ECONOMICS

STUDENT TEXTBOOK

GRADE 12

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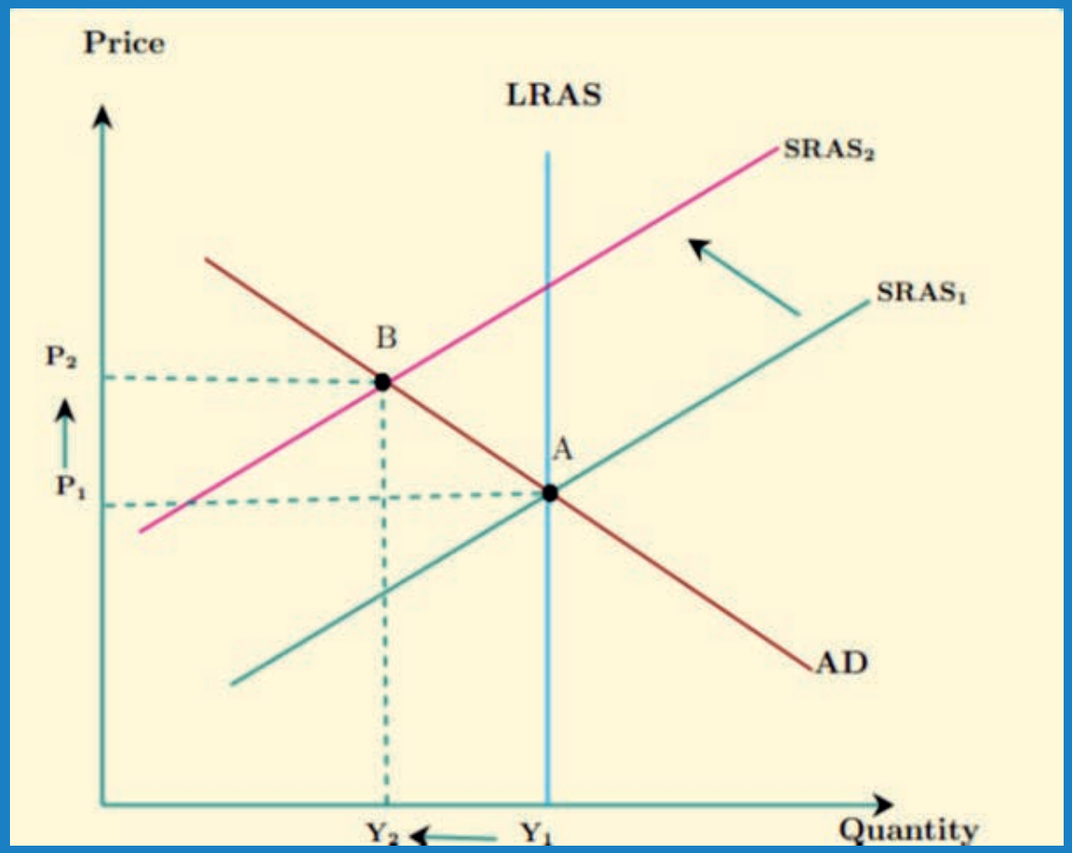

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MINISTRY OF EDUCATION

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INTRODUCTION

Economics is an important discipline. Its significance has increased in recent years in response to worldwide economic problems. Even countries that made rapid progress in areas like medicine, engineering, technology, electronics, and information technology were not immune from economic problems. For example, problems like poverty, unemployment, inflation, recession, and population explosion are worldwide today. To understand these problems and find solutions, an adequate knowledge of economics is required.

The study of economics is expected to equip students with subject knowledge, understanding, skills, values and attitudes about important questions and issues of economy, society and environment. It will also help them develop their competencies to engage in the community as informed and active citizens.

This textbook is intended to support the learning of economics so that students possess the tools to understand their economic world and how to interpret events that will, either directly or indirectly affect them. Moreover, students will be supported to relate and translate economic concepts to explain economic reality on the ground. They will also be helped to acquire and develop their knowledge on what to expect in the future and how to manage their economic decisions.

Finally, as per the Ethiopian General Education Curriculum Framework (GECF), Economics for Grade 12 is one of the compulsory general subjects in Social Sciences and Agriculture. Career and Technical Education that offer economics as a course are Business Sciences, Language and Social Sciences, Performing and Visual Arts and Agriculture. Economics for Grade 12 (consisting of 8 units) will be covered in the total of 87 hours and 45 minutes per year, 3 periods each week with 45 minutes per period. In line with the above expectations, the student profile and the textbook contents are presented below.

