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ECONOMICS

GRADE 12

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CHAPTER 1

THE FUNDAMENTAL CONCEPTS OF MACROECONOMICS

1.1 Definition and Focus Areas of Macroeconomics Revisited

Definition of Macroeconomics

Conventionally, economics is divided into microeconomics and macroeconomics. Microeconomics studies the individual decision-making behaviour of different economic units such as households, fi rms, and governments at a disaggregated level. On the other hand, macroeconomics studies overall or aggregate behaviour of the economy such as the overall level of output, prices and employment.

Macroeconomics is a relatively new branch of economics that emerged after the publication of John Maynard Keynes' book entitled: *The General Theory of Employment, Interest and Money* in 1936. The word "macro' is derived from the Greek word "makro", which means large. This term differs from microeconomics. Microeconomics focuses on the actions of individual agents within the economy, while macroeconomics focuses on the economy as a whole.

The Focus Areas of Macroeconomics

The study of macroeconomics helps us understand and try to find answers for central macroeconomic questions such as:

- What factors determine the flow of total output produced in the economy over time?
- How can a nation increase its rate of economic growth?
- Why do outputs and employment sometimes fail?
- What are the causes of inflation and how it can be controlled?
- How do government policies affect output, unemployment, inflation, and growth?
- How can business cycle downturns be managed?
- How does the domestic economy interact with the rest of the world?

These questions are related to macroeconomic goals. The goals include achieving economic growth, full employment, price stability, as well as reducing budget or balance of payment deficit, and ensuring fair distribution of income in society. Thus, a country's macroeconomic health is examined through such goals as the rise in the standard of living, low unemployment, and low inflation.

The macroeconomic variables such as Gross Domestic Product (GDP), unemployment rate, and inf l ation help us determine the macroeconomic performance of a country. In connection with this, it is necessary to elaborate the concept of GDP which is defined as the measure of the market value of all final goods and services which are produced in a country during a year.

A related measure is the **Gross National Product (GNP)**, which is defined as the total amount of final goods and services which are produced in one year within a country plus transfers to/from other countries.

$$GNP = GDP + NFI$$

NFI denotes net factor income received from abroad which is equal to factor income received from abroad by a country's citizens less factor income paid for foreigners to abroad.

There are three approaches to measure GDP/GNP.

• **Product approach**: here, the GDP is calculated by adding the market value of goods and services that are currently produced by each sector of the economy.

Only the values of fi nal goods and services are included to avoid double counting.

• **Expenditure approach**: here, the GDP is measured by adding all expenditures on fi nal goods and services that are produced in the country by all sectors of the economy. Thus, GDP can be estimated by summing up personal consumption of households (C), gross private domestic investment (I), government purchases of goods and services (G) and net exports (NE).

• **Income approach**: in this approach, GDP is calculated by adding all the incomes accruing to all factors of production used in producing the national output. Then, the GDP is the sum of incomes to owners of factors of production (in the form of wages and salaries, rental income, interest income, and profits) as well as some other claims on the value of output less subsidies and transfer payments.

For as long as market values and prices are involved in GDP calculation of GDP, we have nominal GDP (measured in actual or current market prices) and real GDP (calculated in constant prices by taking a base year). An upward or downward movement in real GDP is the most widely used measure of the level and growth of output.

Gross Domestic Product (GDP)

$$GDP = \sum P_i Q_i$$

Where:

P_i = series of prices of outputs produced in different sectors of an economy in certain period

Q_i = the quantity of various final goods and services produced in an economy

1.2 Key Challenges in Macroeconomics

1. Economic Growth

Economic growth represents an increase in the capacity of an economy to produce goods and services. It is a necessary ingredient for both high incomes and higher living standards. Higher GDP per capital translates to better diet, health, life expectancy and greater educational opportunity.

The rate at which the real GDP of a country increases over a period of time is known as the "economic growth rate." A higher economic growth rate can be achieved by increasing the amount of factors of production such as labour, land, capital and their productivity.

Measuring real income in developing countries is not simple as we may think. This is because in developing countries real income is generally understated compared to that of developed countries. The reasons are:

a) The national income account may understate GDP in developing countries because the majority of the population are subsistence farmers who produce for their own consumption and such outputs are not correctly reported.

b) Underreporting income is common in developing countries due to fear of tax and it is partly due to inef f i cient taxation systems.

c) Usually, no allowance is made for non-monetary sectors in the national income account of less developed countries.

d) Distortion in prices is much higher in developing countries than in developed ones.

e) The cost of pollution and environmental degradation are not deducted from gross national product to get net GNP in developing countries while in developed countries such as Sweden and the Netherlands, the cost of pollution is deducted to get net GNP.

In addition, the above simple measure of growth has two limitations. First, the national income is in the value terms, which change as the price level changes. Even if physical volume of goods and services remains the same, the growth rate could be positive for the simple reason that inflation has to be taken into account while measuring economic growth. Second, it cannot take into account the population growth as there are several instances where population has grown more than national income.

In recent years, this GDP measure has come under increasing criticism as an index measure of development.A measure of development must take into account not only the level of per capita income and its distribution but also other indicators of quality life such as level of education and health status.

This leads us to an index called the Human Development Index (HDI). HDI was deployed by United Nations Development Programme (UNDP) and it is sometimes called the "quality of life index." This is basically a non- monetary index which measures the level of development.

2. Inflation

The word “inflation” represents a regular and continuous rise in the general price level. Since the general price level refers to the average price of goods and services, inf l ation represents the rising prices of almost all goods and services.Similarly, the rate of inflation denotes the rate of growth or decline of the price level from one year to the next. It is the percentage change in the overall level of prices. It varies greatly over time and across countries. Contrarily, the fall in price level is called “**deflation**”

The rapid rise in the general price level induces a decline in the purchasing power of money, which means people must spend more to buy a litre of milk or a kilogram of sugar. It is obvious that when prices rise, money buys less and the standard of living declines over time. Therefore, inflation increases the cost of living, and decreases the purchasing power of currency.

In order to protect citizens from the increased cost of living, some governments index contracts, wage levels, and interest rates to inf l ation. Indexing wage contracts and interest rates means that they will increase when inf l ation increases to retain purchasing power.

Inflation and Consumer Price Index

The consumer price index (CPI) is a price index whose movement reflects changes in the prices of goods and services typically purchased by consumers. Thus, the CPI reflects the ratio of the current cost of the basket divided by its base-period cost.

Hence, from the CPI angle, the rate of inflation or deflation is calculated as the percentage rate of change in a price index. To calculate the inflation rate, one has to subtract the past date CPI from

Consumer Price Index (CPI)

$$\text{Consumer Price Index (CPI)} = \frac{\text{The current cost of basket}}{\text{The base year cost of basket}}$$

the current date CPI and divide the answer by the past date CPI, and then multiply the results by 100.

Numerical example of calculating inflation is as follows. Assume the current date CPI 25% and past date CPI is 20.

Inflation Rate

$$\text{Inflation rate} = \frac{\text{Current Date CPI} - \text{Past Date CPI}}{\text{Past Date CPI}} \times 100\%$$

$$= \frac{CPI_t - CPI_{t-1}}{CPI_{t-1}} \times 100\%$$

Where: CPI is Consumer Price Index

So, 25 - 20 = 5/past date CPI (20) = 0.25. Multiply this by 100 to get a percentage. The inflation rate is 25%.

Types of Inflation

Inflation classified on the basis of speed of occurrence and can be termed as creeping, walking, running, galloping inflation, and hyperinflation. Thus, creeping inflation is moderate inflation that occurs when the price level persistently rises over a period of time at a slow rate such as the price rise in 3% or less. Walking inflation occurs when annual inflation rate is a single digit or in the range of 3 to less than 10% per year. Running inflation occurs when prices rise rapidly at the rate of 10 to 20% per year. Galloping or jumping inflation occurs at a quick rate (dual or triple-digit annual rates) for a short period of time. Hyperinflation refers to a situation where the prices of goods and services rise uncontrollably, for example, at the rate of increase at more than 50% a month.

Likewise, inflation is also classifieed on the basis of causes such as demand-pull or cost-push inflation. For instance, when governments print money to finance expenditure, this translates into an increase in the money supply which causes inflation.

Indeed, most episodes of high inflation and hyperinflation are caused by governments' need to obtain revenue from printing money. Sometimes, inflation reaches extraordinarily high levels. The most extreme cases are hyperinflations, which are traditionally defined as periods when inflation exceeds 50% per month. The all-time record inflation took place in Hungary in July 1946 (with the monthly inflation of 41.9 quadrillion percent amounting to prices doubling every 15.3 hours). The hyperinflation in Zimbabwe in 2007-2009 was almost as large, with prices at times doubling daily (Romer, 2019). As the result, the Zimbabwean government printed ever higher currency notes, including a $100 trillion bill, to cover its widening deficits. Then, by late 2008, the money was nearly worthless, which led Zimbabwe to adopt the US dollar, immediately halting its hyperinflation.Moreover, there is a consistent pattern that wars are associated with inflation.

3. Unemployment

A person is employed if he or she spends some of his/her time working at a paid job. A person is unemployed if he or she is not employed and has been looking for a job or is on temporary layoff. a person who fi ts into neither of the fi rst two categories, such as a full-time student or retiree, is not in the labour force. In the case of Ethiopia, the population aged 14 to 60 is termed as economically active or of working age. Yet formal employment requires a minimum of 18 years of age.From the economic point of view, unemployment is the macroeconomic problem that af f ects people most directly and severely. It has economic costs to broader society.The opportunity cost of unemployment is the output that the unemployed workers could have produced.

The labour force is defined as the sum of the employed and unemployed. The total labour force refers to the percentage of the population that is willing and able to work.

Labour Force= Number of employed + number of unemployed

The unemployment rate is defined as the percentage of the labour force that is unemployed or the percentage of those people who want to work and who do not have jobs or those who are out of job despite willingness to work at the existing wage rate.

Unemployment Rate =[numbers of unemployed/Labour Force]×100

The labour-force participation rate is the percentage of the adult population that is in the labour force.

Labour Force Participation= [Labour force/Adult population]100

There are dif f erent types of unemployment. The major ones are frictional, cyclical and structural unemployment.

Frictional unemployment occurs during the time when workers move between jobs which takes time on part of both the employer and the individual to match those who are looking for employment with the correct job opportunities. This results in a lack of perfect mobility of workers between jobs.

Cyclical unemployment occurs due to a deficiency of aggregate effective demand resulting from business depressions (Dewett,1997). Rsulting from unfavourable business cycles that has a negative effect to the employment situation in a domestic economy. Example of this is that workers will be laid off when the economy is in recession.

Structural unemployment is a form of involuntary unemployment that happens when there is lack of adjustment between demand for and supply of labour. There are situations where employers may lack knowledge about the availability of workers or the workers may not know that employment is available with a relevant employer. Individuals may also lack the skills that are valued by the labour market, either because demand has shifted away from the skills they have, or because they never learned any skills. Education is the key in minimizing the amount of structural unemployment.

On other hand, there is a form of unemployment categorised as underemployment which refers to the situation in which person is forced by unemployment to take a job that he/ she thinks is not adequate for his/her purpose, or not commensurate with his/her training.

4. Business Cycle

The term "business cycle" (also known as "trade cycle", "economic cycle" or "boom-bust cycle") refers to economy-wide fl uctuations in production, trade, and general economic activities. The fluctuations represent upward and downward movements in levels of GDP or the period of expansions and contractions in the level of economic activities around a long-term growth trend.

Business cycles as fl uctuations recur with a certain degree of regularity following a pendulum like oscillation. Business cycles have four distinct phases: expansion, peak, contraction, and trough. An expansion is characterized by increasing employment, economic growth, and upward pressure on prices. A peak is the highest point of the business cycle, when the economy is producing at maximum possible output, employment is at full employment, and inflationary pressures on prices are evident.Following a peak, the economy typically enters a correction which is characterized by a contraction where growth slows, employment declines (unemployment increases), and pricing pressures subside. The slowing ceases at the trough and at this point the economy has hit a bottom from which the next phase of expansion will emerge.

NB, economic fluctuations are not regular and predictable

5. Balance of Trade

The balance of trade is another macroeconomic variable that affects national economies.

The balance of trade is the difference between export and the import of goods and services of a country for a given period; it is also an important component of the balance of payment of a country.

The balance of payment is the systematic record of a nation's financial transactions with the outside world. It is divided into current and capital accounts.

The current account shows the market value of a country's export and import of goods and services, investment income, debt service payments, and private and public net remittances and transfers.

The capital account shows the volume of private foreign investment and public grants and loans that flow into and out of a country over a given period. Countries pay interest on loans they receive

The balance of trade (or trade balance) is any gap between a nation's dollar value of exports and imports. When imports exceed exports, the result is a trade deficit in the economy. In other words, if exports exceed imports, the economy has a trade surplus. On the other hand, if exports and imports are equal, then trade is balanced.

N.B Problems with trade imbalances do not reduce the importance of the economic benefits from foreign trade.

1.3 The Schools of Thought in Macroeconomic Analysis

From the inception of macroeconomics, dif f erent schools of thought have engaged in macroeconomic analysis. In the subsequent sections, we will briefly distinguish the classical and neoclassical, the Keynesian, the monetarist, the new classical, and the new Keynesian schools of thought.

#.The Classical and Neoclassical

The classical view was the predominant economic philosophy until the Great Depression. The works of Adam Smith (1723-1790), David Hume (1711-1776), David Ricardo (1772-1823), Jean Baptiste Say (1767-1832), John Stuart Mill (1806-1873), Knut Wicksell (1851-1926), and Irving Fisher (1867-1947) can be categorised here. According to classical thinking, given flexible prices, the short-term fluctuations in economic activity would rather be quick and they would adjust back to full employment. This view of the economy implied a "hands off " policy approach. For example, if an economy slips into recession, it will temporarily exhibit a surplus of goods. Falling prices will eliminate this surplus, and the economy will return to a full employment level of GDP. In this case, no active fi scal or monetary policy is needed. Expansionary fi scal or monetary policy would only cause inf l ation, rather than increase the GDP. In other words, fi scal policy is useless in af f ecting employment and output while increasing government spending will lead to a higher rate of interest and full crowding out of private investment, without ef f ecting changes in the price level.For classical economists, the real and monetary sectors could be studied separately. Demand-side policies merely af f ect the interest rate and/or the price level, while supply-side policies affect the real wage, employment, and output.

Neoclassical economics is the name given to an economic theory that was developed at the end of the 19th century and beginning of the 20th century in Europe. The main contributors to this theory were Léon Walras (1834-1910), Alfred Marshall (1842-1924) and Vilfredo Pareto (1848-1923).

Neoclassical base their ideas mainly on the writings of Alfred Marshall and his followers. They closely follow the fi ndings of the classical school but emphasize the limitation of some of the classical doctrines, notably that of laissez faire. Moreover, they make use of the concept of marginal utility and accept mathematical economics as one method of presentation. As the name implies, the neoclassical view of how the macro-economy works is a "new" view of the "old" classical model of the economy. The neoclassical view on macroeconomics holds that in the long run, the economy will fl uctuate around its potential GDP and its natural rate of unemployment.

The key policy implication is that the government should focus more on long-term growth and on controlling inf l ation than on worrying about recession or cyclical unemployment. This means that neoclassical economics is more useful for long-run macroeconomic analysis and Keynesian economics is more useful for analysing the macroeconomic short run.

#Keynesian

The deep and lasting impact of the Great Depression of the early 1930s changed classical thinking. The self-correcting feature of the market, which is of course the hallmark of classical theory, simply did not work. Moreover, the events of the Great Depression contradicted Say's Law which states that "supply creates its own demand". Although production capacity existed, the markets were not able to sell their products. As a result, real GDP was less than potential

GDP. As far as recession/depressions are concerned, the focus of Keynesian economics was on explaining why and of f ering a policy prescription for minimizing their effects.

Following on from John Maynard Keynes (1883-1946), Keynesian economics prescribed active fiscal policy to alleviate weak aggregate demand. The idea for focusing on aggregate demand is simple: firms produce output only if they expect it to sell. While the availability of the factors of production determines a nation's potential GDP, the amount of goods and services that are sold, known as real GDP, depends on how much demand exists across the economy. Yet aggregate demand is not stable, Keynes argued; it can change unexpectedly.

The first building block of the Keynesian diagnosis is that recessions occur when the level of demand for goods and services is less than what is produced when labour is fully employed. Suppose that the stock market crashes, as in 1929, or the housing market collapses, as in 2008.

According to Keynes, monetary policy is of little help as the additional money will simply be absorbed by investors with no noticeable effect on the interest rate. Fiscal policy, on the other hand, will work well. The additional government spending will stimulate aggregate demand and hence employment and output.

#Monetarist

The monetarist view is represented by Milton Friedman (1912-2006) and his colleagues.

They argued that it is monetary policy and not fi scal policy that addresses the macroeconomic problems. They noted that since they assumed the interest sensitivity of investment to be very high, fi scal policy leads only to strong crowding out of private investment. Fiscal policy, under monetarist assumptions, is unable to inf l uence employment and output.

This assumption means monetarists oppose the Keynesians who believed in stimulating economic activity by investment to ward of recessions. Furthermore, the monetarists' assumptions imply that monetary policy has real effects. A policy maker may therefore be tempted to use a monetary expansion to combat unemployment

But then monetarists remain doubtful that policy makers are good at timing the monetary policy.

#New Classical

The new classicals are the natural successors of the classical economists. That is why they can be termed as the modern-day classical economists. Economists like Robert Lucas (1937 -), Thomas Sargent (1943 -), Robert Barro (1944 -), Edward Prescott (1940 -) are listed in this category. The new classicals stress mathematical techniques. They support classical ideas such as fl exible prices and wages, rational expectations or perfect foresight, the efficiency of the market, and full employment.

They strongly endorse rational expectations and microeconomic underpinning of macroeconomic relations, such as the consumption function, the investment function, and the labour market.

They came up with the term “policy inef f ectiveness proposition”, according to which the policy maker either cannot or should not use countercyclical policy.

#New Keynesian

Just as the New Classicals are the natural successors of classical economists, so are the new Keynesians. Under the umbrella of the new Keynesians are found economists such as George Akerlof (1940 -), Edmund Phelps (1933 -), John B. Taylor (1946 -), Stanley Fischer (1943-), Olivier Blanchard (1948 -) and Gregory Mankiw (1958 -).

Writing in the 1970s and 1980s, the New Keynesians derive their main inspiration from the insights of John Maynard Keynes. For them, markets may not be as perfect as the classical economists suggest. They accepted the rational expectation hypothesis (REH), but stressed the existence of nominal rigidities, arising from multi-period nominal wage contracts. Such rigidities invalidate the policy ineffectiveness proposition (PIP) of the new classical economists. Hence, they argue for government to stabilize the economy, even under Rational Expectations Hypothesis.

The most recent wave of new Keynesian economics is more micro-based. The predominance of imperfect competition, coordination failures, and credit restrictions are stressed.

Review Questions

Part I: True or False

Read the following sentences and write “True” for correct sentences and “False” for incorrect ones.

1. There is no difference between microeconomics and macroeconomics.
2. Macroeconomics focuses on the economy as a whole.
3. Microeconomic goals include achieving high economic growth, promoting maximum employment or reducing unemployment, attaining stable prices, reducing budget or balance of payment def i cit, and ensuring fair distribution of income.
4. Balance of trade is the difference between export and import of goods and services of a country for a given period.
5. Monetarists prescribe active fiscal policy to alleviate weak aggregate demand.

Part II: Multiple Choices

1. Which one of the following is not a macroeconomic question?

A. What determines the level of economic activity in a society?

B. What determines how many goods and services a nation produces?

C. What determines how many jobs are available in an economy?

D. What causes a fi rm to grow?

2. Technological change has the largest impact on which form of unemployment?

A. frictional unemployment. B. cyclical unemployment
C. structural unemployment. D. All

3. If the national economy is closed, i.e. a country has no interaction with the rest of the world, then,
A. GNP > GDP. B. GNP < GDP
C. GNP =GDP. D. **All**

4.Which one of the following refers to the recurrent ups and downs in the level of economic activity?
A. economic boom. B. economic trough
C. unemployment. D. business cycle

5. One of the following is not true about the evolution and recent development of macroeconomics.
A. The classical view was the predominant economic philosophy until the Great Depression.
B. Keynesian economics is more useful for analysing the macroeconomic in the short run.
C. The most recent wave of new Keynesian economics is more micro-based.
D. Monetarist argued that it is fiscal policy and not monetary policy that addresses the macroeconomic problems.

Part III: Short Answers

1. What is economic growth?
2. Differentiate between GDP and GNP.
3. What is inflation?
4. What are the different types of unemployment and their causes?
5. Define a trade or business cycle and its phases.
6. Write the difference between the balance of trade and the balance of payments.
7. List and briefly explain the different schools of thought in macroeconomics.

Answer

Part I: True or False

1. False
2. True
3. False
4. True
5. False

Part II: Multiple Choices

1.D

2.C
3.C
4.D
5.D

Part III: Short Answers:

1. Economic growth represents an increase in the capacity of an economy to produce goods and services. It is a necessary ingredient for both high incomes and higher living standards.

2. GDP is def i ned as the measure of the market value of all fi nal goods and services which are produced in a country during a year. Gross national product (GNP) is def i ned as the total value of fi nal goods and services that are produced by domestically owned factors of production in a given period of time, usually one year, irrespective of their geographical locations. In other words, it represents the total amount of fi nal goods and services which are produced in one year within a country plus transfers to/from other countries.

3. Inf l ation represents a regular and continuous rise in the general price level. Since general price level refers to the average price of goods and services, inf l ation represents the rising prices of almost all goods and services. Moreover, inf l ation is cumulative whereby even a small rise in price in the beginning may become a very large one in the future. The rate of inf l ation is calculated as the percentage rate of change in a price index. To calculate the inf l ation rate, one has to subtract the past date CPI from the current date CPI and divide the answer by the past date CPI, and then multiply the results by 100.

4. There are dif f erent types of unemployment. They can be summarised as frictional, cyclical and structural unemployment. Frictional unemployment occurs during the time when workers move between jobs which takes time on part of both the employer and the individual to match those who are looking for employment with the correct job opportunities. It is caused by lack of perfect mobility of workers between jobs. Cyclical unemployment occurs due to def i ciency of aggregate ef f ective demand resulting from business depressions.

5. Business cycles are fluctuations that recur with a certain degree of regularity following a pendulum like oscillations. There are upward swings and then downward swings in business. Business cycles have four distinct phases: expansion, peak, contraction, and trough. An expansion is characterized by increasing employment, economic growth, and upward pressure on prices. A peak is the highest point of the business cycle, when the economy is producing at maximum possible output,References and Further Readings 12 employment is at full employment, and inf l ationary pressures on prices are evident.

Following a peak, the economy typically enters a correction which is characterized by a contraction where growth slows, employment declines (unemployment increases), and pricing pressures subside. The slowing ceases at the trough and at this point the economy has hit a bottom from which the next phase of expansion will emerge.

6. The balance of trade is the dif f erence between export and import of a country for a given period; it is an important component of the balance of payment of a country. The balance of payment is the systematic record of the nation's fi nancial transactions with the outside world. It is divided into current and capital accounts.

The current account shows that the market value of a country's export and import of goods and services, investment income, debt service payments, and private and public net remittances and transfers. The capital account shows the volume of private foreign investment and public grants and loans that fl ow into and out of a country over a given period.

7. The major schools of thought in macroeconomics include: the classical and neoclassical, the Keynesian, the monetarist, the new classical, and the new Keynesian schools of thought.

CHAPTER 2

AGGREGATE DEMAND AND AGGREGATE SUPPLY ANALYSIS

2.1Aggregate Demand

Aggregate demand (AD) refers to the total amount that different sectors in the economy willingly spend in a given period. This is because it is measured by the total expenditure of the economy's community on goods and services.AD is the sum of spending by consumers, businesses, and governments which depends on the level of prices as well as on monetary policy, fiscal policy and other factors.

There are four major components of AD.

A. **Consumption (C)** is primarily determined by disposable income, which is personal income less taxes, household wealth, longer term trends in income, and the aggregate price level.

B. **Investment (I)** spending includes private purchases of structures, equipment's and accumulation of inventories. The major determinants of investment are the level of output, the cost of capital and expectation about the future.

C. **Government Purchases (G)** of goods and services - This component of AD is determined directly by the government spending decisions.

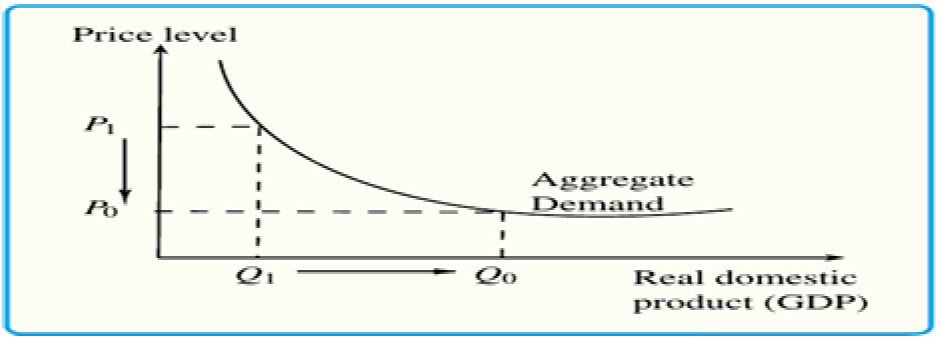
D. **Net Exports (X-M)** is the value of exports minus the value of imports. Net exports are determined by domestic and foreign incomes, relative prices and exchange rates.

So that, AD = C+I+G+(X-M)

The Aggregate Demand Curve

The aggregate demand (AD) curve is a schedule that shows the amount of real output that buyers collectively desire to purchase at each price level ceteris paribus. The relationship between the price level and real GDP demanded is inverse or negative.

Why Does the Aggregate Demand Curve Slope Downward?



Real Balance Effect

The real balance effect states that the inverse relationship between the price level and the quantity demanded of real GDP is established through changes in the value of monetary wealth, or money holdings. A rise in the price level causes purchasing power to fall, which decreases a person's monetary wealth. For example, as people become less wealthy, the quantity demanded of real GDP falls.

