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Notes
National Income Accounting

Ch-1- National Income Accounting

Content

1.0 Meaning and concept of Economics

Economics is defined as the study of how humans work together to convert resources (limited) into goods and services to satisfy their wants (unlimited) and how they distribute the same among themselves. In economics, the major assumption is that resources are limited but demands or needs are unlimited. The challenge lies in distributing limited resources in a way that maximizes satisfaction and needs of everyone.

1.1 Micro v/s macro Economics

Basis	Micro Economics	Macro Economics
Meaning	The branch of economics that studies the behaviour of an individual consumer, firm, family is known as microeconomics.	The branch of economics that studies the behaviour of the whole economy (both national and international) is known as macroeconomics.
Scope	It covers various issues like demand, supply, product pricing, factor pricing, production, consumption, economic welfare et cetera.	It covers various issues like national income, general price level, distribution, employment, money etc.
Importance	It is helpful in determining prices of a product along with the prices of factors of production (land, labour, capital, entrepreneur et cetera) within the economy.	Maintain stability in the general price level and resolve the major macro problems of the economy such as inflation, unemployment etc as a whole.

1.2 Types of economy

Based on the nature of demand and supply and underlying values, economies can be divided into three major types:

(a) **Market economy:** An economic system in which production and prices are determined by unrestricted competition between privately owned businesses.

(b) Non-market economy: A non-market economy in which government intervention is important in allocating goods and resources and determining prices.

(c) **Mixed economy:** A mixed economic system protects private property and allows a level of economic freedom in the use of capital, but also allows for governments to interfere in economic activities and achieve social aims.

1.3 Sectors of Indian Economy

- Now for computation of NI, NSO divides the Indian economy into three sectors:

    (i) Primary sector

    (ii) Secondary sector

    (iii) Tertiary sector

Primary or agri-Sector	Secondary or Industry Sector	Tertiary or Service Sector
1. Agriculture 2. Forestry 3. Fishing 4. Animal- Husbandry	1. Mining and quarrying 2. Manufacturing 3. Electricity, gas, water supply and other utility services 4. Construction	1. Trade, hotel, transport, storage, communication and services related to broadcasting 2. Financial, real estate and professional services 3. Public administration, defence and other services

2.0 History of National Income in India

2.1 Before independence

- Before independence, the estimate of National Income in India was, for the first time, prepared by Dada Bhai Naoroji for the year 1867-68.
- First scientific method to compute National Income was used by Dr V.K.R.V. Rao in 1931-32. In doing so, he divided the Indian economy into two parts:

    (i) Primary sector which included agriculture, forest, fishing and hunting, and

    (ii) Secondary sector which included industries, construction, transport, public services and business.

2.2 After independence

- After independence, a committee called the national income committee was formed. It was set-up in 1949, and its first chairman was Prof. P.C. Mahalanobis.

- The first report of the committee was presented in 1951.
- Later the task of estimation of GDP was transferred to the Central Statistics Office (CSO) and a fully developed NI division under CSO was created at the national level. Since 1955, the NI estimates were compiled by CSO based on the national level survey conducted by National Sample Survey Office (NSSO).
- However, in 2019, central Government merged the CSO and the NSSO and established National Statistical Office (NSO) under the Ministry of Statistics and Program Implementation (MoSPI).

- Recognising the need for providing estimates of national income on a regular basis, the Government of India set up 'The National Income Committee' in August 1949 under the Chairmanship of P.C. Mahalanobis with D. R. Gadgil and V.K.R.V. Rao as members. The work of estimation was later transferred to the Central Statistical Organisation (CSO) and a full fledged National Income Division was created which is now designated as National Accounts Division (NAD)

3. Circular flow of income

The circular flow of income describes the movement of goods or services and income among the different sectors of the economy. It illustrates the interdependence of the sectors and the markets to facilitate both real and monetary flow.


The macroeconomic sectors

- **The Household Sector:** This sector includes all the individuals in the economy. The primary function of this sector is to provide the factors of production. The factors of production include land, labour, capital and enterprise. The household sectors are the consumers who consume the goods and services produced by the firms and in return make payments for the   same.

- **The Firms Sector:** This sector includes all the business entities, corporations and partnerships. The primary function of this sector is to produce goods and services for sale in the market and make factor payments to the household sector.

- **The Government Sector:** This sector includes the center, state, and local governments. The prime function of this sector is to regulate the functioning of the economy. The government sector incurs both revenue as well as capital expenditure. The government earns revenue from tax and non-tax sources and incurs expenditure for provide essential public services to the people.

- **The Foreign Sector:** This sector includes transactions with the rest of the world. Foreign trade implies net exports (exports minus imports). Exports include goods and services produced domestically and sold to the rest of the

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world and imports include goods and services produced abroad and sold domestically.

The markets

- **The Goods Market:** In this market the goods and services are exchanged among the four macroeconomic sectors. The consumers are the household, government and the foreign sector while the producers are the firms.

- **The Factor Market:** The factors of production are traded through this market. For the production of final goods and services, the firms obtain the factor services and make payments in the form of rent, wages and profits for the services to the household sector.

- **The Financial Market:** This market consists of financial institutions such as banks and non-bank intermediaries who engage in borrowing (savings from households) and lending of money.

In an economy, households buy goods and services from firms, and firms use their revenue from sales to pay wages to workers, rent to landowners, and profit to firm owners. GDP equals the total amount spent by households in the market for goods and services. It also equals the total wages, rent and profit paid by firms in the markets for the factors of production.
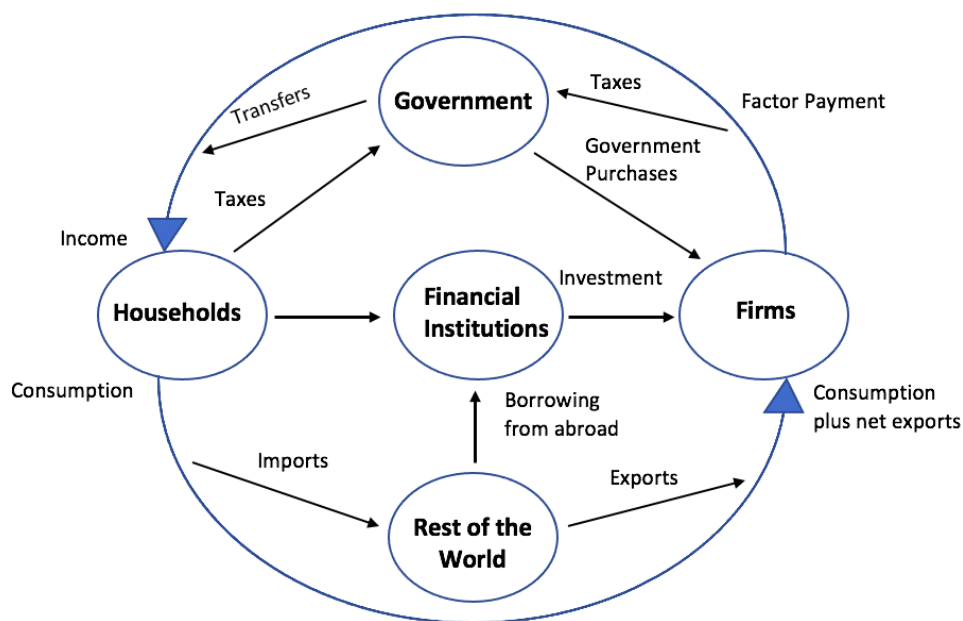
The diagram describes all the transactions between households and firms in a simple economy. It simplifies matters by assuming that all goods and services are bought by households and that households spend all of their income.