STUDENT PROFILE

At the end of Grade 12 Economics study, students are expected to have better attributes in terms of the following:

Knowledge

- ✔ Knowledgeable in subject area (principles, theories, applications, etc.)

Attitude

- ✔ Cooperation

- Curiosity
- Motivation to become successful

Digital literacy

- Data collection and organization
- Data analysis
- Report writing
- Data analysis skills and tools

Communication skills

- Group discussion
- Teamwork
- Presentation

Business management skills

- Start one's own business
- Support family business

By the end of **Grade 12**, students should exhibit the following profile:

- Continue their education in various disciplines of social and business sciences using their economics knowledge and skills in higher education institutions.
- Demonstrate an appreciation about the link between production, distribution and consumption.
- Articulate contemporary issues in economic growth, and development.
- Participate in collaborative engagements which aim at social and economic development.
- Participate in various citizenship activities by recognizing and appreciating cultural aspects (including languages and religions) and livelihood of various places.
- Define the key terms of macroeconomics ariables such as unemployment, inflation, and poverty reduction using enquiry skills.
- Articulate the link between poverty and environmental degradation.
- Contribute to efforts that aim at bringing about a sustainable development in Ethiopia and beyond.

Note to students: *The units in this textbook contain references for other books and online or electronic resources. Due to space limitation, these are not included in your textbook. Do ask your teacher for those references.*

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UNIT 1

THE FUNDAMENTAL CONCEPTS OF MACROECONOMICS

INTRODUCTION

From ***Grades 9*** *to* ***11,*** you may recall that economics as a subject has many branches and its scope includes a range of topics and issues. Specifically, in Grade 9, reference was made to macroeconomics. In this unit, we revisit the definition and the focus areas of macroeconomics. Moreover, the discussion of different schools of thought will help you identify the reasons for the advancement of macroeconomic analysis.

The unit is divided into three sections. The first section explores and revisits the definition and focus areas of macroeconomics. The second section examines the key dimensions/challenges of macroeconomics such as economic growth, inflation, unemployment, business cycles and balance of trade. Finally, the third section explores the evolution of macroeconomics and different schools of thought.

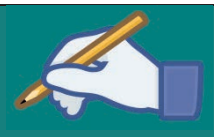
Learning Outcomes

At the end of this unit, you will be able to:

- identify the difference between macroeconomics and microeconomics.
- describe the focus areas of macroeconomics.
- analyse different challenges of macroeconomics.
- differentiate Classical, Keynesian and Monetarist macroeconomics.
- explain the contribution of different schools of thought for the development of macroeconomics.

Key Concepts

- Microeconomics
- Macroeconomics
- Macroeconomic goals
- Macroeconomic variables
- GDP
- GNP
- Economic growth
- Inflation
- Unemployment
- Business cycles
- Trade balance



Start-up Activity

1. Discuss what you understand by the term "macroeconomics".
2. Discuss the importance of studying macroeconomics.

1.1 Definition and Focus Areas of Macroeconomics Revisited

At the end of this section, you will be able to:

- define macroeconomics.
- explain the focus areas of macroeconomics.

1.1.1 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, firms, 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. In other words, macroeconomics studies what happens to the whole economy or economic system.

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. In a nutshell, macroeconomics is the study of the structure and performance of national economies and of the policies that governments use to try to affect economic performance. Therefore, in order to gain an understanding of broader problems and to find solutions, an adequate knowledge of macroeconomics is a requirement.

1.1.2 The Focus Areas of Macroeconomics

The focus areas of macroeconomics are aggregate behaviour of the economy, such as economic growth, employment, inflation, distribution of income, macroeconomic policies and international trade. 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.

In order to address these goals, it is necessary to understand macroeconomic variables which show the status and trends of the whole economy. Examples of such variables include gross domestic product (GDP), gross national product (GNP), economic growth rate, price level (rate of inflation and deflation), investment, savings, consumption, government budget, level of employment and unemployment, total labour force, demand for money and supply of money, total export, total import, trade balance and exchange

rate. The above mentioned questions and goals of macroeconomics relate to the focus areas of macroeconomics as shown in **Table 1.1**.