Interest Rate Effect

This is also called a "money supply effect". A rise in price with a fixed money supply, other things being equal, leads to tight money and produces a decline in total real spending.A higher price level increases the demand for money. So, given a fixed supply of money, an increase in money demand will drive up the price paid for its use. That price is the interest rate. And when interest rate is rise investment becomes decreases and GDP or output being less.

International Trade Effect

The international trade effect states the inverse relationship between the price level and the quantity demanded of real GDP, which is established through foreign sector spending.

Suppose that the price level in Ethiopia rises. As this happens, Ethiopian goods become relatively more expensive than foreign goods. As a result, both Ethiopians and foreigners buy fewer Ethiopian goods. Due to this, Export becomes low and real GDP falls.

Change in Quantity Demanded Vs Change in Aggregate Demand

A change in the quantity demanded of real GDP is brought about by a change in the price level. For example, as the price level falls, the quantity demanded of real GDP rises, ceteris paribus. A change in the quantity demanded of real GDP is represented as a movement from one point to another along the same demand curve.

A change in aggregate demand is a shift in the aggregate demand curve. when the aggregate demand curve shifts, the quantity demanded of real GDP changes even though the price level remains constant.

General Price level remaining constant, any positive change in any of determinants of aggregate demand causes a rightward shift in the AD curve, and a negative change shifts the AD curve leftward.

These factors include:

- General level of income of the people,
- Real interest rate,
- Level of economic activity in other countries (it determines the level of exports),
- Availability of credit,
- the level of economic activity in the economy itself.

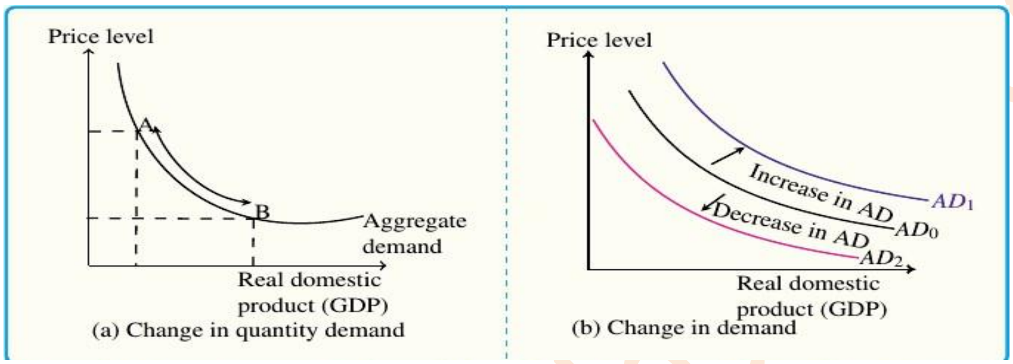


Figure. Change in Quantity Demand Vs Change in Demand

Shifts in the Aggregate Demand Curve

If, at given price level, consumption, investment, government purchases, or net exports rise, aggregate demand will rise and the AD curve will shift to the right. On the other hand, If, at a given price level, consumption, investment, government purchases, or net exports fall, aggregate demand will fall and the AD curve will shift to the left.

Wealth and Aggregate Demand

- **Increase in Wealth** $\Rightarrow C\uparrow \Rightarrow AD\uparrow$
- **Decrease in wealth** $\Rightarrow C\downarrow \Rightarrow AD\downarrow$

Factors Affecting Consumption

Four factors that can affect consumption are wealth, expectations about future prices and income, the interest rate, and income taxes.

1. Wealth. Individuals consume not only the basis of their present income but also on the basis of their wealth. Greater wealth makes individuals feel fi nancially more secure and thus, more willing to spend. Increases in wealth lead to increases in consumption then rise Aggregate Demand. And vise versa.

2. Expectations about future prices and income. If individuals expect higher prices in the future, they increase current consumption expenditures to buy goods at the lower current prices. This increase in consumption leads to an increase in aggregate demand. and vise versa.

Expecting Higher price =>increase C=>AD increase

Expecting Lower price=> decrease C=> AD decrease

3. Interest rate.increase in the interest rate increases opportunity cost of purchasing and holding money which are linked to their purchase and thereby reduces their consumption. This reduction in consumption leads to a decline in aggregate demand. And Vise versa.

Interest Rate and Aggregate Demand

- **Decrease in Interest Rate** $\Rightarrow C \uparrow \Rightarrow AD \uparrow$
- **Increase in Interest Rate** $\Rightarrow C \downarrow \Rightarrow AD \downarrow$

4. Income taxes. As income taxes rise, disposable income decreases and when people have less take-home pay to spend, consumption falls. Consequently, aggregate demand decreases. Reduction in taxes has the opposite effect.

Income Tax and Aggregate Demand

- **Decrease in Income Tax** $\Rightarrow C \uparrow \Rightarrow AD \uparrow$
- **Increase in Income Tax** $\Rightarrow C \downarrow \Rightarrow AD \downarrow$

Factors Affecting Investment

1. **Interest rate.**

Changes in interest rates affect business decisions. For example, as the interest rate rises, the cost of a given investment project rises and businesses invest less. As investment decreases, aggregate demand also decreases. On the other hand, as the interest rate falls, the cost of a given investment project falls and businesses invest more. Consequently, aggregate demand increases.

Interest Rate Investment and Aggregate Demand

- **Decrease in Interest Rate** $\Rightarrow I \uparrow \Rightarrow AD \uparrow$
- **Increase in Interest Rate** $\Rightarrow I \downarrow \Rightarrow AD \downarrow$

2. Expectations about future sales:

Businesses invest because they expect to sell the goods they produce. If businesses become optimistic about future sales, investment spending grows and aggregate demand increases. On the other hand, if businesses become pessimistic about future sales, investment spending contracts and aggregate demand decreases.

Expectation about future sales and Aggregate Demand

- **Businesses become optimistic about future sales** $\Rightarrow I \uparrow \Rightarrow AD \uparrow$
- **Businesses become pessimistic about future sales** $\Rightarrow I \downarrow \Rightarrow AD \downarrow$

3. Business taxes:

Businesses naturally consider expected after-tax profits when making their investment decisions. For example, an increase in business taxes lowers expected profitability. With less profit expected, businesses invest less. As investment spending declines, aggregate demand declines. A decrease in business taxes, on the other hand, rises expected profitability and investment spending. This in its turn increases aggregate demand.

Business Taxes and Aggregate Demand

- **Business Taxes** $\downarrow \Rightarrow I \uparrow \Rightarrow AD \uparrow$
- **Business Taxes** $\uparrow \Rightarrow I \downarrow \Rightarrow AD \downarrow$

Factors Affecting Government Spending

An increase in government purchases (for example, on military equipment) will shift the aggregate demand curve to the right.In contrast, a reduction in government spending (for example, fewer transportation projects) will shift the curve to the left.

Factors Affecting Net Exports

The main determinants of net export are domestic and foreign incomes, relative price, exchange rate, domestic and foreign trade policies, and preferences and technology.

The depreciation and appreciation of nation's currency affect net exports. For example, as Birr the depreciates, foreign goods become more expensive. Hence, Ethiopians cut back on imported goods, and foreigners (whose currency has appreciated) increase their purchases on Ethiopian exported goods. If exports rise and imports fall, net exports increase and aggregate demand increases.

2.2 Aggregate Supply

Aggregate supply refers to the quantity supplied of all goods and services (real GDP) at various price levels, ceteris paribus. There is a direct or positive relationship between the price level and the amount of real output that fi rms of f er for sale. Aggregate supply includes both short-run aggregate supply (SRAS) and long-run aggregate supply (LRAS).

The Keynesian supply curve is horizontal. Firms will supply whatever amount of good is demanded at the existing price level since there is unemployment. Firms can obtain much labour as they want at the current wage.

The classical aggregate supply curve is vertical, indicating that the same amount of goods will be supplied whatever the price level based on the assumption that the labour market is always in equilibrium with full employment of the labour force.

The Upward Sloping Aggregate Supply Curve: The Short Run (SRAS)

The short run is a time horizon during which at least one of the firm's inputs cannot be varied, whereas, the long run, is a time horizon that is long enough for a firm to vary all of its inputs.
The amount of output firms are willing to supply depends on the prices they receive for their goods and the amount which they have to pay for labour and other factors of production.
The short-run aggregate supply (SRAS) curve shows the quantity supplied of all goods and services (real GDP or output) at different price levels, ceteris paribus. Notice also that the SRAS curve is upward sloping: as the price level rises, firms increase the quantity supplied of goods and services; as the price level drops, firms decrease the quantity supplied of goods and services.

Why is the SRAS curve upward sloping?

Sticky wages: some economists believe that wages are sticky, or inflexible. This is the case due to the fact that wages are "locked in" for a few years due to labour contract agreements entered into between workers and employers.
Real wages are nominal wages which are divided by the price level.

Real wage =Nominal wage / Price level

Note that the quantity supplied of labour is directly related to the real wage: as the real wage rises, the quantity supplied of labour rises; as the real wage falls, the quantity supplied of labour falls. However, the quantity demanded of labour is inversely related to the real wage: as the real wage rises, the quantity demanded of labour falls; as the real wage falls, the quantity demanded of labour rises.
if wages are sticky, a decrease in the price level (which pushes real wages up) will result in a decrease in output and an increase in the price level lowers real wage will result in rise of Output.This is what an upward-sloping SRAS curve represents: as the price level falls, the quantity supplied of goods and services declines and vise versa.

Worker misperceptions: another explanation for the upward-sloping SRAS curve holds that workers may misperceive real wage changes. In response to (the misperceived) falling real wage, workers may reduce the quantity of labour that they are willing to supply. If workers misperceive real wage changes, then a fall in the price level will bring about a decline in output.

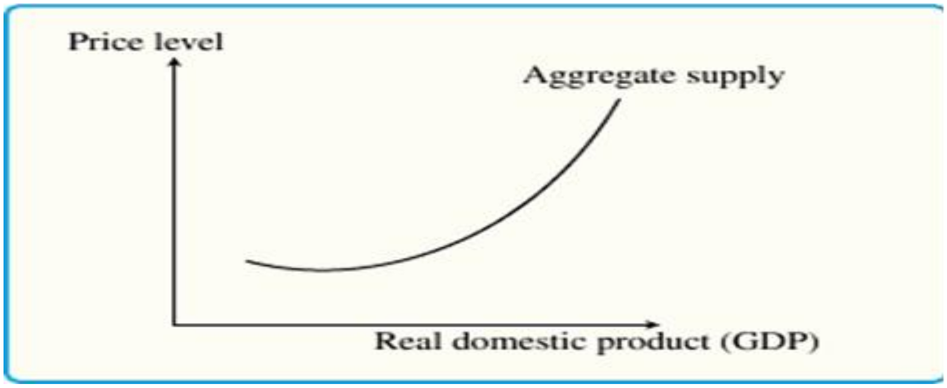


Figure:-An upward-sloping SRAS curve.

Changes in Short-Run Aggregate Supply and Shifts in the SRAS Curve

A change in the quantity supplied of real GDP is brought about by a change in the price level. This is shown as a movement along the SRAS curve, but what are the factors that are likely to shift the SRAS curve?

Aggregate Supply is determined by:-

cost of input or change in input price
#domestic Resource availability
#change in productivity
#state of technology
#tax policy of government (business taxes and subsidies)
#weather (applies particularly to agricultural output)

Wage rates: labour is the major input that contributes for cost of production. Hence, wage rate can be taken up as an example of cost of input in the supply process.Changes in wage rates have a major impact on the position of the SRAS curve because wage costs are usually a firm's major cost item.

Higher wage rates mean higher costs and, at constant prices, translate into lower profit and Left ward shift of aggregate supply(SRAS2). Lower wage rates mean lower costs and, at constant prices, translate into higher profits and right ward shift of Aggregate supply(SRAS3).

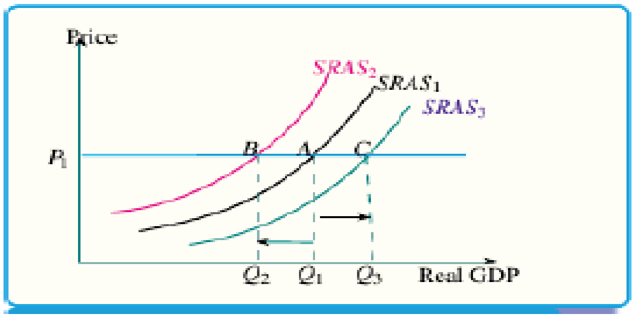


Figure. Shifts in short run aggregate supply curve

The Vertical Aggregate Supply Curve: The Long Run (LRAS)

In time, wages will become flexible and misperceptions will turn into accurate perceptions. When this happens, the economy is said to be in the long run. In other words, in the long run, these two conditions do not hold.

An important macroeconomic question is: Will the level of real GDP that the economy produces in the long run be the same as in the short run? Most economists say that it will not. They argue that in the long run, the economy produces the full-employment real GDP or the natural real GDP (QN). The aggregate supply curve that identifies the output the economy produces in the long run is the long-run aggregate supply (LRAS) curve.

It follows that long-run equilibrium identif i es the level of real GDP that the economy produces when wages and prices have adjusted to their (f i nal) equilibrium levels and there are no misperceptions on the part of workers. Furthermore, the level of real GDP that the economy produces in long-run equilibrium is natural real GDP (QN).

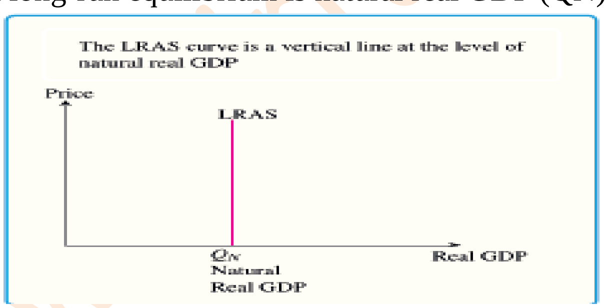


Figure. LRAS curve

Equilibrium of Aggregate Demand and Aggregate Supply

Let's bring aggregate demand and supply together to see how the market price of a product is determined.

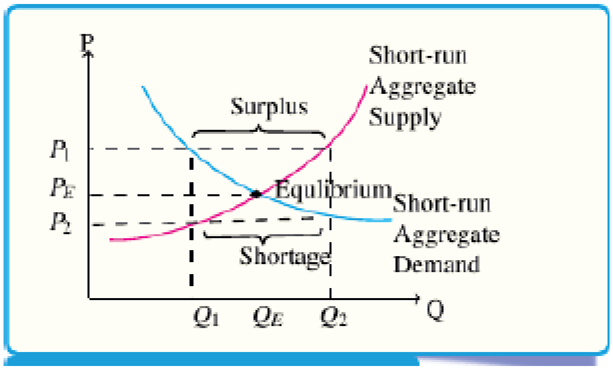
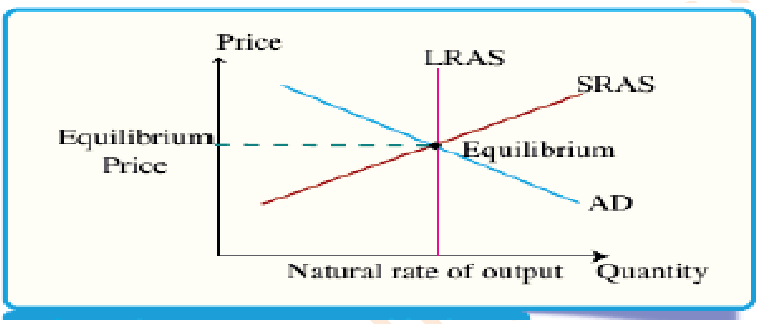


Figure .short run equilibrium

In instances of both surplus and shortages, economic forces are moving the economy towards Equilibrium, where the quantity demanded of real GDP equals the (short-run) quantity supplied of real GDP. This is the point of short-run equilibrium. PE is the short-run equilibrium price level; QE is the short-run equilibrium real GDP.

Static Equilibrium



It is probably obvious that the short-run equilibrium of the economy occurs at the intersection of the aggregate demand and short-run aggregate supply curves and that the long-run equilibrium is where the aggregate demand curve intersects the long-run aggregate supply curve.

Shocks to Aggregate Demand

A change in aggregate demand, short-run aggregate supply, or both will obviously affect the price level and/or real GDP.

An increase in aggregate demand shifts the AD curve to the right; more output is demanded at each level of the aggregate price index. A demand shock can either be expansionary or contractionary. An expansionary demand shock shifts the AD curve to the right, increasing both P and Y. Notice that we use the word “expansionary” or “contractionary” to refer to the effet of the shock on the equilibrium level of output.

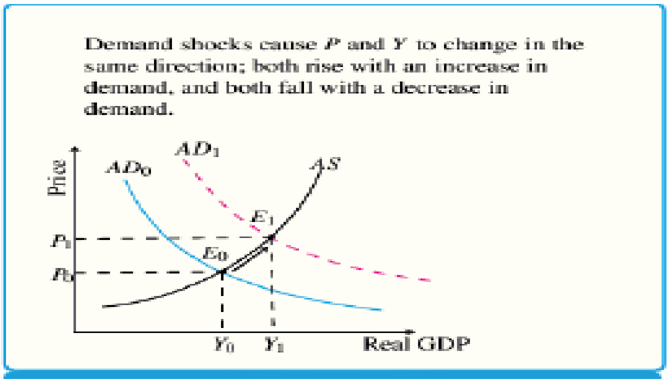


Figure . Effects of an increase in aggregate demand

Shocks to Aggregate Supply

Aggregate supply shocks cause Pricr and output [National Income] to change in opposite directions.

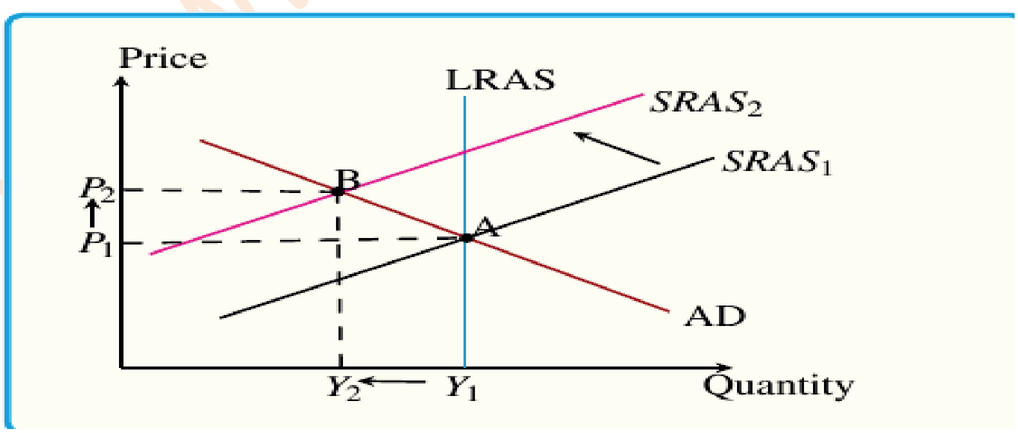
For example, an improvement in production technology or an increase in the amount of labour or capital resources available would increase the aggregate amount produced and thus, shift the short-run AS curves to the right and decreases the price level. When the amount of labor or capital available is low or very expensive aggregate supply curve would shift into left and price becomes increased but Output or productivity becomes less.

Figure . Effects of Decrease in aggregate supply.

Review Questions

Part I: Multiple Choices

For each of the following questions choose the best answer from the given alternatives.



1. The increase in spending that occurs because of the increases the real value of money, when the price level falls is called

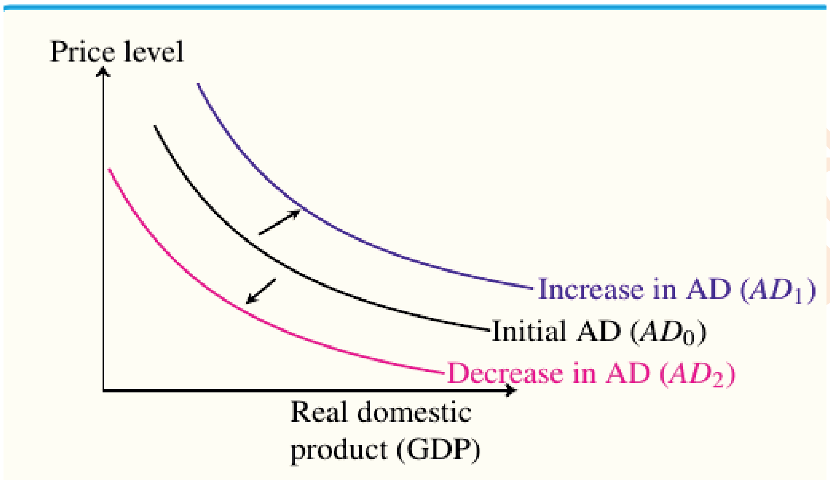
A. the wealth effect.

B. the interest rate effect.

C. the foreign trade effect.

D. the income effect.

2. Refer to the figure below. An increase in government spending, all else the same, will shift the AD curve from the initial AD curve to the curve labelled:



A. Increase in AD

B. Decrease in AD

C. Neither curve because government spending does not af f ect the AD curve.

D. Either curve, depending on the simultaneous changes in taxation.

3. In the short run, lower aggregate demand will cause:

A. a large decrease in the price level, but no change in the level of output.

B. a lower price level, but only a slight decrease in the level of output.

C. a lower level of output, but only a slight decrease in the price level.

D. a large decrease in both the price level and the level of output.

4. Which one of the following is the determinant of aggregate demand?

A. general level of income of the people,

B. real interest rate,

C. the level of exports

D. All of the above.

5. Everything else held constant, aggregate demand increases when:

A. government spending is reduced.

B. the money supply is reduced.
C. taxes are cut.
D. All of the above.
Part II: Short Answer For the following questions write short answers.
1. What is aggregate demand?
2. What are the main components of AD?
3. How is the equilibrium level of output determined by aggregate demand and aggregate supply? Show this using a diagram.
Part III: Explanation Distinguish between the following.
1. Change in aggregate demand and change in aggregate quantity demanded.
2. Change in aggregate supply and change in aggregate quantity supplied.

Answer for Review Questions

Part I: Multiple Choices
1.A
2.A
3.D
4.D.
5.C
Part II: Short Answers
1. Aggregate demand or domestic final demand is the total demand for final goods and services in an economy at a given time.
2. Aggregate demand is the sum of four components: consumption (C), investment (I), government spending (G), and net exports (NX).
3. Equilibrium level of output is determined where the quantity demanded is equal to the quantity supplied. It is represented on the AS-AD model where the demand and supply curves intersect.
Part III: Explanation
1. A change in aggregate demand means that the aggregate demand curve shifts either left or right. Whereas a change in quantity demanded refers to a movement along the same aggregate demand curve, which is caused only by a chance in price of the goods itself. In this case, the aggregate demand curve does not move; rather, it moves along the existing aggregate demand curve.
2. A change in aggregate supply means that the aggregate supply curve shifts either left or right, whereas a change in quantity supplied refers to a movement along the same aggregate supply curve, which is caused only by a chance in price of the goods itself.
In this case, the aggregate supply curve does not move; rather, it moves along the existing aggregate demand curve.

CHAPTER 3

MARKET FAILURE AND CONSUMER PROTECTION

3.1 Market Failure

Market failure is the economic situation defined by an inefficient distribution of goods and services in the free market. It occurs when the price mechanism fails to account for all of the costs and benef i ts that are necessary to provide and consume a good.In traditional microeconomics, this is shown as a steady state disequilibrium in which the quantity supplied is not equal to the quantity demanded.

- The structure of market systems contributes to market failure. It is obvious that in the real world that it is not possible for markets to be perfect due to inef f i cient producers, externalities, environmental concerns, and lack of public goods.
- Government responses to market failure include legislation, direct provision of merit and public goods, taxation, subsidies, tradable permits, extension of property rights, advertising, and international cooperation among governments.

A market failure occurs whenever the individuals in a group end up worse of f than if they had not acted in perfectly rational self-interest. Such a group either incurs too many costs or receives too few benef i ts. The economic outcomes under market failure deviate from what economists usually consider optimal and are usually not economically efficient.

Contrary to what the name implies, market failure does not describe inherent imperfections in the market economy-there can be market failures in government activity, too. One noteworthy example for this is that rent-seeking by special interest groups.

Additionally, not every bad outcome from market activity counts as a market failure. Nor does a market failure imply that private market actors cannot solve the problem. On the flip side, not all market failures have a potential solution, even with prudent regulation or extra public awareness.

Common types of market failures

Commonly cited market failures include externalities, monopoly, information asymmetries, and factor immobility. One of the examples to illustrate market failure is the public goods problem. Public goods are goods or services for which the producer cannot limit consumption to paying customers and for which the consumption by one individual does not limit the consumption by others.

National defence is one such public good because each citizen receives similar benefits regardless of how much they pay.

Solutions to Market Failures

There are many potential solutions for market failures. These can take the form of private market solutions, government-imposed solutions, or voluntary collective action solutions.
Externalities such as pollution are solved with tort lawsuits that increase opportunity costs for the polluter. Tech-companies that receive positive externalities from tech-educated graduates can subsidize computer education through scholarships.
Governments can also impose taxes and subsidies as possible solutions. Subsidies can help encourage behaviour that can result in positive externalities. Meanwhile, taxation can help cut down negative behaviour. For example, placing a tax on tobacco can increase the cost of consumption, therefore making it more expensive for people to smoke.
Private collective action is often employed as a solution to market failure. Parties can privately agree to limit consumption and enforce rules among themselves to overcome the market failure of the tragedy of the commons.

3.2 PUBLIC GOODS

Public goods are goods whose benefits are shared. Generally speaking, public goods have two major features.

- Non rivalry in consumption: once the good is provided or supplied, consumption by one person does not reduce the quantity which is available for consumption by another. This means that the same amount is left for the remaining consumers.

This implies that the cost /marginal cost of allowing another person to consume the good is zero.

- Non-excludability: it is difficult and expensive to prevent or to exclude someone (non-payers) from consuming the good.

Goods that fulfill both these properties are known as “pure public goods”. Examples of such goods are national defence, clean air, biodiversity, wilderness, etc. These are extreme cases. At the other extreme, pure private goods which are rivalrous in consumption and excludable. Most goods around us fall into this category. E.g. Food items, clothes, household furniture, houses.
There are also goods which fall in between these two extremes.