Money continuously flows from households to firms and then back to households.
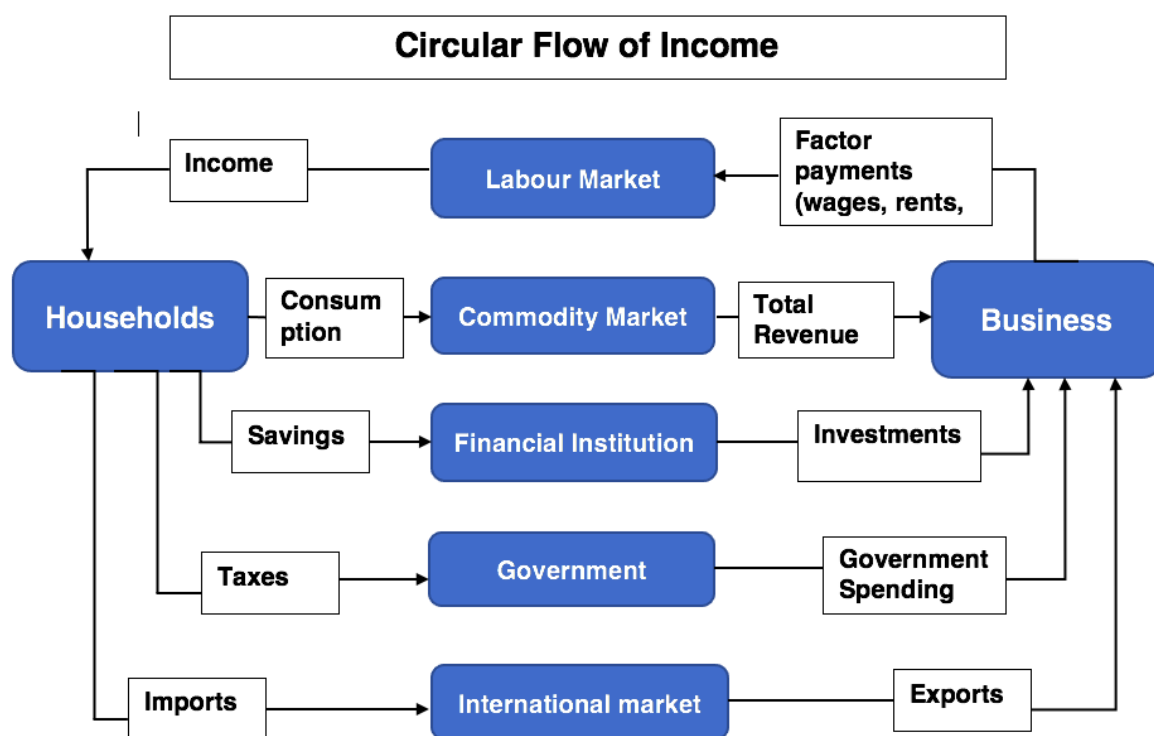
3.1 Leakages and injections in circular flow of income

Leakages: A leakage is referred to as an outflow of income from the circular flow model. Leakages are that part of the income which the household withdraw from the circular flow and is not used to purchase goods and services. This part of the income does not go to the goods market. The three main leakages are savings, taxes and imports.

Injections: An injection is an inflow of income to the circular flow. The volume of income increases due to an injection of income in the circular flow. The three main injections are investment, government expenditure, exports.

In a circular flow, leakages = injections.

4.0 Meaning and concept of National Income (NI)

- The **national income** is a measure of the sum of all the factor incomes earned by the **citizens** of a country for their land, labour, capital and entrepreneurial talent, whether within the country or abroad. It is equal to the Net National Product (NNP) at factor cost. It is obtained by deducting Net Indirect tax from NNP at market price. (explained further in the chapter).

- National Income at factor cost = NNP at market price – indirect taxes + subsidies

> The term 'national' here refers to 'of citizens' and the term income refers to 'factor income'.

> The term "residents" refers to those individuals (and institutions) whose economic interest lies in the country in which they live (or located). By economic interest we mean the basic economic activities of production, consumption and investment.
>
> For example, Mr. A may or may not be the citizen of India but so long as his economic interest lies in India he is treated as Indian resident.
>
> You must have heard the term "Non-Resident Indian (NRI)". Why are they called 'non-resident' and 'Indian'? They are called Indians because they are Indian citizens and not of the country in which they live. They are called non-resident because they are not the residents of India but of the country in which they live because their economic interest does not lie in India.

- In accounting parlance, it is a flow concept which is defined over a certain period of time, usually the accounting year (i.e., from 1st April to 31st march).

- It is measured in terms of Gross Domestic Product (GDP) and its variants are NDP, gross national product (GNP), NNP etc., where GDP is the measure of the aggregate value of all the final goods and services produced in an economy is a financial year within the domestic territory.

4.1 Factor income

- Factor income refer to the incomes derived by those who provide factor service to production units.
- Land (natural resources), labour (human resources), capital (man-made resources) and entrepreneurship are the four factors of production.
- A production unit, in order to produce goods and services, employs these factors of production. A payment made to a factor of production for the services rendered is called **factor payment**.
- The owners of land get rent, labour gets wages or salaries, capital gets interest and the entrepreneur gets profit.
- The sum total of these factor incomes derived by the residents of a country is the national income of that country.

In the technical language of national income accounting national income is called Net National Products at Factor Cost.

4.2 Reasons for choosing NNP at factor cost as national Income are:

- NNP Shows the income earned by all citizens of country. This makes sense, since the earnings of foreigners should not be included in the India's national income. Thus, NNP is preferred over Net Domestic Product (NDP).
- Factor cost is used because Net Indirect taxes like sales taxes, excise taxes are not the payments for factors of production.
- There is lack of uniformity in taxes among the countries.
- The goods are not printed with their prices in developing countries like India.

5.0 Important terms under National Income

5.1 The concept of Market price and Factor Cost
NI aggregates are either based on Factor Cost (FCs) or on the Market Price (MP).

Market price refers to the actual transacted price of goods and services. It is the price that a consumer pays for the product while purchasing it from the sellers. It includes the indirect taxes (which raise the prices) and subsidies (which lower the prices).

Factor Cost refers to cost of all factors of production used or consumed in producing goods and services. It includes rent for land, interest for capital, wages for labour and profit for entrepreneurship. It is the actual production cost at which the goods and services are produced by the firm. Thus, indirect taxes are excluded and subsidies by the government are included while calculating factor cost.

Example: Consider a farmer who produces wheat worth Rs.100 in a given year. Now if the government decides to give a subsidy of 5 % whereby the producers sells the same wheat in the market for Rs 95. The valuation of wheat produced at factor cost will be Rs100 and at market price will be Rs 95. In another example, consider a producer of cigarettes who produces cigarettes worth Rs 100. The government decides to levy a tax at 10%, which makes the market price of the same cigarettes Rs 110.

