Macroeconomics versus Microeconomics: macroeconomics deal with issues / concepts that are related to the entire economy unlike micro which looks at one market / sector / industry

Circular Flow of Income

Is a graph that shows how money circulates in an economy between different sectors. There are 4 sectors of an economy:

1. Households
2. Firms
3. Government
4. International Trade

<u>Keynesian Cross is a model that helps predict / estimate the GDP of a country.</u>

Aggregate Demand: is the total demand for all goods and services produced in a country at varying/different general price levels. AD has inverse relationship with general price level.

Aggregate Supply: is the total production/supply of all goods and services produced in a country at different general price levels. AS has direct relationship with general price level.

What is aggregate demand made up of? / What are the components of Aggregate Demand?

AD = C + I + G + X - M

C = Consumption is the amount spent by consumers on goods and services that satisfy their some need or want

I = Investment is the amount spent by firms on capital goods which are needed to produce other goods and services like machinery, tools, office building etc

G = Government spending refers to the amount government spends on different projects including provision of public goods like pars, roads, infrastructure etc

X = Exports are products produced in your country but bought by foreign consumers

M = Imports are products produced in foreign countries but consumed in your country.

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Consumption Function

Is a mathematical equation that predicts a consumer's consumption levels.

Autonomous Consumption is the component of consumption that does not depend on income / GDP level and instead it depends on factors like expectations about the future, trends, income tax etc.

Induced Consumption is the consumption component that depends on income / GDP levels of an individual.

$C = C0 + C1 . Y$

Income = Consumption + Savings

Additional Income = Additional Consumption + Additional Savings

Additional Savings = Marginal Propensity to Save = the proportion of additional income that is saved.

Additional Consumption = Marginal Propensity to Consume = the proportion of additional income that is spent / consumed.

Difference between Aggregate Demand and Aggregate Expenditure

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Aggregate Demand is total spending in an economy based on different price levels whereas Aggregate Expenditure is the total spending in an economy based on different levels of GDP.

Multiplier Effect says that a certain increase in injection will result in more than proportionate change in GDP. For instance if a country's investment or government spending or exports increase by $5 million there will be more than $5 million overall increase in the country's GDP.

When there is a rise in injection, it generates income for individuals of a country and they then start demanding more goods and services which eventually increases the country's GDP by more than the amount of initial injection.

1. ***Multiplier Effect = Change in GDP / Change in Injection***
2. ***Multiplier Effect = 1 / MPS + MRT + MPM***

Injection: is additional cash flow in an economy which includes investment, government spending and exports

Leakages: any amount of money flowing out of the system which includes imports, saving and taxation.

Accelerator Effect captures the rise in investment that businesses do, following a rise in the country's GDP.

Businesses are more interested in investing in economies with higher national incomes /GDP because that shows higher purchasing power of consumers and therefore it would allow these businesses to earn more revenues and profits.

Accelerator Effect = Change in Investment / Change in GDP

National Income Statistics

National Income is the total income of all individuals / people who live in a country.

National Income Statistics includes different approaches to calculating the total income of people living in a country.

a. Gross Domestic Product (GDP)
b. Gross National Product (GNP)
c. Net Domestic Product (NDP)

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d. Net National Product (NNP)

GDP: is the income of all people living in a country regardless of their nationality status. Or in other words, GDP adds up the income produced within the borders of a country. So even if any American, English, Australian people are working in India their income would be part of India's GDP.

GNP: is the income of only a certain country's nationals regardless of their place of residence. Or in other words, GNP of a country would only be the sum of people who hold that country's nationality.

For instance if any Indian is living outside India then his / her income would be part of India's GNP but not part of India's GDP.

How do we calculate GNP from GDP?

GDP + Net Income from Abroad = GNP

Net Domestic Product = Gross Domestic Product - Total Depreciation

Net National Product = Gross National Product - Total Depreciation

Net measures of national income might be a more realistic estimate of the total value produced by a country during a certain time period because it excludes the wear and tear of assets that took place during that time as this money will be eventually spent to replace the worn out assets.

3 Ways / Methods to Calculate GDP

a. **Income Approach:** by summing up the income of all individuals living in a country we can calculate that country's GDP. This is achieved when the people living in any country have to fill out their income tax returns.
   But this approach is likely to underestimate the value of GDP because people often under-state their incomes to avoid income taxes.