Classification of goods as public goods is not absolute; it depends on market conditions and technology.

- Another aspect of public goods is that although everyone consumes the same quantity of goods, they may not value them equally. For example, for some individuals, national defence is

Rivalry	Excludability	
	Excludable	**Non Excludable**
Rivalrous	Pure private goods (e.g. Food, clothing, cars, pens etc.)	Common pool resources or Congestible goods (Example: fish stocks, timber, coal, national health service, Road etc)
Non Rivalrous	Club goods (e.g. cinemas, private parks, satellite television, etc.)	Pure public goods(e.g. National defense, air, free to air television, etc)

very important while others do not care for it, some others still value it negatively though it is equally available to all.

- A number of things that are not conventionally considered to be commodities have public good characteristics. Examples include honesty, fair income distribution, certain information, polio vaccination, and HIV/AIDS blood tests.
- Private goods are not necessarily supplied by the private sector; government may provide private goods too. Many private goods such as electricity and telecommunications are supplied by governments and many pubic goods like protection and guarding are supplied by the private sector.
- Public provision of a good does not necessarily mean that it is produced by the public sector/government. For instance, a government/municipality may collect the garbage using its own trucks and labour or it may hire a private fi rm to do the job.

The Free Rider (Social Loafer)

A person who seeks to enjoy the benefit of public goods without contributing anything to the cost of fi nancing the amount made. This problem was first observed in trade union where not-members benefitt from the successful bargaining of unions members. As result, they were not willing to become a member and make a contribution. Free ridership arises because public goods are non-excludable. Since it is difficult to exclude non-payers from using/benefiting, there is an incentive not to pay/to be free rider. It is this free rider problem that causes markets to operate inefficiently for public goods. Suppose that individual A chooses to be free rider. Since B is equally smart, he/she also has an incentive to let other people pay. Hence, there is no automatic force that makes the good provided. For this reason, market failed to supply it. The private market may provide no output as no one is willing to purchase it.

Other Mechanisms for Providing the Efficient Level of Public Goods

In thoseases where the private market fails to provide the efficient level of public goods, provision of public goods requires collective action. People need to realize that public goods' situation exists and either raise contributions from private individuals to fund the public goods or let the government provide the public goods. Mechanisms to provide public goods include the following:

a. private provision of excludable public goods (e.g. movies, music concerts).

b. public provision of excludable public goods through the use of entrance fees(e.g. Entrance fees for a National Park).

c. public provision of non-excludable public goods through the use of tax revenues (e.g. taxes earmarked for national defence).

d. religious beliefs, e.g. church/mosque services are public goods; during the ceremony a basket is passed around for collections. Religion can prevent free riding by convincing people that God is watching.

3.3 EXTERNALITIES

An externality occurs when the consumption or the production of goods has positive or negative effects on other people's utility where these effects are not reflected in the price. We distinguish between positive and negative externalities. Positive externalities occur when one person's consumption of a good also increases other people's utility without them having to pay for it. On the other hand, negative externality occurs when one person's consumption of good decreases, other people's utility without them receiving any compensation. This is also true in case of production. Firms produce goods, but in doing so they also pollute the environment. The pollution does not cost the firm anything, but there is a negative externality to society.

Examples: smoking contaminates the clean air in the room or environment. Non-smokers suffer while they have no part in its in consumption. Downstream farmers suf f er from the ef f ects of sewage discharge into rivers, while no compensation is made for them through market mechanism.

The characteristics of externalities are listed below:

1. As mentioned above, externalities can be either positive or negative. Some externalities are benef i cial, while others are harmful. An economic agent is said to generate positive externalities when its activities benefit the third party. It generates negative externalities when its activity harms the third party. Here, we consider the producer/seller as fi rst party, and the buyer as the second party. Examples of activities that generate positive externalities include, fl ower farming, education, street light, neighbouring fence, park, beautifying land escape, neatness of neighbourhood, etc. Activities that generate negative externalities are smoking, shouting, and manufacturing of products such as textiles or leather garments which emit carbon dioxide to the air and waste into the nearby rivers. Pollution, global warming, and climate change are also negative externalities.

2. Externalities can be generated by consumers or producers. E.g, smoking by individuals and some manufacturing both cause air pollution. Externalities can be viewed as special kind of public good or bad. They are no rival, and non-excludable. And public good generate external benefit.

3. Externalities are reciprocal in nature.

A firmm may impose externalities on residents by creating bad smell or odour on the other hand, resident demand for less aroma which can be seen as imposing cost upon firm.

Smoker imposes an extensity on non-smoker, but non-smoker also imposes a burden on smoker. This concept is related to the question that whether the injured or injurer is responsible in car accident. Externalities are not the result of one person's action, but results from combined action of two or more parties.

Externality and Efficiency

In the presence of externality, the free market economy will not allocate resources ef f i ciently. This is because the presence of negative or positive externality creates a dif f erence between marginal cost (MC) and price (P) as ef f i ciency requires MC = P.

1) Negative Externality and Efficiency

When there is negative externality, MSC>PMC, as there is an external cost of pollution.

This will create a difference between MPC and P, and hence inefficiency. Graphically, we can analyse it as follows. where MSC is marginal social cost, MPC marginal private cost, MEC marginal external cost and MSC=MPC+MEC.

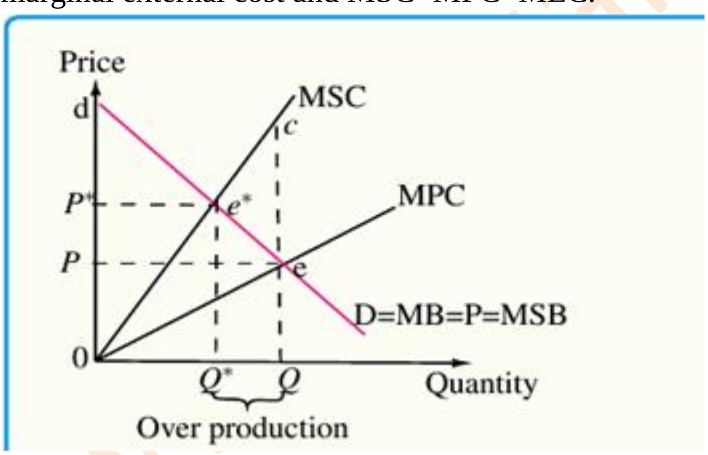


Figure . Negative Externality and Efficiency

Profitt maximizing condition requires MPC=P and hence, point e. whereas the social optimal point is at e*. Therefore, over production arises to the amount of Q*Q.

Thus, Welfare of point **e***< Welfare of point **e** by the amount of ee*c and hence, there is dead weight loss or efficiency loss to the amount of **ee*c**.

2) Positive Externality and Efficiency

In the presence of positive externality, MSB>MPB as there is external benefit. This will create the difference between MPB and MC, and hence inefficiency. Graphically, we can analyse it as:-

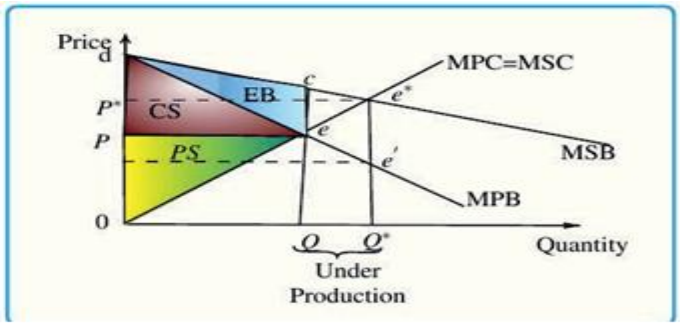


figure . Positive externality and Efficiency

MSB = MPB + MEB. Profit maximizing condition requires MPB=MC and hence, point e.
The social optimal point is at e*. Therefore, under production arises to the amount of QQ*.
Thus, Welfare of point e*>Welfare of point e by the amount of ee*c and hence there is a dead weight loss or efficiency loss to the amount of ee*c.
In general, inefficiency is created due to over production and under production or due to the difference between the profitt maximizing and social optimal levels of output.

Suggested Solutions to Avoid Externality

1. Solutions for negative externality

a. Per unit tax equivalent to the amount of the difference between SMC and PMC corresponding to the socially optimal output.
However, we should bear in mind that this type of solution was proposed for the fi rst time by A.C. Pigou in 1920 on the basis of the following assumptions.

- Externality is the dif f erence between MSC and MPC.
- There is competitive industry.
- A fi rm producing output and emitting smoke.
- Pollution per unit of output is constant.
- The external cost of pollution is borne by others.

b. Private bargaining between the affected parties. This solution was proposed by Coase in 1960 on the basis of the following assumptions:

- zero and minimum transaction cost.
- small number of individuals (the parties affected are relatively small).
- well defined initial property rights.

Therefore, according to Coase, given the above assumptions, the optimum outcome depends on the bargaining power of the parties this is known as the Coase theorem. Bear in mind that optimum pollution does not mean zero pollution as the latter implies zero production.

2. Solutions for positive externality

a. Provide per unit subsidy which is equivalent to the difference between SMB and PMB corresponding to the socially optimal output. Thus, if private firms are subsidized, they will supply optimal output.

b. The government itself can supply the product at a equilibrium price of efficient price level and hence, bear the loss.

In general, all solutions to externality (positive and negative) problems recognize that the need for internalizing externalities. This is to say that the external cost (benefit) should be in the private cost (benefit) of individuals so that people take into account the external ef f ects in their actions/decisions.

3.4 ASYMMETRIC INFORMATION

Asymmetric information is a situation in which different agents have a different amount of information about a good. In other words, asymmetric information is when one party in a transaction is in possession of more information than the other. In certain transactions, sellers can take advantage of buyers because asymmetric information exists whereby the seller has more knowledge of the good being sold than the buyer.

In general, information asymmetry deals with the study of decisions in transactions where one party has more information than another. This creates an imbalance in power in transactions which can sometimes cause the transaction to go away. Two types of problems associated with asymmetric information are adverse selection and moral hazard.

Adverse Selection Problem

This refers to situations where one side of the market cannot observe the "type" or quality of the goods on the other side of the market. It is sometimes known as "hidden information problem" or "anti-selection problem" or "negative selection problem". Adverse selection problem is a term that is used in economics, insurance, statistics and risk management.

Examples:

i) When bad results occur due to information asymmetries between buyers and sellers, the bad products or customers are more likely to be selected.

ii) Health insurance is more likely to be purchased by people who are more likely to get sick.

Moral Hazards Problem

This refers to situation where one side of the market cannot observe the actions of the others. It is sometimes known as "hidden action problem". In simple words, it is the inability to observe and/or verify the agents' action. Furthermore, it is the prospect that a party insulated from risk may behave dif f erently from the way it would behave if it was fully exposed to the risk. A moral hazard problem arises when an individual or situation does not bear the full consequences of its actions, and therefore has a tendency to act less carefully than it otherwise would, leaving another party to bear some responsibility for the consequences of those actions.

Examples:
i) An individual with insurance against automobile theft may be less vigilant about locking his/her car, given that the negative consequences of automobile theft are (partially) borne by the insurance company.

Solutions for Moral Hazard and Adverse Selection

Signalling: this is the idea that one party (agent) conveys some meaningful information about itself to another party (principal).

Examples:

Employees signal the levels of their skills to employers by acquiring a certain degree of education.

Limitations:

- How much time, energy, or money should the sender (agent) spends on sending the signal?
- How can the receiver (principal) trust the signal to be an honest declaration of information?
- Assume that there is signalling equilibrium (sender signals honestly and receiver, trusts that information), under what circumstances will that equilibrium break down?

Screening refers to a strategy of combating adverse selection. Assume there are two individuals Hana and Hikma. Hana knows more about herself than Hikma knows about Hana. If they are going to engage in some sort of transaction, they need to develop a long-term relationship. The screener (the one who is with less information, Hikma) attempts to rectify this asymmetry by learning as much as she can about Hana.

Examples:

Banks often screen people who are interested in borrowing money in order to weed out those who will not be able to repay the debt.They might also ask potential borrowers for their financial history, job security, reason for borrowing assets, education, experience, etc.

3.5 CONSUMER PROTECTION

We buy a variety of goods and receive services in our day-to-day life. Whatever we buy, we pay for it and derive satisfaction from its consumption and use. However, sometimes we do not feel satisfied with the product we buy. This may be on account of poor quality of the product, overcharging by the shopkeeper, lower quantity of parts, misleading advertising, and so on. Should we allow these practices to continue? Obviously not; then, is there any remedy for such malpractices? The answer lies in the concept and practice of consumer protection, the rights and responsibilities of consumers, legal provisions and mechanisms for settlement of consumer grievances.

Consumer protection means safeguarding the interest and rights of consumers. In other words, it refers to the measures adopted for the protection of consumers from unethical malpractices by the business. The most common business malpractices leading to consumer exploitation are:-

a) Sale of adulterated goods, i.e., adding something inferior to the product being sold.
b) Sale of spurious goods, i.e., selling something of little value instead of the real product.
c) Sale of sub-standard goods, i.e., sale of goods which do not conform to prescribed quality standards.
d) Sale of duplicate goods.
e) Use of false weights and measures leading to underweight.e.t.c...

Need for Consumer Protection

The necessity of adopting measures to protect the interest of consumers arises mainly due to the helpless position of the consumers. There is no denying the fact that the consumers have the basic right to be protected from the loss or injury which is caused by defective goods and def i ciency of services. But many consumers do not exercise their rights due to lack of awareness, ignorance or laziness. The main arguments in favour of consumer protection are:-

Social Responsibility

The business must be guided by certain social and ethical norms. It is the moral responsibility of the business to serve the interest of consumers. Keeping in line with this principle, it is the duty of producers and traders to provide the right quality and quantity of goods at fair prices to consumers.

Increasing Awareness

Consumers are becoming more mature and conscious of their rights against the malpractices by business. There are many consumer organizations and associations which are making efforts to build consumer awareness, taking up their cases at various levels and helping them to enforce their rights.

Consumer Satisfaction

Consumers' satisfaction is the key to the success of a business. Hence, business people should take every step to serve the interests of consumers by providing them the quality goods and services at reasonable prices.

Principle of Social Justice

In keeping in line with this principle, it is expected from the manufacturers, traders and service providers to refrain from malpractices and take care of consumers' interest.

Principle of Trusteeship

Manufactures and producers are not the real owners of business. This is because resources are supplied by the society. Businesses are merely the trustees of the resources and, therefore, they should use such resources ef f ectively for the benef i t of the society, which includes the consumers.

Survival and Growth of Business

Businesses have to serve consumer interests for their own survival and growth. On account of globalization and increased competition, any business organization which indulges in malpractices or fails to provide improved services to their ultimate consumer should find it difficult to continue. Hence, in their own long run interest, they should become consumer oriented.

In Ethiopia, the Consumer Proclamation No. 813/2013 has provided the rights to consumers. The main objectives of the Consumer Protection Act in Ethiopia are to:

1. Protect the business community from anti-competitive and unfair market practices, and also consumers from misleading market conducts, and to establish a system that is conducive to the promotion of a competitive free market.
2. Ensure that consumers get goods and services safe and suitable to their health and equivalent to the price they pay.
3. Accelerate economic development.

Review Questions

Part I: Multiple Choice For each of the following questions choose the best answer from the given alternatives.

1. Which one of the following goods or services is non-excludable?

A. roads B. primary education C. police protection D. streaming music from satellite transmission programs E. All of the above

2. An externality is defined as:

A. an additional cost that is imposed by the government on producers.

B. a cost or benefit that arises from production and falls on someone other than the producer, or a cost or benefit that arises from consumption and falls on someone other than the consumer.

C. an additional gain received by consumers from decisions made by the government.

D. the additional amount that consumers have to pay to consume an additional amount of a good or service.

E. a marginal social cost.

3. Which one of the following goods is excludable?

A. a bridge that does not charge a toll B. a city bus C. protection from the police force D. the atmosphere E. All of the above 4. Which one of the following goods is non-excludable?

A. the atmosphere B. a taxi C. an art museum D. a toll bridge E. All of the above 5. A common resource is:

A. non-rival and non-excludable B. non-rival and excludable.
C. rival and non-excludable.
D. regulated and excludable.
E. rival and excludable 6. When a city street is congested, it is:
A. a public good.
B. a common resource C. a private good.
D. non-rival and excludable.
E. non-rival and non-excludable 7. A good that is rival and non-excludable is a:
A. private good.
B. regulated good.
C. public good.
D. common resource.
E. government good 8. Free riding can occur if a good is:
A. a private good.
B. excludable and non-rival.
C. excludable and rival.
D. non-excludable and rival.
E. non-excludable and non-rival.
9. If a good is a public good, A. no one can be excluded from enjoying its benef i ts.
B. anyone can be excluded from enjoying its benef i ts.
C. consumers pay a low price.
D. economies of scale exist over the entire range of output for which there is a demand.
E. consumers must pay a high price to enjoy its benef i ts.
10. The tragedy of the commons is the absence of incentives to:
A. discover new common resources.
B. export wool in sixteenth-century England.
C. prevent overuse of common resources.
D. prevent underuse of common resources.
E. reduce marginal cost of common resources.

Part II: Matching

Match the definitions under Column A (1-5) with the terms under Column B.

1.unintended costs or benefits imposed on third parties.	A.Market Failure
2. situation in which one side of the market (buyer or seller) has more information than the other side (buyer or seller)	B. Externality
	C. Social Cost
3. the failure of the market to achieve an optimal allocation. of the economy's resources.	D. Asymmetric information
4. the cost to society of producing a good including both.	E. public good

the private costs and the externalities costs

5. benefits from these goods are not diminished by. consumption and cannot be withheld from anyone

F. Adverse selection

Part III: Short Answer and Work Out

For the following questions write short answers and provide required solutions accordingly.

1. What are the two key characteristics of public goods?
2. Name two public goods and explain why they are public goods.
3. What is the free rider problem?
4. Explain why the federal government funds national defence.
5. Suppose that a producer of commodity Y is located on the upstream of river Z. The MC of producing Y is given by the function MC = 10 + 0.5Y . In addition to this, MC however, an external cost is incurred. Each unit of product Y produces a pollutant that flows to the river, which causes damage valued at Birr 10. Suppose that this external cost is borne by the wider community rather than by the polluting firm. The MR obtained from each unit of Y is given by MR = 30 - 0.5Y

a) Derive the profit maximizing level of output for Y.

b) Derive the socially optimum level of output for Y.

c) Explain why the socially efficient level of output is lower than the profit maximizing level output of Y.

Answers to Review Exercise

Part I: Multiple Choices

1. E 2. B 3. B 4. A 5. C 6. B 7. D 8. E 9. A 10. C

Part II: Matching

1. B 2. D 3. A 4. C 5. E

Part III. Relevant Short Answers

1. Non rivalry in consumption and non-excludability.
2. Examples of public goods include fresh air, national defence, flood control systems, and street lighting. These characteristics make it difficult for market producers to sell the good to individual consumers. Because the private market is profitt-driven, it produces only those goods for which it can hope to earn a profit
3. The free rider problem is the burden on a shared resource that is created by its use or overuse by people who aren't paying their fair share for it.
4. Because it is non-rival and non-exclusive. If left to private producers, no individual would have an incentive to pay, because he could simply free ride on the service provided by others.
5.

a) MC = 10 + 0.5Y

MR = 30 – 0.5Y
MC equal to MR for profitt maximisation is
10 + 0.5Y = 30 – 0.5Y which solves for 20 as the profitt maximising output level.
b) Given that MEC = 10
SMC = MC + MEC = 10 + 0.5Y + 10 = 20 + 0.5Y and social net benefit maximisation requires SMC = MB which is 20 + 0.5Y = 30 - 0.5Y which solves for Y = 10 as the level of output that goes with Allocative efficiency.
c) Because production of Y output generates a negative externality to the downstream community. There is Over production.

CHAPTER 4

MACROECONOMIC POLICY INSTRUMENTS

4.1 Definition and Types of Macroeconomic Policies

We know that macroeconomic analysis deals with the behaviour of the economy as a whole with respect to output, income, employment, general price level and other aggregate economic variables. With a view to bringing about desirable changes in such variables, nations, developed as well as developing, need to adopt various macroeconomic policies.

These policies and the instruments used for their implementation vary from one economy to another and also according to the prevailing economic conditions within a specific economy.

The economy does not always work smoothly. This is because fl uctuations often occur in the level of economic activity. At times the economy fi nds itself in the grip of recession when levels of national income, output and employment are far below their full potential levels. During recession, there is a lot of idle or unutilized productive capacity, that is, available machines and factories are not working to their full capacity. As a result, unemployment of labour increases along with the existence of excess capital stock. On the other hand, at times the economy is "overheated" which means inflation (i.e., rising prices) occurs in the economy. Thus, in a free market economy there is a lot of economic instability.

The classical economists believed that an automatic mechanism works to restore stabilityin the economy; recession would cure itself and inf l ation will be automatically controlled.

However, the empirical evidence during the 1930s when severe depression took place in the Western capitalist economies showed that no such automatic mechanism works to bring about stability in the economy. That is why Keynes argued for government intervention to cure depression and inflation by adopting appropriate tools of macroeconomic policy.

Every nation wants to raise the level of living of its people. This can be attained by bringing about economic growth which in turn depends on raising the rates of saving and investment and accumulating capital. In this regard, macroeconomic policies can play a useful role in raising the rate of saving and investment and ensure rapid economic growth.

The general objectives of macroeconomic policy are to achieve:

- maximum feasible output
- high rate of economic growth
- full employment
- price stability

 equality in the distribution of income and wealth
 a healthy balance of payments.
To achieve these objectives, dif f erent types of macroeconomic policies – fi scal, monetary, income, and foreign exchange policies – are adopted. Each of these policies and their instruments are discussed below.

4.2 Fiscal Policy

Fiscal policy is the expenditure and revenue (tax) policy of the government to achieve the desired objectives.
There are two key tools of the fiscal policy:
A.Taxation: funds in the form of direct and indirect taxes, capital gains from investment, etc, help the government function. Taxes af f ect the consumer's income and changes in consumption lead to changes in real gross domestic product (GDP).
B.Government spending: it includes welfare programmes, government salaries, subsidies, infrastructure, etc. Government spending has the power to raise or lower real GDP, hence it is included as a fi scal policy tool.
government spending/expenditure has four major components, namely, government spending, transfer payments, grants in aid, and net interest payments.
(a) Government spending (G) Government spending is the sum of government expenditures on fi nal goodsand services.
It includes salaries of public servants, purchase of weapons for the military, and any investment expenditure by a government
(b) Transfer payments Transfer payments are direct payments to individuals- such as unemployment insurance benef i ts, social security benef i ts, Medicare, or welfare payments - where goods or services are not provided in return. They are commonly referred to as entitlements because they are not made on a discretionary basis, but are locked in by earlier legislation.
c) Grants in aid This ref l ects federal assistance to state and local governments.
(d) Net interest payments Net interest payments are interest payments that are made to holders of government debt, less interest which is paid to the government for debts like student loans.
From the revenue side, the major components of tax revenue (taxes) are :-
 Personal taxes
 Contributions for social insurance
 Taxes on production and imports
 Corporate taxes
 Grants in aid

Types of Fiscal Policy

I.Expansionary Fiscal Policy

In a situation in which an economy is facing the problem of def i cient demand, i.e., aggregate demand falling short of output at full employment, there is a depression marked by overproduction, a rise in unemployment, and a fall in prices and incomes. To increase the aggregate demand and thereby total output and employment levels, expansionary fiscal policies are adopted by governments. The major instruments of expansionary fiscal policy are:

 Expenditure policy (increase expenditure): the objective of an expenditure policy should be to pump more money into the system in order to boost demand. During a period of def i ciency in demand, the government should make large investments in public works like the construction of roads, bridges, buildings, railway lines, canals, etc. In such periods, the government should also provide free education and medical facilities, even though these activities might enlarge budget deficits.

The aim is to put more money in the hands of people so that they would also spend more.

 Revenue policy (reduce tax rate): Taxes on personal incomes and taxes on expenditures on buildings etc. should be reduced. If possible, taxes on lower income groups should be abolished in order to increase their disposable income for spending. In addition, subsidies, old age pensions, unemployment allowances, grants, interest-free loans, expand so as to increase aggregate demand in the economy.

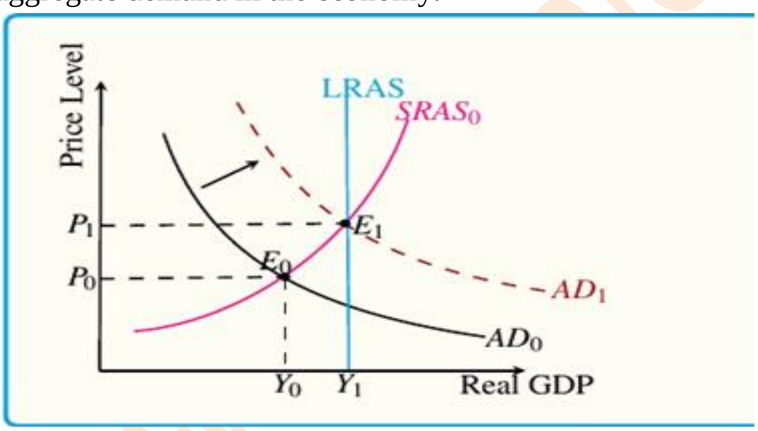


Figure1. Expansionary fiscal policy

II. Contractionary Fiscal Policy

When an economy's aggregate demand is for a level of output that is more than the full-employment, the demand is said to be an excess demand. In other words, excess demand refers to the excess of aggregate demand over the available output at full employment.

This gap results in an inflationary situation as it causes inflation (a continuous rise in prices) in the economy. To control the situation of excess demand and thereby reduce the pressure of high inf l ation, contractionary fi scal policies are adopted by governments.

Major instruments of contractionary fiscal policy are:

- Expenditure policy (reduce expenditure): In a situation of excess demand, the government should curtail its expenditures on public works such as roads, buildings, rural electrif i cation, irrigation work, etc., thereby reducing the money income of the people and thus, their demand for goods and services. In this way, the government will reduce the budget def i cit, which shows excess expenditure over revenue.
- Revenue policy (increase taxes): during inf l ation, the government should raise rates of all taxes, especially taxes on rich people, because taxation withdraws purchasing power from the taxpayers and, to that extent, reduces effective demand. Care should be taken that measures adopted to raise revenue are disinflationary and at the same time have no harmful effects on production and savings.