GDP_{FC} + Net indirect taxes = GDP_{MP}
NNP_{FC} + Net indirect taxes = NNP_{MP}

5.2 Depreciation or consumption of fixed capital
It refers to the loss in value of fixed assets which are in use due to wear and tear, accidental damages and obsolescence.

5.3 Transfer payment
Transfer payments are all those unilateral payments (one sided payments) corresponding to which there is no exchange of goods and services in the economy.
Examples includes gifts, donations, old-age or disability pensions, scholarship, unemployment compensation, etc.

However, pension to retired employees is not a transfer payment as the services were already rendered by them before retirement.
Transfer payments are not included in NI.

However, transfer payments are included in personal income and are taxable.
Corporate bailouts and subsidies are not commonly referred to as transfer payments.

6.0 Important Variants of National Income

Over a period of time four ways to calculate the income of a nation have been developed by the economists. These four ways to calculate the national income of a nation are **GDP, GNP, NDP and NNP.**

6.1 Gross Domestic Product (GDP)
GDP refers to aggregate value of production of final goods and services taking place within the economic territory during a year. There are few important terms to remember under GDP.

Final goods and services
Only goods and services consumed by final customer are to be added together to arrive at GDP. Goods and services acquired not for resale but for own use, are final products.

Economic territory
Economic territory is derived from physical territory but on economic basis. The concept of economic territory is carved out of geographical territory by adding some portions of rest of the world and by subtracting some portions of geographic territory. It does not include (a) territorial enclaves used by foreign governments such as foreign embassies, foreign consultants, etc. and (b) international organizations.

Economic activity carried out by Residents
The entire production of final goods and services may not accrue to only citizens of the country. Economic activity of all residents in India, whether Indian citizen or foreign citizen is to be combined together to arrive at GDP.

6.1.1. Real GDP and Nominal GDP

Real and nominal GDP

GDP of a country depends on both the prices as well as the physical quantities of the output. Hence, the change in GDP (increase or decrease) in a given year requires us to separate between the change on account of the change in prices or quantities or both.

Example: Let us begin from a simple example of a tripling of the GDP in a given year as compared to the previous year. What happens if this tripling in the overall value of GDP is actually just an instance of an increase in the prices in the economy? In that case economists would be wrong to infer that the production levels in the economy have increased. Hence, any comparison of GDP change either with the country's past performance or with that of another country can only be undertaken if the GDP figures have discounted for the increase in price. In other words, we need to differentiate between real and nominal GDP.

Nominal GDP is the value, which is calculated using the current prices in the economy.
Real GDP On the other hand real GDP is the value calculated using a constant set of prices. By affixing a base year for these constant prices, value of the GDP can be calculated to ascertain the scale of change in the production levels.

GDP deflator: The change in prices is calculated by an index of prices called the GDP deflator, which is nothing but the ratio of the nominal GDP to the real GDP.
i.e., GDP Deflator = Nominal GDP/ Real GDP

Suppose an economy produces only one good X, such that in the year 2008, there were 200 units of X produced at the price of Rs 10 per unit. Hence, the GDP at current prices was Rs 2000 (= 200 x 10). In 2013 the economy produced 220 units of good X at the price of Rs 15 per unit. Therefore nominal GDP in the year 2013 is Rs 3300 (= 220 x 15).

Now suppose we fix 2008 as the base year. The real GDP in the year 2013 calculated at the price of the base year 2008 will be Rs 2200 (= 220 x 10). In the calculation of real and nominal GDP in the current year 2013, we have kept the quantity of production constant. Therefore if there is any difference in the two figures, it must be on account of a change in price from the base year to the current year.

According to the formula mentioned above, we know the GDP deflator, ratio of the nominal GDP (Rs 3300) to the real GDP (Rs 2200), is 1.5. Hence, the prices have increased by 1.5 times from the base year to the current year. In percentage terms this is 150.

6.1.2 Potential GDP
The Potential GDP measures/estimates the highest level of output that an economy can sustain over a period of time at a constant inflation rate.

The GDP gap depicts the difference between potential GDP and real GDP.

The factors that affect/determine potential GDP can be:
1. Sustainability
2. Full employment (gender inequality, unemployment)
3. Technological usage
4. Regulatory framework
5. Steady currency

As per recent reports, it has been predicted that the introduction of GST has boosted the potential GDP of India by 6.7%.

6.2 GNP or Gross national Product

In Gross National Product, we change residents to "citizens". This means that any economic contribution of foreign citizens in India is to be removed from calculation of GNP and economic contribution of Indian citizens abroad is to be added in calculation of GNP. The difference between the national and domestic product is the net factor income from abroad (NFIA). As the name suggests, factor income from abroad refers to the remuneration earned by various factors in a foreign country. For instance, if the Indian residents provide labour service abroad or own an equity in a firm abroad or even lend capital to companies abroad, they would be earning wages and salaries, profits and interest respectively, in return. All of these comprise the factor incomes from abroad. Conversely, foreign nationals in India earn factor incomes (wages, salaries, profits and interest) here. Thus, the excess of factor incomes earned by the Indian nationals abroad over the factor income paid to the foreign nationals in India is called the net factor income from abroad.

NFIA = Factor income earned from abroad – factor income paid to abroad

GNP = GDP + NFIA

6.3 Net National Product (NNP) (National Income)
NNP is calculated as GNP minus depreciation. In the course of production, the fixed capital (plants and machinery) undergoes routine wear and tear which signifies the extent of consumption of fixed capital. Additionally, over time the machinery tends to becomes outdated or obsolete, even if perfect in the working condition. To avoid over estimating the national product, we create a provision for this wear and tear or depreciation as well as the routine obsolescence.
NNP = GNP – depreciation

6.4 NDP or Net Domestic Products
Net Domestic product (NDP) is the GDP calculated after adjusting the value of 'depreciation'. This is, basically, net form of the GDP, i.e., GDP minus the total value of the 'wear and tear' (deprecation) that happened in the assets while goods and services were being produced.

NDP= GDP – depreciation

The NDP of the economy is always less than it's GDP, because the depreciation can never be reduced to zero and will always be positive.

> The concept of NDP and NNP are not used to compare different economies because the method of calculating depreciation varies from nation to nation.

> **Eight measures or aggregates of National Income:**
> 1.) GDP_{MP}= Gross Domestic Product at Market price
> 2) GDP_{FC}= Gross Domestic Product at Factor Cost= GDP_{MP} – Indirect taxes + Subsidies

3.) NDP_{MP}= Net Domestic Product at Market Price = GDP_{MP}- Depreciation

4.) NDP_{FC} = Net Domestic Product at Factor Cost = NDP_{MP}- Indirect Taxes- Subsidies

5.) GNP_{MP} = Gross National Product at Market Price = GDP_{MP} + NFIA

6.) GNP_{FC} = Gross National Product at Factor Cost = GDP_{MP}- Indirect Taxes + subsidies + NFIA

7.) NNP_{MP} = Net National Product at Market Price = GDP_{MP} – Depreciation + NFIA

8.) **NNP_{FC} (or National Income)** = Net National Product at Factor Cost = GDP_{MP} - Depreciation +NFIA – Indirect taxes + Subsidies

Remember the below flow chart also:

