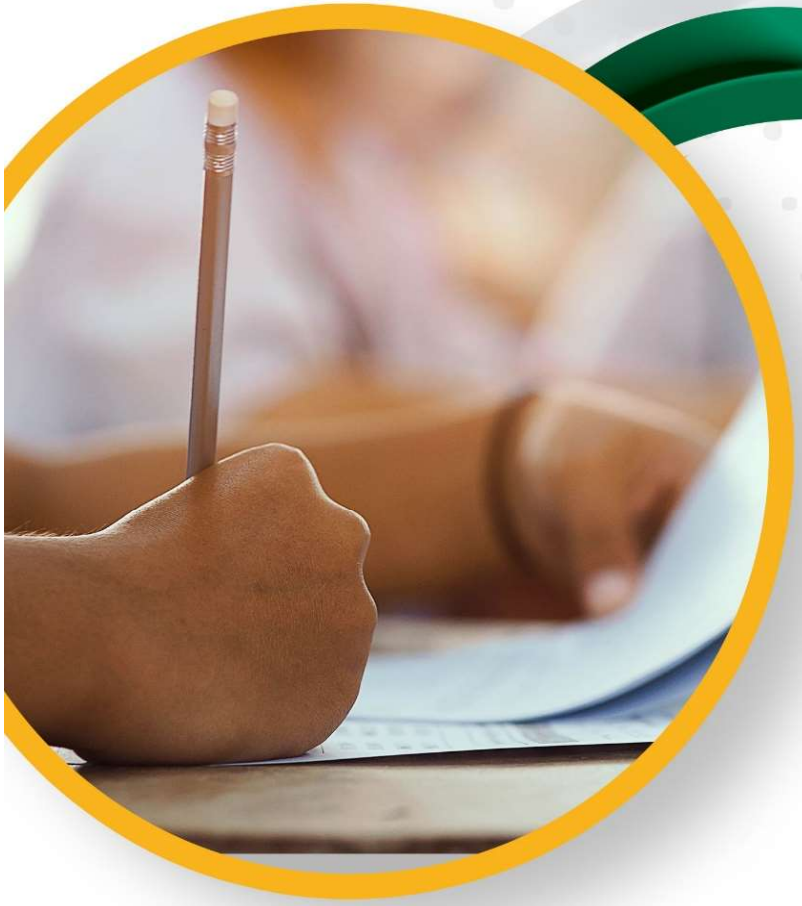
EduTap

SUMMARY SHEET



Measurement of Growth: National Income & Per Capita Income

EduTap

EduTap Hall of Fame

NABARD Grade A 2021

62 Selections Out of 74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RBI Grade B 2020 - 21

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Anurag Bolia


Avinash Jaiswal


Chetan Chorariа


Gourav Singh


Himanshi


Vishwbahu


Rishabh


Roshan Lal


Srinidhi Adhikary


Sushant Sanjay


Suvarna

Vivek Sharma

Shweta Meena

Contents

1 Part I: Basics of Economy

1.1 What is Economy?

- It is the **system of production, distribution, and consumption of goods and services** that a society uses to address the problem of scarcity.
- The essential task of an economy is to **transform resources into useful goods and services** (the act of production), then **distribute or allocate these products** to useful ends (the act of consumption).
- Virtually all economies accomplish this task through a combination of decisions made through **voluntary market exchanges** and **involuntary government rules and regulations**.

ADAM SMITH: A **Scottish** professor (born 1723, died 1790) who is considered the **father of modern economics** for his revolutionary book, entitled ***'An Inquiry into the Nature and Causes of the Wealth of Nations'*** published in **1776**.

1.2 Meaning of Macroeconomics

- Macroeconomics, as a separate branch of economics, emerged after the British economist **John Maynard Keynes** published his celebrated book **The General Theory of Employment, Interest and Money in 1936.**
- Macroeconomics is a branch of economics that studies how an **overall economy**—the market systems that operate on a large scale—behaves. Macroeconomics studies **economy-wide phenomena** such as **inflation**, **rate of economic growth**, **national income, gross domestic product (GDP)**, and changes in **unemployment**.
- Some of the key questions addressed by macroeconomics include:
    - What causes unemployment?
    - What causes inflation?
    - What creates or stimulates economic growth?

1.2.1 Distinction between Macroeconomics and Microeconomics

- **Meaning**
    - **Microeconomics**: It studies issues and problems at the **level of an individual** firm, an individual household etc.
    - **Macroeconomics**: It studies issues and problems at the **level of the economy** as a whole.

- **Concern**
    - **Microeconomics**: It is basically concerned with **determination of output and price for an individual firm** or industry.
    - **Macroeconomics**: It is basically concerned with **determination of aggregate output and general price level in the economy** as a whole.

- **Focus**
  - **Microeconomics**: Its focus is on **maximisation of individual's gain**.
  - **Macroeconomics**: Its focus is on **maximisation of social welfare**.

- **Scope**
  - **Microeconomics**: It has a **narrow scope**, i.e., an individual person, an individual market, etc.
  - **Macroeconomics**: It has a very **wide scope**, i.e., a state, or a country.

1.3 Factors of Production

- These are **four basic factors used to produce goods and services** in the economy-- **Land, Labour, Capital and Entrepreneurship.**
- These are also called resources or **scarce resources**.
- The term "factors of production" is quite descriptive of the function these "resources" perform.
- Labour, capital, land, and entrepreneurship are the four "factors" or items use in the "production" of goods and services.

1.3.1 Land

- Land is the **naturally occurring materials of the planet** that are used for the production of goods and services, including the **land** itself; the **minerals** and **nutrients** in the ground; the **water**, **wildlife**, and **vegetation** on the surface; and the **air** above.

1.3.2 Labour

- Labour is the **mental and physical efforts of humans** (excluding entrepreneurial organization) used for the production of goods and services.
- Labour includes both the **physical effort of factory workers** and farmhands often associated with labor, as well as the **mental effort of executives and supervisors.**

1.3.3 Capital

- Capital is the **manufactured, artificial, or synthetic goods used in the production of other goods**, including **machinery, equipment, tools, buildings, and vehicles**. Capital is the produced factor of production.
- This factor must be **produced using other factors of production**, which means that society is often faced with the choice between producing consumption goods that satisfy wants and needs and capital goods that are used for future production.

1.3.4 Entrepreneurship

- Entrepreneurship is the **special sort of human effort** that takes on the **risk of bringing labor, capital, and land together to produce goods.**
- Entrepreneurship is the factor that organizes the other three. Without someone to organize production, the other three factors do not produce.
- A **key component of entrepreneurship is risk**. This resource takes the risk of organizing production before anything is produced and with no guarantee that production will be successful.

1.4 Factor Payments

Corresponding to each factor of production, there is a factor payment. In this section, we will be looking at four factor payments – wage, interest, rent and profit.

- Factor payments are frequently categorized according to the services of the productive resource.
  - **Wages** are paid for the services of **labour**.
  - **Interest** is the payment for the services of **capital**
  - **Rent** is the payment for the services of **land**.
  - **Profit** is the factor payment to **entrepreneurship**.

1.5 Economic Agents

In this section, we will be looking at four economic agents – households, firms, governments and the external sector.

- By economic units or economic agents, we mean those individuals or institutions which take economic decisions.
- They can be **consumers** who decide what and how much to consume. They may be **producers** of goods and services who decide what and how much to produce. They may be entities like the **government, corporation, banks** which also take different economic decisions like how much to spend, what interest rate to charge on the credits, how much to tax, etc.
- Four, broadly defined, economic agents are: households, firms, government and "the rest of the world".