Economists sometimes call this an “overheating economy” where demand is so high that there is upward pressure on wages and prices, causing inf l ation. In this situation, contractionary fi scal policy involving federal spending cuts or tax increases can help to reduce the upward pressure on the price level by shifting aggregate demand to the left.

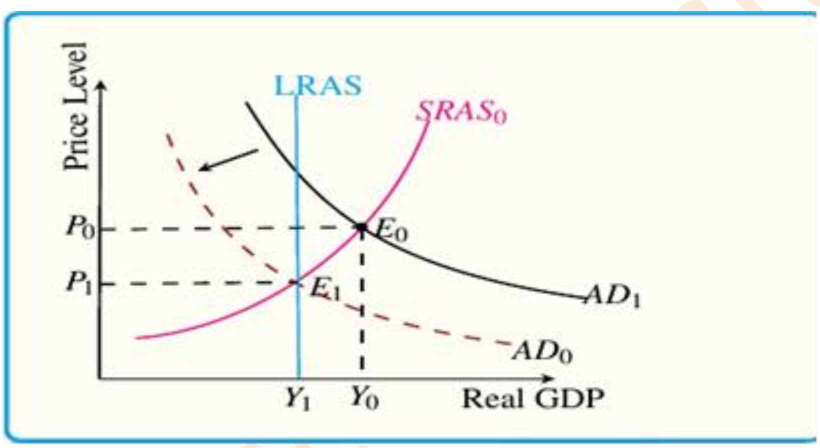


Figure 2. Contractionary Fiscal Policy

4.3 Monetary Policy

Monetary policy is the process of drafting, announcing, and implementing the plan of actions taken by the National Bank, or other monetary authority of a country that controls the quantity of money in an economy and the channels by which new money is supplied. The National Bank is a government agency that oversees the banking system and is responsible for the conduct of monetary policy. This bank takes dif f erent names in dif f erent countries: the Federal Reserve System in the United States and National Bank in Ethiopia, for instance.

Monetary policy consists of the management of money supply and interest rates, aimed at meeting macroeconomic objectives such as controlling inflation, consumption, growth, and liquidity. This is achieved by actions such as modifying the interest rate, buying or selling government bonds, regulating foreign exchange rates, and changing the amount of money which banks are required to maintain as reserves.

Monetary policy is formulated based on inputs which are gathered from a variety of sources. For instance, the monetary authority may look at macroeconomic numbers such as gross domestic product (GDP) and inflation, industry/sector-specific growth rates and associated figures, as well as geopolitical developments in international markets— including oil embargos or trade tariffs.

Tools of Monetary Policy

A.Open market operations (OMO)

These are the purchases and sales of government bonds by the National Bank. The Birr it pays when the National Bank purchases bonds increases the monetary base and the money supply. When the National Bank sells bonds to the public, the Birr it receives reduces the monetary base and then, decreases the money supply.

The conduct of OMO varies from country to country depending on the legal and institutional setting, the structure of financial system and the stages of development in the securities market of the country. NBE conducts its OMO actively through treasury bills market to inf l uence the variables like liquidity level and net domestic assets of the banking system and money supply in the economy and monitor whether they conform with the targeted level.

B.Discount rate (DR): the discount rate is the interest rate that the National Bank charges banks to borrow funds from a National Bank. The discount rate is set by the National Bank's board of governors, and can be adjusted up or down as a tool of monetary policy.

It is usually set below the short term inter-bank market rate. Accessing the discount window allows institutions to vary credit conditions (i.e., the amount of money they have to loan out), thereby af f ecting the money supply. Through the discount window, the central bank can affect the economic environment, and thus unemployment and economic growth. In Ethiopia the discount window facility for commercial banks started in March 2001.

C. Required reserve ratio (RRR): this refers to the funds that banks must retain as a proportion of the deposits made by their customers in order to ensure that they are able to meet their liabilities. Lowering this reserve requirement releases more capital for the banks to of f er loans or to buy other assets. Increasing the reserve requirement, on the other hand, has a reverse effect, curtailing bank lending and slowing growth of the money supply.

The NBE uses this instrument to control the liquidity of banks by varying the rate according with the targeted level.The National Bank of Ethiopia cut the minimum deposit reserve from 15% to 10% in January 2012. This move is aimed to encourage banks to lend money, particularly to the export sector.

Types of Monetary Policies

I.Expansionary Monetary Policy

If a country is facing a high unemployment rate during a slowdown or a recession, the monetary authority can opt for an expansionary policy which aims at increasing economic growth and expanding economic activity. As a part of expansionary monetary policy, the monetary authority often lowers the interest rates through various measures, serving to promote spending and make money-saving relatively unfavourable.

Increased money supply in the market aims to boost investment and consumer spending.

Lower interest rates mean that businesses and individuals can secure loans on convenient terms to expand productive activities and spend more on big-ticket consumer goods.

Major instruments of expansionary monetary policy are discussed below.

Reducing a discount rate: to increase money supply, the National Bank reduces the discount rate and then, enables the commercial banks to take more loans from it and in turn to give more loans to producers (investors) at lower interest rates.

Buying securities through open market operations**:** this refers to the buying and selling of government securities which inf l uence money supply in the economy. For example, during a depression, the central bank buys government bonds and securities from commercial banks, paying in cash to increase their cash stock and lending capacity.

Reducing required reserve ratio: every commercial bank is required to keep with the central bank a particular percentage of its deposits or reserves in the form of cash. This percentage is called the "required reserve ratio (RRR)" or "cash reserve ratio (CRR)".

During a depression, the central bank lowers the CRR, thereby increasing commercial bank's capacity to give credit.

If the economy is suffering a recession and high unemployment, with output below potential GDP, expansionary monetary policy can help the economy return to potential GDP.

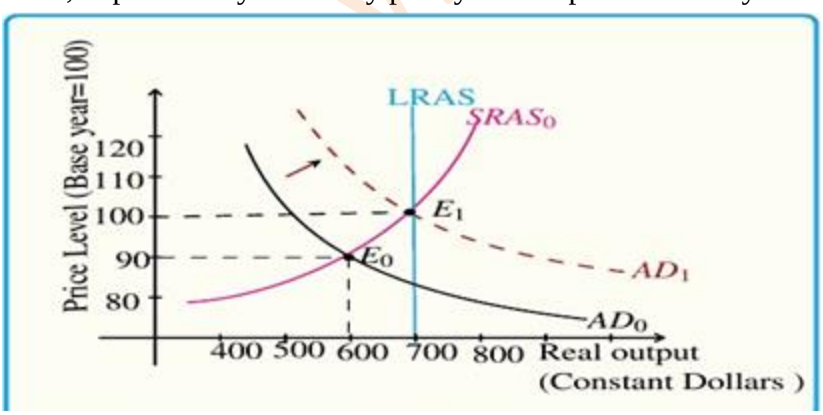


Figure 3. Expansionary Monetary policy

II.Contractionary Monetary Policy

Increased money supply can lead to higher inf l ation, raising the cost of living and cost of doing business. Contractionary monetary policy, increasing interest rates, and by slowing the growth of the money supply, aims to bring inf l ation down. This can slow economic growth and increase unemployment but it is often necessary to cool down the economy and keep it in check.

Major instruments of contractionary monetary policy are discussed below.

Increasing the discount rate: in a situation of excess demand leading to inf l ation, the central bank raises its rate. This raises the cost of borrowing, which discourages commercial banks from borrowing from the central bank. An increase in the bank rate forces the commercial banks to increase their lending rates of interest, which makes credit costlier. As a result, the demand for loans falls. On the other hand, the high rate of interest induces households to increase their savings by restricting expenditure on consumption and discourages investment. Thus, expenditure on investment and consumption is reduced, thereby reducing the aggregate demand.

***Selling securities through open market operations*:** during inf l ation, the central bank sells government securities to commercial banks, which lose an equivalent amount of their cash reserves, thereby reducing their capacity to of f er loans. This absorbs liquidity from the system. Consequently, there is a fall in investment and in aggregate demand.

Increasing the RRR: during inflation, the central bank increases the RRR, to Reducr the lending capacity of commercial banks.

contractionary monetary policy will raise the interest rate, which discourages borrowing for investment and consumption spending, and causes the original demand curve shift to left.

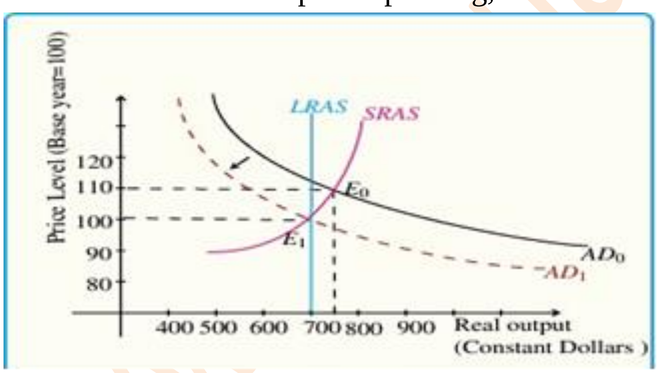


Figure 4. Contractionary monetary policy

Therefore monetary policy should be countercyclical; that is, it should act to counterbalance the business cycles of economic downturns and upswings. The National Bank should loosen monetary policy when a recession has caused unemployment to increase and tighten it when inflation threatens.

4.4 Income Policy and Wage

Income policies in economics are economy-wide wages and price controls, most commonly instituted as a response to inf l ation, and usually seeking to establish wages and prices below free market level. Income policies vary from "voluntary" wage and price guidelines to mandatory controls such as price/wage freezes.

Income policy is the suitable complement for expansionary monetary and fi scal policies, in particular under conditions that reduce the space for further macroeconomic expansion..

In some developing countries, wage expansion has provd to be a more reliable source of demand expansion. A policy that maintains real wages expanding in line with productivity would provide a sustainable source of domestic demand expansion.

In an inf l ationary environment, it is possible to stabilize the price level through the instruments of the income policy. Governments can take this step if restrictive fi scal and monetary policies fail to reduce the increasing price level. We can use these tools of the income policy to preserve price stability:

Determination of wage rates in a free market

Just as in any market, the price of labour, the wage rate, is determined by the intersection of supply and demand. When the supply of labour increases, the equilibrium price falls, and when the demand for labour increases, the equilibrium price rises.

A perfectly competitive labour market has the following characteristics:

- A large number of firms competing with each other to hire a specific type of labour to fill identical jobs.
- Numerous qualified people who have identical skills and independently supply their labour services.
- "Wage taking" behaviour, that is, neither workers nor fi rms exert control over the market wage,
- Perfect, costless information and labour mobility.

Market labour demand is a "price adjusted" downward- sloping curve, whereas, the market labour supply however, generally slopes upward to the right, indicating that collectively workers will of f er more labour hours at higher relative wage rates. Higher relative wages attract workers away from either household production, leisure, or other labour markets and towards the labour market in which the wage is increased. This means that even though there are some workers who reduce hours of work as wage rate increase, there are still new workers who enter into the labour market looking at the higher wage rate. The vertical height of the market labour supply curve, measures the opportunity cost of employing the last labour hour. In other words, in perfectly competitive product and labour markets, labour supply curves measure marginal opportunity costs. Furthermore, in order to attract more hours to the labour market, the opportunity costs must be compensated via a higher wage rate.

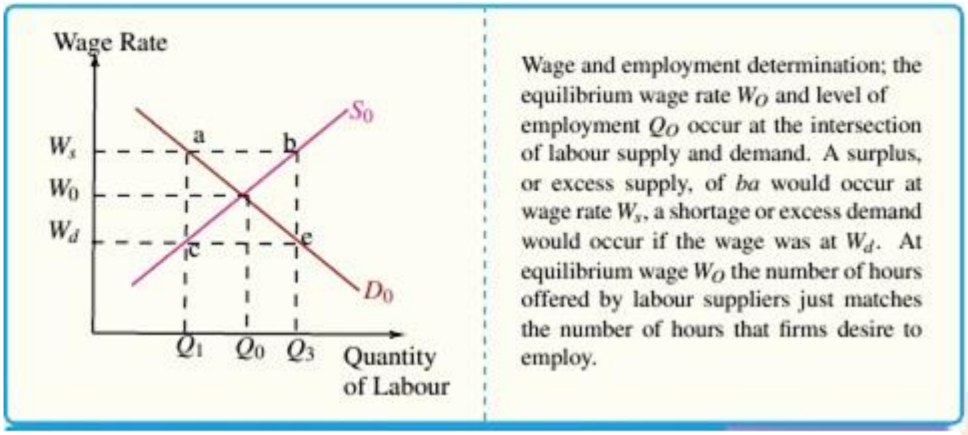


Figure 5. Equilibrium wage rate in a free market economy

Minimum Wages

A minimum wage is the lowest wage per hour that a worker may be paid as mandated by federal law. In simple words, it is a legally mandated price fl oor on hourly wages, below which workers may not be of f ered or accept a job.

Minimum wages have been def i ned as the minimum amount of remuneration that an employer is required to pay to wage earners for the work that is performed during a given period, which cannot be reduced by collective agreement or an individual contract.

The purpose of minimum wages is to protect workers from unduly low pay. They help ensure a just and equitable share of the fruits of progress to all, and a minimum living wage to all who are employed and in need of such protection. Minimum wages can also be one element of a policy to overcome poverty and reduce inequality, including between men and women, by promoting the right to equal remuneration for work of equal value.

Pricing Policy

One of the income policies in economics is price controls; most commonly instituted as a response to inflation, and usually seeking to establish prices which are below free market level. *Price ceilings and price floors* are the two types of price controls. They do the opposite thing, as their names suggest. A ***price ceiling*** puts a limit on the cost that one has to pay or that one can charge for something; it sets a maximum cost, keeping prices from rising above a certain level. A ***price floor*** establishes a minimum cost for something, a bottom-line benchmark. It keeps a price from falling below a particular level.

Price Ceiling

A price ceiling is the mandated maximum amount that a seller is allowed to charge for a product or service. Usually set by law, price ceilings are typically applied to staples such as food and energy products when such goods become unaffordable to regular consumers.

A price ceiling is a maximum legal price below the equilibrium price. It provides perverse incentives (unintended consequence), causing a shortage see Figure

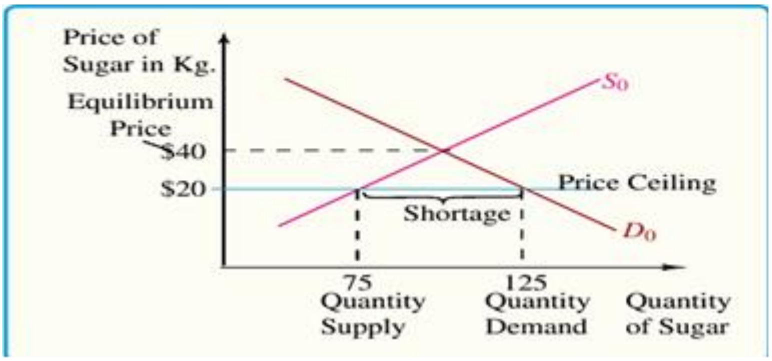


Figure 6. Price ceiling

Price Floor

A price floor is a government- or group-imposed price control or limit on how low a price can be charged for a product, good, commodity, or service. A price fl oor must be higher than the equilibrium price in order to be ef f ective. An example of a price fl oor is minimum wage laws, where the government sets out the minimum hourly rate that can be paid for labour.

Price floors are often imposed by governments; however, there are also price fl oors which are implemented by non-governmental organizations such as companies, and the practice of resale price maintenance.

A price floor which is set above the market equilibrium price has several side-effts.

Consumers find that they must now pay a higher price for the same product. As a result, they reduce their purchases, switch to substitutes or drop out of the market entirely. Meanwhile, suppliers find that they are guaranteed a new, higher price than they were charging before, but with fewer willing buyers.Taken together, these effects mean that there is now an excess supply.

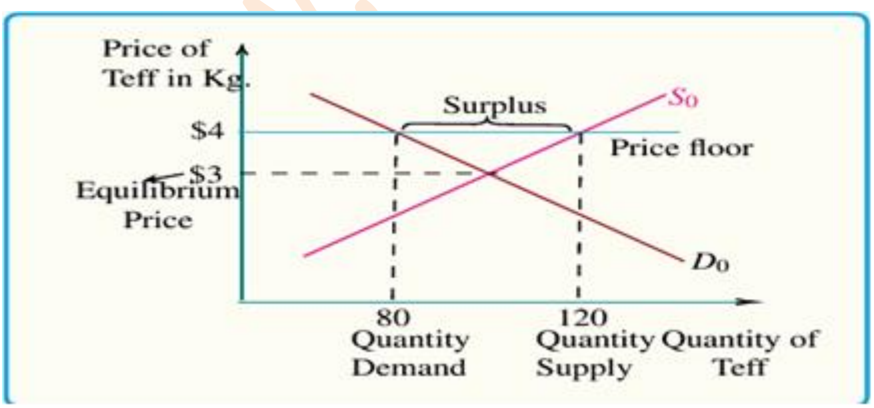


Figure 7. Price Floor

4.5 Foreign Exchange Policies

The policy of the exchange rate affects aggregate demand through its ef f ect on export and import prices of tradable goods and services; in turn, inf l uencing other prices in the economy depending on the foreign exchange regime in place. The policymakers may exploit this connection, in order to influence the macroeconomic trends through the so-called foreign exchange policy, which is defined as the foreign exchange regime including floating, fixed, managed, etc. and regulates foreign exchange transactions in the financial system.

An exchange rate is nothing more than a price, that is the price of one currency in terms of another currency and so we can analyse it with the tools of supply and demand. The formula for calculating exchange rates is: Starting amount (original currency) / Ending amount (new currency) = Exchange rate. For example, if you exchange 1 birr for 30 Birrs, the exchange rate would be 0.033, but if you exchange 30 Birr for 1 U.S. dollars, the exchange rate would be 30.
In foreign exchange markets, demand and supply are closely interrelated. This is because a person or fi rm who demands one currency must at the same time supply another currency and vice versa. To get a sense of this, it is useful to consider four groups of people or firms who participate in the market: (1) firms that are involved in international trade of goods and services; (2) tourists visiting other countries; (3) international investors buying ownership (or part ownership) of a foreign fi rm; (4) international investors making financial investments that do not involve ownership.

Types of Exchange Rate Policies

a) Fixed Exchange Rate Policy
Exchange rate is determined by the government's political and economic decisions. There are some problems which are associated with this policy. An example is the creation of a parallel market (also known as aa "black market"). Governments use fi xed exchange rate systems to accomplish various goals. For example, an undervalued exchange rate acts as an import tax and an export subsidy. Fixing the exchange rate at an artif i cially low level promotes domestic industries by encouraging exports and discouraging imports. It can also hurt other industries by increasing the price of imported inputs. An overvalued exchange rate has the opposite ef f ect, acting as an import subsidy and an export tax. Fixing the exchange rate at an artif i cially high level, benef i ts domestic consumers by encouraging imports and discouraging exports, through decreasing the price of imported inputs.
Fluctuation in exchange rate under fi xed exchange rate policy:

 Devaluation: an increase in the exchange rates due to political and economic decisions of the government.

 Revaluation: a decrease in exchange rate due to political and economic decisions of the government.

b) Flexible/Floating Exchange Rate Policy

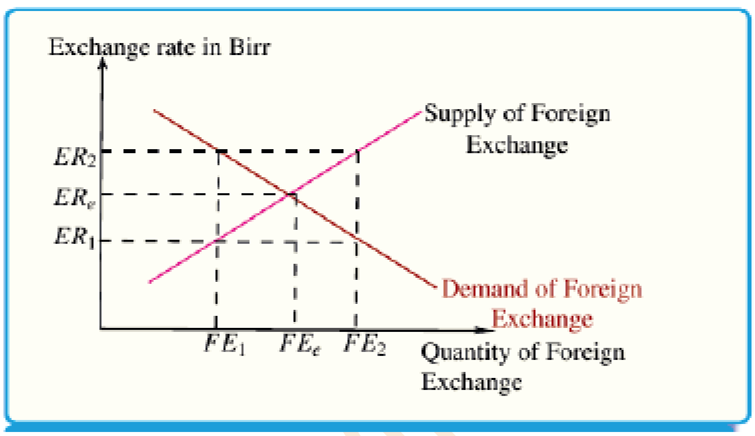
Exchange rate determination is left for market forces. A fl exible/f l oating exchange rate is a regime where the currency price of a nation is set by the foreign exchange market based on supply and demand relative to other currencies.

Fluctuation in the exchange rate under fl exible exchange rate policy:

 Depreciation: an increase in exchange rate due to market forces.

 Appreciation: a decrease in exchange rate due to market forces.

The exchange rate under a floating exchange rate policy is determined by the supply and demand for foreign currencies see Figure



Impact of Exchange Rate Fluctuation

A) Impact of devaluation and depreciation:

improves the current account balance and/or overall balance of payment by making exports cheaper and imports more expensive.

Given a depreciation of a currency, foreigners fi nd exports cheaper while residents fi nd imports more expensive.

B) Impact of revaluation and appreciation:

worsens the external balance by making exports more expensive and import cheaper than before.

Given an appreciation of a currency, foreigners fi nd exports more expensive while residents fi nd imports cheaper.

All else being equal, an appreciation raises the relative price of the country’s exports and decreases the relative price of its imports. Depreciation has the opposite effect.

Key Factors that Affect Foreign Exchange Rates

Inflation rates: changes in market inflation cause changes in currency exchange rates. A country with a lower inf l ation rate than another will see an appreciation in the value of its currency. The prices of goods and services increase at a slower rate where the inflation is low. A country with a consistently lower inf l ation rate exhibits a rising currency value while a country with higher inf l ation typically sees depreciation in its currency and is usually accompanied by higher interest rates.

Interest rates: changes in the interest rate affect currency value and dollar exchange rate. Foreign exchange rates, interest rates, and inflation are all correlated. Increases in interest rates cause a country‘s currency to appreciate because higher interest rates provide higher rates to lenders, thereby attracting more foreign capital, which causes a rise in exchange rates.

Balance of payments: a country's current account ref l ects the balance of trade and earnings on foreign investment. It consists of the total number of transactions including its exports, imports, debt, etc. A deficit in the current account due to spending more of its currency on importing products than its earning through sale of exports causes depreciation.

Government debt: this is public debt or national debt that is owned by the central government. A country with government debt is less likely to acquire foreign capital, leading to inf l ation. Foreign investors will sell their bonds in the open market if the market predicts government debt within a certain country. As a result, a decrease in the value of its exchange rate will follow.

Terms of trade: related to current accounts and balance of payments, the terms of trade is the ratio of export prices to import prices. A country's terms of trade improves if its export' prices rise at a greater rate than its imports prices. This results in higher revenue, which causes a higher demand for the country's currency and an increase in its currency's value. This in its turn results in an appreciation of the exchange rate.

Political stability and performance: a country's political state and economic performance can af f ect its currency strength. For example, a country with less of political turmoil is more attractive to foreign investors, so, drawing investment away from other countries with more political and economic stability. An increase in foreign capital, in its turn leads to an appreciation in the value of its domestic currency. A country with sound fi nancial and trade policy does not give any room for uncertainty in the value of its currency. However, a country prone to political unrest may see depreciation in exchange rates.

Recession: when a country experiences a recession, its interest rates are likely to fall decreasing its chances to acquire foreign capital. For this reason, its currency weakens in comparison to that of other countries, therefore lowering the exchange rate.

Speculation: if a country's currency value is expected to rise, investors will demand more of that currency in order to make a profit in the near future. Thus, the value of the currency will rise due to the increase in demand. With this increase in currency value comes a rise in the exchange rate as well.

Advantages and Disadvantages of Fixed Exchange Rate Systems

Advantages of fixed exchange rates

 Certainty - with a fi xed exchange rate, fi rms will always know the exchange rate which makes trade and investment less risky.

 Absence of speculation - with a fi xed exchange rate, there will be no speculation if people believe that the rate will stay fi xed with no revaluation or devaluation.

 Constraint on government policy - if the exchange rate is fi xed, then the government may be unable to pursue extreme or irresponsible macro-economic policies as these would cause a run on the foreign exchange reserves and this would be unsustainable in the medium-term.

Disadvantages of fixed exchange rates

 The economy may be unable to respond to shocks - a fi xed exchange rate means that there may be no mechanism for the government to respond rapidly to balance of payments crises.

 Problems with reserves - fi xed exchange rate systems require large foreign exchange reserves and there can be international liquidity problems as a result.

 Speculation - if foreign exchange markets believe that there may be a revaluation or devaluation, then there may be a run of speculation. Fighting this may cost the government signif i cantly in terms of its foreign exchange reserves.

 Deflation - if countries with balance of payments def i cits def l ate their economies to try to correct the def i cits, this will reduce the surpluses of other countries as well as def l ating their own economies to restore their surpluses. This may give the system a def l ationary bias.

 Policy conflicts - the fi xed exchange rate may not be compatible with other economic targets for growth, inf l ation and unemployment and this may conflicts of policies. This is especially true if the exchange rate is fi xed at a level that is either too high or too low.

Advantages and Disadvantages of Floating Exchange Rates

Advantages of floating exchange rates

 Protection from external shocks - if the exchange rate is free to fl oat, then it can change in response to external shocks like oil price rises. This should reduce the negative impact of any external shocks.

 Lack of policy constraints - the governments are free with a fl oating exchange rate system to pursue the policies they feel are appropriate for the domestic economy without worrying about them conf l icting with their external policy.

 Correction of balance of payments def i cits - a fl oating exchange rate can depreciate to compensate for a balance of payments deficit. This will help restore the competitiveness of exports.

Disadvantages of floating exchange rates

 Instability - floating exchange rates can be prone to large fl uctuations in value and this can cause uncertainty for firms. Investment and trade may be adversely af f ected.

 No constraints on domestic policy - governments may be free to pursue inappropriate domestic policies (e.g. excessively expansionary policies) as the exchange rate will not act as a constraint.
 Speculation - the existence of speculation can lead to exchange rate changes that are unrelated to the underlying pattern of trade. This will also cause instability and uncertainty for firms and consumers.