Gross	Domestic	Market Price (MP)
↓	↓	↓
(-) Depreciation	(+) NFIA	(-) Indirect taxes (+) Subsidies
↓	↓	↓
Net	National	Factor Cost (FC)
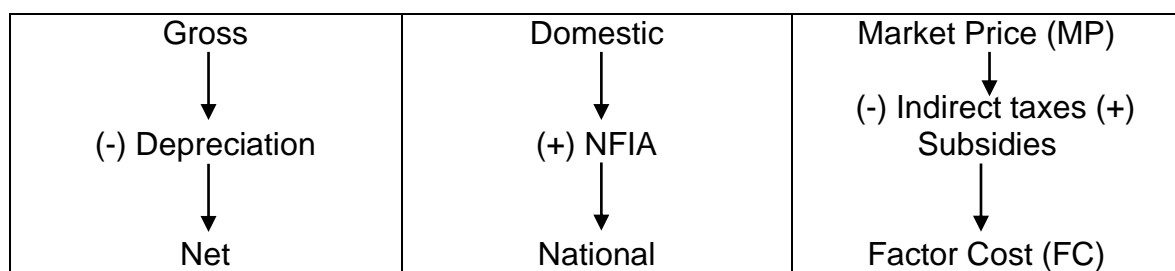
7.0 Other Variants of National Income

7.1 Net Factor Income from abroad (NFIA)
Difference between factor income (rent, wages, interest and profit) earned by normal residents of India who are temporarily resident abroad and factor income earned by non-residents temporarily residents in India.

Thus, NFIA = factor income <u>from</u> the rest of the world (ROW)- factor income <u>to</u> ROW

7.2 Private Income
Private income is the income of the private sector i.e. households and firms taken together.

Private Income = NDP_{FC} accruing to private sector + NFIA + current transfers from rest of the world(net) + current transfers from the government to the private sector + national debt interest

This includes factor income (both domestic and NFIA) accruing to the private sector (not government), transfers made by the government to the private sector as well as current transfers from rest of the world. National debt interest is the interest government pays on loans taken from the private sector and since it is assumed that these loans are taken for consumption purposes (not production) by the government the interest on the same are treated as transfers (not factor payment). Lastly, it is assumed that all transfers from rest of the world accrue to the private sector not to the government.

7.3 Personal income
Personal income refers to income of the households. The part of profits of private corporations not distributed among the households either because they are paid to the government as profit tax or as kept by corporation as retained earnings are subtracted here, since they are not at the disposal

of households. Transfers given by corporations and government to households are added to the private income. The government transfers include transactions such as old age pensions, education scholarships etc. Transfers given by corporations include transactions such as Diwali bonuses, which are not part of the wages and salaries of the employees.

Personal income = Private income – Corporate profit tax – Undistributed profits by corporations + Transfers by corporations and government to households.

The entire personal income, however, is not at the disposal of the individual. These households are also required to pay taxes, such as income tax and non- tax payments such as dues and fines, from this personal income. Hence, we consider another concept for this purpose, namely Personal Disposable Income. This personal disposable income is the income at the disposal of the household part of which they may spend on consumption and the rest as savings.

7.4 Personal Disposable income (PDI)
Personal income – personal tax payments – non-tax payments
PDI reflects the purchasing power of the households.

7.5 National Disposable income (NDI)
NDI is the income from all sources (earned income as well as transfer payments from abroad) available to the residents of India for their consumption expenditure or for saving during a financial year.
NDI = NNPFC or NI + Net indirect taxes + Net current transfers from ROW.

7.6 Gross National Disposable Income (GNDI)
GNDI measures the income available to the total economy for final consumption and gross saving.
GNDI = GNP + current transfers receivable by resident unit from rest of the world – current transfers payable to non- resident units to rest of the world.

7.7 Net National Disposable Income (NNDI)
NNDI is derived by deducting depreciation from GNDI.
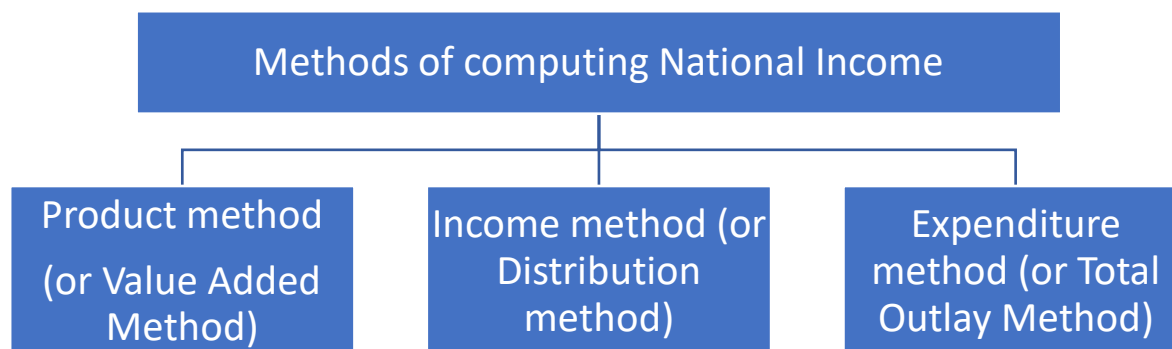NNDI = GNDI – depreciation

8.0 Various estimates of National Income

- **Advance estimate:** It is the first estimate of GDP/National Income released by NSO around 2 months before the completion of the financial year. Release date: 7th February
- **Provisional estimate:** This estimate of GDP/National Income is released by NSO 2 months after the completion of the financial year. Release date: 31st May. Provisional estimate was earlier termed as Revised estimate.
- **First revised estimate:** This estimate of GDP/National Income is released by NSO 10 months after the completion of the financial year. Release date: 31st January. It was earlier termed as Quick estimate.
- **Second revised estimate:** This estimate of GDP/National Income is released by NSO 1 year and 10 months after the completion of the financial year. Release date: 31st January of the succeeding year.
- **Third revised estimate:** This estimate of GDP/National Income is released by NSO 2 years and 10 months after the completion of the financial year. Release date: 31st January after 2 succeeding years.

Example: As per present schedule of NSO, the 1st AE of 2020-21 was released on 7th January 2021. The PE of 2020-21 will be released on 31st May 2020-21. The 1st RE of 2020-21 will be released on 31st January 2022. The 2nd RE of 2020-21 will be released on 31st January 2023. The 3rd RE of 2020-21 will be released on 31st January 2024.

9.0 Methods of calculating National Income
There are three different methods to estimate NI:

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                    ┌──────────────────────────────────────┐
                    │   Methods of computing National Income │
                    └──────────────────────────────────────┘
                                     │
        ┌────────────────────────────┼────────────────────────────┐
┌──────────────┐          ┌──────────────────┐          ┌──────────────────┐
│ Product method│         │ Income method (or │         │   Expenditure    │
│               │         │   Distribution    │         │ method (or Total │
│ (or Value Added│        │     method)       │         │  Outlay Method)  │
│   Method)     │         │                   │         │                  │
└──────────────┘          └──────────────────┘          └──────────────────┘
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9.1 Production or value added method
This is also called 'output method ' or 'Value added method'.
When data are obtained at the income creation stage to estimate national income, the exercise is termed as production method (or value added method). The method involves the following steps:
1) Classify production units into some convenient numbers of industrial sectors.
2) Estimate NVA_{FC} by each industrial sector
3) Take the sum of NVA_{FC} of all industrial sectors of the economic territory. This sum equal NDP_{FC}
4) Add net factor income from abroad to NDP_{FC}. This gives us an estimate of NNP_{FC} or national income.

