DAY-2

GDP, Nominal GDP, Real GDP , GDP growth rate, GNP

FEBS, IIT BHUBANESHWAR
Secyfebs.sg@iitbbs.ac.in

Disclaimer

The material is prepared by FEBS, IIT Bhubaneswar. Photocopying, Printing, Redistribution or Sale may lead to legal action.

The course contains material for a total of 6 days. The materials are designed in such a way that it will give an overview to Macroeconomics. The materials designed as a part of bootcamp are self-explanatory. Video links has been added wherever needed. Team FEBS wishesyou a happy learning!

For any queries please contact: secyfebs.sg@iitbbs.ac.in

All The Best!

FEBS

Society of Finance, Economics and Business

IIT Bhubaneswar.

Note:- Before starting, please takes notes while reading the material as today's material is bit theoretical. Read patiently and thoroughly. You will sail through the material.

GDP

Definition :

The total final value of goods and services produced within the domestic territory of a country in a specified time period (generally a financial year) is called Gross Domestic Product.

Let's go through a video to get a deep insight of what GDP is - https://youtu.be/iLom1WlqwS0

Nominal and Real GDP:

GDP is further divided into real and nominal GDP. This is done to highlight the reason for the change in GDP, if just the market price of a product increases without any change in the physical output of that product, then only the nominal GDP increases.

Let us understand the difference between nominal GDP and real GDP through a simple example, assuming wheat is the only commodity in the economy.

WHEAT	2020	2021	2022
Quantity	10 Kg	11 Kg	11 Kg
Price Per Kg	₹ 30	₹ 30	₹ 31
Value (GDP)	₹ 300	₹ 330	₹ 352
Real GDP	Base Value	₹ 330	₹ 330

We notice that
1. In 2021, The value of goods produced increased by ₹ 30.
2. In 2022, the value of goods produced increased by ₹ 22.

But in FY 21-22, there was not any increase in production of wheat. GDP increased because the price of wheat increased. This GDP (₹352) is known as nominal GDP. Now, you consider the price of wheat in a specific year as the base price. (Say of year 2020) So, multiply the wheat produced with ₹30 to get real GDP.

In short, Real GDP includes the effect of inflation while nominal GDP does not. By default, GDP data indicates real change in GDP.

Watch this video for a simple explanation on GDP–

https://youtu.be/iLom1WlqwS0

Real GDP vs Nominal GDP:

https://www.youtube.com/watch?v=rGqhTQyY6g4&ab_channel=MarginalRevolutionUniversity

GDP at Market Price & GDP at Factor Cost:

GDP is also divided into GDP at GDP at Market Price and GDP at Factor Cost, the latter of which negates the effect of taxes and subsidies on the price of a commodity. The calculation of GDP is done in three ways - production, expenditure and income approach.

- **Production Approach:**

$$GDP_{at\ MP} = Value\ of\ the\ Output\ in\ domestic\ territory - Value\ of\ the\ intermediate\ consumption$$

- **Expenditure Approach:**

$$GDP_{at\ MP} = Consumer\ Spending + Government\ Spending + Investment + Exports - Imports$$

- **Income Approach:**

$$GDP_{at\ MP} = Compensation\ of\ employees + Gross\ operating\ surplus + Gross\ mixed\ income + Taxes - Subsidies$$

Note 1 - *Only knowing what GDP is will not suffice. One should know what are the uses of GDP and what does it denote. Please read the article attached below taken from IMF's website.*

Note 2 **-** *IMF has used the term PPP exchange rate in its article. It basically means the amount that you will have to pay to buy same basket of goods and services in two countries. For example –You bought two chips and a cold drink in Rs. 100 in India and the same costed $ 2 in US, then we say PPP exchange rate is $1 = Rs. 50*

More about GDP

(This section has been directly taken from https://www.imf.org/external/pubs/ft/fandd/basics/gdp.htm#:~:text=GDP%20is%20important%20because%20it,the%20economy%20is%20doing%20well. Due credits to IMF. Click on the link for more valuable insights on GDP.)

Importance of GDP

GDP is important because it gives information about the size of the economy and how an economy is performing. The growth rate of real GDP is often used as an indicator of the general health of the economy. In broad terms, an increase in real GDP is interpreted as a sign that the economy is doing well. When real GDP is growing strongly, employment is likely to be increasing as companies hire more workers for their factories and people have more money in their pockets. When GDP is shrinking, as it did in many countries during the recent global economic crisis, employment often declines. In some cases, GDP may be growing, but not fast enough to create a sufficient number of jobs for those seeking them. But real GDP growth does move in cycles over time. Economies are sometimes in periods of boom, and sometimes in periods of slow growth or even recession (with the latter often defined as two consecutive quarters during which output declines). In the United States, for example, there were six recessions of varying length and severity between 1950 and 2011. The National Bureau of Economic Research makes the call on the dates of U.S. business cycles.

