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**Subject: Introduction to Economics**
**Program:** BS (MMC) 2nd Semester **Time Allowed:** 06hr
**Instructor: ZOHAIB ALI** **Total Marks:** 50

**Subject: Introduction to Economics**

**Final Assignment**

Q1: Discuss the following concepts?
1. Gross Domestic Product
2. Gross National Product
3. Inflation Rate and exchange rate
4. Government expenditure
5. Aggregate demand and aggregate supply
6. Consumption expenditure

Q2: Explain the following concepts in detail?

a. Natural rate of unemployment
b. Frictional unemployment
c. Structural unemployment
d. Cyclical unemployment
e. Minimum wage law
f. Efficiency wage theory

Q3: In the major cities in Pakistan, getting water supply by illegally using booster pumps attached to the city water line is not an uncommon practice. Consider two neighbouring households *A* and *B*. If neither switches on the pump, each gets 10 units of supply. If both turn on the pump, each gets 7 units (implicit here is that the electricity cost of using the pump in terms of buying water is 3 units). But if one switches on while the other does not, the former gets 15 units and the latter gets 5 units. Construct the payoff matrix. Using Nash equilibrium, what does the game theory predict in terms of behaviour towards switching on the booster pump?

Q4: Explain all the factors which can shift aggregate demand and aggregate supply?

Q1: Discuss the following concepts?

7. Gross Domestic Product
8. Gross National Product
9. Inflation Rate and exchange rate
10. Government expenditure
11. Aggregate demand and aggregate supply
12. Consumption expenditure

## Gross Domestic Product

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. As a broad measure of overall domestic production, it functions as a comprehensive scorecard of a given country's economic health.

Though GDP is typically calculated on an annual basis, it is sometimes calculated on a quarterly basis as well. In the U.S., for example, the government releases an annualized GDP estimate for each fiscal quarter and also for the calendar year. The individual data sets included in this report are given in real terms, so the data is adjusted for price changes and is, therefore, net of inflation. In the U.S., the Bureau of Economic Analysis (BEA) calculates the GDP using data ascertained through surveys of retailers, manufacturers, and builders, and by looking at trade flows.

there are several types of GDP measurements:

- Nominal GDP: GDP evaluated at current market prices
- Real GDP: Real GDP is an inflation-adjusted measure that reflects both the value and the quantity of goods and services produced by an economy in a given year.
- GDP Growth Rate: The GDP growth rate compares one quarter of a country's GDP to the previous quarter in order to measure how fast an economy is growing.
- GDP Per Capita: GDP per capita is a measurement of the GDP per person in a country's population; it is a useful way to compare GDP data between various countries.

## Gross National Product

the total value of goods produced and services provided by a country during one year, equal to the gross domestic product plus the net income from foreign investments.

GNP is related to another important economic measure called gross domestic product (GDP), which takes into account all output produced within a country's borders regardless of who owns the means of production. GNP starts with GDP, adds residents' investment income from overseas investments, and subtracts foreign residents' investment income earned within a country.

GNP measures the total monetary value of the output produced by a country's residents. Therefore, any output produced by foreign residents within the country's borders must be excluded in calculations of GNP, while any output produced by the country's residents outside of its borders must be counted. GNP does not include intermediary goods and services to avoid double-counting since they are already incorporated in the value of final goods and services.

## Inflation Rate

Inflation is a quantitative measure of the rate at which the average price level of a basket of selected goods and services in an economy increases over some period of time. It is the rise in the general level of prices where a unit of currency effectively buys less than it did in prior periods. Often expressed as a percentage, inflation thus indicates a decrease in the purchasing power of a nation's currency.

### KEY TAKEAWAYS

- Inflation is the rate at which the general level of prices for goods and services is rising and, consequently, the purchasing power of currency is falling.
- Inflation is classified into three types: Demand-Pull inflation, Cost-Push inflation, and Built-In inflation.
- Most commonly used inflation indexes are the Consumer Price Index (CPI) and the Wholesale Price Index (WPI).
- Inflation can be viewed positively or negatively depending on the individual viewpoint and rate of change.
- Those with tangible assets, like property or stocked commodities, may like to see some inflation as that raises the value of their assets.
- People holding cash may not like inflation, as it erodes the value of their cash holdings.
- Ideally, an optimum level of inflation is required to promote spending to a certain extent instead of saving, thereby nurturing economic growth.