National Income = (NDP_{FC}) + Net factor income from abroad

Items included in National Income under Product Method	
1. Goods and services sold in the market to earn profit. 2. Goods and services not sold but supplied free of cost. 3. Own account production of fixed capital 4. Imputed rent or imputed interest	**Imputed rent/ interest:** When a property is owned and used by the same person, then rent is not actually paid by him to himself. That notional rent is termed as Imputed rent and it is a part of NI. Similar is the imputed interest. **Own account production of fixed capital:** Own account production means doing activities for self-consumption. fixed assets mean fixed capital like machines, building, etc. So, own account production of fixed assets mean doing activities for self- consumption using fixed assets.

Items not included in National Income under Product Method

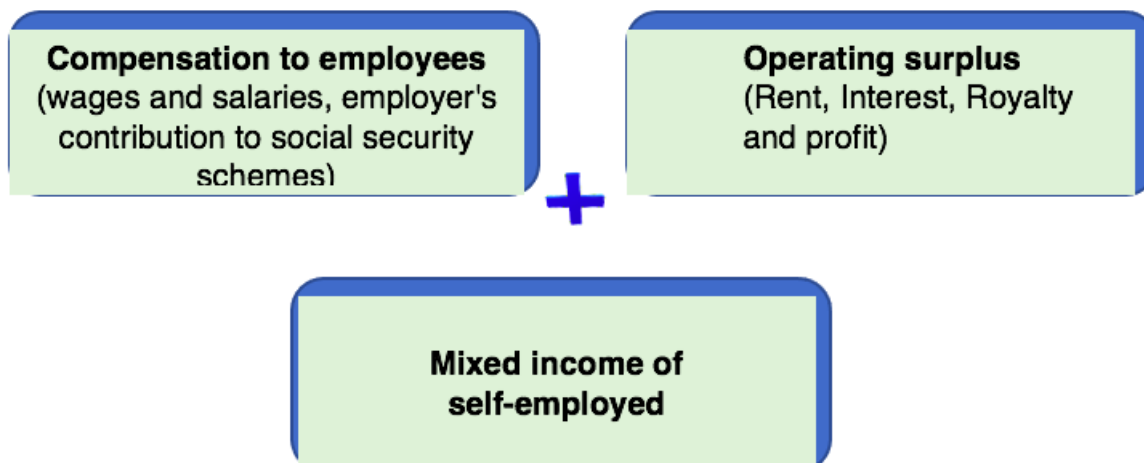|	
1. Illegal activities like smuggling and gambling. 2. Non-economic goods (water, air) 3. Second-hand purchase/sale of goods 4. Intermediate goods 5. Transfer payments e.g. Gifts, donation 6. Capital gains	**Intermediate goods:** Intermediate goods refers to the goods (raw material) used in the production of a final good. While computing GVA, intermediate goods are subtracted to avoid double counting. **Capital gain:** Capital gain refers to an increase in a capital asset's value and is considered to be realized when the asset is sold.

9.2 Income method

This is also called the 'distribution method'. This approach focuses on aggregating payments made by firms to households, called factor payments. This gives the National Income, defined as total income earned by citizens and businesses of a country.

Under this method, factor incomes under the following three major heads are added to compute NDP_{FC}.

Compensation to employees (wages and salaries, employer's contribution to social security schemes)

Operating surplus (Rent, Interest, Royalty and profit)

+

Mixed income of self-employed

- **Compensation of employees:** It includes wages and salaries, employer's contribution to social security, dearness allowances, etc.

- **Operating Surplus:** It includes rent, profit, royalty and interest. Profit includes corporate tax, dividend and undistributed profit.

- **Mixed income of self- employed:** It refers to earnings from farming enterprises, sole proprietorship and other professions, such as medical and legal practices. In these professions, owners themselves assume the role of entrepreneurs, financiers, workers and landlords.

Calculation of National Income: The sum total of COE, rent, interest, profits, or that of COE and operating surplus or (mixed income), paid out by resident production units located in economic territory equals NDP_{FC}. By adding net factor income received from abroad (NFIA) to NDP_{FC} we get a measure of NNP_{FC} or simply national income.

National Income = Rent + Wages + Interest + Profit + Mixed-Income

Items included in National Income under Income Method	Items not included in National Income under Income Method
1. Commission charged by broker on sale proceeds of second-hand goods. 2. The value of production for self-consumption is included.	1. Windfall gains (lottery) 2. Death duty 3. Transfer receipts 4. Income from sale of second-hand goods 5. Income from sale of shares, bonds, debentures

9.3 Expenditure method

The expenditure method measures the final expenditure on GDP. Amount of expenditure refers to all spending on currently- produced final goods and services only in an economy. In an economy, there are three main agencies, which buy goods and services. These are: Households, firms and Government

This final expenditure is made up of the sum of 4 expenditure items, namely:

1) Consumption (C): Personal consumption made by households, the payment of which is paid by households directly to the firms which produced the goods and services desired by the households.

2) Investment expenditure (I): Investment is an addition to capital stock of an economy in a given time period. This includes investments by firms as well as governments sectors.

3)Government expenditure (G): This category includes the value of goods and services purchased by Government. Government expenditure on pension schemes, scholarship, unemployment allowances etc. are not included in this as all of them come under transfer payments.

4) Net exports (X- M): Expenditure on foreign made products (imports) are expenditure that escape the system, and must be subtracted from total expenditure. In turn, goods produced by domestic firms which are demanded by foreign economies involve expenditure by other economies on our production (exports), and are included in total expenditure. The combination of the two gives us Net Exports.

Calculation of national income: Through this method, GDPMP is derived at first,
GDP= C + I +G + X- M
Thus, NNP_{FC} = GDP_{MP} – Depreciation – Indirect taxes + subsidies + NFIA

Items included in National Income under Expenditure Method

1. Personal consumption expenditure of households.
2. The gross private domestic investment i.e. business spending on capital goods.
3. The net foreign investment i.e. net spending by foreign nationals, firms and governments for country's goods and services.
4. Government purchases of goods and services.
5. Imputed expenditures like rent on own house are counted under consumption expenditure.

Items not included in National Income under Expenditure Method

1. Government spending on old-age pension, scholarships, unemployment allowances etc. is not included. These are included in private final consumption expenditure.
2. Expenditure on semi-finished goods is not included.
3. Expenditure on purchase of second-hand goods.
4. Expenditure on purchase of shares, bonds and debentures.

9.4 Reconciliation of the Three Methods of Measuring National Income

Production method	Income method	Expenditure method
Net value added at factor cost of primary sector +	Compensation of employees +	Private final Consumptions Government final consumption expenditure + Gross domestic fixed capital formation +
Net value added at factor cost of secondary sector +	Operating surplus +	Change in stock +
Net value added at factor cost of tertiary sector +	Mixed income of the self-employed +	Net exports of goods and services - Net indirect taxes - Consumption of fixed capital +
Net factor income from the rest of the world	Net factor income from the rest of the world	Net factor income from the rest of the world

10.0 Precautions while calculating National Income

While taking the above steps there are certain things which must be kept in view.

