Macroeconomics Final Notes

Week 1

Unit 1: Measuring Macroeconomic Output.

Macroeconomics deals with the economy as a whole, or with the basic subdivision or aggregates that make up the economy.

This is possible because of the **fallacy of composition**, that the sum of each individual part does not behave like the whole unit. Example: paradox of thrift - even though individuals should save in a recession, it is bad for the economy as a whole.

Macroeconomic Goals

1. To have rising living standards
- There is a tendency for the level of output and quality to increase over time (facilitating this goal).
- Output per capita, or GDP per capita may be a measure of this.
- However, we may also turn to the distribution of living standards.

2. Having a stable business cycle
- Having low volatility in fluctuations of actual output agains the trend/potential output.

3. Having a low, and relatively stable price level
- Measured through inflation: the sustained increase in the overall level of prices in the economy through time.
- Rapidly changing purchasing power alters the real purchasing power of goods and causes hardship.

4. Sustainable levels of public and national debt
- Public debt: borrowing by the public sector from the private sector.
- This is ultimately included by government spending through budget deficits/surpluses.
- Foreign debt: borrowing by domestic residents from foreign countries.
- Influenced by an economy's current account deficits/surpluses.

5. Balance between current and future consumption
- Determining an appropriate balance between how much an economy should save versus how much it should invest.

6. Full Employment
- Provision of full-time work for all those seeking to gain employment.

Measuring Output (GDP)

GDP is defined as: the **market** value of all **final** goods and services produced **in an economy** in a given time period.

There are three ways to measure GDP:

- aggregate production: add up the value added by each producer (as the value added is equal to the gross output less the value of intermediate inputs in the production process).

- aggregate income: add up the incomes generated from the production of goods and services, such as wages or profits.

- aggregate expenditure: add up the expenditure of final users of goods and services produced within the economy.

Things that May or May Not be Counted:

- Defence: Counted (use costs of production such as buying equipment or the wages of the soldiers).
- Unpaid Housework: Excluded.
- Non-Market Production: Excluded.
- Environmental Quality: Excluded.
- Health and Life Expectancy, Leisure, Economic Equality: Excluded.
- Underground Economic Activity: Excluded.
- Goods and Services produced in other countries: Excluded.
- Goods and Services Produced in Some Previous Period, Resold in Current Period: Excluded.
- Intermediate Goods: Excluded.

GDP is a flow variable, measured over a period of time.

Aggregate Expenditure Method:

Y (GDP) = C (Consumption) + I (Investment) + G (Government Spending) + (X (Exports) - M (Imports).

- Nominal Measure: Measured at Current Year Prices
- Real Measure: Values Quantities of Goods and Services at Base Year Price
  - Using Initial Prices as the Base Year (some year in the past): **Laspeyres Index**
  - Using Final or Current Prices as the Base year (present): **Paasche index**
  - **Taking an average between the two above indexes: chain-weighted index.**

Real GDP = measures the volume of production (against the base year)
Nominal GDP = measures the value of production (at current year)

Real GDP = Nominal GDP / Price Index

Measuring Prices and Inflation

Primary Measure: Consumer Price Index or GDP Deflator/Price Index.

CPI is defined as: for a given period, measures the cost in that period of a given basket of goods or services relative to their cost in a fixed year (base year).

Inflation is defined as: the percentage change in the CPI over a given period.

$$\frac{\text{CPI Now - CPI Before}}{\text{CPI Before}} = \text{Inflation Rate}$$

The CPI may not be a good measure of inflation, because of the:

- **quality adjustment/new good bias:** quality improvements may show up as higher prices for goods and services. New goods are not included in the CPI till it is readjusted.
- **substitution bias:** use of a fixed basket means no allowance is made for consumers substitution towards relatively less expensive goods.

*Therefore, the **CPI tends to overstate the real rate of inflation.***

Costs of Inflation:

- Destroys the purchasing power of money.
- shoe-leather costs: time and energy cost of having to keep money in the bank to prevent it from eroding.
- menu costs: costs of continually changing prices.
- Introduces noise into the price system, therefore you have the misallocation of resources: both savings and investment.
- Disturbs the tax system, if it is not indexed to inflation.
- Causes for the unexpected redistribution of wealth.
- Reduces international competitiveness from rising prices.
- Reduces the real interest rate awarded to savers.

Real Interest Rate = Nominal Interest Rate - Inflation

Fisher Effect: Nominal Interest Rate = Real Rate + Expected Rate of Inflation, where the Real Rate measures the real purchasing power of a financial asset.