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b. **Expenditure Approach:** calculates the GDP by adding up the expenditure that consumers made on all the different products produced in a country during a certain time period.
The government calculates GDP using the expenditure approach by adding up the value of goods and services sold during a certain time period. This happens when producers have to file their sales tax in which they need to disclose the value of goods / services they sold.

c. **Product Approach:** calculates the GDP of a country by summing up the value added in all the industries.

Value Added = Selling Price - Cost of Components

Ideally (if no information is missing or misrepresented) then the 3 approaches to calculating the GDP which are mentioned above should give the same value.

Growth versus Development

Growth: is the percentage change in a country's GDP on a year by year basis (could be also calculated for a quarter or bi-annualy basis).

Why is Growth of an Economy Important?

GDP being the national income of a country shows how much the country's nationals earned collectively during a certain time period and therefore an increase in GDP shows increase in citizens' income.

With higher incomes the people can afford better quality products, more goods and services which will eventually increase their living standards.

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Is Economic Growth / Growth / GDP Growth always beneficial?

No, because economic growth comes with its own disadvantages / challenges.

1. First of all, high growth comes at the expense of ***resource depletion***. Resource depletion is when the stock of non-renewable resources are close to being exhausted. It also brings wildlife extinction.
2. Often higher production ***requires more working hours of labor*** which can contribute to more stress and anxiety for individuals. It therefore might contribute to more health care issues.
3. Not always GDP growth is equally beneficial for all citizens of a country. A lot of research has been made documenting how over time the world income distribution has become more unequal. When income / wealth distribution becomes more unfair then the government has to use different strategies to create more equal income distribution.
4. GDP also ***does not account for all economic positives and negatives***. GDP does not tell the distribution of goods and services that were produced by a country. If a country spent more of resources producing military goods that would increase its GDP but these products in reality would not have a positive on the living standards of the country's citizens.
5. GDP does not directly account for the quality of education and healthcare available in an economy.

What is Development? Why is it important for us to measure Development?

Development is an estimate of how high are the living standards of a country's citizens. There are many factors / variables that affect a country's living standards, for instance the quality of education, quality of healthcare, availability of economic opportunities, access to capital, and other things like law and order situation, availability of food, housing etc etc.

Over time economists have developed special indicators that estimate / calculate the development. Some of the most popular indicators used to estimate a country's development are as follows:

1. Human Development Index (HDI)
2. Human Poverty Index / Multidimensional Poverty Index (MPI)
3. Measure of Economic Welfare (MEW)

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Human Development Index (HDI)

HDI focuses on 3 dimensions / aspects to estimate a country's development, which are as follows:

1. Income
2. Health Care
3. Education

- Income is estimated through Gross National Product per capita of a country. GNP per capita is GNP divided by the country's population.

- Healthcare is estimated through life expectancy. Life expectancy is the age till which an average person of that country lives upto.

- Education is estimated through mean /average years of schooling which is basically the number of years an average person in that country attends formal education.

Based on these 3 dimensions a value is calculated for every country which is between 0 to 1. The more developed countries get a higher value which is closer to 1 and developing countries have a smaller value closer to zero showing less development.

Critique of HDI

<u>Pros</u>

1. HDI provides a more holistic perspective of a country's development compared to GDP which does not tell per capita income and moreover GDP does not show the quality of education and health care that is available in a country.
2. It allows for easy cross country comparison by just having to compare a single value unlike GDP which has to be converted into the same currency before comparison could be made.

<u>Cons</u>

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1. Even HDI does not account for all economic goods and bads. For instance, HDI does not account for pollution, environmental degradation, sanitation facilities, and access to clean drinking.

Human Poverty Index / Multidimensional Poverty Index (MPI)

MPI estimates the percentage of a country's population that lives under poverty.

Poverty is when someone either individual or group of individuals do not have access to even basic necessities of life.

MPI is calculated as follows:

1. Living Standards
2. Education
3. Healthcare

Income is necessary but not a sufficient condition for development.