- **First**, only newly produced goods and services must be counted. Sale and purchase of second- hand goods should not be treated as production.
- **Second**, transactions in financial assets like shares and debentures are not counted. However, any service charge or brokerage paid as payment for the service rendered and is included in production.
- **Third**, goods and services produced for own use, must be counted. For example, grain produced by farmer but used for family consumption, building one's own house, cooking one's food and so on. The condition here is that the work should be measurable in monetary terms. Household work by a person is not measurable in monetary terms and thus, is not a part of national income accounting. On the other hand, building one's house is a part of capital formation and leads to production of goods and services in the economy, thus it is included in national income.

11.0 New method of national income accounting

The Central Statistics Office (CSO) has introduced the new series of national accounts statistics with base year 2011-12, in place of the previous series with base year 2004-05.The new series on National Accounts Statistics has been introduced after a comprehensive review of both the database and the methodology employed in the estimation of various aggregates.

- The reason for changing the base year of the national accounts periodically is to take into account structural changes, which have been taking place in the economy and to depict a true picture of the economy through macro aggregates like Gross Domestic Product (GDP), National Income, consumption expenditure of Government and individuals, capital formation etc.
- To examine the performance of the economy in real terms, estimates of these macro-economic aggregates are prepared at the prices of selected year known as base year. While output level of current year is used, prices of base year are used to eliminate "inflation" from GDP estimates.
- 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 as "at constant prices". The comparison of the estimates at constant prices, which means "in real terms", over the years gives the measure of real growth.
- After revision in method of GDP calculation, growth rate will now be measured by "GDP at constant market prices", which means market prices of base year. Previously, the method used was "GDP at constant factor cost".
- The method to calculate sector wise estimates of Gross value added has also been changed. Previously, it was GVA at factor cost, but now it has been changed to GVA at basic prices.

GVA at basic prices

To understand relation between market price, basic prices and factor cost, it is important to understand product taxes and subsidies as well as production taxes and subsidies.

Production taxes and subsidies

- Production taxes and subsidies are those that are levied or received with relation to production. They are independent of volume/ quantity of production.
- For example, stamp duty and professional tax are charged irrespective of volume of activity. subsidies to farmers, small industries, railway subsidies etc.

Product taxes and subsidies

Product taxes and subsidies
- Product subsidies and taxes are those that are levied or received on per unit of product.
- For example, food subsidy, petroleum subsidy, interest subsidy etc. GVA at basic prices takes into consideration "production taxes and subsidies".

- GVA at basic prices = (employee compensation + mixed income of self exployed + operating surplus) + (production taxes – production subsidies)
- Efforts have been made to implement recommendations of the System of National Accounts (SNA) 2008 to bring GDP calculation in line with global practices. This will make the estimates more comparable over space and time.

- There are many unincorporated enterprises, which tend to behave in the same way as corporations. These enterprises are called as "quasi corporations" as per SNA 2008. The new method has expanded the list of enterprises to be included under "quasi corporations". As India has a large base of unincorporated, household run enterprises, expansion of the list would give a clearer picture of GDP.
- Under the older method, private corporate sector series was covered on the basis of financial results of around 2500 companies. In the new series, a comprehensive coverage of corporate sector has been ensured by analyzing 5 lakh companies.
- Earlier, estimates for local bodies and autonomous institutions were prepared on the basis of information received for seven autonomous institutions and local bodies of four states. In the new series, there has been an improved coverage of local bodies and autonomous institutions, covering around 60% of the grants/transfers provided to these institutions.
- The GDP data revision will also incorporate the new CPI (CPI- Combined) instead of the previous practice of using CPI for various groups such as agricultural laborers and industrial workers.

Reasons for change in GDP estimates as per new method:
- Composition of various activities between the two Series- The weighting pattern of various activities in the GVA in the old and new series for the year 2011-12 also influences to some extent the overall growth rate in GVA.

- Marked changes have been observed in the shares of two major industries, namely, 'manufacturing' and 'trade'. In the case of manufacturing, with the availability of the MCA21 database (5 lakh enterprises), coverage of the activities other than manufacturing in the companies has improved significantly.

- Estimates of 'trade and repair services' has become lower than in the old series because Trade carried out by manufacturing companies, which has now become part of 'manufacturing', was earlier covered in 'trade'.

Weights of various sectors at current prices in the new and old series:

Industry	2004-05 series	2011-12 series
Agriculture, forestry and fishing	17.9	18.4
Manufacturing	14.7	18.1
Trade, repair, hotels and restaurants	17.4	10.8
Transport, storage, communication & services related broadcasting	7.3	6.5
Mining and quarrying	2.7	3.2
Electricity, gas, water supply & other utility services	1.6	2.4
Construction	8.2	9.4

12.0 National Income and Economic Welfare

GNP estimates are more commonly employed as an indicator of economic welfare. An increased output of goods and services, it is believed, implies an increased availability of goods and services for consumption. Thus, enabling a wider choice and a better standard of living; these are the hallmarks of economic development.

However, this simple positive relationship between increase in GDP and increase in economic welfare is subject to certain qualifications. Among these, the following are noteworthy:

1) Changes in the Size of GDP and Economic Welfare

i) If the GDP increases but the population of the country increases in a greater proportion, the total economic welfare will decline. As a result of increased population, the per capita income will decline, which means lesser purchasing power than before, lower standard of living, and consequently, lower economic welfare.

ii) While analysing the relationship between the size of GDP and economic welfare, the behaviour of the price movements must be thoroughly studied. GDP calculated at current prices is always deceptive and increase in its size will not promote economic welfare. Estimates of real GDP (i.e., GDP calculated at fixed base prices) can provide a better measure.

iii) GDP consists of those goods and services which are transacted in the market and fetch money value. We know that a part of the total produce is kept by the producers for self-consumption. Now, suppose that this retained produce (which is not part of GDP) is offered for sale in the market, such an increase in GDP will not increase the economic welfare.

iv) In case increase in the size of GDP is the result of prolonged working hours, increased employment of children in production, unhealthy and polluted atmosphere inside the factory premises, such an increase in GDP will not promote economic welfare.

2) Changes in the Composition of GDP and Economic Welfare

Composition of GDP refers to the kinds of goods and services produced in an economy. Changes in the composition of GDP may sometimes increase economic welfare and may at other times decrease it. Let us consider the following cases:

i) If the total production has increased on account of more production of capital goods, it will not increase economic welfare. No doubt the money value of the total output has increased, but the volume of consumer goods, on which depends the real economic welfare, has not increased. It is only when the proportion of consumer goods increases in the total output the GDP can promote economic welfare.

ii) If the GDP has increased on account of larger production of war-goods, the resultant increase will not increase economic welfare. This may no doubt head to increased fighting capacity of the country but it will do no good to economic welfare.

3) Changes in the Distribution of GDP and Economic Welfare

If the GDP increases and yet if it is not fairly distributed or it is concentrated in a fewer hands, it will not promote economic welfare. When the distribution of GDP changes in favour of the poor, they start getting more commodities and services than before, as a result the economic welfare increases. Any transfer of income from the rich to the poor, generally, promotes economic welfare.