1.5.1 Households

- All those **people living under one** roof are considered a household.
- Households do **two fundamental things** vital to the economy.
  1) **Demand goods and services** from product markets
  2) **Supply labour, capital, land, and entrepreneurial ability** to resource markets.
- Households undertake **consumption expenditure.**
- **Consumer spending (or consumption expenditure)** is the **total money spent on final goods and services by individuals and households for personal use** and enjoyment in an economy. Contemporary measures of consumer spending include all private purchases of durable goods, nondurable goods, and services.

1.5.2 Firms

- The business sector includes the **profit-motivated firms that engage in the production of goods and services.**
- These firms **combine the services of the four factors of production**, which they acquire from the household sector, to pursue their productive activities.
- The primary reason for the existence of the business sector is to **produce the goods that satisfy the wants and needs of the household sector.**
- Although the business sector is largely responsible for producing and supplying goods and services to the household sector and the rest of the economy, they do a little buying of their own. From a macroeconomic perspective, the business sector is responsible for **capital investment expenditures.**
- **Investment Spending (or investment expenditure): Money spent on capital goods**, or goods used in the production of capital, goods, or services. Investment spending may include purchases such as **machinery, land, production inputs, or infrastructure**. Investment spending should not be confused with **investment**, which refers to the **purchase of financial instruments such as stocks, bonds, and derivatives**. It is also called as **capital formation**.

1.5.3 Government

- The government sector includes all levels of government--federal, state, and local. These three levels intervene in the economy by collecting and spending tax revenue and by establishing and enforcing laws, rules, and other regulations.
- The Role of the Government
  - Establishing and Enforcing the **Rules of the Game.**
  - Promoting **Competition**
  - Regulating Natural **Monopolies**
  - Producing **public goods**
  - Income **redistribution**
  - **Employment, price stability, economic growth**

- To fund its activity, government raises revenue by way of **collecting taxes, fees and fines**.
- **Government expenditure** refers to the purchase of goods and services, which include public consumption and public investment, and transfer payments consisting of income transfers (pensions, social benefits).

1.5.4 Foreign Sector

- The foreign sector includes **anything and everything that lies beyond the borders of a nation.**
- The **primary role** it plays in the domestic economy is **foreign trade.** The **domestic household, business, and government sectors purchase imports produced in the foreign sector**. The **foreign sector buys exports produced by the domestic business sector.**

- Foreign trade gives rise to two exchange flows--imports and exports.
  - Exports and imports are often combined into a single concept - **net exports**. Net exports are **simply exports minus imports**. This single term provides a handy, short-cut way of noting the trade interaction with the foreign sector. If net exports are positive, then exports exceed imports. If net exports are negative, then imports exceed exports.

There are different types of economic systems and that is exactly what we will be exploring in the next section!

1.6 Types of Economic System

The three basic questions that an economy must answer are: **What to produce? How to produce? and For Whom to produce?** Different economic systems answer these questions differently. In this section, we will be discussing the key ideas that go into the making of three distinct economic systems – **capitalism, socialism and mixed economy.**

1.6.1 Capitalism

- Capitalism, also called **market economy**, is a type of economy based on
  - **private ownership** of most resources, goods, and other stuff (private property);
  - **freedom** to generally use the privately-owned resources, goods, and other stuff to get the most wages, rent, interest, and profit possible; and
  - a system of **relatively competitive markets**.
- While **government establishes the legal "rules of the game"** for capitalism and **provides assorted public goods**, like national defense, education, and infrastructure, most production, consumption, and resource allocation decisions are left up to individual businesses and consumers.
- The term capitalism is derived from the notion that **capital goods are under private, rather than government, ownership.**
- In capitalism, **only those consumer goods will be produced that are in demand**, i.e., goods that can be sold profitably either in the domestic or in the foreign markets.
- In a capitalist society the **goods produced are distributed** among people not on the basis of what people need but **on the basis of Purchasing Power**—the ability to buy goods and services.

Adam Smith (1723-1790) laid down certain ideas that led to the **birth of capitalism**. He raised his voice against the heavy-handed government regulation of commerce and industry of the time which did not allow the economy to tap its full economic worth and reach the level of well-being. Stressing **'division of labour'**, an environment of **'laissez-faire'** (non-interference by the government), he proposed that the **'invisible hand'** of **'market forces' (price mechanism)** will bring a state of equilibrium in the economy and a general wellbeing to the countrymen. For such an economy to function for public well-being, he has acknowledged the need of **competition** in the **market**.

1.6.2 Socialism

- In theory, an economy that is a **transition between capitalism and communism.**

- It is based on
  - **government**, rather than individual, **ownership of resources**
  - **worker control of the government**, such that workers, rather than capitalist, control capital and other productive resources
  - **income allocated on need** rather than on resource ownership or contribution to production (using the needs standard rather than the contributive standard).
- In a socialist society the **government decides what goods are to be produced** in accordance with the needs of society.
- The **primary goals** of modern real-world socialism are:
  - To **correct the inefficiencies of market failures*.**
  - To obtain **more equal wealth and income distributions.**
  - To **equalize economic opportunities.**

* **Market failure happens when the price mechanism fails to allocate scarce resources efficiently** or when the operation of market forces leads to a **net social welfare loss**. Complete market failure occurs when the market simply does not supply products at all - we see "missing markets". Partial market failure occurs when the market does actually function but it produces either the wrong quantity of a product or at the wrong price.

1.6.3 Mixed Economy

- An economy, or economic system, that **relies on both markets and governments to allocate resources**.
- While, in theory, we could have a pure market economy or a pure command economy, **in the real world all economies are mixed**, relying on both markets and governments for allocation decisions.
- **Markets allocate resources through voluntary choices** made by living, breathing people. **Government forces allocation through involuntary taxes, laws, restrictions, and regulations**. Both institutions play vital roles in an economy.

1.7 What are the various sectors of Economy?

In this section we will be discussing about five sectors into which economic activity can be classified – primary activities, secondary activities, tertiary activities, quaternary activities and quinary activities.

1.7.1 Primary activities

- The primary sector of the economy **extracts or harvests products from the earth** such as **raw materials and basic foods.**
- Activities associated with primary economic activity include **agriculture** (both subsistence and commercial), **mining, forestry, grazing, hunting and gathering, fishing, and quarrying**. The **packaging and processing of raw materials** are also considered to be part of this sector.

1.7.2 Secondary activities

- The secondary sector of the economy **produces finished goods from the raw materials extracted by the primary economy**. All **manufacturing, processing, and construction jobs** lie within this sector.
- Activities associated with the secondary sector include **metalworking** and **smelting**, **automobile production, textile production**, the **chemical** and **engineering** industries, **aerospace** manufacturing, **energy** utilities, **breweries** and **bottlers**, **construction**, and **shipbuilding**.

1.7.3 Tertiary activities

- The tertiary sector of the economy is **also known as the service industry**. This sector **sells the goods produced by the secondary sector** and provides **commercial services** to both the general population and to businesses in all five economic sectors.
- Activities associated with this sector include **retail and wholesale sales, transportation and distribution, restaurants, clerical services, media, tourism, insurance, banking, health care, and law**.
- In most **developed** and **developing countries**, a **growing proportion of workers is devoted to the tertiary sector.**

1.7.4 Quaternary activities

- The fourth sector of the economy, the quaternary sector, consists of **intellectual activities** often associated with **technological innovation**. It is sometimes called the **knowledge economy**.
- Activities associated with this sector include **government, culture, libraries, scientific research, education, and information technology.**

1.7.5 Quinary activities

- Some economists further narrow the quaternary sector into the quinary sector, which includes the **highest levels of decision-making** in a society or economy.
- This sector includes **top executives or officials** in such fields as government, science, universities, nonprofits, health care, culture, and the media.