## Exchange rate

An exchange rate is the value of one nation's currency versus the currency of another nation or economic zone.

## Types of Exchange Rates

### Free Floating

A free-floating exchange rate rises and falls due to changes in the foreign exchange market.

### Restricted Currencies

Some countries have restricted currencies, limiting their exchange to within the countries' borders. Also, a restricted currency can have its value set by the government.

### Currency Peg

Sometimes a country will peg its currency to that of another nation. For instance, the Hong Kong dollar is pegged to the U.S. dollar in a range of 7.75 to 7.85. This means the value of the Hong Kong dollar to the U.S. dollar will remain within this range.

### Onshore Vs. Offshore

Exchange rates can also be different for the same country. In some cases, there is an onshore rate and an offshore rate. Generally, a more favorable exchange rate can often be found within a country’s border versus outside its borders. China is one major example of a country that has this rate structure. Additionally, China's yuan is a currency that is controlled by the government. Every day, the Chinese government sets a midpoint value for the currency, allowing the yuan to trade in a band of 2% from the midpoint.

### Spot vs. Forward

Exchange rates can have what is called a spot rate, or cash value, which is the current market value. Alternatively, an exchange rate may have a forward value, which is based on expectations for the currency to rise or fall versus its spot price. Forward rate values may fluctuate due to changes in expectations for future interest rates in one country versus another. For example, let's say that traders have the view that the eurozone will ease monetary policy versus the U.S. In this case, traders could buy the dollar versus the euro, resulting in the value of the euro falling.

## Government expenditure

### Definition:

Government expenditure refers to the purchase of goods and services, which include public consumption and public investment, and transfer payments consisting of income transfers (pensions, social benefits) and capital transfer.

A government spends money towards the supply of goods and services that are not provided by the private sector but are important for the nation's welfare. Government spending goes to the nation's defense, infrastructure, health and welfare benefits.

Furthermore, governments subsidize startup industries or industries that cannot propel their operations with funding by the private sector, such as transportation or agriculture. The transfer payments for pensions is not a flexible instrument of fiscal policy, while unemployment benefits depend on the cycle of the economy, i.e. recession or expansion. Conversely, income transfers to private firms in the form of financial and fiscal incentives reinforce investment activity and employment. In this sense, government spending enables the redistribution of income.

## Aggregate Demand

Aggregate demand is an economic measurement of the total amount of demand for all finished goods and services produced in an economy. Aggregate demand is expressed as the total amount of money exchanged for those goods and services at a specific price level and point in time.

## Factors Affecting Aggregate Demand

The following are some of the key economic factors that can affect the aggregate demand in an economy.

## Changes in Interest Rates

Whether interest rates are rising or falling will affect decisions made by consumers and businesses. Lower interest rates will lower the borrowing costs for big-ticket items such as appliances, vehicles, and homes. Also, companies will be able to borrow at lower rates, which tends to lead to capital spending increases.

Conversely, higher interest rates increase the cost of borrowing for consumers and companies. As a result, spending tends to decline or grow at a slower pace, depending on the extent of the increase in rates.

## Income and Wealth

As household wealth increases, aggregate demand usually increases as well. Conversely, a decline in wealth usually leads to lower aggregate demand. Increases in personal savings will also lead to less demand for goods, which tends to occur during recessions. When consumers are feeling good about the economy, they tend to spend more leading to a decline in savings.

## Changes in Inflation Expectations

Consumers who feel that inflation will increase or prices will rise, tend to make purchases now, which leads to rising aggregate demand. But if consumers believe prices will fall in the future, aggregate demand tends to fall as well.

## Currency Exchange Rate Changes

If the value of the U.S. dollar falls (or rises), foreign goods will become more (or less expensive). Meanwhile, goods manufactured in the U.S. will become cheaper (or more expensive) for foreign markets. Aggregate demand will, therefore, increase (or decrease).

## Aggregate Supply

Aggregate supply, also known as total output, is the total supply of goods and services produced within an economy at a given overall price in a given period. It is represented by the aggregate supply curve, which describes the relationship between price levels and the quantity of output that firms are willing to provide. Typically, there is a positive relationship between aggregate supply and the price level.