Exchange Rate Structure in Ethiopia

The legal currency of Ethiopia (Birr) was fi rst introduced in 1945 with an official exchange rate of Birr 2.48 per US dollar with a value of 0.36 grams of fi ne gold.
This fixed exchange rate was under operation for almost two decades.
Following the overthrown of the Derg Regime, EPRDF introduced the auction-based exchange rate determination scheme and the interbank money market. Additionally, the principle of gradualism in liberalization of exchange rate market is at the heart of this policy development. The exchange rate reform was started by devaluing the currency, which had been fi xed for about two decades to 2.07 Birr per US dollar, by 140% to 5 birr per US dollar in October 1992. In 1993 the NBE introduced the auction-based exchange rate system. It was conducted on a fortnightly basis and took the form of discriminatory price which clears the market for the coming two weeks. The supply of funds for this market was obtained from export earnings, loans and grants. The auction-based exchange rate system was initially worked side by side with the of f i cial exchange rate.
Currently, the exchange rate is determined through an interbank foreign exchange market on a daily basis, a clear indication of the government's policy of gradualism toward liberalizing the exchange rate market [**Managed floating exchange rate system**]

Review Questions

Part I: True or False Read the following sentences and write "True" for correct sentences and "False" for incorrect ones.
1. To correct excess demand, the central bank buys government securities.
2. Expansionary fiscal policies are adopted to reduce aggregate demand.
3. Government should reduce tax rates to increase aggregate demand.
4. Control of wages becomes necessary when there is a situation of inflation.
5. In situations of deficient demand, government expenditure should be reduced.
Part II: Multiple Choices For the following question choose the best answer from the given alternatives.
1. A reduction in bank rate is:
A. a contractionary fi scal policy.
B. an expansionary fi scal policy.

C. an expansionary monetary policy.
D. a contractionary monetary policy.
2. To control the situation of excess demand the central bank:
A. reduces discount rate.
B. sells government securities.
C. decreases RRR.
D. None of the above.
3. To control the situation of deficient demand:
A. government expenditure is reduced.
B. tax rates are increased.
C. the bank rate is reduced.
D. All of the above.
4. Fiscal policy refers to:
A. government spending and taxation decisions.
B. control of the money supply.
C. decisions to alter market interest rates.
D. control of the producer price index.
5. An depreciation of the Ethiopian Birr relative to the US dollar would result in all of the following except:
A. increase net exports.
B. increase AD.
C. a reduction in the price of imported resources.
D. an increase in the amunt of exported resources.

Part III: Short Answers For the following questions write short answers.
1. What is the difference between fiscal policy and monetary policy?
2. What is the meaning of fiscal policy? Explain how the following two things affect demand in an economy:
a) Change in government expenditure.
b) Change in tax rates.
3. What is the difference between excess and def i cient aggregate demand?
4. Explain the various monetary policy instruments by which excess demand in an economy can be controlled.
5. Why do we need a foreign exchange market?

Answers to Review Exercise

Part I: True or False

1. False 2. False 3. False 4. True 5. False

Part II. Multiple Choices

1. C 2. B 3. C 4. A 5. C

Part III. Short Answer

Fiscal Policy.	Monetary Policy
A. It is related to public revenue, public expenditure and public debt.	A.It is related with the supply, availability and cost of money.
B.The main instruments offiscal policy are taxes, public expenditure, and public borrowing	B.Its main instruments are the bank rat, open market operations, and cash reserve ratio
C. It has a direct impact on all sectors of the economy.	C.It has a direct impact on selective business activities in the economy.

2. Fiscal policy is the expenditure and revenue (tax) policy of the government to achieve the demand objective.

a) Change in government expenditure: - during a period of deficiency in demand, the government should make large investments in public works, like construction of roads, bridges, buildings, railway lines, canals etc. and provide education and medical facilities. In a situation of excess demand government should curtail its expenditure on public works such as roads, buildings, rural electrif i cation, irrigation work, etc. There by reducing the money income of the people and their demand for goods and services.

b) Taxes on personal incomes and taxes on expenditures on building etc, should be reduced, if possible tax on lower incomes groups be abolished. During inf l ation, government should raise rates of all taxes especially on rich people, but care should be taken that the revenue should be disinflationary.

3.#Excess Demand.

AIt is a situation in which planned aggregate expenditure is greater than the output at full employment level.

B.It generates inf l ation in the economy

C.It indicates over full employment equilibrium

D.In this situation, output and employment do not increase with increase in aggregate demand

#Deficient Demand

A.It is a situation when planned aggregate expenditure falls short of output corresponding to full employment level.

B. It generates def l ation in the economy.

C.It indicates under employment or less than full employment equilibrium.

D.In this situation, both output and employment increase along with increase in aggregate demand.

4. Monetary measures by which excess demand in an economy can be checked includes: - changing the bank rate (discount rate), buying and selling of government of securities and hanging the required reserve ratio.

5. Foreign currency rates fluctuate based on the market forces of demand and supply.

This means the rates can change at any given moment. We need a foreign exchange market to determine a value for each foreign currency and this makes it easier to exchange dif f erent currencies for one another.

CHAPTER 5

TAX THEORY AND PRACTICE

5.1 Definition and Terminologies in Taxation

Tax, as defined by the Organisation for Economic Cooperation and Development (OECD) is the "compulsory, unrequited payments to general government". The term "compulsory" indicates that taxes are not voluntary purchase payments but mandatory impositions, payable in line with what is legislated. To enforce the compulsion, dif f erent governments have constitutions, proclamations, regulations and directives to charge tax for different categories of people. The term "unrequited" is used in the sense that benefits provided by government to a taxpayer are not in proportion to the payments made by that taxpayer. In other words, obtaining direct benef i t is not the main condition of paying tax. Hence tax is levied without a quid pro quo, i.e. without anything in direct return.

Indicating the inevitability of taxation, it is said that there are two things that are certain in life: death and taxes. It is also said that without tax, there will be no revenue, and hence, no government. However, taxation is not the only source of government revenue; there are other sources such as borrowing, imposition of fees for services rendered, or printing money. Nevertheless, taxation typically accounts for 90% or more of total governmental receipts in times of peace.

In minimalist terms, governments impose taxes for three basic purposes: to cover the cost of administration, to maintain law and order and to defend the public. They also impose taxes to raise revenue to fund economic infrastructure, health facilities, transport,education, telecom, electricity, or free facilities for less able members of society.

Moreover, governments shoulder the responsibility of providing public goods, promoting redistribution of income and wealth, and discouraging consumption/production of harmful goods to society (i.e., goods with negative externalities or demerit goods such as cigarettes and alcohol).

The field of taxation is rich in terminology. The following terms are widely used.

Tax rate: is the per-unit amount of the tax or the percentage rate at which the economic activity is taxed.

Tax base: is the level or quantity of an economic activity that is taxed. Higher tax rates reduce the level of the tax base because they make the activity less attractive.

Tax incidence: relates to the way the burden of a tax is distributed among economic units (consumers, producers, employees, employers). It points out who is legally responsible for paying the tax. It is said that taxes are the price we pay for a civilized society; the question is who pays? Taxes are almost always levied in a way that a particular person or fi rm should pay the tax. The incidence of a tax is determined by looking to see who is made worse off by the tax and by how much. It is also known as "tax incidence analysis".

Through tax incidence analysis, we can trace and identify the fi nal tax burden distribution.

Though taxes may be collected from firms, the ultimate burden may fall on individual consumers. Incidence of tax is defined as its fi nal resting place.

Impact of tax: is tax's first point of contact with the taxpayers. It is felt by those who bear the first statutory responsibility of paying it to the government.

Effect of a tax: refers to responses from taxpayers and the economy to the imposition and collection of taxes. Such responses can be of great variety and influence the working of the economy in terms of production, growth, saving, investment, inequality etc.

Objectives of Taxation

Governments impose taxes to achieve several important macroeconomic and social goals.

Accordingly, the objectives of taxation are to:

a) minimize income and wealth inequalities.

b) stabilize the economy.

c) discourage the consumption of harmful products.

d) provide incentives for capital formation in the private sector.

e) reduce regional imbalance.

f)enhance standards of livings.

g) utilize the scarce resources to produce more essential goods, and h) minimize unemployment and encourage export.

Principles of Taxation

In the Wealth of Nations (1776), Adam Smith proposed the principle/canons of taxation as summarised below.

1. The subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities; that is, in proportion to the revenue which they respectively enjoy under the protection of the state.

2. The tax which everyone is bound to pay ought to be certain and not arbitrary. The time of payment, the manner of payment, the quantity to be paid, ought all to be clear and plain to the contributor, and to every other person.

3. Every tax ought to be levied at the time or in the manner that makes it the most convenient for the contributor to pay it.

4. Every tax ought to be planned) in manner it takes as little as possible out of the pockets of the people, over and above what it brings into the public treasury of the state.
5. Every tax has a cost of collection. It is important that the cost of collection should be the minimum possible. This is called the "canon/principle of economy".
6. The tax system should be able to yield enough revenue for the government so that it should not be forced to resort to def i cit fi nancing. This is called the "canon of fi scal adequacy".

Characteristics of a Good Tax System

A good tax system is characterised by the following features:
a) simple, financially adequate and elastic.
b) broad based - tax is levied not only on income but also on property and commodities.
c) administratively efficient.
d) balanced and harmonious.
e) ensures the reduction of economic inequalities.
f)ensuring economic stability.
g) ensures that national income or standard of living is increases.
h) acts as an instrument of economic growth.
i)is socially advantageous.
j) enables optimum allocation of resources.

Classification of Taxes

There are two major types of taxes based on impact or incidence. They are direct and indirect taxes.

Direct taxes impose the burden or impact and incidence on the same person who earns the income. They are computed based on the ability of the taxpayer to pay, which means that the higher the person's capability of paying, the higher the taxes. Examples of direct taxes include employee's income tax, business income tax, rental income tax, agricultural income tax and other income taxes, poll tax, land tax, property tax, royalty tax, capital gain tax, property tax, gift tax and inheritance tax. Here, the tax paying ability is assessed directly in relation to one's income.

Indirect taxes impose the impact (immediate burden) and incidence (ultimate burden) on dif f erent persons. Examples of indirect taxes include consumption taxes such as value added tax (VAT), excise tax, turnover tax (TOT), surtax, customs duty, and stamp duty.

Different countries have different names to classify their tax systems. In Ethiopia, for example, taxes are classified as Schedules that include income from employment, income from rental of buildings, income from business, and other incomes.

5.2Approaches to Tax Equity

There are two approaches for tax equity: the benefits approach and the ability to pay approach.

1. The Benefits Approach

According to the benefits approach, an equitable tax system is one in which each tax payer contributes in line with the benef i ts which he/she receives from public services. In other words, it is a principle for distributing the tax load among individuals and groups indicating that tax obligations should be based on the benef i ts received from the enjoyment of public services. Here, the aim is to work out how much each person gains from public spending.

The benefits approach has the advantage of linking the discussion of tax equity with the expenditure side of the public budget. However, it is much easier to state an abstract basis than to apply it in a real situation.

2.The Ability-to-pay Approach

According to this approach, tax is levied on each taxpayer in line with his/her ability to pay.This approach focuses on the distributive nature of taxation. In this approach, taxes should be distributed as per the capacity of taxpayers to pay them. Taxation based on ability-to-pay calls for people with equal capacity to pay the same and for people with greater ability, to pay more. The key questions here are how to measure ability to pay, how to determine a fair set of tax rates based on dif f ering abilities to pay and how to compare the economic status of various individual taxpayers.

The ability to-pay approach is based on **horizontal equity and vertical equity.** **Horizontal equity** is a situation where people in the same circumstances pay the same taxes. **Vertical equity,** on the other hand, is a situation where a degree of proportionality is important whereby unequals should be treated unequally.

The concepts of progressive, proportional, and regressive taxes help address this issue, also known as “type by impact.” (Greenlaw and Taylor, 2017).

A progressive tax: is one where those with higher incomes pay a higher share of taxes out of their income compared to those with lower incomes. That is, the average tax rate rises with income and people with higher incomes pay a higher percentage of their income in taxes.

A proportional tax: is one where everyone pays the same share of taxes regardless of income level. Here, the average tax rate is the same at all income levels. Put simply, everyone pays the same percentage of income in taxes.

A regressive tax: is one where those with high income pay a lower share of income in taxes than those with lower incomes. Here, the average tax rate falls when income rises. People with higher incomes will pay a lower percentage of their income in taxes.

5.3 Tax System and Structure in Ethiopia

Ethiopia introduced the concept of income taxation in 1944 when the Emperor issued a decree requiring all peasants to pay one-tenth of their agricultural products to tax of f i cials. Since then, the tax regimes have changed with associated changes in governments.

Currently, the government agency which is responsible for tax collection is the federal Ministry of Revenues (MoR). The MoR prepares decrees, directives and regulations on fi scal policy matters and submits them for parliament to legislate. As a federal country, the Ethiopian constitution allows for the revenue sharing principle of federal and regional governments.

5.4 Types of Tax and Tax Accounting in Ethiopia

According to the Tax Proclamation No. 286/2002 and Regulations No. 78/2002 of Ethiopia,There are Five schedules of taxation

a) Schedule A: Income from employment.
b) Schedule B: Income from rental of buildings.
c) Schedule C: Income from business.
d) Schedule D: Other income.
e) Schedule E: Exempt income.

Schedule A: income from employment is taxed at rates ranging from 10 to 35%. Employment income tax is withheld by employers and is a fi nal tax. That means employees earning income exclusively from employment are not required to declare income to tax authorities.

Employment income includes the following earnings:

a) salary, wages, an allowance, bonus, commission, gratuity, or other remuneration received by an employee in respect of a past, current, or future employment.

b) the value of fringe benef i ts received by an employee in respect of a past, current, or future employment.

c) an amount received by an employee on termination of employment, whether paid voluntarily, under an agreement, or because of legal proceedings, including any compensation for redundancy or loss of employment, or a golden handshake payment.

Employment Income per Month (I) (Birr)	Employment income tax rate	Deduction	Tax computation I=Employment income EIT=Employment income tax
0-600	0%	0	
601-1650	10%	60	$EIT = I \times 10\% - 60$
1651-3200	15%	142.5	$EIT = I \times 15\% - 142.5$
3201-5250	20%	302.5	$EIT = I \times 20\% - 302.5$
5251-7800	25%	565	$EIT = I \times 25\% - 565$
7801-10900	30%	955	$EIT = I \times 30\% - 955$
More than 10900	35%	1500	$EIT = I \times 35\% - 1500$

Source: Ethiopian Investment commission (2020)

Table shows that Employment Tax rate and Deductions.

Schedule B: rental income tax is imposed for each tax year on a person renting out a building or buildings who has taxable income for the year. The taxable income tax of a taxpayer for a tax year is the gross amount of income derived by the taxpayer from the rental of a building or buildings for the year reduced by the total amount of deductions allowed to the taxpayer for the year. Rental income tax rates refer to a taxpayer's taxable rental income for a tax year which is the gross amount of income that a taxpayer derives from rental of a building reduced by the total amount of deductions allowed.

Schedule C: provides for the taxation of income earned from businesses. Business income tax is imposed for each tax year. The taxable income for a tax year is the total business income reduced by the total deductions allowed to the taxpayer for the year.

Schedule D: includes other income such as income from royalties, income paid for services rendered outside of Ethiopia, income from games, dividends, income from casual rental of property, interest income, specif i ed non-business capital gains.

Schedule E: refers to exempt income. A list of exempted income items includes the cost of medical treatment of employees, hardship allowance, salary paid to domestic servants, maintenance, or child support payments, travelling expenses paid to employees recruited from elsewhere than the place of employment, pension contribution, and payments made to a person as compensation.

Apart from the above direct taxes, the following **indirect taxe**s are levied by the Ethiopian government.

Value added tax (VAT): is a tax levied on the value added at dif f erent stages. It is a sales tax that is administered in a dif f erent form. It is an indirect tax. Ethiopia introduced the VAT Act on 1 January 2003 with the standard rate of 15% which is applied on every taxable transaction by a registered person. According to the law, VAT must be included in the selling price of every taxable supply of goods or services made by a vendor during that vendor's enterprise. A vendor is a person who is registered, or required to be registered for VAT. Thus, VAT is a destination-based or consumption tax, which means that only the consumption of goods and services is taxed.

VAT exemptions also apply whereby the supplier of goods does not levy VAT (output tax) on those exempt supplies but must bear VAT (input tax) on the purchases incurred in making such supplies.

Turnover tax (TOT): this is an equalization tax that is imposed on persons not registered for value-added tax to fulf i l their obligations and to enhance fairness in commercial relations and to complete the coverage of the tax system. Administrative feasibility considerations limit the registration of persons under the value-added tax to those with annual transactions to the total value exceeding 500,000 Bir. For services rendered locally, the rate is 2% on contractors, grain mills, tractors and combine harvesters, 10% on others as provided by the Excise Tax Proclamation No. 307/2002.

Excise tax; this is imposed and payable on selected goods such as, luxury items and basic goods which are demand inelastic. In addition, it is believed that imposing the tax on goods that are hazardous to health and which cause social problems will reduce the consumption. Excise tax is applicable on 19 groups of items and 378 goods. The tax rate ranges from 5% to 500%. In terms of the time of payment, tax on excisable goods is payable when imported at the time of clearing the goods from the customs area, and when produced locally, not later than 30 days from the date of production (EIC, 2020).

Surtax: it is an additional 10% tax that is applicable on imported goods except for fertilizers, petroleum and lubricants, motor vehicles for freight, passengers and special purpose motor vehicles, aircraft, spacecraft, and parts thereof, and capital (investment) goods. The Ministry of Finance is authorized to increase or decrease the list of goods exempt from surtax.

Pension contribution: the contributions payable to the Private Organizations Pension Fund shall, based on the employee's salary, be by the employer (11%) and by the employee (7%).

Withholding Tax all bodies and specif i ed sole proprietor businesses are required to deduct withholding tax on domestic transactions at a rate of 2% of the value of the transaction and remit to the tax authority monthly.

Stamp Duty is another form of taxation basically imposed on the services given to individuals through af f i xing seals. Stamp is an of f i cial mark or seal placed on a document specially to indicate that a requirement tax has been paid. Thus, stamp duty is a tax raised by requiring stamps sold by the government to be af f i xed to designed documents, which form one kind of revenue to the government treasury.

Customs Duty: is tax like other taxes but it is imposed on imported or exported goods.

This is the best instrument to prevent or reduce importation of goods. It serves as trade barrier. Whenever a state needs to ban or reduce importations to her territory, it can impose high rate in some goods (excise taxation) it might reach a rate of 100% or above. Thus, such importation will be discouraged. Of course, this measure helps to protect infant domestic factories /industries from stif f competitions with the products of competitive and subsidized foreign companies/ importers.

Problems Associated with Taxation in Ethiopia

The major criticisms of tax systems around the world have focused on the complexity of their administration and the difficulty for taxpayers to understand and comply with it.

Both problems cause taxpayers to incur costs to correctly calculate their tax liability. This may encourage the growth of unreported transactions in the underground economy (tax evasion) and the growth of demand for tax shelters (tax avoidance).

In developed countries, one of the tools for improving efficiency in tax administration is to modernize customer services. This activity is based on the recognition of new management techniques with new concepts of "client orientation" or "customer orientation".

In developing countries including Ethiopia, on the other hand, tax systems face diverse problems. Some of these include the complexity of the tax system, perception of corruption, the cost of compliance, fairness perception of the tax system as well as tax knowledge. The latter has a positive effect on voluntary tax compliance. Broadly, these problems can be categorised under tax compliance and bureaucracy in tax systems.

Problems that are related to tax compliance are the biggest problems which are faced by any tax administration. The term "tax compliance" refers to the degree to which the taxpayers with the tax laws. On the contrary, tax non-compliance takes the form of tax avoidance and tax evasion.

Tax avoidance refers to arranging one's affairs so as to minimize the tax burden. It entails taking full advantage of the provisions of the tax code or schedule to reduce one's tax obligations. An example is a reduction of one's tax burden through exemptions, deductions or incentives approved in the tax schedule. From the perspective of law, tax avoidance is not illegal; however, it poses problems for tax administration.

Tax evasion is falsifying information on a tax return in order to reduce one's tax liability or even not filing at all (failing to pay legally due taxes) which is illegal. Tax evasion is rooted in underground economic activities that exist for, at least, two reasons:

(a) because certain activities are illegal and individuals do not want records of those activities having taken place, and

(b) because high marginal tax rates give people an incentive to obtain income without reporting it.

Review Questions

Part I: True or False Read the following sentences and write "True" for correct sentences and "False" for incorrect ones.

1. A good tax system is equitable and efficient.
2. Indirect taxes impose the burden or impact on the same person who earns the income whereas direct taxes impose the burden on a dif f erent person.
3. There is no difference between direct taxes and indirect taxes.
4. Tax evasion is falsifying information on tax return in order to reduce one's tax liability or even not filing at all.

Part II: Multiple Choices For the following question choose the best answer from the given alternatives

1. Suppose Ayele has an income of 4,000 birr and pays tax of 300 birr while Atote has an income of 20,000 birr and pays tax of 1,400 birr. This tax is:
A. Regressive.
B. Proportional.
C. Progressive.
D. None of the above.
2. A tax imposed on imported goods or exported goods is known as:
A. Withholding tax B. Stamp duty C. Custom Duty D. All of the above 3. A good tax system is characterised by:
A. Simple, fi nancially adequate and elastic.
B. Administratively efficient.
C. Balanced and harmonious.
D. Ensures the reduction of economic inequalities.
E. All of the above.

Part III: Short Answers For the following questions write short answers

1. What are the objectives of taxation?
2. Define progressive, proportional and regressive taxation.
3. Differentiate between tax incidence, impact and effect.
4. What are the main types of taxes in Ethiopia?
5. Write two major problems associated with taxation in Ethiopia.

Part IV: Workout For the following question provide the required solution neatly

1. Calculate an employment income tax for an employee with a monthly income of 10,000 Birr.

Answers to Review Exercise

Part I: True or False
1. True 2. False 3. False 4. True
Part II: Multiple Choices
1. A 2. C 3. E
Part III: Short Answers

1. The objectives of taxation are to minimize income and wealth inequalities, stabilize the economy, discourage the consumption of harmful products, provide incentives for capital formation in the private sector, reduce regional imbalance, enhance standard of livings, utilize the scarce resources to produce more essential goods, and minimize unemployment and encourage export.
2. A progressive tax is one where those with higher incomes pay a higher share of taxes out of their income compared to those with lower incomes. So, the average tax rate rises with income and people with higher incomes will pay a higher percentage of their income in taxes. A proportional tax is one where everyone pays the same share of taxes regardless of income level. Here, the average tax rate is the same at all income levels. Everyone pays the same percentage of income in taxes. A regressive tax is one where those with high income pay a lower share of income in taxes than those with lower incomes. Here, the average tax rate falls with income.
People with higher incomes will pay a lower percentage of their income in taxes.
3. Tax incidence relates to the way the burden of a tax is distributed among economic units (consumers, producers, employees, employers). It indicates who is legally responsible for paying the tax. Impact of tax is tax's fi rst point of contact with the taxpayers. It is felt by those who bear the fi rst statutory responsibility of paying it to the government. Ef f ect of a tax refers to responses from taxpayers and the economy to the imposition and collections of taxes. Such responses can be varied and inf l uence the working of the economy in terms of production, growth, saving, investment, inequality etc. These responses and their results are collectively called the ef f ects of tax.
4. There are dif f erent types of taxes on income: Schedule A: Income from employment, Schedule B: Income from rental of buildings, Schedule C: Income from business, Schedule D: Other income, and Schedule E: Exempt income.
5. Two major problems associated with taxation in Ethiopia relate to tax compliance.
Other problems which the tax administrations face are a steadily growing workload, the complexity of fi scal legislation, the attitude of taxpayers and the degree of non-compliance, the need to improve customer service, the need to reduce costs of tax assessment and collection, and the need for ef f i cient and ef f ective management.
These problems raise questions about the ef f i ciency and the ef f ectiveness of tax collection and the ways in which they can be improved. Tax non-compliance is one of the biggest problems facing any tax administration. These problems take the form of tax avoidance and tax evasion. Tax avoidance refers to arranging your af f airs so as to minimize your tax burden. It entails taking full advantage of the provisions of the tax code or schedule to reduce one's tax obligations. An example is a reduction of one's tax burden through exemptions, deductions or incentives approved in the tax schedule. There is nothing illegal about tax avoidance. Tax evasion is falsifying information on your tax return in order to reduce your tax liability or even not fi ling at all (failing to pay legally due taxes). It is illegal.

Tax evasion is rooted in underground economic activities that exist for, at least, two reasons: (a) because certain activities are illegal and individuals do not want records of those activities having taken place, and (b) because high marginal tax rates give people an incentive to obtain income without reporting it.

Part IV: Workout

1. The answer is 2045 Birr.

To calculate an employment income tax for an employee with a monthly income of 10,000 Birr, first refer to the above Table – Employment tax income deduction where different rates are shown.

Salary income tax = Gross Salary * Tax rate -Deduction.

That is since the gross salary is 10,000, reduce 30% tax rate (i.e., 0.3*10,000) which gives 3,000 Birr. The tax deduction from the table is 955.

So, 3000-955 is 2045 Birr.

CHAPTER 6

POVERTY AND INEQUALITY

6.1 Concept of Poverty and Its Measurement

Poverty

First, poverty consists of many interlocked dimensions. Although poverty is rarely about the lack of only one thing, the bottom line is always hunger – the lack of food.

Second, poverty has important psychological dimensions, such as powerlessness, voicelessness, dependency, shame, and humiliation.

Third, poor people lack access to basic infrastructure – roads (particularly in rural areas), transportation, and clean water.

Fourth, while there is a widespread thirst for literacy, schooling receives little mention or mixed reviews.

Fifth, poor health and illness are dreaded almost everywhere as a source of destitution. This is related to the costs of health care as well as to income lost due to illness.

Finally, the poor rarely speak of income, but focus instead on managing assets – physical, human, social, and environmental – as a way to cope with their vulnerability. In many areas, this vulnerability has a gender dimension.

Irrespective of divergent views on the definitions of poverty, there is convergence of thinking on the types of poverty.

Types of poverty

Poverty is classified into relative and absolute poverty.