1.8 What are the different types of Goods?

A **commodity**, or a **physical, tangible item** that satisfies some human want or need, or something that people find useful or desirable and make an effort to acquire it.

1.8.1 Economic Goods and Free Goods

Economic Goods

- Economic goods are those goods (manmade or free gifts of nature) whose **demand is more than supply** (i.e., they are scarce). They **command a price** and they can be bought in the market.
- **Example: toothpaste, soap, shaving cream, footwear, bread, machines, buses, table, chair, books, fans, television etc.**

Free Goods

- We can define free goods as goods which **possess utility** but which are **not scarce.**
- Free goods are **free gifts of nature**. They are available in abundance i.e., in **unlimited quantity** and the supply is much more than the demand.
- Example: **Sand, clean air, water** etc.

1.8.2 Consumer Goods and Producer Goods

Consumer Goods

- Consumer goods are those goods, which **satisfy the want of consumers directly**. They are goods, which are **used for consumption**.
- Example: bread, fruits, milk, clothes etc.

Producer Goods

- Producer goods are those goods, which **satisfy the want of consumers indirectly**. As they **help in producing other goods**, they are known as producer goods.

- Example: **machinery, tools, raw materials, seeds, manure and tractor** etc. are all example of producer goods.

1.8.3 Single Use and Durable Use Goods

Single Use Goods

- Single use goods are those goods, which **can be used only once**. They are **finished in one use itself**.
- Example: **bread, butter, egg, milk etc.** are the single use consumer goods as they are consumed immediately and once and for all.

Durable Use Goods

- Durable use goods are those goods, which **can be used again and again for a long period of time.**
- Durable use consumer goods are **cloth, furniture, television, scooter** etc. that can be used by consumer again and again.
- Durable use producer goods are used in production again and again for example, **machines, tools, tractors and implements** etc. This does not mean that repeated use of these goods does not make any difference to them.
- In fact, the value of these goods gets depreciated after continuous use.

1.8.4 Private Goods and Public Goods

Private Goods

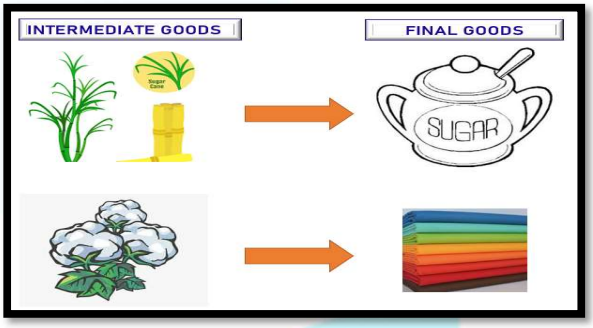
- All goods that are **privately owned and are exclusively enjoyed by individuals** are called private goods. For example, all the goods owned by you are private goods.
- Examples: **watch, pen, scooter, books, table, chair, bed, clothes** etc. If you own a **factory** then its building, machinery; tools etc. are your private goods.

Public Goods

- Public goods are those goods, which are **owned and enjoyed by the society as a whole**. They are **available to all people in a society without any discrimination**, i.e., no one is denied from the consumption of public goods.
- Both **government** and private entrepreneurs may produce public goods, but it is usually the former.
- Example: **roads, bridges, park, town hall** etc. are all collectively owned.
- Economists refer to public goods as **"non-rivalrous" and "non-excludable,"** and most such goods are both.
- Their **non-rivalry** refers to the fact that the **goods don't dwindle in supply as people consume them**; a country's **defenses**, for example, do not run out or diminish as its population grows.
- **Non-excludability** means just that; the **good is available to all and cannot be withheld**, even from people who do not contribute to its public funding.
- That characteristic, in turn, leads to what is called the **free-rider problem** with public goods. Since you need not contribute to the provision of a public good to benefit from it, some people will inevitably choose to use the good and yet shirk the public responsibility to help pay for it.

1.8.5 Intermediate Goods

- An intermediate good is a product **used to produce a final good or finished product**—also referred to as a consumer good.
- Intermediate goods are vital to the production process, which is why they are also called **producer goods.** Industries sell these goods to each other for resale or to produce other goods.
- These goods are also **called semi-finished products** because they are used as inputs to become part of the finished product. When they are used in the production process, they are **transformed into another state.**



Concept Check
Q. Which of the following is not an example of 'intermediate good'?
(a) Cotton fiber used by a spinning mill.
(b) Sugarcane used by a sugar mill.
(c) Coffee beans used by a café.
(d) Tea leaves used at home.
(e) Synthetic rubber used by a tire manufacturer.
Answer: D

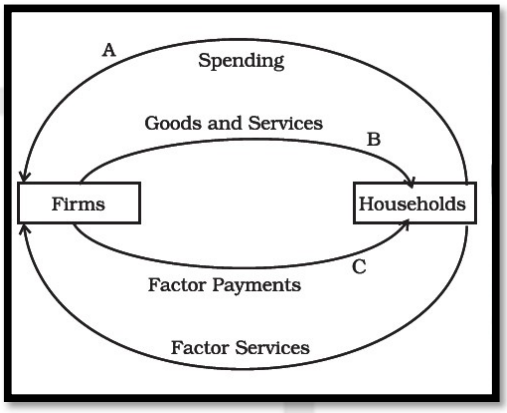
1.8.6 Intermediate Goods Versus Consumer & Capital Goods

- Intermediate goods can be used in production, but they can also be consumer goods. **How it is classified depends on who buys it.**
- If a **consumer buys a bag of sugar** to use at home, it is a **consumer good (final good).** But if a **manufacturer purchases sugar to use during the production of another product, it becomes an intermediate good.**
- **Capital goods**, on the other hand, are assets that are used in the production of consumer goods. Key thing to note about capital goods is that they **don't transform, or change shape in the production process.**

2 Part II: Circular Flow of Income in a Simple Economy

2.1 Two Sector Model

- The simplest circular flow model contains two sectors (household and business) and two markets (product and resource). This model highlights the core circular flow of production, income, and consumption.
- The **households receive their payments from the firms** for productive activities they perform for the latter.
- In this simplified economy, there is only **one way in which the households may dispose off their earnings** – by spending their entire income on the **goods and services** produced by the domestic firms.
- The **other channels** of disposing their income are **closed**: we have assumed that the households **do not save**, they **do not pay taxes** to the government – since there is **no government**, and neither do they buy imported goods since there is **no external trade** in this simple economy.



- **The <u>aggregate consumption by the households</u> of the economy is equal to the <u>aggregate expenditure on goods and services produced by the firms</u> in the economy.**

- Since the same amount of money, representing the aggregate value of goods and services, is moving in a circular way, if we want to estimate the **aggregate value of goods and services produced during a year** (which is nothing but **Gross Domestic Product**) we can measure the annual value of the flows at any of the lines indicated in the following diagram.
- We can measure the **uppermost flow (at point A)** by measuring the **aggregate value of spending that the firms receive** for the final goods and services which they produce. This method will be called the **expenditure method**.
- If we measure the **flow at point B** by measuring the **aggregate value of final goods and services** produced by all the firms, it will be called **product method.**
- **At point C**, measuring the **sum total of all factor payments which is made by firms to households in consideration of factor services** will be called **income method**.