## Aggregate Supply Over the Short and Long Run

In the short run, aggregate supply responds to higher demand (and prices) by increasing the use of current inputs in the production process. In the short run, the level of capital is fixed, and a company cannot, for example, erect a new factory or introduce a new technology to increase production efficiency. Instead, the company ramps up supply by getting more out of its existing factors of production, such as assigning workers more hours or increasing the use of existing technology.

In the long run, however, aggregate supply is not affected by the price level and is driven only by improvements in productivity and efficiency. Such improvements include increases in the level of skill and education among workers, technological advancements, and increases in capital. Certain economic viewpoints, such as the Keynesian theory, assert that long-run aggregate supply is still price elastic up to a certain point. Once this point is reached, supply becomes insensitive to changes in price.

## Consumption expenditure

Consumption Expenditure is the spending by households on goods and services, excluding new housing. In developed countries it has become the largest component of Gross Domestic Product (GDP).

The third is the official government measure of consumption--personal consumption expenditures.

## Consumption:

This is the generic term for the use of goods and services to satisfy wants and needs. This activity may or may not involve actual purchases or expenditures. Consumption is the fundamental process in the economy that addresses the scarcity problem. In is, in effect, the ultimate goal of economic activity.

## Consumption Expenditures:

This is the more specific term referring to actual expenditures on final goods and services, or gross domestic product, by the household sector.

## Personal Consumption Expenditures:

This is the official measure of the consumption expenditures component of aggregate expenditures used in the calculation of gross domestic product. While the official number-crunchers try to measure ALL consumption expenditures, some are missed by the official calculation.

Q2: Explain the following concepts in detail?

a. Natural rate of unemployment
b. Frictional unemployment
c. Structural unemployment
d. Cyclical unemployment
e. Minimum wage law
f. Efficiency wage theory

## Natural rate of unemployment

**Definition:** The natural rate of unemployment is the rate of unemployment when the labour market is in equilibrium. It is unemployment caused by structural (supply-side) factors.

## the natural rate of unemployment

- The natural rate of unemployment is the difference between those who would like a job at the current wage rate – and those who are willing and able to take a job. In the above diagram, it is the level.
- The natural rate of unemployment will therefore include:
- Frictional unemployment.
- Structural unemployment. For example, a worker who is not able to get a job because he doesn't have the right skills.
- The natural rate of unemployment is unemployment caused by supply-side factors rather than demand side factors.

## Frictional unemployment

This is unemployment that occurs from the inevitable time delays in finding new employment in a free market. It may also be called ‘search unemployment’ as it relates to the time taken to search for new employment.

## How to reduce frictional unemployment

- Reduce unemployment benefits. Lower benefits will encourage people to take a job quicker.
- However, it is not clear whether this is desirable. It may encourage people to take a job not fully suited to their skills.
- Better matching of labour with vacant positions. Internet job matching websites have the potential to find quicker job vacancies for the unemployed. If the database is comprehensive for all positions, then workers can more easily see which jobs to apply to. There is a case for the government to undertake a comprehensive job matching service as private sector competition may diffuse the market.

## Structural unemployment

Structural unemployment is caused by a mismatch of skills between the unemployed and available jobs. Structural unemployed is caused by changes in the economy, such as deindustrialisation, which leaves some unemployed workers unable to find work in new industries with different skill requirements.

## Causes of Structural unemployment

## Geographical immobilities –

This occurs when workers are unable to move from areas of high unemployment to areas with labour shortages. This could occur due to the difficulties of buying/renting a house. It could also be due to family attachments to their current area. For example, often there are vacancies in London but unemployment in outlying regions. However, it is difficult for the unemployed to leave the northeast and find a place to live in London.

## Occupational immobilities.

This occurs after changes in the economy, which lead to shifting demand for skilled labour. For example, if there is a closure of manufacturing firms, workers with skills for these types of jobs may struggle to relocate in new industries where very different skills are required (e.g. IT skills, teaching, accountancy). It takes time for people to retrain and older workers may feel it is too difficult.

## Cyclical unemployment

**Definition –** Cyclical Unemployment is unemployment due to a period of negative economic growth, or economic slowdown. In a recession, cyclical unemployment will tend to rise sharply.