Relative poverty is defined in comparison to other people's standing in the economy. A person can be poor in the relative sense, although he/she can meet his/her basic needs. Relative poverty can be observed by looking at relative standings within a society, or internationally.

Absolute poverty is the situation of someone being unable or only barely able to meet the subsistence essentials such as food, clothing, and shelter. It is simply the deprivation of basic needs. The extent of absolute poverty is expressed by the number of people who are unable to command sufficient resources to satisfy the basic needs. They are counted as the total number living below a specified minimum level of real income or an international poverty line such as those living on less than $2 per day in purchasing power parity (PPP) dollars.

Apart from relative and absolute aspects of poverty, there are also other dimensions. It is argued that perhaps the most valid generalizations about the poor are that they are disproportionately located in rural areas, that they are primarily engaged in agricultural and associated activities, that they are more likely to be women and children than adult males, and that they are often concentrated among minority ethnic groups and indigenous peoples.

Measuring Poverty

There are four reasons to measure poverty.

The first is to keep poor people on the agenda.

The second is to be able to identify poor people and so that we are able to target appropriate interventions.

The third is to monitor and evaluate projects and policy interventions geared to poor people.

The fourth is to evaluate the effectiveness of institutions whose goal is to help poor people.

Poverty is measured in a number of steps. The **first step** is to know which people are poor. This follows with specifying a minimal socially acceptable level of income or consumption (the poverty line). **The second** is to implement a representative survey in which the corresponding income or consumption concept is measured. **Finally**, one has to choose and calculate a specific poverty measure.

There are different ways of measuring poverty.

1.poverty headcount index

Assume a headcount (H) of those whose incomes or consumption fall below the absolute poverty line (Yp) whereby the headcount is taken as a fraction of the total population (N). Then, headcount index or headcount ratio can be defined as H/N.

It doesn't show depth of poverty among peoples.

2.Total poverty gap (TPG)

This measures the total amount of income that is necessary to raise everyone who is below the poverty line up to that line. It is defined as the sum of the dif f erence between the poverty line and actual income levels of all people who are living below that line. Similarly, the average poverty gap (APG) is found by dividing the TPG by the total population. It doesn't show the severity of poverty.

3.Foster-Greer-Thorbecke index(FGT)

is another measurement. It is defined as a class of measures of the level of absolute poverty. This measurement helps to understand the degree of income inequality among the poor.

4.Multidimensional Poverty index (MPI)

is the most prominent application of multidimensional poverty measurement; it incorporates three dimensions at the household level: health, education, and wealth. The MPI takes into account that people suf f er from multiple deprivations.

Each of the dimensions has its own indicator. For example, health has two indicators: a) whether any child has died in the family, and b) whether any adult or child in the family is malnourished. Both are weighted equally, and each counts one-sixth toward the maximum possible deprivation in the MPI.

Education, too, has two indicators: a) whether or not even one household member has completed fi ve years of schooling, and b) whether or not any school-age child is out of school for grades one through to eight. Again, both are given equal weight, and each counts one-sixth towards the MPI.

Finally, in terms of standard of living, equal weight is placed on six deprivations: a) lack of electricity, b) insuf f i ciently safe drinking water, c) inadequate sanitation, d) inadequate fl ooring, e) unimproved cooking fuel, and f) lack of more than one of fi ve assets (telephone, radio, television, bicycle, and motorbike or similar vehicle).

.Sen's Approach to Poverty and Wellbeing

Amartya Sen, the 1998 Nobel Laureate in economics, contended that traditional welfare economics, which stresses the revealed preferences or desire-based utilities of individuals in their acts of choice, lacks enough information about people's preferences to assess the social good. Accordingly, as an alternative, Sen's welfare theory relies not on individuals' attainments (for example, of basic needs) but individuals' capabilities.

His approach, also known as capability approach, states that income and wealth are not ends in themselves but rather instruments for other purposes. For him capability to function is what really matters for one's status as a poor or non-poor person. According to him, the expansion of commodity production is valued not for its own sake, but as a means to human welfare and freedom.

In ef f ect, Sen argued that poverty is not low wellbeing but the inability to pursue wellbeing because of the lack of economic means. Hence, poverty cannot be properly measured by income or even by utility as conventionally understood. What matters is not the things that a person has but what a person is, or can be, and does, or can do. What matters for wellbeing is not just the characteristics of commodities consumed, as in the utility approach, but what use the consumer can and does make of commodities. For example, a book is of little value to an illiterate person.

Functionings, according to Sen, are what a person does or can do with the commodities of given characteristics. Sen also considered the freedom of choice, or control of one's own life, as a central aspect of wellbeing.

Sen coined another term, **capabilities**, which literally means the power or ability to do something. Capabilities represent the real freedoms that people have to achieve their potential doings and beings.

6.2 Concept of Inequality and its Measurements

Inequality refers to the situation of being unequal or uneven, or a social disparity of distribution or opportunity. Inequalities take dif f erent dimensions: economic, social, political, etc. For example, there are inequalities of power, prestige, status, gender, job satisfaction, conditions of work, degree of participation, freedom of choice. The focus here is on the economic (mainly income) dimension.

Economic inequality is the disproportionate distribution of total national income among households.

This income distribution is divided into two:

The functional/distributive factor share distribution of income and the personal/size distribution of income.

Functional or factor share distribution of income refers the share of total national income that each of the factors of production (land, labour, and capital) receives. The theory of functional income distribution queries the percentage that labour receives as a whole and compares this with the percentages of total income distributed in the form of rent, interest, and profit. In other words, the concept of functional income distribution attempts to explain the incomes of factors of production by the contribution they make to production.

The personal/size distribution of income is the most commonly used indicator of income distribution. It deals with individual persons or households and the total incomes they receive regardless of the way in which they received that income.

.Methods of Measuring Income Inequality.

A.Kuznets ratio

First, arrange all individuals by ascending or increasing personal incomes. Second, divide the population into successive quintiles (fifths) or deciles (tenths) according to ascending income levels and then determine what proportion of the total national income is received by each income group.Then, the ratio of the incomes received by the top 20% and bottom 40% of the population, sometimes called a Kuznets ratio (named after Simon Kuznets) is used as a measure of **the degree of inequality between high-income and low-income groups** in a country.

	Personal Income	Share of Total Income(%)	
Individuals	(Money Units)	Quintiles	Deciles
1	0.8		
2	1		1.8
3	1.4		
4	1.8	5	3.2
5	1.9		
6	2		3.9
7	2.4		
8	2.7	9	5.1
9	2.8		
10	3		5.8
11	3.4		
12	3.8	13	7.2
13	4.2		
14	4.8		9
15	5.9		
16	7.1	22	13
17	10.5		
18	12		22.5
19	13.5		
20	15	51	28.5
Total (National Income)	100	100	100

Table.A. Typical size distribution of personal income.

The total income of all individuals amounts to 100 units and is the sum of all entries in column 2. In the third column, the population is grouped into quintiles of four individuals each. That means, the fi rst quintile (4 out of 20) represents the bottom 20% of the population on the income scale. This group receives only 5% (a total of 5 money units) of the total income. The second quintile receives 9% of the total income. Alternatively, the bottom 40% of the population (quantities 1 plus 2) receives only 14% of the income while the top 20% (the fi fth quintile) of the population receives 51% of the total incomes.

A common measure of income inequality that can be derived from column 3 is the ratio of incomes that is received by the bottom 40% and top 20% of the population. This ratio is often used as a measure of the degree of inequality between the two extremes; this inequality ratio is equal to 14 which is divided by 51, or approximately 0.28.

To provide a more detailed breakdown of the size distribution of income, decile (10%) shares are listed in column 4. We see, for example, that the bottom 10% of the population (the two poorest individuals) receive only 1.8% of the total income, while the top 10% (the two richest individuals) receives 28.5%.

B.Lorenz Curve

Another common way to analyse personal income statistics is to construct the Lorenz curve. The Lorenz curve shows cumulative shares of income received by individuals or groups. It was

developed by economist Max Lorenz in 1905 as a way to analyse personal income statistics. The Lorenz curve measure the distribution of income.
To construct a Lorenz curve, we put the number of income recipients in cumulative percentage on the horizontal axis and the share of income received by each group (%) on the vertical axis.

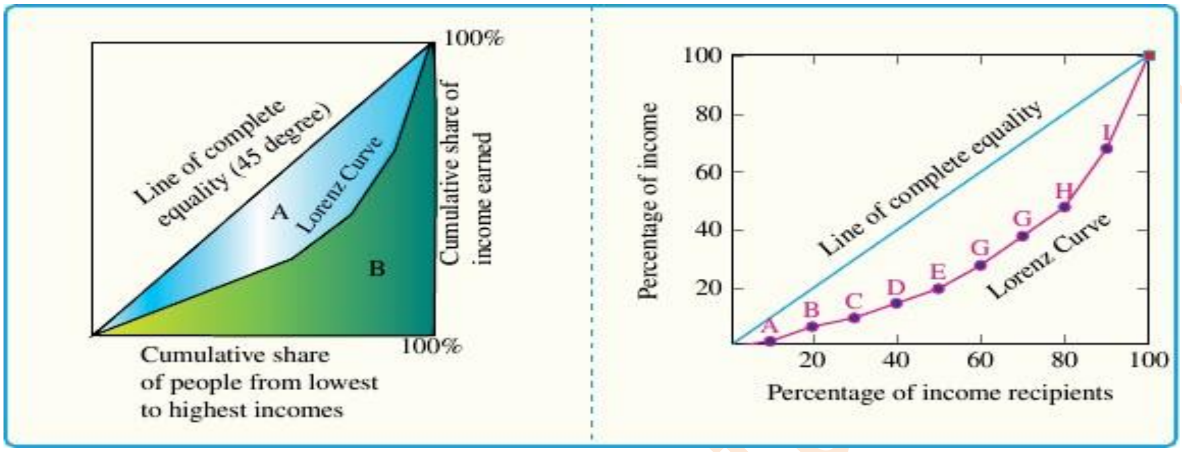


Figure 1. Lorenz curve

At every point on that diagonal, the percentage of income received is exactly equal to the percentage of income recipients. For example, the point halfway along the length of the diagonal represents 50% of the income being distributed to exactly 50% of the population.
At the three-quartile point of diagonal, 75% of the income would be distributed to 75% of the population. In other words, the diagonal line is representative of “perfect equality” in size distribution of income. This means that each group of income recipients receives the same percentage of the total income. The bottom 40% receives 40% of the income, while the top 5% receives 5% of the total income.
In sum, the Lorenz Curve shows income inequalities. If income distribution were perfectly equal, it would be represented by the 45-degree line. In practice, Lorenz curves are located between the 45-degree line and the line of complete inequality.
The more bowed out the curve, the less equal the distribution.

C.Gini Coefficient

The Gini coefficient is a measure of inequality, which is often expressed by the ratio of the area between the Lorenz curve and a 45° line and the total area under the 45° line. The Gini coef f i cient is named after the Italian statistician, Corrado Gini, who fi rst formulated it in 1912.

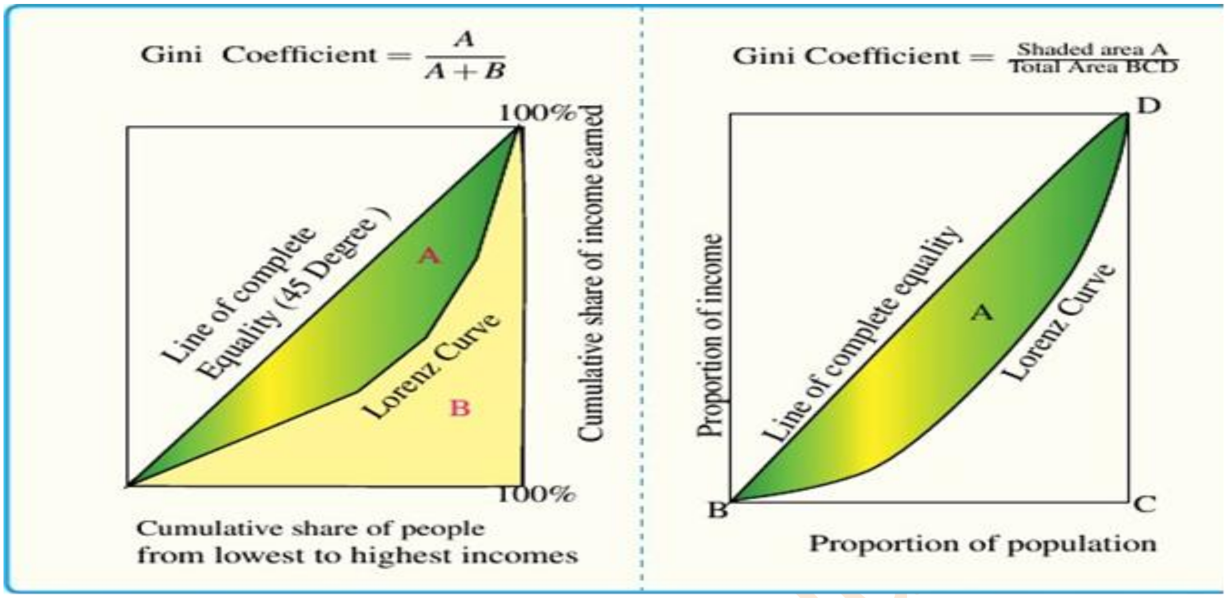


Figure 2.Gini Cofficient

The higher is the value of Gini coefficient, the higher the inequality. If the Gini coef f i cient is 0, the Lorenz curve coincides with the main diagonal and implies perfect equality. If the Gini- coef f i cient is 1, it shows perfect inequality when all income is owned by one person. For example, if there are two countries A and B with Gini coef f i cient 0.28 and 0.60, respectively, it implies that Country B is characterized by more unequal distribution of income than A.

6.3 Global and Regional Poverty

It is difficult to arrive at a tight estimate of the extent of global poverty at any point in time. However, there are clear indications that the conditions of poverty improved over the past half century. For example, countries like China made significant progress in lifting millions of their citizens out of poverty. Yet extreme poverty remains widespread in the developing world, and especially in sub-Sahara Africa.

In 2010, more than 1.2 billion people lived on less than $1.25 per day and some 2.4 billion (more than one third of the world's population) lived on less than $2 a day (Todaro, 2015).

The UN reported that more than 700 million people, or 10% of the world population were living in extreme poverty and the majority of people on less than $1.90 a day live in sub-Saharan Africa.

The gravity of the situation led developing countries to make the eradication of poverty their policy goal. This desire is also reflected in the Sustainable Development Goals, 2015-2030. Accordingly, Goal 1 aims to end poverty in all its forms.

Goals	
Goal 1	No Poverty
Goal 2	Zero Hunger
Goal 3	Good Health and Well-Being
Goal 4	Quality Education
Goal 5	Gender Equality
Goal 6	Clean Water and Sanitation
Goal 7	Affordable and Clean Energy
Goal 8	Decent Work and Economic Growth
Goal 9	Industry, Innovation and Infrastructure
Goal 10	Reduced Inequality
Goal 11	Sustainable Cities and Communities
Goal 12	Responsible Consumption And Production
Goal 13	Climate Action
Goal 14	Life below Water
Goal 15	Life on Land
Goal 16	Peace and Justice Strong Institutions
Goal 17	Partnerships to achieve the goal

Table.B.The Sustainable Development Goals (2015-2030)

Many developing countries have undergone this process in their development endeavours, including Ethiopia.

As far as inequality is concerned, it has been rising globally due to globalisation, technical progress as well as policies and institutions of different countries.

6.4 Women and Poverty

Globally, women make up a substantial majority of the world's poor. Among the poorest communities throughout the developing world, virtually everywhere women and children experience the harshest deprivation. They are more likely to be poor and malnourished and less likely to receive medical services, clean water, sanitation, and other benef i ts.

The prevalence of female-headed households, the lower earning capacity of women, and their limited control over their spouses' income all contribute to this phenomenon.

Moreover, a disproportionate number of the poorest people live in households which are headed by women who have lower incomes. A portion of the income disparity between male-headed and female-headed households can be explained by the large earnings differentials between men and women. Since the earning potential of women is considerably below that of their male counterparts, women are more likely to be among the very poor.

In addition, women have less access to education, formal-sector employment, social security, and government employment programmes. These facts combine to ensure that poor women's financial resources are meagre and unstable compared to those of men.These combined factors perpetuate the low economic status of women and can lead to strict limitations on their control over household resources.

Studies have found that where women's share of income within the home is relatively high, there is less discrimination against girls, and women are better able to meet their own needs as well as those of their children.

Women's control over household income and resources is limited for a number of reasons. Of primary importance is the fact that a relatively large proportion of the work performed by women's. for example, collecting firewood and cooking, and may even be intangible, as with parenting.

When public programmes to alleviate poverty work exclusively with men, they tend to exacerbate these inequalities. In urban areas, training programmes to increase earning potential and formal-sector employment are generally geared to men, while agricultural extension programmes promote male-dominated crops, frequently at the expense of women's vegetable plots.

Thus, the design of development policy needs to integrate women into development programmes so long as the latter influences the welfare of women and children. This would entail increasing female participation rates in educational and training programmes, formal-sector employment, and agricultural extension programmes.

It is necessary to ensure that women have equal access to government resources provided through schooling, health and other services. In cases where the majority of female labour force is employed in the informal sector, formalising or legalising such employment would improve the economic status of women.

The consequences of a decline in women's relative or absolute economic status have both ethical and long-term economic implications. Any process of growth that fails to improve the welfare of the people experiencing the greatest hardship, has failed to accomplish one of the principal goals of development. Likewise, the low status of women, in the long run, is likely to translate into slower rates of economic growth. Thus, the benef i ts of current investments in human capital are more likely to be passed onto future generations if women are successfully integrated into the growth process.

6.5 Overview of Poverty and Inequalities in Ethiopia

Ethiopia has an estimated population of 118 million people as of 2021. The World Bank (2020) reckons that Ethiopia's economy experienced strong, broad-based growth averaging 9.8% a year from 2008/09 to 2018/19, with the share of the population living below the national poverty line declining from 38% to 24% over the same period. Yet Ethiopia remains one of the poorest countries in the world with a per capita annual income estimated, according to the government, at $883.

The government also reckons that the headcount poverty in Ethiopia declined from 59% in 1992 to 29.5% in 2011 (MoFED, 2012. In 2019, Ethiopia's HDI value was 0.485 positioning it at 173 out of 189 countries and territories. This puts the country in the low human development category (UNDP). Moreover, 44% of people earn less than a dollar per day, and 89% falls below the 2 US$ per day poverty line.

While poverty has generally decreased, it is still a challenge in Ethiopia especially in rural areas where the rate of decrease is slower than the urban areas, where most rural livelihoods depend on rain-fed agriculture, exposed to climate related vulnerabilities.

The poverty and vulnerability of the people is also reflected in the inadequate health and education systems and poor access to basic services.

6.6 Role of Indigenous Knowledge in Reducing Poverty

Indigenous knowledge is the accumulated set of common-sense knowledge and ideas of the local people about their everyday realities of living which is unique to the given community. Indigenous knowledge is locally based and developed within the communities and used to solve problems within society; it is also dynamic.

Variously known as "traditional knowledge," "local knowledge" and "traditional wisdom," indigenous knowledge is used to solve different problems, including relief of poverty.

Ethiopia is endowed with diverse cultures and peoples that are rich in indigenous knowledge and associated practices. Some of the indigenous knowledge and practices are:-

1. Idir:-is the most common informal institution in Ethiopia. Although it is a form of burial society, it also provides other support and consolation to its members in times of death and grief. It is an association established among neighbours or workers to raise funds that will be used during emergencies, such as death within these groups and their families. It is also known as a traditional burial association. Idir is characterized as a group life insurance.

As such it usually has a large membership and the weekly or monthly membership is minimal and af f ordable by all. Idir guarantees grieving families the complete assistance (f i nancial or otherwise) they seek in times of emergency. Idir members are required to attend funerals and must always be ready to help the ceremony of burial. Idir can be established by a community or village, at the workplace, or among friends and family.

2. Iqub:- (also called "Ikub") is a rotating credit association which is established by a small group of people in order to provide substantial funding for members to improve their lives and living conditions. Serving as a savings club, each member contributes to the pool of money weekly or monthly.

Iqub enables a family, particularly a poor family, to obtain the necessary funding for activities such as weddings, building a house, or starting a small business. The rotating fund is a means for poor people to make investments that they would normally never consider making due to lack of money. Iqub is more fl exible and accessible than banks and requires minimal paperwork. As a result, people without formal education are not discouraged from joining. Moreover, for a small payment each week or month, members of Iqub can keep a steady fl ow of money to help any member of the group on a rotational basis.

Iqub and **Idir** can be characterized as traditional fi nancial associations. While Idir is a long-term association, Iqub can be temporary or permanent, depending on the needs of the members. Yet the two are informal, bottom-up, and widely practiced socio-economic traditions in Ethiopia. They serve the needs of the society in a sustainable way and they are based on available human or material resources.

3.Debo or a work group where community members (who are also Debo members) assist an individual on a rotational basis, often for free.

It is often organised by men to pool their labour to work on each other's farmland, on rotational basis.

There are numerous similar institutions across the country, each playing important roles in poverty reduction and as pathways to upward mobility. However, being informal associations, they do not fi gure out in the formal, documented arena of social and economic life.

In addition to the above forms of associations, rural and urban **cottage industries** play an important role in lifting people out of poverty. Cottage industry refers to small-scale, decentralized manufacturing units involved in the production of goods and services using conventional and low-technology methods. A cottage industry is often operated home rather than a purpose-built facility.

Examples of cottage industry are locally produced handicrafts and textiles, which are still the backbone of many rural economies around the globe. The oldest forms of cottage industry in Ethiopia are weaving, leather working, pottery, basket and blacksmithing as well as making agricultural, household and construction equipment.

Even though they require very little investment, they make a signif i cant contributions to local and national economies. Cottage industries have the advantage of employing labour-intensive techniques providing employment, thus reducing unemployment and offering opportunities for self-employment for men and women.

Apart from informal associations and cottage industries, modern cooperatives such as coffee unions are key vehicles for the implementation of poverty reduction and sustainable livelihood development in Ethiopia

Review Questions

Part I: True or False

Read the following sentences and write "True" for correct sentences and "False" for incorrect ones.

1. Poverty and inequality are interrelated concepts which are also a daily reality for millions of people around the world.
2. Poverty is classif i ed into relative and absolute poverty.
3. Relative poverty is the situation of someone being unable or only barely able to meet the subsistence essentials such as food, clothing, and shelter.
4. Amartya Sen contended that traditional welfare economics lacks enough information about people's preferences to assess the social good.
5. In 2010, more than 1.2 billion people lived on less than $1.25 per day and some 2.4 billion lived on less than $2 a day.

Part II: Multiple Choices

For the following question choose the best answer from the given alternatives.

1. Which organisation def i ned poverty as "the pronounced deprivation in wellbeing"?

A. World Bank B. UNESCO C. IMF D. ILO E. "C" and "D"

2. One of the following is among the SDGs:

A. quality education B. reduced inequality C. climate Action D. gender equality E. All of the above

3. One of the following rightly characterises absolute poverty:

A. It is the situation of someone being unable or only barely able to meet the subsistence essentials such as food, clothing, and shelter.

B. It is the deprivation of basic needs.

C. The extent of absolute poverty is expressed as the number of people who are unable to command suf f i cient resources to satisfy basic needs.

D. All of the above.

E. None of the above.

4. Which one of the following best describes the situation of global poverty and women:

A. Women make up a substantial majority of the world's poor.

B. Among the poorest communities throughout the developing world, virtually everywhere women and children experience the harshest deprivation.

C. Women are more likely to be poor and malnourished and less likely to receive medical services, clean water, sanitation, and other benef i ts.

D. All of the above.
E. None of the above.
5. According to Sen's Capability Approach, A. Income and wealth are ends in themselves.
B. The capability to function is what really matters for one's status as a poor or non-poor person.
C. The expansion of commodity production is valued not for its own sake, but as a means to human welfare and freedom.
D. What matters is not the things a person has but what a person is, or can be, and does, or can do. What matters for wellbeing is not just the characteristics of commodities consumed, as in the utility approach, but what use the consumer can and does make of commodities. For example, a book is of little value to an illiterate person, except perhaps as a cooking fuel.
E. B to D.

Part III: Short Answers

For the following questions write short answers.
1. Summarise the three steps which are involved in measuring poverty.
2. Write down the meaning of Multidimensional Poverty index.
3. Describe the Lorenz curve.
4. Illustrate the relationship between income distribution and the Gini coef f i cient.
5. Describe the roles of indigenous knowledge and institutions in reducing poverty and inequality in Ethiopia.

Answers to Review Exercise

Part I: True or False
1. True 2. True 3. False 4. True 5. True
Part II: Multiple Choices
1. A 2. E 3. D 4. D 5. E
Part III: Short Answer
1. The three steps needed in measuring poverty are: def i ning an indicator of welfare, establishing a minimum acceptable standard of that indicator to separate the poor from the nonpoor (the poverty line), and generating a summary statistic to aggregate the information from the distribution of this welfare indicator relative to the poverty line.
2. The multidimensional poverty index incorporates three dimensions at the household level: health, education, and wealth. It takes into account that people have multiple deprivations.
3. A Lorenz curve is a graphic representations of income distribution. It is a curve that shows cumulative shares of income received by individuals or groups. It was developed by economist Max Lorenz in 1905 to analyse personal income statistics.
4. The Gini coef f i cient is the ratio of the area between the Lorenz curve and a 45° line and the total area under the 45° line. A Gini value of zero means that a distribution is completely equal. A Gini value of 1 indicates that one person had all the income and everyone else nothing

(indicating total inequality). Between 1 and 0, the smaller the Gini coefficient, the more equal the income distribution, whereas the larger the Gini coefficient, the more unequal distribution.

5. Ethiopia is endowed with diverse cultures and peoples that are rich in indigenous knowledge and associated practices. Some of the indigenous knowledge and practices are unique to specific localities and others are common to wider environment.

Informal associations such as Iqub and Idir guarantee that everyone is taken care of in times of need through participatory and enabling means. In times of death,the community is kept intact and the grieving family instantly gets fi nancial and social support. Apart from informal associations and cottage industries, modern cooperatives such as coffee unions are key vehicles for the implementation of poverty reduction and sustainable livelihood development in Ethiopia.