KEY DEFINITION

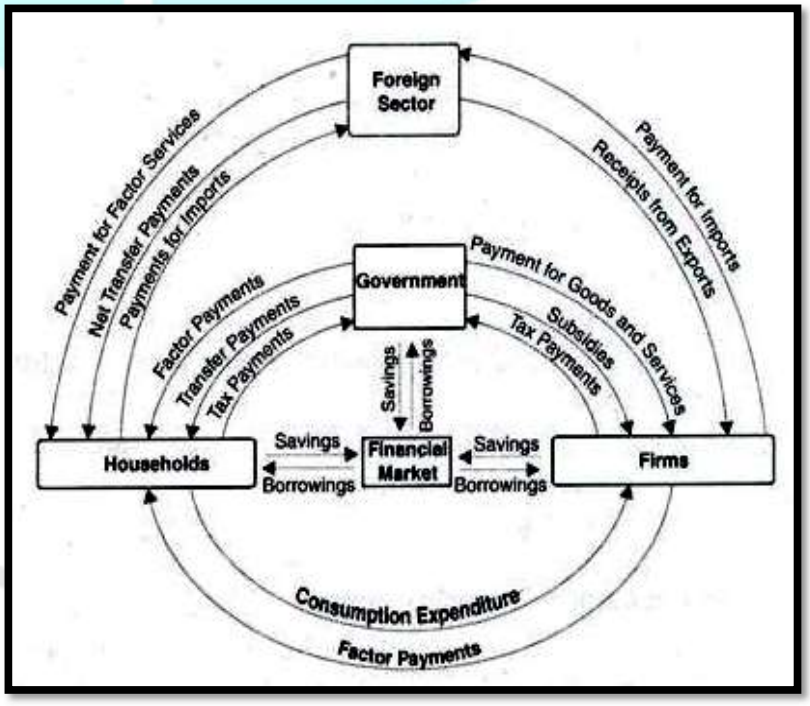
Gross Domestic Product (GDP): GDP is the total monetary or market value of all the final goods and services produced within a country's borders in a specific time period. GDP provides an economic snapshot of a country, used to estimate the size of an economy and growth rate. It can be calculated in three ways, using expenditures, production, or incomes.

Final Goods and Services: Goods and services that are available for purchase by their ultimate or intended user with no plans for further physical transformation or as an input in the production of other goods that will be resold. Gross domestic product seeks to measure the market value of final goods. Final goods are purchased through product markets by the four basic macroeconomic sectors (household, business, government, and foreign) as consumption expenditures, investment expenditures, government purchases, and exports. Final goods, which are closely related to the term current production, should be contrasted with intermediate goods--goods (and services) that will be further processed before reaching their ultimate user.

2.2 Four Sector Model

- The circular flow model in four sector economy provides a **realistic picture of the circular flow** in an economy. Four sector model studies the circular flow in an ***open economy*** which comprises of the **household sector, business sector (firms), government sector, and foreign sector**.

- **Household Sector**
  - ***Receipts:***
    1. The household sector receives factor income in the form of factor payments (**rent, wages, interest, and profit)** from the business sector(firms).
    2. Households also receives **transfer payments** from the government sector. Transfer payments are payments which are made without any counterpart of services received by the payer. For examples, gifts, scholarships, pensions.
    3. Households can also supply factor services to the external



sector and receive factor payment in return.

4. Households send and receive transfer payment from the external sector. For instance, residents in India may transfer money abroad for maintenance of close relatives. Similarly, Indians working abroad may remit money back to India for maintenance of close relatives here in India. Net of both these flows is 'Net Transfer Payments' from the external sector.
5. **Borrowings** from the financial market.

- ***Payments:***

1. The income of the household sector flows into the business sector in the form of consumption expenditure.
2. The income of the household sector flows into the government sector as tax payments.
3. The income of the household sector flows into the financial markets in the form of savings.
4. The income of the household sector also flows to the foreign sector as payment for imports.

- **Firms**
  - ***Receipts***: The principle receipts of the business sector constitute of
    1. **Income from the sale of goods and services** (firms receive consumption expenditure from households).
    2. Receipts from exports.
    3. **Subsidies** from the government sector.
    4. **Borrowings** from the financial market.
  - ***Payments***: **Factor payments**, **tax payments, import payments**, and **savings** constitute the principal payments from the business sector to the household sector, government sector, foreign sector and the financial market respectively.

- **Government Sector**
  - ***Receipts:*** The major source of income for the government sector include the **taxes** paid by household and business sector. Government can also borrow money from the financial market.

  - ***Payments:***

    1. The government sectors make payments to different sectors in the form of **transfer payments, subsidies, grants,** etc.
    2. It pays to the business sector in return for the goods purchased, makes transfer payments like pension funds, scholarships, etc. to the household sector.
    3. If the **government receipts are greater than the expenses**, the **surplus** goes to capital market.
    4. In case of **cash deficit**, the government **borrows** from the capital market to maintain a balance in the economy.

- **Foreign Sector (External Sector)**

  - ***Receipts:*** The foreign sector receives **income from the households and the business sector** (of the domestic country, say India) in return for the **goods and services imported by the latter**.

  - ***Payments:*** Foreign sectors need to make **payment to the business sector** (of the domestic country, say India) from where **imports have been made**. Foreign sector also makes payment for factor services provided by households in the domestic sector.

Concept Check
Q. Which of the following is not a leakage from the circular flow of income and expenditure
(a) Imports
(b) Government purchases

(c) Taxes net of government transfers
(d) Saving
(e) None of the above
Answer: B

3 Part III: Calculating Gross Domestic Product

3.1 Product or Value-Added Method

Example of Value Added

Example 1 **Example 2**

In the above examples, we can visualise the process of value added as follows:

- **Example 1**: A farmer starts his operation using tools, seeds, water and fertiliser apart from other inputs. All these inputs help in the production of cane sugar. So essentially, seed + water + fertiliser + farmer's efforts have resulted in the formation of cane sugar. This cane sugar can be converted into sugar or into sugarcane juice! Now imagine if you were hungry, what would you prefer to have? Would you prefer to have seeds or fertiliser? Or would you prefer to have cane sugar? Or would sugarcane juice be the best? I think sugarcane juice might be the best! This is what value addition does. It transforms intermediate goods into final goods that can satisfy a consumer's needs.

Now that you have understood the meaning of value addition let us consider a simplified (but a conceptually correct) model that we will be using to calculate GDP.

- In **product method,** we calculate the **aggregate annual value of goods and services produced** (if a year is the unit of time).

Farmer-Baker Model

- Let us suppose that there are only **two kinds of producers** in the economy. They are the wheat producers (or the **farmers**) and the bread makers (the **bakers**). The wheat producers grow wheat and they do not need any input other than human labour. They sell a part of the wheat to the bakers. The bakers do not need any other raw materials besides wheat to produce bread.
- Let us suppose that in a year the **total value of wheat** that the farmers have produced is **Rs 100**. Out of this they have **sold Rs 50 worth of wheat to the bakers**. The **bakers** have used this amount of wheat completely during the year and have produced Rs **200 worth of bread**. What is the **value of total production in the economy?** If we follow the simple way of aggregating the values of production of the sectors, we would add **Rs 200 (value of production of the bakers) to Rs 100 (value of production of farmers). The result will be Rs 300**.
- A little reflection will tell us that the **value of aggregate production is not Rs 300.** The farmers had produced Rs 100 worth of wheat for which it did not need assistance of any inputs. Therefore, the entire **Rs 100 is rightfully the contribution of the farmers**. But the same is not true for the bakers. The **bakers had to buy Rs 50 worth of wheat to produce their bread.** The Rs 200 worth of bread that they have produced is not entirely their own contribution. To **calculate the net contribution of the bakers,**

we need to subtract the value of the wheat that they have bought from the farmers. If we do not do this, we shall commit the **mistake of 'double counting'**. This is because **Rs 50 worth of wheat will be counted twice**. First it will be counted as part of the output produced by the farmers. Second time, it will be counted as the imputed value of wheat in the bread produced by the bakers.