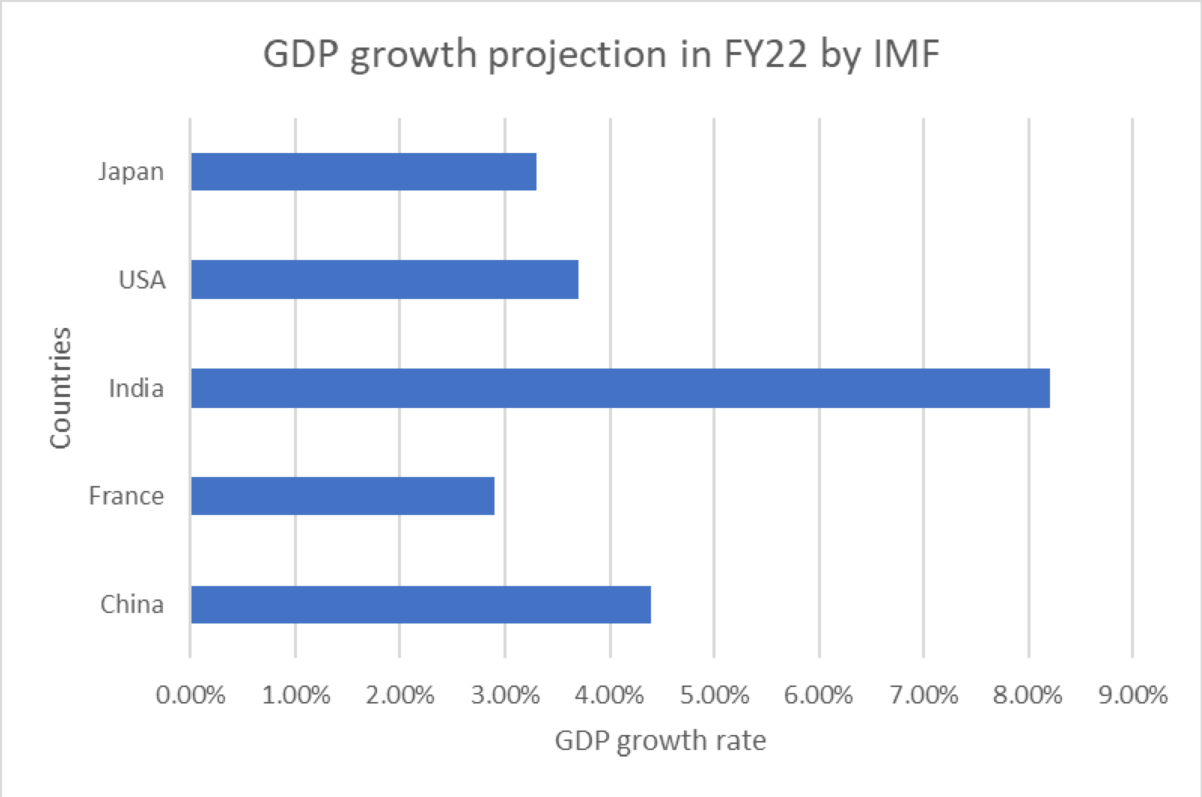
Comparing GDPs of two countries

GDP is measured in the currency of the country in question. That requires adjustment when trying to compare the value of output in two countries using different currencies. The usual method is to convert the value of GDP of each country into U.S. dollars and then compare them. Conversion to dollars can be done either using market exchange rates—those that prevail in the foreign exchange market—or purchasing power parity (PPP) exchange rates. The PPP exchange rate is the rate at which the currency of one country would have to be converted into that of another to purchase the same amount of goods and services in each country. There is a large gap between market and PPP-based exchange rates in emerging markets and developing countries. For most emerging markets and developing countries, the ratio of the market and PPP U.S. dollar exchange rates is between 2 and 4. This is because nontraded goods and services tend to be cheaper in low-income than in high-income countries—for example, a haircut in New York is more expensive than in Bishkek—even when the cost of making tradable goods, such as machinery, across two countries is the same. For advanced economies, market and PPP exchange rates tend to be much closer. These differences mean that emerging market and developing countries have a higher estimated dollar GDP when the PPP exchange rate is used.