Multidimensional Poverty Index

1. Living Standards	Definitions	
a. Cooking Fuel	Any household using dung, coal, agricultural crop as fuel.	
b. Sanitation Facilities	Sanitation facilities are not improved or are shared with other households.	
c. Assets	The household does not own more than one of these assets: radio, TV, telephone, computer, animal cart, bicycle, motorbike, or refrigerator, and does not own a car or truck.	
d. Electricity	The household has no electricity.	
e. Clean Drinking Water	The household's source of drinking water is not safe or safe drinking water is a 30-minute or longer walk from	

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	home, roundtrip.	
f. Housing	The household has inadequate housing materials in any of the three components: floor, roof, or walls.	
2. ***Education***		
a. Years of Schooling	No eligible household member has completed six years of schooling.	1/6
b. School Enrollment	Any school-aged child is not attending school up to the age at which he/she would complete class 8.	1/6
3. Healthcare		
a. Mortality	A child under 18 has died in the household in the five-year period preceding the survey.	1/6
b. Malnourishment	Any person under 70 years of age for whom there is nutritional information is undernourished.	1/6

The MPI assesses poverty at the individual level. If a person is deprived in a third or more of ten (weighted) indicators, the global MPI identifies them as 'MPI poor'. The extent – or intensity – of their poverty is also measured through the percentage of deprivations they are experiencing.

Measure of Economic Welfare (MEW)

MEW measures countries' living standards in monetary terms by keeping GDP per capita as the starting point and then accounting for economic positives and negatives by assigning them monetary values.

Item	India	Pakistan	China	Singapore	Bangladesh
GDP per Capita	1200	1000	1400	1600	1700

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Pollution	(20)	(30)	(45)	(26)	(35)
Charity	15	30	67	44	10
Sanitation Facilities	(90)				
Crime Rates	(15)				
Clean Drinking Water	(23)				

<u>**Past Paper Questions**</u>

‘There have been many attempts to measure changes in living standards both within and between countries. Although some have been more useful than others, none of these alternative measures has produced a sufficiently accurate, reliable indicator of changes in living standards.’ How far would you agree with this statement? [25]

Living standards measure the quality of life in a country. Overtime, economists have developed multiple measures to record changes in citizens’ living standards and some of these are more comprehensive than others.

Initially economists placed a lot of emphasis on economic growth and therefore percentage change in GDP has been the main indicator of development.

Define GDP growth and mention some of its advantages and disadvantages as a measure of a development

Economic growth is the percentage change in country’s GDP which is basically the country’s national income (it is the collective income of all the people living in a country). Percentage change in GDP shows how fast an economy is growing and therefore how much is the increase in country’s GDP on a year by year basis.

BENEFITS OF USING GDP AS AN INDICATOR OF DEVELOPMENT

Higher economic growth would mean that citizens’ incomes are increasing at a faster rate and therefore they can afford more goods and services which is expected to increase their living standards. With higher purchasing power more goods and services can be bought by consumers and therefore it is likely that they would be able to afford better education, healthcare and will have access to economic opportunities like more jobs and professional development.

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Another related indicator of development could be GNP as it measures the income of only a certain country's nationals.

LIMITATIONS OF GDP

But GDP growth rate does not provide a holistic perspective about country's living standard or citizens' quality of life. Firstly, GDP is just a figure /value which does not show what goods/ services were being produced. For instance, if more military goods are being produced then it would not directly improve citizens' quality of life even though the GDP would be higher. Secondly, GDP does not account for economic positives and negatives like the extent of pollution in a country, how high or low are the crime rates, quality of education and healthcare in a country and so on. Thirdly, higher GDP growth rates are likely to increase the rate of resource depletion (non-renewable resources of a country being close to exhaustion).

OTHERS INDICATORS OF DEVELOPMENT

1. Human Development Index (HDI)
2. Multidimensional Poverty Index (MPI)
3. Measure of Economic Welfare (MEW)

Human Development Index (HDI) measures development on 3 dimensions / aspects which are as follows:

a. ***Income:*** GNP per capita
b. ***Education***: mean years of schooling (on average how many years of schooling a typical person completes in a country)
c. ***Healthcare:*** life expectancy (the average age uptil which a typical person lives in a country)

HDI provides a more holistic perspective about the country's development as it also focuses on provision of education and healthcare in a country which are 2 very important aspects of quality of life.

