GDP, GNP: Important terms

Gross domestic product (GDP) is the total monetary or market value of all the finished goods and services produced within a country's borders in a specific time period. To understand GDP, let us take an example-
There is a country named XYZ, where only tea, milk and sugar is produced.
Tea: 10 kg with price 10 per kg
Milk: 10 kg with price 20 per kg
Sugar: 5 kg with price 10 per kg
The goods used by the population:
1. Black tea: products used tea and water only: 5 kg : price pf black tea: 20pr kg : total value 100Rs
2. Milk tea: products used tea, sugar and milk: 5 kg of each : Price of milk tea: 50 per kg : total value: 250Rs
3. Milk:5 kg: price 5* 20: 100Rs

(*These are assumptions, just to explain the concept the quantities are simplified)*

So you need to understand there are products which are used as the raw form eg milk as well as finished good like tea. So the value added in GDP is the final forms in which it is consumed.
GDP: 100 +250+100 : 450

Second thing, the GDP is normally calculated over a period of time, You must have read in the news about quarterly prediction of GDP, that means GDP for 3 months. Annual GDP prediction meaning the time period an year.

Third thing, In GDP, the word domestic means the products produced within the boundary of the country.

Fourth Thing, Gross word : As you know with time the price of each product changes. lets us assume that in 2012 the price of milk was 10 rs per kg but in 2022 it is 20rs per kg. In both years the production is same (10 kg) then the GDP in 2012 will be 100 and in 2022 it will 200. But there is no actual increase in the product. Gross includes inflation and does not give clear prediction of increase in the production.
To avoid that error, there is Real GDP:

Real Gross Domestic Product (Real GDP)
Real GDP is a macroeconomic measure of the value of economic output adjusted for price changes (i.e. inflation or deflation).
So when real GDP of 2012 and 2022 is checked then it will be equal as price are adjusted according to inflation and deflation. The earlier GDP is called Nominal GDP where we consider the prices of the present year. But when we use GDP Deflator to adjust inflation/ deflation then it is called Real GDP.

GDP Deflator
GDP Deflator measures the changes in prices for all the goods and services produced in an economy.
GDP Deflator : (Nominal GDP/ Real GDP)* 100

How GDP is calculated?

Methods of calculating National Income or GDP:

- Expenditure method
- Product method/ value added method
- Income method

1. **Expenditure Method-** looking at demand side of products to estimate GDP. The *expenditure approach* adds up the value of purchases made by final users—for example, the consumption of food, televisions, and medical services by households; the investments in machinery by companies; and the purchases of goods and services by the government and foreigners.

$Y=C+I+G+X-M$

Where

- C= consumption by people
- I= Investment
- G= Government expenditure
- X= exports
- M= imports

2. **Value Added or Product Method**- Calculate aggregate annual value of goods produced in an economy. We remove intermediate goods and take into consideration only value added by a product. It avoids double counting through value added method

3. **Income Method-** An approach to calculate GDP that involves adding up all of the income earned within the borders of a country in a given year; the income approach adds up wages, rents, interest, and profits.

$Y=w+i+r+p$

Economists define four factors of production: **land, labor, capital and entrepreneurship**

So these factors earn in one way

Labor : earn wages that is represented by w in the formula

capital: earn interest- 'i'

land : earn rent -'r'

entrepreneurship: earn profit- 'p'

GNP : Gross national product (GNP) is an estimate of the total value of all the final products and services turned out in a given period by the means of production owned by a country's residents

How GDP is different from GNP?

GDP-

- Economic activity by residents in domestic economy.
- Domestic economy = Landmass + Exclusive Economic Zone(EEZ)

GNP-

- Economic activity by "citizens"
- GNP = GDP + factor income by Indian citizens outside india - factor income by foreign citizens in India

Formulas of various macroeconomic identities

Net National Product: (NNP) = GNP - depreciation

There are two types

1. NNP at Market price:
2. NNP at Factor cost: NNP at market price - Indirect tax + subsidy

National income (NI) = is the Net National Product at factor cost

Personal Income (PI) = NI - undistributed profits - interest paid by HHs - Corporate tax + interest received by HHs + transfer payments made to HHs

Personal Disposable Income (PDI)-measures the amount that households have available to either save or spend on goods and services, and is an important economic indicator of the ability of consumers to spend and save.

PI - personal tax payments - fines (non-tax payments)

Net Disposable Income (NDI)-

- NDI = NNP at Market Price + other current transfers from the rest of the world

Private Income-

- Private income by citizens
- PI= factor income of private sector + net factor income from abroad + transfer from government + interest + net transfer from the world

Across the world, GDP are calculated and forecasted. To maintain standard in calculation there is **System of National Accounts, 1993. To provide information that is useful in economic analysis and formulation of macroeconomic policy.**

New Method of NI Accounting:

- New Base year = 2011-12
- Real versus Nominal GDP = prices of base year and output of current year is Real GDP
- GDP at constant market price = GDP measured at MP of the base year

Sector wise estimates of GDP are calculated using GVA.

- Previously, GVA at Factor cost was used. It has now been replaced with GVA at basic prices
  - ✓ GVA at basic prices = R + W + In + P + (production taxes - production subsidies)
  - ✓ Instead of R + W + P + In, we can also use "employee compensation + mixed income + consumption of fixed capital"
  - ✓ GVA @ MP = GVA @ MP + product taxes - product subsidies

Note: the base year may further changed to 2017. But still we have 2011-12.

MCQ for Practice:

Q1. Which of the following activities is part of India's GDP?

(i) Activities in Indian embassies and consulates in south Asian countries

(ii) Air India services between two different countries

(iii) Economic activities of residents of India in international waters

(iv) Purchase of movie tickets by foreigners in India

Choose the correct answer using the code given below:

(a) (i) only

(b) (i), (ii) & (iii) only

(c) (iii) & (iv) only

(d) All of the above

(e) None of the above

Ans(d)

Q2. The National Income of a country (India) is equal to which of the following:

(a) Gross National Product (GNP)

(b) Net National Product at Market Prices

(c) Net National Product at Factor Cost

(d) Income going to the household sector

(e) None

Q3. What is the base year for National Income Accounting?

(a) 2011-12

(b) 2000-2001

(c) 2012-13

(d) 2017-18

(e) None

Ans. a