13.0 Green GDP

- Green Gross Domestic Product is the index of the Economic growth of a particular country which enshrines the environmental consequences of the economic growth.
- Simply put, Green GDP is conventional gross domestic product figures adjusted for the environmental costs of economic activities. It's a measure of how a country is prepared for sustainable economic development.
- It accounts for the monetized loss of biodiversity and costs caused by climate change.
- The System of National Accounts (SNA) is an accounting framework for measuring the economic activities of production, consumption and accumulation of wealth in an economy during a period of time. When information on economy's use of the natural environment is integrated into the system of national accounts, it becomes green national accounts or environmental accounting.

Steps of environmental accounting

The process of environmental accounting involves three steps viz. Physical accounting; Monetary valuation; and integration with national Income/wealth Accounts.

- **Physical accounting** determines the state of the resources, types, and extent (qualitative and quantitative) in spatial and temporal terms.
- **Monetary valuation** is done to determine its tangible and intangible components.
- Thereafter, the net change in natural resources in monetary terms is **integrated into the Gross Domestic Product** in order to reach the value of Green GDP.

The process envisaged by Ministry of Environment and Forest does not require any change in the core System of National Accounts (SNA), and is achieved by establishing linkages between the two through a system of satellite accounts (called Satellite accounts as it adds new information to core accounts).

For example, Environmental Satellite Accounts link measures of emissions, material use, costs of remediation and environmental taxes to measures of economic activity. Satellite accounts are a framework that enables attention to be focused on a certain field or aspect of economic and social life. They are produced in the context of national accounts but are more flexible as they allow concepts, definitions, accounting rules and classifications to be changed, where it improves analysis.

Green GDP is calculated by subtracting net natural capital consumption from the standard GDP. This includes resource depletion, environmental degradation and protective environmental initiatives. These calculations can alternatively be applied to the net domestic product (NDP), which subtracts the depreciation of capital from GDP. In every case, it is required to convert any resource extraction activity into a monetary value since they are expressed in this manner through national accounts

14.0 Social Accounting

- The term 'social accounting' was first introduced into economics by J.R. Hicks in 1942.
- In his words, it means 'nothing else but the accounting of the whole community or nation, just as private accounting is the accounting of the individual firm'.
- The term social accounting is sometimes used for that part of descriptive economics which relates to the production and distribution of the national income. In order to have an accurate idea of the economic progress in different sectors and sub-sectors of an economy, it is but essential to maintain social or national accounts.
- 'Social Accounting' is a wider concept and embraces 'national income accounting'; as such it is concerned with the statistical classification of the activities of human beings and institutions in ways which help us to understand the operation and the working of the economy as a whole. It also includes the application of the information thus gathered to the investigation of the operation of the economic system.
- Social accounting describes statistically the economic activities of the different sectors of the entire economy, which indicates their mutual relationships and provides a framework for analysis.

Methods used in promoting social accountability and awareness include the following:

- social audit
- public hearing
- public expenditure tracking survey (PETS)
- citizen charter
- complaint system

15.0 Role of measuring national income

- Formulation of NI quantifies the economic growth; hence we can easily understand whether it is adequate or not for the stated objectives of the country.
- It lets us understand the potential of the economy and accordingly helps to set objectives.
- NI data help to take steps in order to reduce inequalities in income distribution.
- It also helps to forecast tax revenues.
- It helps the corporate sector to plan their business activities and investments.
- NI figures give us an idea of inflationary or deflationary gaps.
- NI figures help us compare the standards of living of people in different countries and of people living in the same country at different times.

16.0 Limitations in the measurement of National Income

- It measures domestic economic performances only; it does not measure the social welfare. Ideally both should be positively correlated, but the heavily skewed income inequality hides the true picture of the resources distribution. So, even the social sector spending distribution may also be skewed.
- It does not captured the non- market transactions like the service of the home makers, barter- based activities still done in some villages haats, etc.
- It does not take into account the negative externalities of economic growth where there is a usual trade-off between economic growth and environmental degradation. More manufacturing activities could discharge more industrial waste, higher carbon dioxide emission, etc.
- Inclusion or exclusion of certain items in NI accounting can lead to erroneous results. Difficulties in data collection lead to more approximation errors.