- Therefore, the **net contribution made by the bakers is, Rs 200 – Rs 50 = Rs 150**. Hence, aggregate value of goods produced by this simple economy is Rs 100 (net contribution by the farmers) + Rs 150 (net contribution by the bakers) = Rs 250.
- The **term that is used to denote the net contribution made by a firm is called its value added**. We have seen that the raw materials that a firm buys from another firm which are completely used up in the process of production are called intermediate goods. Therefore, the **value added of a firm is, value of production of the firm – value of intermediate goods used by the firm.**
- The **value added of a firm is distributed among its four factors of production, namely, labour, capital, entrepreneurship and land**. Therefore wages, interest, profits and rents paid out by the firm must add up to the value added of the firm.
- If we sum the gross value added of all the firms of the economy in a year, we get a measure of the value of aggregate amount of goods and services produced in the economy in a year (just as we had done in the wheat-bread example). Such an estimate is called Gross Domestic Product (GDP). Thus,
- GDP = Sum total of gross value added of all the firms in the economy.
- If there are N firms in the economy, each assigned with a serial number from 1 to N, then
    - $GDP = GVA_1 + GVA_2 + ... + GVA_N$
- Therefore, $GDP = \sum GVA_i$

Concept Check
Q. Gross Domestic Product is the sum of the market value of the
(a) intermediate goods.
(b) final goods and services.
(c) manufactured goods.
(d) inferior goods and services.
(e) normal goods and services.
Answer: B

3.2 Expenditure Method

The expenditure method is a system for calculating gross domestic product (GDP) that combines consumption, investment, government spending, and net exports.

It is the most common way to estimate GDP. It says everything that the private sector, including consumers and private firms, and government spend within the borders of a particular country, must add up to the total value of all finished goods and services produced over a certain period of time.

The GDP under this method is calculated by summing up all of the expenditures made on final goods and services.

There are four main aggregate expenditures that go into calculating GDP:

Consumption by households

- Let **C be the aggregate final consumption expenditure** of the entire economy.
- Notice that a part of C is spent on imports of consumption goods.
- Let **C_m denote expenditure on the imports of consumption goods**.
- Therefore **$C – C_m$ denotes that part of aggregate final consumption expenditure** that is spent on the **domestic firms**.

Investment by Businesses

- Let I be the aggregate final investment expenditure of the entire economy.
- Notice that a part of I is spent on imports of investment goods.
- Let I_m denote expenditure on the imports of investment goods.
- Therefore **$I-I_m$ denotes that part of aggregate final investment expenditure** that is spent on the **domestic firms**.
- **Capital formation** is a term used to describe the **net capital accumulation** during an accounting period for a particular country. The term refers to **additions of capital goods**, such as equipment, tools, transportation assets, and electricity. It is the result of **investment activities undertaken by firms and government**.

Government Spending

- Similarly, **$G – G_m$ stands for that part of aggregate final government expenditure** that is spent on the **domestic firms**, where G is the aggregate expenditure of the government of the economy and G_m is the part of G which is spent on imports.

Spending by External Sector

- Exports (X), which is nothing but **spending by the external sector** on purchasing goods and services produced by the **domestic sector**.

The formula for GDP is:

GDP = (C – Cm) + (I – Im) + (G – Gm) + X

It can also be written as:

GDP = C + I + G + (X – Cm – Im – Gm)

GDP = C + I + G + (X – (Cm + Im + Gm))

GDP = C + I + G + (X – M)

Where, **M = Cm + Im + Gm (i.e., M = total imports)**

3.3 Income Method

The income approach to measuring gross domestic product is based on the accounting reality that **all expenditures in an economy should equal the total revenue generated** by the production and sale of all economic goods and services.

It also assumes that there are **four major factors of production** in an economy and that **all revenues must go to one of these four sources.** That is, revenues earned by all the firms put together must be **distributed among the factors of production** as **salaries, wages, profits, interest earnings and rents**.

Therefore, by adding all the sources of income together, a quick estimate can be made of the total productive value of economic activity over a period.

The formula for GDP is:

GDP = W + P + I_n + R where

W = Total wages and salaries received by all factors of production

P = Total profits received by all factors of production

I_n = Total interest received by all factors of production

R = Total rent received by all factors of production.

Concept Check

Q. Gross Domestic Product can be measured as the sum of

(a) final goods and services, intermediate goods, transfer payments, and rent.

(b) consumption, investment, government purchases, and net exports.
(c) consumption, transfer payments, wages, and profits.
(d) Net National Product, Gross National Product, and Disposable personal income.
(e) investment, wages, profits, and intermediate production.
Answer: B

4 Part IV: Important Macroeconomic Identities

4.1 Gross Investment, Depreciation and Net Investment

- That **part of our final output** that comprises of **capital goods** constitutes **gross investment** of an economy. These may be **machines, tools and implements**; buildings, office spaces, storehouses or infrastructure like roads, bridges, airports or jetties.
- But **all the capital goods produced in a year do not constitute an addition to the capital stock** already existing.
- A significant part of current output of capital goods goes in maintaining or replacing part of the existing stock of capital goods. This is because the **already existing capital stock suffers wear and tear and needs maintenance and replacement.**
- A **part of the capital goods produced** this year goes for **replacement of existing capital goods** and is not an addition to the stock of capital goods already existing and its **value needs to be subtracted from gross investment** for arriving at the measure for **net investment**. This deletion, which is made from the value of gross investment in order to accommodate regular wear and tear of capital, is called **depreciation**.
- So new addition to capital stock in an economy is measured by net investment or new capital formation, which is expressed as
  - ***Net Investment = Gross investment – Depreciation***

4.2 Net Domestic Product

- This measure allows policymakers to estimate **how much the country has to spend just to maintain their current GDP**.
- If the country is **not able to replace the capital stock lost through depreciation, then GDP will fall.**
- NDP = GDP – Depreciation
- This way, 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.
- However, NDP is not used in compare the economies of the world. This is due to the different rates of depreciation which is set by the different economies of the world.

4.3 Gross National Product

- GNP and GDP are very closely related concepts, and the main differences between them comes from the fact that there may be **companies owned by foreign residents that produce goods in India**, and **companies owned by Indians that produce goods for the rest of the world** and revert earned income to domestic residents in India.
- For example, there are number of foreign companies that produce goods and services in India and transfer any income earned to their foreign residents. Likewise, many Indian corporations produce goods and services outside of Indian borders and earn profits for India's residents.
- Where **GDP looks at the value of goods and services produced within a country's borders, GNP is the market value of goods and services produced by all citizens of a country—both domestically and abroad.**
- GNP is commonly calculated by taking the sum of **personal consumption expenditures, private domestic investment, government expenditure, net exports and any income earned by residents from overseas investments, minus income earned within the domestic economy by foreign residents**.