However, with only one statistic / metric for education and healthcare each, HDI cannot determine the actual quality of education and healthcare of a country since there are many aspects of quality education and quality healthcare for instance how many hospital per 1000 people or how many schools per 1000 people etc.

Multidimensional Poverty Index (MPI)

MPI calculates a country's development on 3 dimensions/aspects which are as follows:

a. ***Living Standards:*** there are 6 indicators within this category
b. ***Education:*** there are 2 indicators within this category

c. ***Healthcare:*** there are 2 indicators

Living Standards	
1. Cooking Fuel	A household is using dung, agricultural crop etc for cooking
2. Sanitation Facilities	A household does not have improved sanitation facilities as per the guidelines of SDG or if they have improved sanitation then they share these facilities with other households.
3. Housing	A household does not have proper housing in terms of roof, floor, wall.
4. Clean Drinking Water	A household does not have access to clean drinking water or if it does then the water source is more than 30 minutes walk.
5. Assets	A household does not have more than one asset of bicycle, radio, television, bike
6. Electricity	A household does not have access to electricity
Education	
a. Years of schooling	No eligible household member has completed six years of schooling.
b. School Enrollment	If a household has any member of school going age and has not completed until 8th grade.
Health Care	
a. Infant Mortality	If a household had a member under the age of 18 who passed away during 5 years preceding the survey.
b. Malnutrition	If any household member is malnutritioned below the age of 70.

If a household satisfies any 3 of these 10 indicators then that household is defined as “MPI Poor”. Hence if a country has a higher percentage of MPI poor people then it means that the country has lower living standards compared to its counterparts.

PROS AND CONS OF MPI

MPI is more comprehensive estimate of country’s development compared to GDP and HDI since it includes more indicators of development. However, data collection for MPI could be a serious challenge especially in developing countries which do not have good data collection. Therefore cross country comparison of development based on MPI becomes a serious challenge.

Measure of Economic Welfare (MEW)

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MEW takes GDP per capita of a country as the starting point and then accounts for economic goods / positives and economic negatives / bads to adjust the GDP per capita value which is then compared with other countries to determine the level of development that exists in these countries.

Firstly MEW could be an excellent indicator of development since it can include all possible aspects of development. However, to identify all possible factors that affect the quality of life in a country could be challenging and sometimes next to impossible. Secondly, assigning a monetary value to each of these factors is another challenge and so it limits the usefulness of MEW to be used as a development indicator.

Money Market / Capital Market

Money is any commodity or instrument that is used to buy goods and services. It includes currency notes, cheques and the loan created by commercial banks.

Money Market or Capital Market is basically made of people who wish to borrow money for different purposes including for investment or consumption and financial institutions like banks who are willing to lend money to these people.

Now just like other markets are important for the growth of an economy, the Money Market also plays a fundamental role in the progress of a country.

Theories of Interest Rate Determination

a. Loanable Fund Theory
b. Liquidity Preference Theory

Loanable Fund Theory: just like any other product the price of which is determined through its demand and supply, the interest is the price of loan and therefore interest rates will be determined through demand and supply of loans. Therefore where the demand and supply of loan curves intersect that would be the equilibrium point in the money market as per Loanable Fund Theory.

Liquidity Preference Theory: is a Keynesian concept that explains how interest rates are determined in the market. Keynesian economists believed that interest rates are determined on the basis of demand and supply of money (currency).

a. ***Who demands money?*** Every individual wants money to make transactions like buying goods and services.
b. ***Who supply money?*** It is the central bank that prints currency of any country and therefore it is the central bank that supplies money.

Why do people demand money?

1. ***Transactionary Motive:*** is the money that people hold to make their daily transactions like buying goods and services that they need.
2. ***Precautionary Motive:*** that people want to hold some excess cash or money in case of any unforeseen circumstance like an emergency, impulse buying etc
3. ***Speculative Motive:*** says that people would want to hold cash in case the interest rates offered by banks are low and therefore they would want to hold cash till they come across a better opportunity to invest like in stock exchange or real estate etc

Different Schools of Economic Thought

Keynesian Economists became popular during 1930s, the time of Great Depression after World War 1, and therefore what they observed was that government should take more active role in the functioning of an economy like apart from providing public goods, government should also have more proactive approach towards provision of merit goods like education, health care and also in terms of maintaining a fair regulatory framework.