Table 1.1 Focus Areas of Macroeconomics

Focus of macroeconomics	Macroeconomic variables	
National income	Aggregate demand and supply	Rate of employment and unemployment
Employment	Gross domestic production (GDP)	Money demand and supply
Money	Per capital income (PCI)	Government budget
General price level	Economic growth rate	Consumption, saving and investment
Economic growth	Price level	Balance of trade and payment
International trade		

The macroeconomic variables such as Gross Domestic Product (GDP), unemployment rate, and inflation help us determine the macroeconomic performance of a country. By macro economy, we refer to all buying and selling, all production and consumption or everything that goes on in every market in the economy. Hence, the first step towards understanding macroeconomy is to measure its performance. In a sense, macroeconomics is primarily concerned with the forecasting of GDP, by analysing the major economic factors that show predictable trends and patterns, and how they influence with each other.

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.

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

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

GDP and GNP are functionally related as: GNP = GDP + NFI, where 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. They are product/value added approach, expenditure approach and income approach. Each of them is briefly discussed as follows.

- ***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 final goods and services are included to avoid double counting.
- ***Expenditure approach:*** here, the GDP is measured by adding all expenditures on final 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 market prices) and real GDP (calculated in constant prices by taking a base year). Real GNP accounts for difference in price levels in different counties, in cases where inter-country comparisons of GNP are considered. An upward or downward movement in real GDP is the most widely used measure of the level and growth of output.

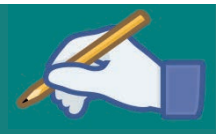
Activity 1.1

1. List the central macroeconomic questions.
2. Describe what the terms "GDP" and "GNP" represent.
3. Write down the three approaches to measure GDP.

1.2 Key Challenges in Macroeconomics

At the end of this section, you will be able to:

- analyse different challenges of macroeconomics.



Start-up Activity

What do the terms "economic growth", "unemployment," and "inflation" mean to you?

Once the key macroeconomic variables and their measurement are determined, subsequent themes centre around the key challenges of the macroeconomy such as economic growth, inflation, unemployment, business cycles and trade balance.

1.2.1 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 GDP expands or shrinks over time depending on the overall economic environment. 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. It has to be supported by institutional arrangements such as adherence to the rule of law,

the protection of property rights and contractual rights by a country's government so that markets can work effectively and efficiently. Principally, economic growth measures economic performance in terms of value of income, expenditure, and output.

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 inefficient 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 (in real terms). Second, it cannot take into account the population growth as there are several instances where population has grown more than national income.

In order to overcome the above two problems, economists have suggested measuring economic growth in terms of a rise in real per capita income, which is the ratio of total GNP to total population. Taking the per capita income as an indication of average standard of living has many limitations. As any average measure, it conceals more than it reveals. In recent years, this measure has come under increasing criticism as an index of development.

First, there is no difference in economic growth and development as the same indicator is used to measure both of them. Moreover, there is no relationship between the definition of development and measure of development in terms of per capita income. Therefore,

attempts have been made to use other indices 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. The typical approach in constructing such an index is to take a number of non-monetary indicators such as educational stocks and flows, fertility and mortality rates, availability of physical and social infrastructures, and compress them by various statistical techniques into a single composite index of development.

1.2.2 Inflation

The prices of goods and services do not always stay the same. This means that sometimes they rise and at other times they fall. 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, inflation represents the rising prices of almost all goods and services. Moreover, inflation is cumulative whereby even a small rise in price in the beginning may become a very large one in the future.

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" (see the mathematical formulations on the next page).

Generally speaking, a substantial and 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 inflation. Indexing wage contracts and interest rates means that they will increase when inflation increases to retain purchasing power. When wages do not rise as price levels rise, this leads to a decline in the real wage rate and a decrease in the standard of living. For this and other reasons, inflation is the major

concern of macroeconomic policy makers throughout the world.

Inflation and Consumer Price Index

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

Consumer Price Index (CPI)

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

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 the current date CPI and divide the answer by the past date CPI, and then multiply the results by 100. For example, if your current price total is 560 Birr and your past price total is $340, your equation would be 560/430 = 1.30. Then multiply this by 100 to create a baseline for the consumer price index, which makes 130. Then you will subtract 100 (baseline) from 130. That means, 130-100 = 30%. The total 30% represents a percentage change in prices from the previous year.