- The formula for GNP is:
  - **GNP = GDP + (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 economy)**
- **Hence, GNP = GDP + Net factor income from abroad**
  - **(Net factor income from abroad = 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 economy).**

4.4 Net National Product

- We have already noted that a **part of the capital gets consumed during the year due to wear and tear**. This wear and tear are called **depreciation**.
- If we deduct depreciation from GNP the measure of aggregate income that we obtain is called Net National Product (NNP).
- The formula for NNP is:
  - **NNP = GNP – Depreciation**

4.5 Net National Product at Market Price (NNP_{MP}) & Net National Product at Factor Cost (NNP_{FC})

- It is to be noted that **all the variables discussed** so far are **evaluated at market prices**.
- But **market price includes indirect taxes**. When indirect taxes are imposed on goods and services, their **prices go up**.
- Indirect taxes accrue to the government. We have to **deduct them from NNP evaluated at market prices** in order to calculate that part of **NNP which actually accrues to the factors of production**.
- Similarly, there may be **subsidies granted by the government on the prices of some commodities**. So, we need to **add subsidies to the NNP** evaluated at market prices.
- The measure that we obtain by doing so **(reducing indirect taxes and adding subsidies to NNP at market prices) is called Net National Product at factor cost or National Income.**
- The formula for NNP at factor cost (which is also referred to as National Income):
  - **NNP_{FC} = National Income (NI) = NNP_{MP} – Indirect taxes + Subsidies**
  - **NNP_{FC} = National Income (NI) = NNP_{MP} – Net indirect taxes**
    - Where, **Net indirect taxes = Indirect taxes – Subsidies.**

Concept Check
Let us take a very hypothetical example. Suppose, the cost of making a product is Rs.1000. The indirect tax levied on it by the government is 10%. Let us suppose the government grants a subsidy of Rs.150 on the product. Now, what is its Factor cost and Market Price (in Rs)?
(a) 1000, 950
(b) 950, 1000
(c) 1100, 950
(d) 850, 950
(e) None of the above
Answer: (a) 1000, 950

4.6 Personal Income

- We can further subdivide the National Income into smaller categories. Let us try to find the expression for the **part of NI which is received by households.** We shall call this **Personal Income** (PI).
- First, let us note that out of NI, which is earned by the firms and government enterprises, **a part of profit is not distributed among the factors of production.** This is called **Undistributed Profits** (UP). We have to **deduct UP from NI to arrive at PI**, since UP does not accrue to the households.
- Similarly, **Corporate Tax**, which is **imposed on the earnings made by the firms**, will also have to be **deducted from the NI, since it does not accrue to the households.**

- On the other hand, the **households do receive interest payments from private firms or the government** on past loans advanced by them. And **households may have to pay interests to the firms and the government as well**, in case they had borrowed money from either. So, we have to deduct the **net interests paid by the households** to the firms and government.
- The households receive **transfer payments** from government and firms **(pensions, scholarship, prizes, for example)** which have to be added to calculate the Personal Income of the households.
- The formula for Personal Income (PI):
  - **Personal Income (PI) = NI – Undistributed profits – Net interest payments made by households – Corporate tax + Transfer payments to the households from the government and firms.**

4.7 Personal Disposable Income

- Even Personal Income is not the income over which the households have complete say. They have to pay taxes from PI.
- If we deduct the **Personal Tax Payments** (income tax, for example) and **Non-tax Payments** (such as fines) from PI, we obtain what is known as the **Personal Disposable Income.**
- The formula for Personal Disposable Income (PDI):
  - **Personal Disposable Income (PDI) = PI – Personal tax payments – Non-tax payments.**
- **Personal Disposable Income** is the part of the aggregate income which **belongs to the households**. They may decide to consume a part of it, and save the rest.

KEY DEFINITION
Personal tax payments: Taxes which are imposed on individuals, such as income tax.
Non-tax payments: Payments made by households to the firms or the government as non-tax obligations such as fines.
Personal Disposable Income (PDI): PI – Personal tax payments – Non-tax payments.

4.8 Per Capita Income

- Per capita income is a **measure of the amount of money earned per person in a nation** or geographic region.
- Per capita income can be used to **determine the average per-person income** for an area and to evaluate the **standard of living and quality of life of the population.**
- Per capita income for a nation is **calculated by dividing the country's national income (Net National Income at Factor Cost) by its population**.

Concept Check
Q. The most appropriate measure of economic growth is its:
(a) Gross Domestic Product of a country
(b) Net Domestic Product
(c) Net National Product
(d) Per Capita Real Income
(e) None of the above
Answer: D

4.9 Nominal and Real GDP

4.9.1 Nominal GDP

- Nominal GDP, or nominal gross domestic product, is a **measure of the value of all final goods and services** produced **within a country's borders** at **current market prices**. In calculating **nominal GDP**, we only use **current quantities** at **current year prices**.
- If, for instance, India produced only three products—coffee, tea, and rubber, let's say—nominal GDP would be **calculated by first multiplying the quantity of each product produced by its current market price, and then adding** the three results together. In order to calculate it, we first need to know the quantity of each product produced and the up-to-date average price for that product.

- Therefore, (coffee quantity x coffee's current market price) + (tea quantity x tea's current market price) + (rubber quantity x rubber's current market price) = Nominal GDP
- It can then be further reduced to the **nominal GDP per capita** by **dividing the nominal GDP by the country's population.**

Concept Check
With reference to 'Nominal GDP', which of the following statements is/are correct?
(a) It measures total economic output produced valued at a constant market price.
(b) It is used for comparison across years and across countries.
(c) It concentrates on volume growth only and does not include price growth.
(d) None of the above
(e) All of the above
Answer: D

4.9.2 Real GDP

- Real GDP is **GDP evaluated at the market prices of some base year**.
- **Base year is the year whose prices are being used to calculate the real GDP**.
- For example, if **2012** were chosen as the **base year**, then **real GDP for 2019** is calculated by taking the **quantities of all goods and services purchased in 2019** and **multiplying them by their 2012 prices**.

4.9.3 Base Year

- It is a **specific year against which the economic growth is measured**.
- It is allocated a value of 100 in an index.
- The estimates at the prevailing prices of the current year are termed as "at current prices", while those prepared at base year prices are termed "**at constant prices**".
- The **base year is changed periodically** to take into account the **structural changes** which take place in the economy.
- The **first official estimates of national income** were computed by **CSO (now National Statistical Office {NSO}* with base year 1948-49** for the estimates at constant prices.
- A **base year** has to be a **normal year without large fluctuations in production, trade and prices of commodities in general**.
- **Reliable price data** should be available for it. It should be **as recent as possible.**
- For example, if we take a year which had a severe drought, in that year the agriculture produce would have been very less and thus the prices would have been very high. So, taking this year as a base year would not be appropriate as this year was a one-off case because of the occurrence of drought.

**** In May 2019, Government of India had decided to merge Central Statistical Office and National Sample Survey Office into the National Statistical Office.***

4.9.4 GDP Deflator

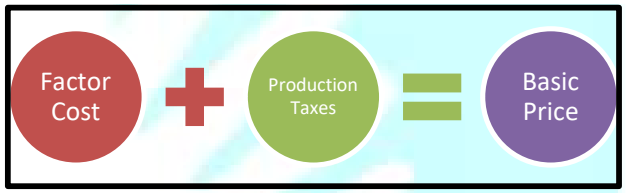
- Let us understand this concept using a numerical example.
- For example, suppose a country only produces bread. In the year 2000 it had produced 100 units of bread, price was Rs 10 per bread. **GDP at current price was Rs 1,000.** In **2001** the same country produced 110 units of bread at price Rs 15 per bread. Therefore, **nominal GDP in 2001 was Rs 1,650** (=110 × Rs 15). **Real GDP in 2001** calculated at the price of the year 2000 (2000 will be called the base year) will be 110 × Rs 10 = **Rs 1,100.**
- Notice that the **ratio of nominal GDP to real GDP** gives us an idea of **how the prices have moved from the base year** (the year whose prices are being used to calculate the real GDP) to the current year.
- In the calculation of **real and nominal GDP** of the current year, the **volume of production is fixed.** Therefore, **if these measures differ it is only due to change in the price level** between the base year and the current year.