Classical Economists (the more contemporary school of thought) on the other hand develop theories based on mathematical concepts and they try to prove different economic theories on the basis of data. Also Classical Economists disapprove of greater government intervention and they believe that greater government intervention / role would result in inefficiencies and therefore the government should restrict its activities just to provision of basic public goods.

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Credit Creation is the process of issuing loans which is done by commercial banks and it is important for economic growth of a country. Credit Creation affects the country's money supply.

Credit Multiplier is the value that shows up till what multiple of the deposits (that are available for issuing loans) can a commercial bank issue loans equivalent to.

Credit Multiplier = 100 / Liquidity Ratio

Credit Multiplier is set by the central bank and higher the liquidity ratio lower would be the amount of loans and vice versa.

Apart from liquidity ratio, Central Banks also regulate commercial banks in terms of issuing loans through the policies that they set for commercial banks. For instance, before a commercial bank issue loan to someone it has to verify that the borrower has a decent financial position to be able to repay the loan in future.

Open Market Operations: refers to the process / mechanism of how a central bank affects money supply of an economy.

Through issuance of government bonds the government raises loans from its citizens against the promise of returning this money back after a certain date with interest.

Quantity Theory of Money

$$MV = PT$$

M = the money supply which is the total amount of money in circulation
V = the velocity of circulation which is the number of times a typical currency note exchanges hand
P = The average price level which shows the price of a typical good
T = the number of transactions that take place in an economy during certain time period

The theory says that during a certain time period the values of P and T are relatively constant (fixed). Hence, any increase in Money Supply is matched by proportional increase in the price level of an economy.

However, if the increase in Money Supply is to match the increase in the number of transactions then it is justified to print more currency notes that would then not result in higher inflation.

Unemployment

Unemployed refers to people who are **eligible** and **able** to work and are **actively looking for work** but could not find any.

Causes of Unemployment

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1. ***Structural Unemployment / Technological Unemployment:*** people whose skills become outdated in the face of rapidly changing technology and / or economic structure (changes in the importance of different sectors in an economy lik Primary, Secondary and Tertiary).

2. ***Cyclical Unemployment:*** it is when people are laid off due to low economic activity which happens during recessions (like a pandemic, national or international war etc).

3. ***Frictional Unemployment:*** is when someone is between switching a job. For instance, generally it takes a few months for fresh university graduates to find jobs and therefore during the time when they are looking for work but have not found any during that period these graduates are defined as frictionally unemployed.

4. ***Seasonal Unemployment:*** it is when demand for a product is seasonal and therefore during off seasons there is no demand for that type of labor. For instance, many tourist destinations are not accessible or due to weather conditions are not very favorable to visit during extreme winter or summer seasons and therefore demand for guest houses, hotels or restaurants in those places would be only seasonal.

5. ***Causal Unemployment:*** happens in industries / occupations where the demand for a certain type of labor is not constant (same) throughout the year. For instance, demand for singers and movie celebrities is only seasonal and when they are not working on any project they are defined to be casually unemployed.

Solutions of Unemployment

1. For Structural Unemployment the only effective and long term solution is to retrain the people in new skills (which are more in demand) so that they can find work in emerging industries. For instance, in Pakistan Punjab Skill Development Fund (PSDF) trains people in vocational skills.
2. Cyclical Unemployment is best dealt with Expansionary Fiscal or Monetary Policy. Expansionary Fiscal Policy is about expanding the size of an economy by reducing taxes and increasing government spending.
3. Frictional Unemployment can be best dealt with by eliminating the information gap related to jobs. Back in the day, governments used to establish Job Centers where job seekers could drop their resumes / cvs to be connected with firms that are hiring. But nowadays there are couple of platforms like LinkedIn etc that have eased the process of job search and application.
4. Seasonal Unemployment could be solved through more and abundant supply of part time and temporary jobs.
5. Similar to Frictional and Seasonal unemployment the government can best tackle casual unemployment by creating more information about jobs and more part time jobs for people to get some work when they are otherwise not involved in their main line of work.