17.0 Factors affecting national Income:
Several factors affect the national income of a country. Some of them have been listed below:
- **Factors of production:** Normally, the more efficient and richer the resources, higher will be the level of National Income.
- **Land**: Resources like coal, iron and timber are essential for heavy industries so that they must be available and accessible. In other words, the geographical location of these natural resources affects the level of GNP.
- **Capital**: capital is generally determined by investment. Investment in turn depends on other factors like profitability, political stability etc.
- **Labour and entrepreneur**: The quality or productivity of human resources is more important than quantity. Manpower planning and education affect the productivity and production capacity of an economy.
- **Technology**: This factor is more important for nations with fewer natural resources. The development in technology is affected by the level of invention and innovation in production.
- **Government**: Government can help to provide a favourable business environment for investment. It provides law and order, regulations.
- **Political stability**: A stable economy and political system helps in appropriate allocation of resources. Wars, strikes and social unrests will discourage investment and business activities.
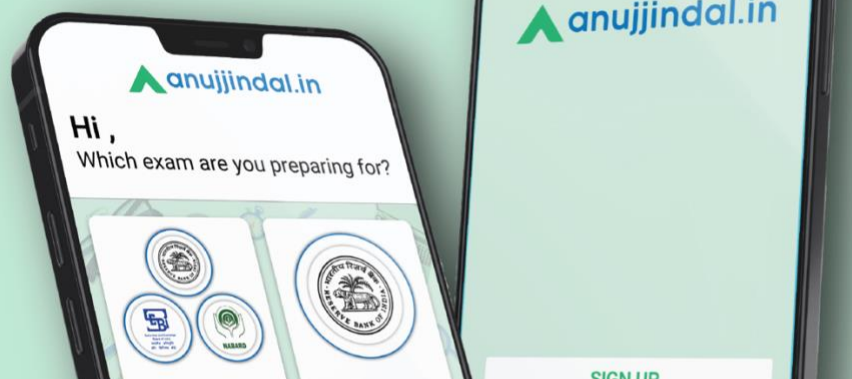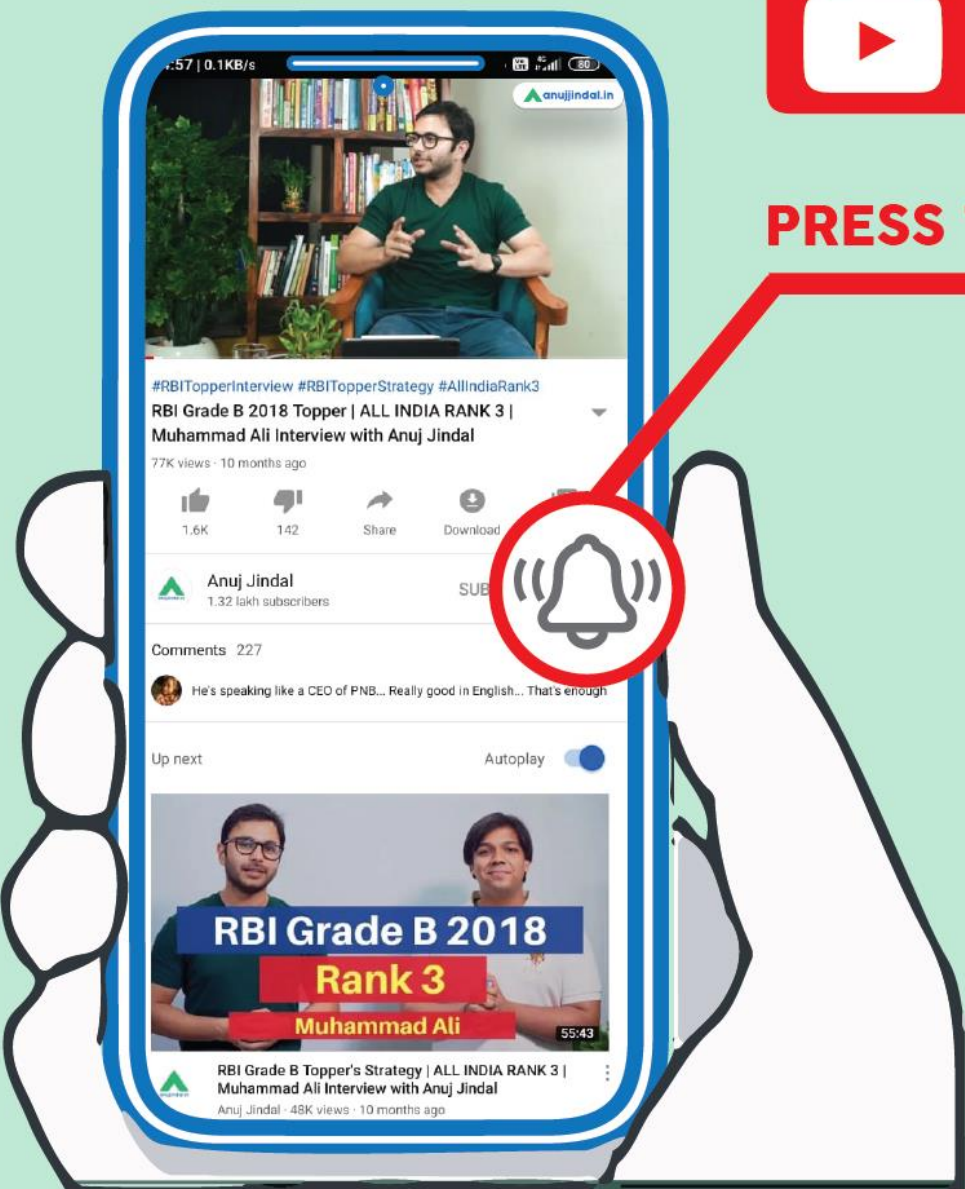
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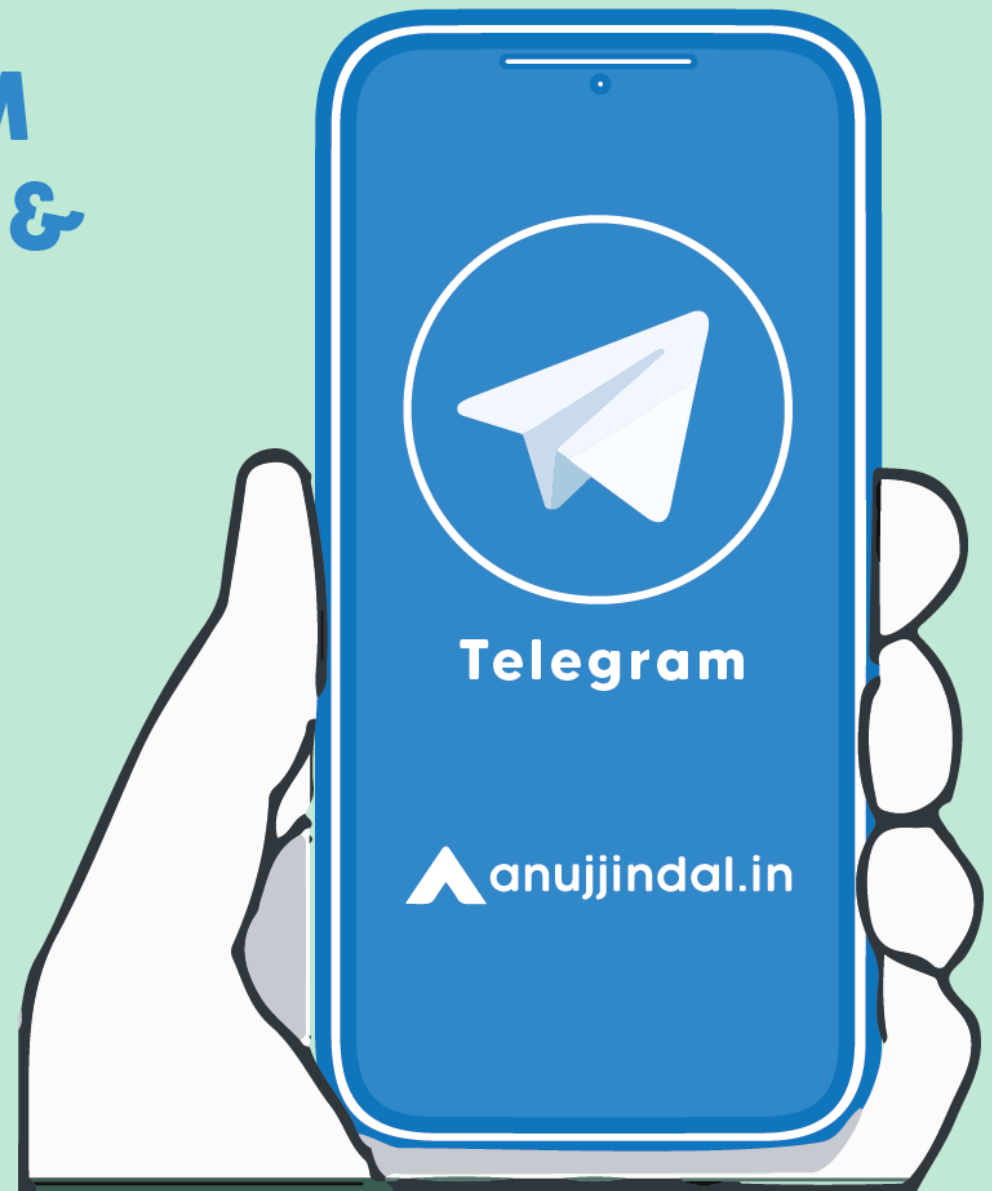
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SEBI

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Ali
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Aditya Sood
RBI

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Sameer
RBI

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Abhishek
RBI

Cleared RBI Grade B — Sanskar Vijay

Cleared RBI Grade B — Sanjay Meena

Cleared RBI Grade B — Yash Gupta

Cleared RBI Grade B — Ila Sahu

Cleared RBI Grade B — Argha Banerjee

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Cleared NABARD — Atul Yadav

Cleared SEBI — Abhishek Kumar

Cleared SEBI — Vishwanidh Singh

Cleared SEBI — Gopika Jayan

Cleared SEBI — Vasant Kesari

Cleared SEBI — Swetha Bodagala

NET with 98 Percentile — Anushka Keshri

JRF with 96.92 Percentile — Vaishali Jadon

NET with 89.27 Percentile — Srishti Gupta

JRF with 72 Percentage — Abhishek Mohanty

NET with 68 Percentage — Dinesh Mohan

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