- The **ratio of nominal to real GDP** is a well-known index of prices. This is **called GDP Deflator**. Thus, if GDP stands for nominal GDP and gdp stands for real GDP then, **GDP deflator = GDP/gdp.**

KEY DEFINITION
GDP Deflator: A price index calculated as the ratio nominal gross domestic product to real gross domestic product. It is used as an indicator of the economy's average price level.

Concept Check
Q. Which of the following is the correct description of GDP deflator?
(a) It is the ratio between the nominal GDP and real GDP.
(b) It is the ratio between the GDP in the current year and GDP in the base year.
(c) It is the relation between the change in GDP and the corresponding change in employment rates.
(d) It is the measure used to compare GDPs of different countries
(e) None of the above
Answer: A

4.10 Factor Cost, Basic Prices and Market Prices



- In India, the most highlighted measure of national income has been the GDP at factor cost. The **NSO** of the Government of India has been reporting the GDP at factor cost and at market prices.
- In its revision in January 2015 the **NSO replaced GDP at factor cost with the GVA at basic prices**, and the **GDP at market prices**, which is **now called only GDP**, is now the most highlighted measure.
- The distinction between factor cost, basic prices and market prices is based on the distinction between net production taxes (production taxes less production subsidies) and net product taxes (product taxes less product subsidies).
- **Production taxes and subsidies are paid or received in relation to production** and are **independent of the volume of production** such as land revenues, stamp and registration fee.
  - Production taxes/subsidies are independent of the quantity (volume) of production.
  - It is often imposed even if the products are not produced (E.g., tax —land revenues, stamps fees, registration fees tax on the profession)
  - Production subsidies — subsidies to Railways, input subsidies to farmers, subsidies to the village and small industries, administrative subsidies to corporations or cooperatives, etc.).
  - Note: Net Production Taxes = Production taxes - Production subsidies
- **Product taxes and subsidies**, on the other hand, are paid or received **per unit or product**, e.g., excise tax, service tax, export and import duties etc.
- **Factor cost** includes only the payment to factors of production, it **does not include any tax**.

Example: A bread is being made in a bakery. The raw material used is wheat (it costs Rs.50), one person is involved in making it (he charges Rs.10). Now the factor cost of the bread is going to be Rs.50+Rs.10=Rs.60. (We are ignoring the other charges for simplicity like the rent of the place where bakery functions, the electricity bill etc.)

- In order **to arrive at the market prices**, we have to **add to the factor cost the total indirect taxes less total subsidies.**
- The **basic prices** lie in between: they **include the production taxes (less production subsidies) but not product taxes (less product subsidies).** Therefore, in order to **arrive at market prices**, we have to **add product taxes (less product subsidies) to the basic prices.**

Remember: Market Price > Basic Price > Factor Cost

- As stated above, now the **NSO releases GVA at basic prices**. Thus, it **includes the net production taxes** but not net product taxes.
- In order **to arrive at the GDP (at market prices)** we need to **add net product taxes to GVA at basic prices**.
- The formula for GVA at basic prices:
    - **GVA at factor costs + Net production taxes = GVA at basic prices**
- The formula for GVA at market prices:
    - **GVA at basic prices + Net product taxes = GVA at market prices**

Concept Check
Q. With reference to Gross Domestic Product (GDP) and Gross Value Added (GVA), which of the following option is/are correct?
(a) GDP gives a picture of economic activity from producer's side.
(b) GVA gives a picture of economic activity from consumer's side.
(c) GVA is the sum of GDP and Net Indirect Taxes.
(d) All of the above
(e) None of the above
Answer: E

5 Part V: Growth, Welfare & Development

5.1 Sources of Economic Growth

- Economic growth is achieved by **increasing the economy's ability to produce goods and services**. This goal is best indicated by measuring the **growth rate of production**. If the economy **produces more goods this year than last**, then it is growing.

Concept Check
Q. Economic growth in country X will necessarily have to occur if
(a) there is technical progress in the world economy
(b) there is capital formation in X
(c) the volume of trade grows in the world economy
(d) All of the above
(e) None of the above
Answer: B

5.2 GDP & Welfare

Can the GDP of a country be taken as an index of the welfare of the people of that country? If a person has more income, he or she can buy more goods and services and his or her material well-being improves. So, it may seem reasonable to treat his or her income level as his or her level of well-being. GDP is the sum total of value of goods and services created within the geographical boundary of a country in a particular year. It gets distributed among the people as incomes (except for retained earnings). So, we may be tempted to treat higher level of GDP of a country as an index of greater well-being of the people of that country. But there are many reasons why this may not be correct.

5.3 Limitations of GDP

Quality of Life

- What it means? Sometimes called "well-being"; the **standard of health, happiness, security, and material comfort** of an individual, a group of people, or a nation.
- **GDP gives no idea about Quality of Life**.

Non-market transactions

- What it means? **Economic activity that takes place in the informal sector** (from babysitting, to lawn mowing, to illegal drug sales), sometimes called the grey market or the black-market economy;
- Non-market transactions are not recorded, taxed, or officially monitored by the government.

Income Inequality

- What it means? when a **disproportionate share of a nation's income is earned by a small minority of households**; for example, when the top 10% of households earn 80% of the total income in a country, there is a high degree of income inequality. Also, according to Oxfam report in January 2022 – According to the report, the **income of 84% of households in the country declined in 2021,** but at the same time, the **number of Indian billionaires grew from 102 to 142.** Also, in 2020, the share of the bottom 50% of the population in national wealth was a mere 6%.
- **GDP does not account for income distribution** in any way.

Sustainability

- What it means? The **ability of a system to endure indefinitely into the future**;
- An increase in GDP will only be sustainable as long as it does not deplete natural resources too rapidly nor exploit the environment in a way that diminishes the quality of life of the nation's households over time.

Economic Bads

- What it means? **Any outcome from economic activity that creates negative value for society**, such as air pollution from cars that harms human health and the environment;
- Unsustainable economic growth may diminish the quality of life of a nation's people.

Depreciation of Capital

- What it means? The **decrease in the value of a nation's capital stock over time**;
- GDP accounts for investment in new capital but does not subtract the lost value of depreciated capital. Because of this, **GDP may overstate the amount of economic activity in nations with rapidly depreciating capital stocks**.

Real GDP per capita

- What it means? The real gross domestic product of a nation, divided by the nation's population; this measure is an indication of the average income of a nation's people.

5.4 What is development?

- Economic development can be referred as the **quantitative and qualitative changes** in the economy.
- Economic development can be defined as the **enlargement of the range of people choices**.
- Economic development focuses on the spectrum of spheres ranging from **health, education, employment, safety, environmental sustainability, social exclusion, gender empowerment, infrastructure,** and other activities whereas economic growth measured in terms of rise in GDP or market productivity.
- Economic development mainly concerned in **expansion of people's entitlements** and their corresponding **capabilities, morbidity, nourishment, literacy, education, and other socio-economic indicators.**

- According to **Amartya Sen**, "Development consists of the **removal of various types of unfreedoms** that leave people with little choice and little opportunity of exercising their reasoned agency". Sen defines the **major factors that limit freedom** as "**poverty** as well as **tyranny**, **poor economic opportunities** as well as **systematic social deprivation**, **neglect of public facilities** as well as **intolerance** or over activity of repressive states".
- **Economic growth set the prerequisite condition for economic development**.