CHAPTER 7

MACROECONOMIC REFORMS IN ETHIOPIA

Economic reform began throughout Africa in the mid-1990s.During the mid-1990s, several civil wars ended and a wave of democratization started. It has been documented that, as indicated by socio-economic indicators, Ethiopia appears to be one of the poorest countries in the world. To reverse this image, a number of economic reforms were taken by dif f erent governments.

7.1 National Development Objectives and Strategies- Historical Review

Ethiopia is the oldest independent country in Africa and one of the oldest countries in the world. The ancient monarchy maintained its freedom from colonial rule with the exception of a short-lived Italian occupation ef f ort from 1936–1941. In 1974, a military junta, the "Derg", deposed Emperor Haile Selassie I (who had ruled since 1930) and established a socialist state. The derg regime was finally toppled in 1991 by a coalition of rebel forces, the Ethiopian People's Revolutionary Democratic Front (EPRDF). A constitution was adopted in 1994, and Ethiopia's fi rst multiparty election was held in 1995.

National Development Plan during the Imperial Period (1950-74)

When their occupation of Ethiopia ended in 1941, the Italians left behind a country whose economic structure was much as it had been for centuries, although there had been some improvements in communications, particularly in the area of road building, and attempts had been made to establish a few small industries and to introduce commercial farming.

During the late 1940s and the 1950s, much of the economy remained unchanged. The government focused its development efforts on expansion of the bureaucratic structure. By the early 1950s, Emperor Haile Selassie I had renewed calls for a transition from a *subsistence economy to an agro-industrial econom*y. A key element of the emperor's new economic policy was the adoption of centrally administered development plans.

In 1954/55 the government created the National Economic Council which helped to prepare Ethiopia's ***three five-year development plans.***

The First Five-Year Plan (1957 – 1961)

Main Objectives were:

- Development of a strong infrastructure, particularly in transportation, construction, and communications, to link isolated regions.

 Establishment of a cadre of skilled and semi-skilled personnel to work in processing industries to help reduce Ethiopia’s dependence on imports.

 Acceleration of agricultural development by promoting commercial agricultural ventures. During the plan period, the gross national product (GNP) increased at a 3.2% annual rate, as opposed to the projected fi gure of 3.7%, and growth in economic sectors such as agriculture, manufacturing, and mining failed to meet the national plan’s targets. On the other hand, exports increased at a 3.5% annual rate, whereas imports grew at a rate of 6.4% per annum, thus failing to correct the negative balance of trade that had existed since 1951.The First Five-Year Development Plan promoted improved production of cash crops, including cof f ee, which accounted for 70% of foreign exchange earnings.

The Second Five-Year Plan (1962 –1967)

Similarly, the second Five-Year Development Plan (1962-1967) continued to prioritize industrial development. Large-scale commercial farms for production of cotton, coffee and sugar were promoted as a source of income over small-scale subsistence farms, which accounted for about 80% of cereal production.

The second plan’s objectives were:

 to change Ethiopia’s predominantly agricultural economy to an agro-industry alone.

 diversification of production, introduction of modern processing methods, and expansion of the economy’s productive capacity to increase the country’s growth rate.

The Third Five- Year Plan (1968–1973)

The third Five-Year Development Plan shifted its focus to the development of the agricultural sector in order to address the rising problem of food shortages in Ethiopia. The Integrated Rural Development project was also established to address rural development challenges and expand the agricultural commercial market system. It predominantly focused on improving the distribution of agricultural inputs, such as fertilizers and seeds used by commercial farmers, and expanding rural health services. Nonetheless, the monarchy continued to envision the development of the non-agricultural sector as the main driver of economic development.

The third plan’s objectives:

 raising manufacturing and agro-industrial performance.

 expansion of educational opportunities.

 improvement in peasant agriculture.

The second five-year plan and the third five-year plans anticipated that the economy would grow at an annual rate of 4.3% and 6.0%, respectively. But the Planning Commission never assessed the performance of these two plans, largely because of a shortage of qualified personnel.

According to data from the Central Statistical Authority, from 1960/61 to 1973/74 the economy achieved sustained economic growth.However, these changes failed to improve the lives of most Ethiopians.

This failure could be attributed to the feudal land tenure system that deprived millions of rural peasants of the right to appropriate land and other resources. A combination of public dissatisfaction, food shortages and the rise of a military government led to the overthrow of the monarchy in 1974.

National Development Plan under the Socialist Period (1974-1991)

The 1974 revolution by the Derg resulted in the establishment of a socialist state which aimed at the nationalization and restructuring of the Ethiopian economy. The Derg changed the previous national development strategy, placing the emphasis on a centrally planned economy. Industry-led development was deployed as the main development strategy.

Rural land and other productive assets were nationalized, and land was distributed among farmers. Commercial farms were put under government control, and land tenancy was abolished. Furthermore, private commercial labourers and commercial farming were marginalized, and large collectivization programmes were promoted through resettlement and villagisation programmes. The military government maintained an overvalued currency and implemented marketing and pricing policies. In addition, the government established the Agricultural Marketing Corporation (AMC) to set pricing systems, for agricultural goods and set quotas for grain production which were signif i cantly lower than market prices. Economic planning and development in the post-revolution period had ***four distinct phases.***

I. 1974-1978: during this period, there was little economic growth. Instead, the government's nationalization measures and the highly unstable political climate caused economic dislocation in sectors such as agriculture and manufacturing.

Additionally, the military budget consumed a substantial portion of the nation's resources. As a result of these problems, gross domestic product increased at only an average annual rate of 0.4%.

II. 1978-1980: during this period, the economy began to recover as the government consolidated power and implemented institutional reforms. The government's new Development through Cooperation Campaign (commonly referred to as "Zemecha") also contributed to the economy's improvement. Consequently, gross domestic product grew at an average annual rate of 5.7%. Benef i ting from good weather, agricultural production increased at an average annual rate of 3.6%, and manufacturing increased at an average annual rate of 18.9%.

III. 1980-1985: various annual development campaign programmes were implemented during this period, but still the economy experienced a setback as gross domestic product declined, manufacturing took a downturn, and agriculture reached a crisis stage. This happened due to four reasons:

 widespread drought all over the country, manufacturing sector stagnated as agricultural inputs declined, lack of foreign exchange and declining investment high rise in defense expenditure.

IV. 1985-1990: the government prepared a ten-year perspective plan for the period 1984-1994, which aimed at the development of agriculture, enhancement of exports, and improvement in the quality of livestock. To achieve this, strategies of cooperativisation and establishment of state farms, etc., were adopted. As a result, the agricultural decline was reversed and the manufacturing sector also grew. Gross domestic product increased at an average annual rate of 5%. However, the lingering ef f ects of the 1984/85 droughts undercut these achievements and contributed to the economy's overall stagnation during this period.

National Development Plan under FDRE

The Ethiopian People's Revolutionary Democratic Front's (EPRDF's) rise to power in 1991 resulted in a considerable shift in national development strategies. The EPRDF moved Ethiopia's development vision away from the previous centrally planned industrial development and towards a new agricultural-led development approach. Many of the previous governments' policies were reversed, agricultural price controls were removed, and state farm assets were privatized. In addition, the new government adopted an export-oriented development strategy and implemented structural adjustment programmes (SAPs). In 1994, the home-born Agricultural Development-Led Industrialization (ADLI) was launched as the foundation for national development, with the main objective of attaining food self-suf f i ciency by increasing agricultural productivity and output.

Under the ADLI, the government envisioned agricultural sector-driven economic transformation. The programme entailed three main strategies: expansion of agricultural technologies; investment in agricultural infrastructure, including inputs; and boosting rural non-agricultural sectors. The programme aimed at boosting agricultural productivity by improving the use of fertilizers and seeds, with the ultimate aim of boosting agricultural production to serve as input and drive industrial development.

Development Programs of EPRDF

The ADLI remains the key pillar and guiding framework for other successive development plans, including the Sustainable Development and Poverty Reduction (SDPRP), Plan for Accelerated and Sustained Development to End Poverty (PASDEP), Growth and Transformation Plan I(GTPI).and Growth and Transformation Plan II(GTP II)

A. Sustainable Development and Poverty Reduction Programme (SDPRP)

The program was launched in 2002 following wide-ranging public consultations in 2001 and covered a period of three years 2002/03–2004/05. It was built on the following goals and concepts:

- agricultural Development-Led Industrialization – ADLI
- food security
- decentralization and empowerment
- capacity building in the public and private sector, and

 reforms in both the justice system and the civil service.

B.Plan for Accelerated and Sustained Development to End Poverty (PASDEP)

SDPRP were the foundation for the design of the PASDEP. The PASDEP was Ethiopia's second poverty reduction strategy, covering the periods between 2005/06 and 2009/10. It was built on the directions pursued under SDPRP and aimed at private-sector development and at the scaling up of resources to achieve the MDGs (Millennium Development Goals).

The main objective of PASDEP was to lay out the directions for accelerated, sustained,and people-oriented development and to pave the groundwork for the attainment of the MDGs by 2015.

The purpose of achieving this PASDEP objective was to contribute to the attainment of Ethiopia's vision of becoming a middle-income country.

The country's vision, specifically for the economic sector, set the following goals:

 to build an economy which has a modern and productive agricultural sector with enhanced technology and an industrial sector that plays a leading role in the economy;

 to sustain economic development and secure social justice

 to increase per capita income of citizens so that it reaches at the level of those in middle-income countries in 2025.

C.Growth and Transformation Plan I (GTP I) (2010/11-2014/15)

GTPI was the third national development plan covering the period between 20 10/11 and 20 14/15. GTPI advanced the Ethiopian national agenda towards becoming a lower middle-income economy by 2025.

GTP I built on the PASDEP and widened its remit to include industrialization as a way of creating structural transformation. The plan recognized the importance of urban areas and industrial development for structural transformation and for creating employment for Ethiopia's growing population. It promoted investment in labour-intensive micro and small-scale enterprises (MSEs), as they provide signif i cant opportunities for processing of agricultural goods. The plan envisioned labour-intensive manufacturing MSEs as a strategy for creating linkages with the rest of the economy (including the agricultural sector), as well as a strategy for an import substitution and export-oriented industrialization programme.

The first Growth and Transformation Plan (GTP) was articulated through the following four overarching objectives:

i. Maintaining at least an average real GDP growth rate of 11% per annum and attaining the Millennium Development Goals (MDGs) by 2014/15.

ii. Expanding access and ensuring the qualities of education and health services and achieving MDGs in the social sectors.

iii. Establishing conditions for sustainable nation building through the creation of stable democratic and developmental state.

iv. Ensuring the sustainability of growth through maintaining macroeconomic stability. These four overarching objectives were in turn cascaded in to seven pillar strategies that cut-across all socioeconomic sectors.

Growth and Transformation Plan II (GTP II) (2015/16-2019/20)

The overarching objective of GTP II is to sustain the accelerated growth and establish a springboard for economic structural transformation thereby realizing the national vision of becoming a lower middle-income country by 2025. To this end, GTP II has set out the following specific objectives:

i. Achieve an annual average real GDP growth rate of 11% within a stable macroeconomic environment and thereby contribute towards the realization of Ethiopia's vision of becoming a lower middle income country by 2025, while pursuing comprehensive measures towards narrowing the saving-investment gap and bridging the widening trade def i cit.

ii. Develop the domestic engineering and fabrication capacity and improve productivity, quality, and competitiveness of the domestic productive sectors (agriculture and manufacturing industries) to speed up structural transformation.

iii. Further solidify the on-going public mobilization and organized participation to ensure the public become both owners and benef i ciaries from development outcomes.

iv. Deepen the hegemony of developmental political economy by strengthening a stable democratic developmental state.

During the implementation of the two Growth and Transformation Plans (GTP I and II), Ethiopia has registered rapid and high economic growth. Based on constant basic prices (2015/16 base year), gross domestic product (GDP) grew on average by 9.2% per year and the volume of real GDP rose from Birr 828 billion in the 2009/10 fi scal year to Birr 1.99 trillion in2019/20 fi scal year. Compared to an average of 11% annual growth target during the period, the actual growth performance was 9.2% (i.e. 1.8% short of the target).

Major Development Challenges

Despite the faster and high economic growth, the economy has encountered several challenges in terms of sustaining the growth and making all citizens equitably benef i t from the growth proceeds. The major challenges are identif i ed below:

Failure to ensure quality economic growth: although high economic was registered, there were gaps in terms of creating adequate job opportunities, ensuring equitable distributions, ensuring structural transformations, and creating sectoral linkages and synergies.

External debt distress: besides the lack of or limited competitiveness in international markets, our domestic products were also not able to compete with imported commodities. The bulk of Ethiopia's export commodities come from a limited number of agricultural products without significant value additions. Moreover, domestic productions were unable to fulfil the demand for input for domestic economic activities and industrialization. As a result, the economy largely depended on import, and the demand for imported commodities increased from year to year and the gap between export and import trade widened.

Imbalance between domestic savings and investment: Ethiopia experienced a high rate of growth in investment between 2010 and 2020.However, domestic savings were unable to satisfy the domestic investment demand, causing large investment-savings imbalance.

Challenges to stabilize inflation: although there are numerous factors that can cause inflation, high and persistent inflation is evidently highly associated with macroeconomic instability. The persistently high inflation rate registered over the past years, which exposed citizens to high cost of living, put the sustainability of the economic growth into question by af f ecting the sustainability of investment.

Rise in unemployment: one of the key indicators of a stable macroeconomic is the creation of adequate and decent employment opportunities. In general, the high economic growth registered over the past 10 years(between 2010 and 2020) was unable to create sufficient job opportunities, and failed to bring the desired increase in the standard of living for most citizens.

Sluggish structural transformation and weak sectoral linkages: between 2010 and 2020, the process of transition from a low productivity agricultural sector to sectors with high productivity was very weak. Ethiopia's export has always been dominated by a small number of agricultural products and has failed to transit to exports led by manufacturing products in order to secure sustainable and reliable export earnings.

Poor capacity to mobilize domestic resources: although Ethiopia's capacity to collect taxes improved, the tax to GDP ratio dwindled. The government's commitment to improve the overall public resource management and its ef f orts to minimize misallocations of public expenditure minimal.

Limited accessibility of financial institutions: between 2010 and 2020. state-owned commercial and development banks channelled a significant amount of long-term loans to state-owned development enterprises with inadequate appraisal and monitoring. This af f ected the supply and quality of loans issued by the commercial banks. On the other hand, insurance companies were restricted to the provision of traditional services, and their licenses in diversifying to other services and products hampered growth in the insurance industry. In general, although the financial infrastructure shown growth, it was not commensurate with the level of growth of the economy and its accessibility was low.

Deficient and low quality provisions of social services and basic infrastructure:
between 2010 and 2020. Although particular attention was paid to the expansion of roads, railways, energy, irrigation and various infrastructure development activities, there were still significant deficiencies in the supply when compared with the demands across dif f erent geographies. There was also a wide gap in terms of quality infrastructure provisions. There were also def i ciencies in social service provisions, particularly in health and education.

Moreover, evidences indicate that the accessibility of social services was very low, and wide gaps in equitable distribution of basic services were observed between urban and rural areas.

National Development Plan after a Reform (2021-2030)

The ten-year development plan lays a long-term vision of making Ethiopia an "African Beacon of prosperity" by creating the necessary and suf f i cient conditions. Ensuring high per capita income through rapid economic growth is one of the sources of prosperity.Prosperity is largely def i ned in terms of happiness, improvement in standard of living and quality of life, and the level of complete satisfaction created by the overall capability we build through economic gain, human and social development by harnessing tangible and intangible wealth, including social capital and natural resource wealth. Hence, prosperity should be def i ned in terms of the overall human and institutional capability created over the long-term whose development outcomes can be expressed as follows:

1. Improvement in income levels and wealth accumulations so that every citizen will be able to satisfy their basic needs and aspirations.
2. Basic economic and social services such as food, clean water, shelter, health, education, and other basic services should be accessible to every citizen regardless of their economic status.
3. Creating an enabling and just environment where citizens will be able to utilize their potentials and resources so that they can lead a decent quality life.
4. Improvement in social dignity, equality, and freedom where citizens can freely participate in every social, economic, and political af f airs of their country regardless of their social background.

Objectives of the Development Plan To achieve the national long-term plan of making Ethiopia an African beacon of prosperity, the following major development objectives are:

1. Building a prosperous country by creating a pragmatic market-based economic system and enhancing the role and participation of the private sectors.
2. Maintaining macroeconomic stability, ensuring rapid and sustainable economic growth, and creating decent jobs.
3. Ensuring structural economic transformation by promoting overall productivity, and competitiveness.
4. Creating an enabling environment where every citizen will become the owners and benef i ciaries of the development endeavour by ensuring the quality and accessibility of basic social services and the provision of infrastructure.
5. Ensuring a competent, independent, and quality civil service system by building the capacity of the government and establishing good governance.
6. Building strong and inclusive institutions that will ensure peaceful society, access to justice and upholding the rule of law and human rights.

These key priority areas are:
1. multi-sectoral and diversified sources of growth and job opportunities
2. sustainable and inclusive financial sector development
3. harnessing the demographic dividend
4. quality and efficient infrastructure development
5. sustainable urban development
6. peace, justice, and inclusive institutions

7.2 Overview of Home-grown Economic Reforms in Ethiopia

The home-grown economic reform (HGER) with the central objectives of sustaining rapid growth, maintaining stable macroeconomic environment by reducing debt vulnerabilities and creating adequate and sustainable job opportunities has, therefore, been domestically initiated. The economic reforms are being translated into action through policy that enhances the supply side of the economy. The main aim and focus of the HGER is the enhancement of productivity and competitiveness of the overall economy, and a gradual transition from public to private sector-led growth. As a result, a stable macro economy will be ensured and the economy should be able to generate adequate jobs to arrest the rampant unemployment and the inf l ationary pressures. The HGER plan is classified into macroeconomic reforms, sectoral reforms, and structural reforms.

I.Macroeconomic Reforms

In order to eliminate macroeconomic imbalances and create a stable macro economy, strict macroeconomic management has been put in place.. With regard to the overall macroeconomic management, strict monitoring has been put at work. Focus Areas are

- Ensuring fast, sustainable and broad-based economic growth
- with regard to the fiscal policy reform process.
- Budget administration and auditing system have given due attention.
- With regard to the financial sector reform process.
- Several policy reform measures have also been initiated to expand the inflow of foreign currencies.
- With regards to external public debt.

II.Sectoral Reforms

The country will follow a multi-sectoral growth approach by diversifying sources of economic growth and job creation and undertaking necessary and substantive policy reforms across the different sectors. In this context, particular attention has been given to the agricultural, manufacturing, mineral tourism sector and the ICT sector as sources of growth.

1. Agriculture: in the past, the agricultural sector has received particular attention, yet it is still characterized as the lowest productive in its performance. During the HGER process, there have been signif i cant political commitments to improve research and development in agriculture and to improve all-rounded support given to all actors in the agricultural sector. From this perspective, the HGER agricultural sector reform aims to improve the role and participation of the private sector, expanding of small- to large-scale irrigation development, improving supply of inputs and fi nance, enhancing the productivity of livestock, protecting the environment and natural resources, improving agricultural production methods, reducing post-harvest loss, promoting research-based food security systems, and promoting import substituting major agricultural crop production.

2. Mining: based on global and regional experiences, existing mining policies and legal frameworks have been under the reform process so as to create a conducive investment climate and attract a large number of foreign and domestic investors into the subsector.

Particular emphases have been given to the promotion of geological data and their dissemination for mining investment promotion.

3. Tourism: although Ethiopia is endowed with abundant tourism destinations, the subsector has not fully utilized the available opportunity. As the subsector has a characterized with high potential for domestic and foreign revenue generation, and job creating opportunities, the tourism reform has paid particular attention to improving and expanding tourism destinations and related infrastructure, as well as improving the role and participation of the private sector.

III.Structural Reforms

The ultimate goal of government intervention is to create strong private initiatives or investment in the economy, and hence the government intervention process should not crowdout private investors but it should encourage their participation in the economy.

The government should support all development forces including private investors not on the basis of their proximity to political elites or power but based on their merits and performances. Broad-based policies and administrative interventions has been put in place to encourage the participation of the private sector in all sectors of the economy, and it has been made sure that all future policy reforms and interventions should enhance the private initiatives. Since the private sector has an indispensable role in creating job opportunities, the government is determined to put the necessary policies and administrative structures in place to assist the private sector development in priority sectors such as agriculture, manufacturing, mining, tourism and ICT.

Other focus areas of structural reform processes include:

- Ensuring coordinated transport and logistics services:
- Implementing import substituting development strategy
- Reforming the investment and job creation landscape:
- Increasing the role and participation of the private sector in the economy
- Expediting the privatization of large state-owned enterprises and liberalization of priority sectors.
- Strengthening Ethiopia's global and regional partnership.
- Promoting free movement of labour.

 Promoting the development of civic societies.

7.3 Fiscal Decentralization

Fiscal decentralization generally refers to the devolution of taxing and spending powers from the control of central government authorities to government authorities at sub-national levels(regional, provincial, municipal, etc.).

Nowadays in the world many governments including that of Ethiopia are structured in to federal systems. However one federal system dif f ers from another. One country is more centralized than others (i.e. more of its decisions making power are in hands of authorities with a large jurisdiction). The extent of centralization can be measured by centralization ration which is direct government expenditure by central government divided total government expenditure. Direct government expenditure excludes federal grant/transfers.

In Ethiopia, the federal government makes fiscal equalization payments to local governments with the stated goal of equalizing the fi scal capacity of local governments to provide services. It helps regional governments to provide similar sets of public services to their citizens with similar tax incidence. Fiscal equalization aims at reducing or eliminating differences in net fiscal benefits which is the difference between the utility that households derive from consuming public services and the taxes they pay for producing these services. It is a companion of fiscal decentralization which ensures economic governance such as equity, efficiency and stability of fiscal policy.

Most economists agree that spending and taxing decision intended to stabilises (price stability and reduce unemployment) should be made by central government. Local/ state government too small to affect overall economic activity., national governments themselves are finding difficult to influence the economy in this era of globalization requiring action for world government. With respect to the microeconomic activities of efficiency and equity there is disagreement among economists. There are both opponents and proponents.

Disadvantages of Decentralized System

Interstate/local externalities: there are costs and benef i ts of local government goods and services to residents who live in other political jurisdictions. These externalities (positive or negative) create problems for the efficient operation of a federal system.

Loss of scale economics in provision public goods: for certain public services the cost per person may fall as the number of user's increases. For example, the more people who use public library, the lower the cost per user. If each community constructs its own library (decentralization). costs per user are higher than necessary. Thus consolidation is one way to for communities to take advantage of scale economies

Inefficient tax system: efficient tax requires higher a tax rate on inelastic demanded or supplied goods and vice versa. Goods which are inelastic at national level may be elastic at local level. Some goods like capital though inelastic at national level are elastic at local level. But local government usually imposes little tax on capital to promote investment which inefficient from national point of view.

Loss of scale of economies in tax collection: individual communities may not be able take advantage of scale economies in the collection of taxes. Each community has to devote resources (labour, equipment, etc.) to tax administration, made may be made by having a joint taxing authority.

Ineffectiveness of redistributing program: (equity measures) Suppose the tax and expenditure pattern in a particular community is favourable to the poor. It transfers income to the poor. This attracts more poor to this region and expels the rich (tax payers) out of this region.

Advantages of Decentralized System

Tailoring output to local tastes/local specific: peoples in dif f erent regions and communities have dif f erent tastes and preferences. A centralized government tends to provide the same level of public services throughout the country regardless of the fact that peoples tastes dif f er. Under a decentralized system, individuals with similar tastes for public goods group together, so communities provide the type and quantities of public good desired by their inhabitants.

Fostering intergovernmental competition: It is believed that government managers lack incentives to produce at minimum possible cost. Private firm managers will be out of business of they fail to minimize cost. But public managers can continue. But if citizens can change among communities/states, it creates incentive for governments' managers/administrators to produce efficiently and to be more responsive to citizens so as be able to attract productive citizen.

Experimentation and innovation in locally provided public goods & services: For many policy questions no one is certain what the right answer is, or even whether there is a single solution that is the best in all situations. One way to fi nd out is to let each community choose its own way and then compare the results. The case in Ethiopia is dif f erent. One policy used across all parts of the region in the country. Therefore, purely decentralized or centralized system cannot be expected to maximize social welfare. There is some optimal level of federalism.

Review Questions

Part I: True or False

Read the following sentences and write "True" for correct sentences and "False" for incorrect ones.

1. The National Development Plans formulated under the Derg aimed at the establishment of a socialist state.
2. Private sector reform is undertaken to encourage the participation of the public sectors.

3. The main objective of PASDEP was to lay out the directions for accelerated, sustained, and state-oriented development.
4. In 1974/75, Ethiopia made a transition from controlled economy to mixed economy.
5. The Third Five- Year (1968 – 73) Development Plan shifted its focus to the development of the agricultural sector in order to address the rising problem of food shortages in Ethiopia.

Part II: Multiple Choices

For the following question, choose the best answer from the given alternatives

1. To make Ethiopia an African beacon of prosperity, one of the following is not among the major development objectives.
A. Maintaining macroeconomic stability
B. Building strong and inclusive institutions
C. Ensuring structural economic transformation
D. None of the above
2. The first Growth and Transformation Plan (GTP I) was articulated through one of the following overarching objectives, except.
A.Maintaining at least an average real GDP growth rate of 11% per annum
B.Nationalizing Rural land and other productive assets
C.Expanding access and ensuring the qualities of education and health services
D.Establishing conditions for sustainable nation
3. The key strategic pillars of the ten-year (2021-2030) development plan are:
A.Gender and Social Inclusion
B.Sustainable Development Financing
C.Quality Economic Growth and Shared Prosperity
D.All of the above
4. One of the following is not the advantages of Decentralized System
A. Loss of scale economics in provision public goods
B. Fostering intergovernmental competition
C. Tailoring output to local tastes
D. Experimentation and innovation in locally provided public goods & services
5. One of the following is not the major development challenges in Ethiopia for the last years:
A. External debt distress
B. Rise in unemployment
C. balance between domestic savings and investment
D. Challenges to stabilize inf l ation.