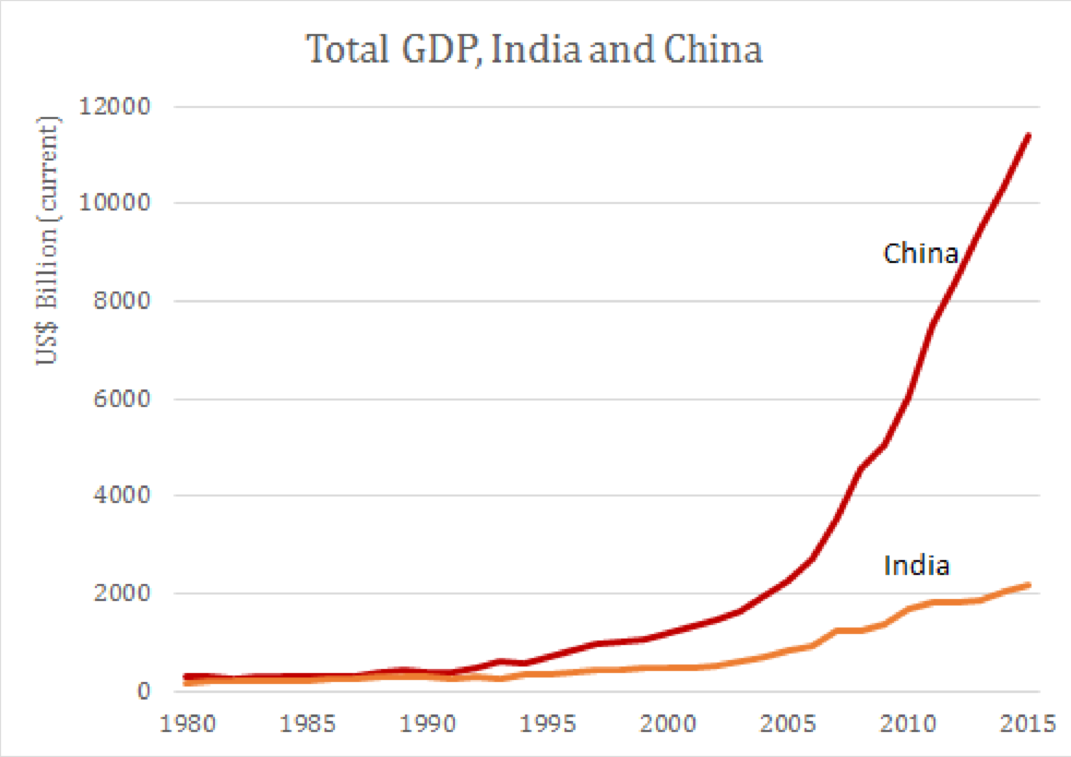
GDP Growth:

Many times, you might have heard GDP in percentages. That is actually a percentage growth in GDP. For example, Let us say in FY 21, GDP of India was Rs. 100 and it increased to Rs. 108 in FY 22, We say India's GDP growth rate was 8 %.

A graph from the data released by the IMF this year.



Credits- FEBS, IIT Bhubaneswar



From the above graph we can conclude that there was a sudden economic growth (GDP) of India & China in the 1990's. Can you guess what could be the reasons behind this sudden Growth?

Share your thoughts in the group.

GNP

Definition:

Gross National Product (GNP) is a measure of the market value of all final economic goods and services, gross of depreciation, produced within the domestic territory of a country by normal residents during an accounting year including net factor incomes from abroad.

$$GNP_{at\ MP} = GDP_{at\ MP} + Net\ Factor\ Income\ from\ Abroad$$

$$Net\ Factor\ Income\ from\ Abroad = Factor\ income\ earned\ by\ residents\ from\ rest\ of\ the\ World - Factor\ of\ income\ earned\ by\ non\ residents\ in\ our\ domestic\ territory$$

Example :

Let's take a simple example to understand GNP. Two persons A and B are there, nationals of countries X and Y respectively. A lives in Y and B lives in X. GDP of country X is Rs. 100. A produces goods worth Rs. 20 and B produces goods worth Rs. 15

GNP of country X = value of goods and services produced by its nationals

= GDP (total domestic production) - value of goods produced by B (B is not a national of X) + value of goods produced by A (A is a national of X)
= ₹100 - ₹15 + ₹20 = ₹105

Comparing GDP and GNP indicates the degree to which a nation's GDP represents domestic or international activity.

Read more about GNP :-
https://corporatefinanceinstitute.com/resources/knowledge/economics/gross-national-product-gnp/

----- THE END -------