive:** This motive for holding money is to conduct deals when income and expenditure timings differ. It is directly proportional to real GDP and price level.
- ✓ **Precautionary Motive:** It refers to the desire of people to hold cash reserves for certain unforeseen contingencies like sickness, accident etc. Higher the income of the individual, higher will be the cash balance for precautionary motive.
- ✓ **Speculative Motive:** Speculation involves anticipating future asset values; if people expect asset prices to rise, they invest in them to make future profits, and if they expect prices to fall, they convert holdings into money to avoid losses. It is inversely related to the market rate of interest.

A **liquidity trap** occurs when interest rates are extremely low, causing individuals to prefer holding cash or cash equivalents due to uncertainty about the economy's performance.



2. **Bond Market Dynamics and Speculative Money Flows:**
   - ✓ An increase in money supply leads to higher bond purchases, raising bond prices and lowering interest rates.
   - ✓ As interest rates fall, people expect future increases and anticipate capital loss, driving up speculative demand for money.
   - ✓ Conversely, when interest rates are high, people expect a decrease and convert money into bonds, reducing speculative demand for money.
3. **The Link Between Bond Yields and Interest Rates**
   - ✓ Bonds with fixed interest rates become more appealing when interest rates decrease, leading to higher demand and market value.
   - ✓ Conversely, when interest rates rise, bond prices fall to align with the yields of newly issued bonds.
   - ✓ Bond yield is calculated by dividing the annual interest by the current price, so when bond prices drop, yields increase, and when prices rise, yields decrease.
4. **Supply of Money:**
   - ✓ Money Supply refers to the total stock of money in circulation among the public at a given time, excluding money held by the government, RBI (in the form of CRR), and commercial banks (in the form of SLR).
   - ✓ It includes currency notes and coins, demand deposits (e.g., savings accounts), time deposits (e.g., fixed deposits), money in post office savings accounts, and inter-bank deposits (excluding CRR).
   - ✓ **Measures of Money Supply:**
     - Money supply measures are tools used to measure the money supply in an economy, with the Reserve Bank of India (RBI) using several aggregates:
       - ☞ **M0 (Reserve Money)** includes currency in circulation, bankers' deposits with the RBI and other deposits with the RBI.
       - ☞ **M1 (Narrow Money)** is the sum of currency held with the public and net demand deposits held by commercial banks.
       - ☞ **M2** includes M1 plus savings deposits with Post Office Savings Banks.
       - ☞ **M3 (Broad Money)** is M1 plus net time deposits with the banking system.
       - ☞ **M4** is M3 plus total deposits with Post Office Savings Organizations (excluding National Savings Certificates).

Measures of Money Supply		
Most Liquid **(Narrow Money)**	**M1** 1. Currency Notes 2. Coins 3. Demand Deposits with Bank (savings, current)	**M2** M1 + Post Office Savings Deposits
Less Liquid **(Broad Money)**	**M3** **M2** **+** Time deposits (up to 1 year) with banks + Call/term borrowings by banks	**M4** **M3** **+** Time deposits (over 1 year) with banks + Deposits

- ✓ In India, M0, M1, and M3 are most commonly used. The **RBI** also tracks new monetary aggregates like NM0, NM1, NM2 and NM3, which focus on the banking sector's balance sheet and liquidity like:
  - **NM0** is the sum of currency in circulation, bankers' deposits with the RBI, and other deposits with the RBI, which primarily include deposits from quasi-government institutions, foreign central banks and international agencies like the IMF.
  - **NM1 (Narrow Money)** includes currency with the public, current deposits with banks, the demand liabilities portion of savings deposits, and other deposits with the RBI. It represents currency and non-interest-bearing deposits in the banking sector.
  - **NM2** is NM1 plus short-term time deposits having maturity of up to one year.
  - **NM3 (Broad Money)** includes NM2, long-term time deposits and call/term funding from financial institutions, capturing the complete balance sheet of the banking sector.
- ✓ The Working Group also suggested the creation of **three Liquidity Aggregates**- L1, L2, and L3 - alongside the New Monetary Aggregates.
  - **L1** is the sum of NM3 and all deposits with Post Office Savings Banks (excluding National Savings Certificates).
  - **L2** includes L1, term deposits, term borrowing and certificates of deposit from financial institutions (FIs).
  - **L3** is the sum of L2 and public deposits from non-banking financial companies (NBFCs).

5. Determinants of Money Supply:

- ✓ Money supply is determined by several factors in the economy as:
  - **Central Bank Policy:**
    - ☞ Open Market Operations: Buying or selling government securities to manage the money supply.
    - ☞ Reserve Requirements: The percentage of deposits banks must hold in reserve, affecting lending capacity.
  - **Commercial Bank Actions:**
    - ☞ Lending Practices: Banks influence money supply by deciding how much to lend to individuals and businesses.
  - **Public Preferences:**
    - ☞ Holding Money: The public's preference for holding cash or depositing it in interest-bearing accounts affects the money supply.
  - **Economic Activity:**
    - ☞ Velocity of Money: The rate at which money circulates in the economy impacts its effect on economic activity.
  - **Government Influence:**
    - ☞ Government Spending: Fiscal policies and government expenditure, especially if financed by borrowing, can affect the money supply.
  - **Financial Innovation:**
    - ☞ New Financial Products: Introduction of new financial instruments can change the size and composition of the money supply.