5.5 What is the difference between Growth and Development in the above context?

Concept

- **Development**: Economic development is a much broader concept than economic growth. Economic development = Economic Growth + Standard of Living
- **Growth**: Economic Growth is a narrower concept than economic development.

Scope

- **Development**: Economic Development is considered as a Multidimensional phenomenon because it focuses on the income of the people and on the improvement of the living standards of the people of the country.
- **Growth**: Economic Growth is considered as a single dimensional in nature as it only focuses on the income of the people of the country.

Time-frame

- **Development**: Long term process
- **Growth**: Short term process

Measurement

- **Development**: Both Qualitative & Quantitative Terms: HDI (Human Development Index), gender-related index, Human poverty index, infant mortality, literacy rate etc.
- **Growth**: Quantitative Terms: Increases in real GDP.

Relevance

- **Development**: Economic Development is related to Underdeveloped and developing countries of the world.
- **Growth**: Economic Growth is related to developed countries of the world.

Effect

- **Development**: Qualitative and Quantitative Impact on the economy. Improvement in life expectancy rate, infant, literacy rate, poverty rates, and mortality rate.
- **Growth**: Brings a quantitative impact on the economy. Increase in the indicators like per capita income and GDP, etc.

6 Part VI: Summary

6.1 Gross Domestic Product at Market Prices (GDP_{MP})

- GDP is the **market value of all final goods and services** produced within a **domestic territory** of a country measured in a year.
- All production done by the **national residents** or the **non-residents** in a country gets included, **regardless** of whether that production is owned by a **local company** or a **foreign entity**.
- Everything is valued at **market prices**.
- $\underline{GDP_{MP} = C + I + G + X - M}$

6.2 GDP at Factor Cost (GDP_{FC})

- GDP at factor cost is **gross domestic product at market prices, less net product taxes**.
- Market prices are the prices as paid by the consumers. **Market prices also include product taxes and subsides**.
- The term **factor cost** refers to the **prices of products as received by the producers**.
- Thus, factor cost is equal to **market prices, minus net indirect taxes** (NIT).
    - NIT = Indirect Taxes – Subsidies
- GDP at factor cost **measures money value of output** produced by the firms within the **domestic boundaries** of a country in a year.
- ***$GDP_{FC} = GDP_{MP}$ – Indirect Taxes + Subsidies***
- ***$GDP_{FC} = GDP_{MP}$ – NIT***

6.3 Net Domestic Product at Market Prices (NDP_{MP})

- This measure allows policy-makers to estimate **how much the country has to spend just to maintain their current GDP**.
- If the country is **not able to replace the capital stock lost through depreciation, then GDP will fall.**
- ***$NDP_{MP} = GDP_{MP}$ – Depreciation***

6.4 NDP at Factor Cost (NDP_{FC})

- NDP at factor cost is the **income earned by the factors** in the form of **wages, profits, rent, interest**, etc., within the domestic territory of a country.
- ***$NDP_{FC} = NDP_{MP}$ – Net Product Taxes – Net Production Taxes***

6.5 Gross National Product at Market Prices (GNP_{MP})

- GNP_{MP} is the **value of all the final goods and services** that are produced by the **normal residents of India** and is measured at the **market prices**, in a year.
- GNP refers to all the **economic output** produced by a **nation's normal residents**, whether they are located **within the national boundary or abroad**.
- To arrive at the value of GNP, **Net Factor Income from Abroad (NFIA) is added to GDP**.
- Everything is valued at the market prices.
- ***$GNP_{MP} = GDP_{MP} + NFIA$***

6.6 GNP at Factor Cost (GNP_{FC})

- GNP at factor cost measures **value of output received by the factors of production belonging to a country** in a year.
- ***$GNP_{FC} = GNP_{MP}$ – Net Product Taxes – Net Production Taxes***

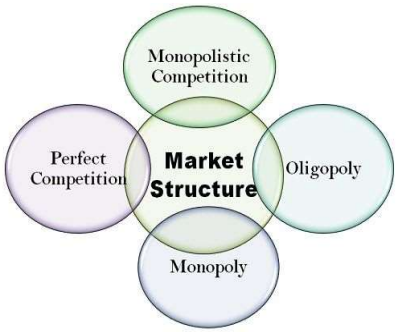
6.7 Net National Product at Market Prices (NNP_{MP})

- This is a **measure of how much a country can consume in a given period of time**.
- NNP measures output regardless of where that production has taken place (**in domestic territory or abroad**).
- ***$NNP_{MP} = GNP_{MP}$ – Depreciation***
- ***$NNP_{MP} = NDP_{MP} + NFIA$***

6.8 NNP at Factor Cost (NNP_{FC}) OR National Income (NI)

- NNP at factor cost is the **sum of income earned by all factors in the production** in the form of **wages, profits, rent and interest**, etc., belonging to a country during a year.
- It is the National Product and is **not bound by production in the national boundaries**. It is the net domestic factor income added with the net factor income from abroad.
- ***NI = NNP_{MP} – Net Product Taxes - Net Production Taxes***
- ***NNP = NDP + NFIA***

7 Market Structures



As we have seen, in economics the definition of a market has a very wide scope. So understandably not **all markets are the same or similar**. We can characterize market structures based on the competition levels and the nature of these markets. Let us study the four basic types of market structures.

7.1 Types of Market Structures

A variety of market structures will characterize an economy. Such market structures essentially refer to the degree of competition in a market. There are other determinants of market structures such as the nature of the goods and products, the number of sellers, number of consumers, the nature of the product or service, economies of scale etc.

7.1.1 Perfect Competition

In a perfect competition market structure, there are a **large number of buyers and sellers**. All the sellers of the market are **small sellers in competition** with each other. There is **no one big seller** with any significant influence on the market. So, all the firms in **such a market are price takers**.

There are certain assumptions when discussing the perfect competition. This is the reason a perfect competition market is pretty much a theoretical concept. These assumptions are as follows,

- The products on the market are **homogeneous**, i.e., they are completely identical
- All firms only have the motive of **profit maximization**
- There is **free entry and exit** from the market, i.e., there are **no barriers**
- There is **no concept of consumer preference**

7.1.2 Monopolistic Competition

This is a **more realistic** scenario that actually occurs in the real world. In monopolistic competition, there are still a **large number of buyers as well as sellers**. But they all **do not sell homogeneous products**. The products are **similar** but all sellers sell slightly **differentiated products**.

Now the **consumers have the preference of choosing one product over another**. The sellers can also charge a **marginally higher price** since they may enjoy some market power. So, the **sellers become the price setters** to a certain extent.

For example, the market for cereals is a monopolistic competition. The products are all similar but slightly differentiated in terms of taste and flavours. Another such example is toothpaste.

7.1.3 Oligopoly

In an oligopoly, there are **only a few firms in the market**. While there is no clarity about the number of firms, 3-5 dominant firms are considered the norm. So, in the case of an oligopoly, the **buyers are far greater than the sellers.**

The firms in this case either compete with another to collaborate together, they use their **market influence to set the prices and in turn maximize their profits**. So, the **consumers become the price takers**. In an oligopoly, there are various **barriers to entry in the market**, and new firms find it difficult to establish themselves.

7.1.4 Monopoly

In a monopoly type of market structure, there is **only one seller**, so a **single firm will control the entire market**. It can **set any price** it wishes since it has all the market power. **Consumers do not have any alternative and must pay the price set by the seller**.

Monopolies are extremely undesirable. Here the consumer loses all their power and market forces become irrelevant. However, a pure monopoly is very rare in reality.