Part III: Short Answers

For the following questions write short answers

1. List the objectives and strategies of the Five-Year National Development Plans during the Monarchy (1960-1973).
2. Summarize the economic planning and development that existed during the Derg (1974-1991).
3. Discuss the goals and objectives of the peace, Democracy and Development Programme of the EPRDF government.
4. What is the major objective homegrown economic reform?
5. What are the advantages and disadvantages of decentralized government?

Answers to Review Exercise

Part I : True or False

1. T 2. F 3. F 4. F 5. T

Part II: Multiple Choices

1. D 2. B 3. D 4. A 5. C

III : Short Answer

1. The First Five-Year Plan (1957–1961) main objectives:

• development of a strong infrastructure, particularly in transportation, construction, and communications, to link isolated regions.

• establishment of a cadre of skilled and semi-skilled personnel to work in the processing industries to help reduce Ethiopia's dependence on imports.

• acceleration of agricultural development by promoting commercial agricultural ventures.

The Second Five-Year Development Plan (1962-1967) continued to prioritize industrial development. Large-scale commercial farms for the production of cotton, cof f ee and sugar were promoted as a source of income over small-scale subsistence farms.

The second plan's main objectives were: to change Ethiopia's predominantly agricultural economy to an agro-industry alone and diversif i cation of production, introduction of modern processing methods, and expansion of the economy's productive capacity to increase the country's growth rate.

The Third Five-Year Development Plan shifted its focus to the development of the agricultural sector in order to address the rising problem of food shortages in Ethiopia.

The third plan's main objectives were: raising manufacturing and agro-industrial performance, expansion of educational opportunities, and improvement in peasant agriculture.

2. Give emphasis on a centrally planned economy. Industry-led development was deployed as the main development strategy. Rural land and other productive assets were nationalized, and land was distributed among farmers. Commercial farms were put under government control, and land tenancy was abolished. Furthermore, private commercial labourers and commercial farming were marginalized, and large collectivization programmes were promoted through resettlement and villagisation programmes. The military government maintained an overvalued currency and implemented marketing and pricing policies; in addition, the government established the

Agricultural Marketing Corporation (AMC) to set pricing systems, for agricultural goods and quotas for grain production which were signif i cantly lower than market prices.

3. The major goals and objectives of the programme were as follows:

 poverty alleviation through rapid economic growth

 ensuring peace and security by strengthening a political system that promotes people's equality and fraternity guaranteeing administrative justice and peaceful coexistence with neighboring countries.

 people's participation in the democratic governance of the country.

 implementation of an efficient educational system and improvement in the quality of education.

 development of a governance system that ensures social justice.

 implementation of a prevention-oriented health care system-based cooperation and participation of the private sector.

4. The main objectives of homegrown economic reform is sustaining rapid growth, maintaining stable macroeconomic environment by reducing debt vulnerabilities and creating adequate and sustainable job opportunities, enhancement of productivity and competitiveness of the overall economy, and a gradual transition from public to private sector-led growth.

• Ensure macro-economic stability to sustain the rapid economic growth • Rebalance the public and private sectors' role in the economy • Unlock new and existing growth potentials

5. Advantages of decentralized government

• Decentralization renders a number of benefits. They include Tailoring output to local tastes/local specific, fostering intergovernmental competition, and experimentation and innovation in locally provided public goods and services.

Disadvantages of Decentralized government Interstate/local externalities

• loss of scale economics in provision public goods
• inefficient tax system
• loss of scale of economies in tax collection
• ineffectiveness of redistributing programme

CHAPTER 8

ECONOMY, ENVIRONMENT AND CLIMATE CHANGE

8.1 Economy and the Environment

The fundamental principle of economic theory argues that economic resources are scarce in a sense that they are in fi nite quantities, whereas the claims to which these resources are put are at least to a reasonable extent limitless. The scarcity of resources implies that their use is costly and results in an opportunity cost.

We can identify natural and environmental resources as a subset of a more general category of economic resources. Resources provide a broader set of goods and services.

Most environmental resources have become increasingly scarce, as the scale of economic activity expands. There is recognition that economic activities degrade and deplete the natural environment. In other words, the stability and resilience of the ecosystem can be threatened by excessive expansion of economic activities. Environmental resources are ultimately fi nite. Concern for exhaustion of future environmental resources is increasing and the need for conservation is growing.

Environmental resources can be classif i ed into dif f erent categories. The prominent classif i cation is between renewable and non-renewable resources. Biologically renewable resources include forests, fi sh, animal population, and biomass stock. We also have renewable physical stock which is capable of regeneration such as soil structure and fertility, the ozone layer, the earth's waste processing capacity. But both biological and physical renewable resources are potentially exhaustible.

Environmental resources around the world face rising pressures with severe consequences for future growth potential and the quality of life. Generally, the global ecosystem is a fl ow of raw materials and energy from the planetary sources, which then go through the economy, to the planetary sinks, receiving the wastes of the economic system.

Is it possible to achieve growth without further damage to the environment?

At one point, it was widely believed that as per capita incomes rose, pollution and other forms of environmental degradation would fi rst rise and then fall in an inverted-U pattern. Thus, as incomes rise, societies will have both the means and the willingness to pay for environmental protection. This idea is referred to as the "environmental Kuznets curve".

Nowadays, economists increasingly focused on the implications of environmental issues for the success of development ef f orts. It has become obvious that classic market failures lead to environmental degradation. It has become equally apparent that the interaction between poverty and environmental degradation can lead to a self-perpetuating process.

This is sometimes referred to as the 'poverty environment nexus" whereby the poor are both agents and victims of environmental degradation. At the same time, the environment disproportionately af f ects the poor and poverty perpetuates environmental degradation.

This happens, for example, when communities unintentionally destroy or exhaust the resources on which they rely for survival due to ignorance or economic necessity. The attendant environmental degradation diminishes the pace of economic development by imposing high costs on developing countries through reduced productivity of resources and health-related expenses. Undoubtedly, the damage to soil, water supplies, and forests resulting from unsustainable methods of production can greatly reduce long-term national productivity but paradoxically can show up as having a positive impact on current gross national product fi gures.

For as long as the solutions to environmental problems involve enhancing the productivity of resources and improving living conditions, achieving environmentally sustainable growth is synonymous with economic development. Hence, environmental considerations should form an integral part of development policy initiatives. It is also important that the long-term implications of environmental quality should be considered in economic analysis.

Rural Development and Environment

Rural development refers to the process of improving the quality of life and economic wellbeing of people who live in rural areas. When we say improvement, it includes people's livelihoods (e.g., provision of electricity, clean water, access roads, and education). Rural development has traditionally centred on exploitation of land-intensive natural resources such as agriculture and forestry. However, it has to be noted that changes in global production networks and increased urbanization have changed the character of rural areas.

Rural development as a development strategy is an intervention that focuses on the use of natural resources to address the challenges of the rural areas. The interventions include increasing agricultural production and supporting sectors such as education, health, watersupply, natural resources, and environmental improvement. In this case, rural development is linked with agricultural development.

Some of the major issues that agriculture and agricultural development face in relation to environment include the use of pesticides, loss of agricultural land fertility, encroachment by increased and rapid urbanization, forest depletion, declining soil fertility, loss of topsoil, desertif i cation and unsustainable rates of water usage, and air pollution.

The effect of population on the environment is thus, expressed in terms of population pressure and increased demand for food. First, this results in the intensif i cation of soil erosion, natural depletion, destruction of soil structure (water holding capacity), and inorganic nutrients' application unbalances the soil structure. Second, there is the possibility of pollution from inputs such as fertilizer, pesticides, increased resistance of pests, biodiversity loss, reduction of resilience, sometimes irreversible salination, water logging and environmental degradation. There is also extensif i cation (land expansion) which causes deforestation and desertif i cation. Both intensif i cation and extensif i cation are associated with environmental problems.

In developing countries including Ethiopia, most people live in rural areas and agriculture is their main occupation. The prevalence of poverty means that rural poverty and environmental degradation interact. The following example shows how this happens.

Urban Development and Environment

Urban development is the social, cultural, economic and physical development of cities and the underlying causes of these processes. It covers infrastructure for education, health, justice, solid waste, markets, and street pavements. It also pays special attention to slums in large cities and informal settlements in towns and peri-urban areas.

The World Bank estimates that over 50% of the population lives in urban areas globally.

Rapid population increases, accompanied by heavy rural-urban migration, leads to unprecedented rates of urban population growth, leading in turn to economic and social change. The early stages of urbanization and industrialization in developing countries are generally accompanied by rising incomes and worsening environmental conditions.

Urban pollution tends fi rst to rise with national income levels and then to fall.

Congestion, vehicular and industrial emissions, and poorly ventilated household stoves also inf l ate the high environmental costs of urban crowding. The inaccessibility of clean water and the lack of sanitation are some of the environmental factors which af f ect the health of the urban poor.

One solution to these problems is to deploy clean technologies that by design produce less pollution and waste and use resources more efficiently.

Population, Resources and the Environment

The world's population reached about 7.7 billion in 2019. According to the United Nations Population Division, this fi gure is projected to rise to about 8.1 billion in 2025 and about 9.6 billion by the year 2050.

In order to meet the expanded food needs of rapidly growing populations, it is estimated that food production will have to increase by at least 50% in the next three decades.

Because land in many areas of the developing world is being unsustainably overexploited by existing populations, meeting this output target will require radical changes in the distribution, use, and quantity of resources that are available to the agricultural sector.

Some argue that rapid population growth tends to overuse a country's natural resources such as land, thereby endangering the welfare of future generations. This is particularly the case where the majority of the people are dependent on agriculture for their livelihood.

With a rapidly rising population, agricultural land holdings become smaller and unviable to cultivate. There is no possibility of increasing farm production through the use of new land (extensive cultivation). Consequently, many households continue to live in poverty.

Even in countries with rich natural resources such as Brazil and other Latin American countries, rapidly increasing population makes it dif f i cult to invest in roads, public services, drainage and other agricultural infrastructure needed to tap such resources.

Increasing population density contributes to severe and accelerating degradation of the very resources that the populations depend on for survival in the following manner. Rapid population growth disturbs the land-man ratio. For example, pressure of population on land increases due to inelastic supply of land. It adds to disguised unemployment and reduces per capita productivity further. As the number of landless workers increases, their wages fall. As a result, low per capita productivity reduces the propensity to save and invest. Because of this, the use of improved techniques and other improvements on land are not possible. Moreover, capital formation in agriculture suf f ers and the economy is bogged down to the subsistence level. The problem of feeding additional population becomes serious due to acute shortage of food products. These have to be imported which increases the balance of payment dif f i culties. Thus, the growth of population retards agricultural development and creates a number of other problems discussed above.

A slowing of population growth rates would help ease the intensif i cation of many environmental problems. However, the rate and timing of fertility declines, and thus, the eventual size of world population, will largely depend on the commitment of governments to creating economic and institutional conditions that are conducive to limiting fertility.

What does it take for environmental policies to succeed in countries like Ethiopia? First, such countries must address the issues of poverty, landlessness, and lack of access to institutional resources. Insecure land tenure rights, lack of credit and inputs, and absence of information often prevent the poor from making resource-augmenting investments that would help preserve the environmental assets from which they derive their livelihood. It also requires fi rm commitment from the government and the policy makers.

8.2 Global Warming and Climate Change

Global Warming

Global warming refers to increasing average air and ocean temperatures. It is often used in reference to the trend that began in the mid-twentieth century and attributed largely to human activities (industrial, forestry, and agricultural) emitting greenhouse gases (GhG). The primary greenhouse gases in the earth's atmosphere are water vapour (H2O), carbon dioxide (CO2), nitrous oxide (N2O), methane (CH4) and ozone (O3). Due to increasing economic activities, global GhG emissions of these gasses have grown since pre-industrial times, with an increase of 70% between 1970 and 2004 (IPCC, 2007).

It so happens that the GhGs trap long-wave radiation in the upper atmosphere, raise atmospheric temperatures and produce other changes in the climate system. Before the Industrial Revolution, from around 1750 to 2011, for example, CO2 increased by 40% while N2O increased by 150% and nitrous oxide by 20%.

In other words, the process of global warming relates economic activity to an associated level and pattern of energy and material fl ows corresponding to which are fl ows of GhG emissions. Carbon emissions are caused by fossil fuel use while agricultural activities and the decomposition and disposal of waste are important emitters of methane. In all, rising GhGs are the main drivers of climate change.

Climate Change

climate change refers to signif i cant and persistent change in the mean state of the climate system that alters the composition of the global atmosphere which is observed over long periods of time. It includes such changes as average temperatures, precipitation, humidity, wind conditions, and all other aspects of the earth's climate.

There is a dif f erence between climate and weather. Climate is the average weather pattern over many years expressed through variables such as temperature, precipitation and wind. On the other hand, the term weather represents short-term atmospheric conditions expressed in the mix of events such as temperature, rainfall and humidity that occur each day or week.

Climate change is one of the most urgent and complex challenges for societies and economies. For developing countries like Ethiopia, climate change complicates the existing challenges of poverty eradication. Indeed, for many parts of the world, climate change is an everyday reality with implications for people's livelihoods, infrastructure and institutions, as well as beliefs, cultures and identities.

Indicators of Climate Change

According to the IPCC, the warming of the climate system is unequivocal. The evidence comes from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level.

There are several indicators of climate change. They include unpredictable rain patterns, too much and too little rain, higher average air and ocean temperatures, fl oods, sea level rise and the melting of glaciers and ice caps. Cold days, cold nights, and frosts have become less frequent while heat waves are more common. Moreover, the emergence of diseases such as malaria (in formerly cold climates due to the spread of mosquitoes) and respiratory diseases are common.

Impacts of Climate Change

one or more of the following impacts are expected to af f ect most of the world's poorest countries during this century. They are prolonged droughts, expanded desertif i cation, increased severity of storms with heavy precipitation and fl ooding and consequent erosion, longer and more severe heat waves, reduced summer river fl ow and water shortages, decreased grain yields, climate-induced spread of pests and diseases, lost and contaminated groundwater, deteriorated freshwater lakes, and coastal fl ooding. Other likely ecological damage includes the loss of essential species such as pollinators and soil organisms, and forest fires.

Vulnerability to Climate Change

Vulnerability to climate change refers to the degree to which a system is likely to experience harm as the result of exposure to climatic hazard. It depends on the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity.

Vulnerability to climate change is multi-dimensional and it is a function of biophysical outcomes that is related to changes in temperature, precipitation, topography and soil, socio-political factors and a country's level of economic development.

Those who are most exposed and vulnerable to the adverse impacts of climate change are the poor and marginalised people who live particularly in low-income areas. For example, the houses of the poor are constructed of mud, bamboo, straw, and other inexpensive or gatherable materials; and they are the most vulnerable to extreme weather events. These problems are compounded by the fact that the poor are underrepresented at all levels of decision-making regarding climate issues, which adds to their vulnerability to climatic risks.

Small islands remain highly vulnerable to global warming; their size and location make them the potential victims of rising sea level. Likewise, the coastal towns and settlements. Bangladesh, for example, is highly prone to fl ooding while the Horn of Africa for droughts. Towns like Dire Dawa in Eastern Ethiopia are prone to fl ooding. The Ethiopian Meteorological Agency provides information and alerts through radio and other media to populations in Ethiopia.

Moreover, the poorest developing countries will be hit the earliest and hardest by climate change, even though they have contributed little to causing the problem. Their low incomes make it dif f i cult to fi nance adaptation. The international community has an obligation to support them in adapting to climate change.

Means to Address Climate Change Challenges

There are two main ways to address the climate change crisis. The fi rst is mitigation, and the second is adaptation.

Mitigation of Climate Change

Mitigation deals with the causes of climate change.Mitigation efforts are linked to reducing GhGs, especially CO2 or stabilization of GhGs concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

Mitigation policy responses are anticipatory policies that would estimate expected costs and benefits of pollution emissions abatement, identify socially optimal abatement targets and select policy instruments which minimize the expected costs of attaining the target.

Many strategies have been proposed for the mitigation of emissions, including development of carbon markets, taxes on carbon, and subsidies to encourage faster technological progress. As a policy strategy, mitigation involves long-term limits on the amount of greenhouse emissions. In the short term, policies could be designed to limit the economic burden if abatement costs turned out initially to be unexpectedly high.

Historically, most of the greenhouse gases have been emitted in developed countries.

Therefore, they have historic responsibility to deal with the problem.At the same time, developing countries share current and future responsibilities.

The poorer the country, the more difficult it is to absorb the costs of mitigation. Hence, low-income countries need for technical and fi nancial assistance. For this reason, assisting developing countries to reduce greenhouse gas emissions has emerged as an important dimension for foreign aid. Achieving an international agreement on emissions targets, burden sharing, trading mechanisms and technological and financial assistance remains a high priority concern for the mitigation of climate change.

Synergy between the environment and the conditions of the poor should be taken into account when mitigating climate change. This could be done through the use of labour-intensive production mechanisms, access to credit and extension service, provision of necessities and employment, soil and water conservation, def i ning property rights and land tenure, forest land, grazing land as well as through improvement in health and education and a prudent environmental policy. Yet all these involve a more expensive development path for the poor countries, indicating to the need to share the cost equitably.

Adaptation to Climate Change

Adaptation deals with the consequences of climate change. Adaptation to climate change refers to the process of responding and adjusting to the actual or potential impacts of changing climate. In other words, adaptation is the process of enabling human and natural systems to adjust to the actual or expected climate stimuli or their effects.

Why is adaptation to climate change necessary? While action on mitigation is necessary, a signif i cant amount of climate change is already happening and essentially inevitable. That means lags in the climate system means climate change will unfold for many years. Thus, adaptation to climate change is critical to protect livelihoods from climatic risks. It enables the systems to better cope with, manage or adjust to changing conditions.

Adaptation is a universal condition of humanity. This is because adaptability of human systems to changes is as old as human societies, and it is a vital characteristic that ensures the survival of cultures through time. However, adaptation to climate change presents newer, unique and complex challenges to societies.

Adaptation takes place in two forms: "planned" (or policy) adaptation that is undertaken by governments and "autonomous" (or private) adaptation that is undertaken directly by households, farms, and fi rms in response to climate change. Local communities also take measures appropriate to their specif i c geography to address the problems of environmental degradation and climate change.

There are four classes of adaptation strategies: mobility, storage, diversif i cation, and e communal pool. Mobility avoids risks across space; storage reduces risks which are experienced over time; diversif i cation reduces risks across assets owned by households or collectives, and communal pool involves joint ownership of assets and resources; sharing of wealth, labour, or incomes from particular activities across households or mobilization and use of resources held collectively during times of scarcity.

8.3 Green Economy and Green Growth

A green economy is an economy that results in improved human wellbeing and social equity, while signif i cantly reducing environmental risks and ecological scarcities. It uses low carbon; it is resource ef f i cient; and it is socially inclusive.

Green growth is def i ned as "fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our wellbeing relies".

In a green economy, economic growth is supposed to be driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services. The combination of investment and innovation will underpin sustained growth and give rise to new economic opportunities.

This occurs with the use of renewable energy that links low carbon to green growth. The motive for using renewable energy emerges from the perceived scarcity of fuel fossils.

Even without climate change, the potential for peak oil (i.e. rising demand and declining fossil fuel production), requires alternative modus operandi.

The sources of renewable energy are: solar, biomass and bio fuel, geothermal, hydroelectricity, tidal, and wind-driven. Given technological support, countries can use untapped renewable energy potential.

8.4 Overview of Environment and Climate Change in Ethiopia

Ethiopia is an East African country with immense geographical diversity and topographical variation. The country is cited as one of the most vulnerable countries to future climate change. Indeed, for much of the last 100 years, the country has faced recurrent drought, famine and recourse to food aid.

Apart from drought, soil erosion and land degradation are among the most critical and far-ranging environmental issues which have been af f ecting Ethiopia due to increased crop cultivation in marginal areas and livestock grazing pressure. Studies indicate that agricultural landscapes in parts of Ethiopia have undergone unprecedented changes in an unsustainable direction as manifested in land degradation, biodiversity loss, and low agricultural productivity.

To address the problems of climate change, the Ethiopian government produced the National Adaptation Programme of Action (NAPA) in 2007 and Nationally Appropriate Mitigation Actions (NAMA) in 2011. These policy documents assessed key underlying causes of the country's vulnerability to climate change as dependence on rain-fed agriculture, poor water resource development and a high population growth rate.

In 2011, the government initiated the Climate Resilient Green Economy (CRGE) strategy.

The strategy envisioned carbon-neutral growth based on an energy-ef f i cient development trajectory with a view to address both climate change adaptation (climate resilience) and mitigation (green economy) objectives.

In June 2020, the Ethiopian Government launched the Green Legacy Initiative, which is a tree-planting campaign aimed at curbing the ef f ects of climate change and deforestation.

Its aims are preventing fl ooding, food insecurity, environment-related conf l icts, and other adverse ef f ects of climate change and deforestation. An estimated 4.1 billion trees were planted by August 2020, according to the Ethiopian government.

The agency that is responsible for climate change in Ethiopia is the Ministry of Environment, Forest and Climate Change. It is a lead government body responsible and legally mandated for environmental managemen

Review Questions

Part I: True or False

Read the following sentences and write "True" for correct sentences and "False" forincorrect ones.

1. There is no difference between the terms "climate" and "weather".

2. Global warming refers to increasing average air and ocean temperatures.
3. O2 is one of the major greenhouse gases.
4. For developing countries like Ethiopia, climate change complicates the existing challenges of poverty eradication.
5. Today, climate change is one of the least urgent challenges for societies and economies.

Part II: Multiple Choices

For the following question choose the best answer from the given alternatives

1. Which of the following statement describes the situation of environmental resources globally:

A. They face rising pressures with severe consequences for future growth potential and the quality of life.

B. The global ecosystem is a fl ow of raw materials and energy from the planetary sources, which then go through the economy, to the planetary sinks, receiving the wastes of the economic system.

C. Underlying the pressure on the sources and sinks is the growth of the world population and industrial production.

D. All of the above.

E. None of the above.

2. Awareness about the environment goes back to:

A. the 1950s with the growing concern over the Great Smog of London in 1952.

B. the publication of Rachel Carson's Silent Spring in 1962.

C. the publication of the "Limits to Growth" report of 1972.

D. the concern that perpetual economic growth entails severe consequences for the environment.

E. All of the above.

3. The primary greenhouse gases in the earth's atmosphere are:

A. Carbon dioxide (CO_2) B. Nitrous oxide (N_2O) C. Methane (CH_4) D. Ozone (O_3) E. All of the above

4. Climate change:

A. denotes a variation in the mean state of the climate persisting for an extended period and resulting from anthropogenic greenhouse gas emissions.

B. refers to significant and persistent change in the mean state of the climate system that alters the composition of the global atmosphere observed over long time periods.

C. includes such changes as average temperatures, precipitation, humidity, wind conditions, and all other aspects of the earth's climate.

D. All of the above 5. Taking action on mitigation and adaptation to climate change is the responsibility of:

A. developed countries.

B. developing countries.

C. least developed countries.

D. All of the above.
Part III: Short Answers
For the following questions write short answers.
1. What is rural development and how does it af f ect the environment?
2. What is urban development and how does it af f ect the environment?
3. What are the causes of climate change?
4. Describe the two main ways to address the problems of climate change.
5. What does it take for environmental policies to succeed in countries like Ethiopia?
6. Explain brieflyy Ethiopia's Climate Resilient Green Economy strategy.

.Answers to Review Exercise

Part I: True or False:

1. False 2. True 3. False 4. True 5. False

Part II: Multiple Choices:

1. D 2. E 3. E 4. D 5. D

Part III: Short Answers

1. Rural development as a development strategy is an intervention that focuses on the use of natural resources to address the challenges of the rural areas. The interventions include increasing agricultural production and supporting sectors such as education, health, water supply, natural resources, and environmental improvement. In this case, rural development is linked with agricultural development. Some of the major issues that agriculture and agricultural development face in relation to environment include the use of pesticides, loss of agricultural land fertility, encroachment by increased and rapid urbanization, forest depletion, declining soil fertility, loss of topsoil, desertif i cation and unsustainable rates of water usage air, and pollution.

2. Urban development is the social, cultural, economic and physical development of cities and the underlying causes of these processes. It covers infrastructure for education, health, justice, solid waste, markets, and street pavements. It also pays special attention to slums in large cities and informal settlements in towns and peri-urban areas. Urbanisation in developing countries creates such problems as housing, power, water, and transport. Many governments are ill prepared to cope with increased strain on existing urban water supplies and sanitation facilities. Congestion, vehicular and industrial emissions, and poorly ventilated household stoves also inf l ate the high environmental costs of urban crowding.

The inaccessibility of clean water and the lack of sanitation are some of the environmental factors which af f ect the health of the urban poor. Moreover, the rising levels of industrial emissions or pollution will af f ect the health of urban inhabitants. The urban poor, in particular, are likely to suf f er serious consequences resulting from environmental degradation. Besides, the growth of urban slums and attendant malnutrition and poor health among a large proportion of urban dwellers in shantytowns tend to reduce individual resistance to environmental hazards.

3. Climate change is caused by or attributed to the emissions of greenhouse gases triggering global warming. According to IPCC, the main greenhouse gases that are altering the global climatic system, CO_2 is the largest in causing global warming and hence, climate change. It contributes 77% to the greenhouse ef f ect. Methane (CH_4) follows with about 14%, and nitrous oxide (N_2O) with 8%.
4. There are two main ways to address the climate change crisis. The fi rst is mitigation, and the second is adaptation. Mitigation deals with the causes of climate change whereas adaptation deals with the consequences.
5. First, such countries must address the issues of poverty, landlessness, and lack of access to institutional resources. Insecure land tenure rights, lack of credit and inputs, and absence of information often prevent the poor from making resource-augmenting investments that would help preserve the environmental assets from which they derive their livelihood. It also requires fi rm commitment from the government and the policy makers.
6. Ethiopia's Climate Resilient Green Economy strategy envisioned carbon-neutral growth based on an energy-efficient development trajectory with a view to address both climate change adaptation (climate resilience) and mitigation (green economy) objectives (FDRE, 2011). The goal of the low carbon or carbon-neutral growth pathway is to achieve middle-income status by 2025, which initially raises GDP per capita level to $1000 USD.