## Why unemployment rises in a recession

- If there are fewer orders for goods, firms produce less and therefore there is less demand for workers.
- Negative multiplier effects. If firms are producing less, then there will be less demand for related industries, such as transport – and demand for lorry drivers.
- Firms will try to cut costs to stay afloat during the period of negative growth, therefore, they will cut back on employing new staff – to try and reduce the wage bill.
- In an economic downturn, some firms will go out of business and workers will lose their jobs.

## Minimum wage law

A minimum wage is the lowest wage per hour that a worker may be paid, as mandated by federal law. It is a legally mandated price floor on hourly wages, below which non-exempt workers may not be offered or accept a job.

### Understanding Minimum Wage

Minimum wage laws were first introduced in Australia and New Zealand in an attempt to raise the income of unskilled workers. Nowadays, most modern developed economies, as well as many underdeveloped economies, enforce a national minimum wage. Exceptions include Sweden, Denmark, Norway, Switzerland, and Singapore.

As of 2019, the federal minimum wage rate in the United States is $7.25 per hour. This means that it is illegal for an American worker to sell their labor for less than $7.25 per hour unless the worker falls into a category specifically exempted from the Fair Labor Standards Act (FLSA).

The government periodically assesses the federal minimum wage level for changes in inflation or cost of living. The federal minimum wage has not increased since July 2009.

The Fair Minimum Wage Act of 2007 ordered the minimum wage to be raised from $5.15 in three increments, rising to $5.85, $6.55, and then finally to $7.25.

## Efficiency wage theory definition

The idea of the efficiency wage theory is that increasing wages can lead to increased labour productivity because workers feel more motivated to work with higher pay.

Therefore if firms increase wages – some or all of the higher wage costs will be recouped through increased staff retention and higher labour productivity.

## Reasons for efficiency wage theory

**Fear of losing jobs – "Shirking model"**. The argument is that if workers are paid a higher wage, they have more to lose from being made redundant. Therefore, if they have a job with a wage significantly higher than benefits or alternative jobs, they will have greater motivation to impress their boss and keep it. Shapiro and Stiglitz posited that workers with a higher wage will work at an effort level which involves no shirking. This wage is above market-clearing levels.
**Loyalty.** Secondly, if workers receive a higher pay, they may just feel more loyalty towards the company and be willing to work harder and with more determination. By contrast, if they feel they are being exploited by a monopsonist employer, then they will do the minimum amount of work to get by, but try to take more breaks and not work as hard.
**Labour market "Gift Exchange"** G. Akerlof (1982) saw the labour market has a 'gift exchange' where good labour relations depended on goodwill. FIrms could pay wages above market-clearing levels, and in return, workers would take on more responsibility and initiative.
**Lower costs of supervision.** JB Rebitzer (1995). Rebitzer noted that lower wages were associated with higher levels of supervision. WOrkers receiving higher wages were more motivated and therefore needed less managerial supervision.
**Attract higher quality labour.** If a firm pays above the market clearing level, it will attract a better quality worker who will feel they can get a relatively better-paid job.

**Nutritional theories.** In developing economies at very low rates of pay, increasing wages can enable a reduction in absolute poverty – better health, and nutrition lead to better quality labour.

## Q4: Explain all the factors which can shift aggregate demand and aggregate supply?

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The main factors in the aggregate supply are

**1.Changes in unit labour costs -** i.e. labour costs per unit of output

**2.Changes in other production costs:** For example rental costs for retailers, the price of building materials for the construction industry, a change in the price of hops used in beer making or the cost of fertilisers used in farming.

3**.Commodity prices Changes** to raw material costs and other components e.g. the prices of oil, natural gas, electricity copper, rubber, iron ore, aluminium and other inputs will affect a firm's costs

**4.Exchange rates:**

Costs might be affected by a change in the exchange rate which causes fluctuations in the prices of imported products. A fall (depreciation) in the exchange rate increases the costs of importing raw materials and component supplies from overseas

**5.Government taxation and subsidies:**

An increase in taxes to meet environmental objectives (known as green taxes) will cause higher costs and an inward shift in the SRAS curve – for example a higher price for carbon emissions

Lower duty on petrol and diesel would lower costs and cause an outward shift in SRAS

**6.The price of imports:**

Cheaper imports from a lower-cost country has the effect of shifting out SRAS

A reduction in an import tariff on imports or an increase in the size of an import quota will also boost the supply available at each price level causing an outward shift of SRAS