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

Numerical example of calculating inflation is as follows. Assume the current date CPI 25% and past date CPI is 20. So, 25 - 20 = 5/past date CPI (20) = 0.25. Multiply this by 100 to get a percentage. The inflation rate is 25%.

Example: Calculating the ***consumer price index*** (CPI) and the ***inflation rate***.

Assume a simple economy in which a typical consumer buys only two goods-wheat and edible oil. The consumer buys 50 kg of wheat and 10 litters of oil per

year. Assume that the prices of these baskets of goods in three different years are the following.

Year	Price Kilo of Wheat	Price of a Litter of Oil
2000 EC	2 Birr	10 Birr
2001 E.C	3 Birr	13 Birr
2002 E.C	2 Birr	14 Birr
2003 E.C	4 Birr	24 Birr

Find: 1. The price index in each year

2. The inflation rate from 2000EC to 2001 EC, from 2001 EC to 2002 EC, from 2002 EC to 2003 EC from 2003 EC to 2000 EC

Solution:

Step 1: Compute the cost of the basket of goods in each year.

Year **price of a kilo of wheat** **price of a litter of oil**

$$2000\ E.C.\quad (Birr\ 2\ per\ kg \times 50\ kg) + (Birr\ 10\ per\ liter \times 10\ liter) = birr\ 200$$

$$2001\ E.C.\quad (Birr\ 3\ per\ kg \times 50\ kg) + (Birr\ 13\ per\ liter \times 10\ liter) = birr\ 280$$

$$2002\ E.C.\quad (Birr\ 2\ per\ kg \times 50\ kg) + (Birr\ 14\ per\ liter \times 10\ liter) = birr\ 240$$

$$2003\ E.C.\quad (Birr\ 4\ per\ kg \times 50\ kg) + (Birr\ 20\ per\ liter \times 10\ liter) = birr\ 400$$

Step 2: Choose one year as a base year (2000) and compute the consumer price index in each year

$$Consumers\ Price\ Index\ in\ 2000\ E.C = \frac{birr\ 200}{birr\ 200} x\ 100 = 100$$

$$Consumers\ Price\ Index\ in\ 2001\ E.C = \frac{birr\ 280}{birr\ 200} x\ 100 = 140$$

$$Consumers\ Price\ Index\ in\ 2002\ E.C = \frac{birr\ 240}{birr\ 200} x\ 100 = 120$$

$$Consumers\ Price\ Index\ in\ 2003\ E.C = \frac{birr\ 400}{birr\ 200} x\ 100 = 200$$

Step 3: Use the consumer price index to compute the inflation rate from previous year

$$Inflation\ Rate\ in\ year\ 2 = \frac{CPI_2 - CPI_1}{CPI_1} X\ 100$$

$$\textit{Inflation Rate in } 2002 \text{ E.C. from } 2001 \text{ E.C.} = \frac{(120-140)}{140} X\ 100 = -14.3\%$$

$$\textit{Inflation Rate in } 2001 \text{ E.C. from } 2000 \text{ E.C.} = \frac{(140-100)}{100} X\ 100 = 40\%$$

$$\textit{Inflation Rate in } 2003 \text{ E.C. from } 2002 \text{ E.C.} = \frac{(200-120)}{120} X\ 100 = 66.6\%$$

Note that: The value (–14.3%) in the year 2002 E.C. shows a decrease in the general level of the prices of goods and services. A decrease in the general level of the prices of goods and services is known as deflation. Deflation is the opposite of inflation. Therefore, there was inflation in the years 2001 E.C. and 2003 E.C. and deflation in the year 2002 E.C.

Types of Inflation

Now, let us explore the type of inflation. It is broadly the case that, during inflation, the supply of goods and services is less in comparison to their demand (i.e. aggregate demand is higher than aggregate supply) resulting in a situation where too much money is chasing too few goods. Yet shortage in supply of goods and services alone does not provide the sole explanation.

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 classified on the basis of causes such as demand-pull or cost-push inflation as well as wage, profit, scarcity, deficit, currency, credit and foreign trade induced inflation. Many of these causes are related to how money is supplied and demanded in the economy. For instance, when governments print money to finance expenditure, this translates into an increase in the money supply which causes inflation. The printing of

money to raise revenue (also known as *seinorage*) resembles imposing an inflation tax to be paid by money holders. As prices rise, the real value of the money in one's wallet falls. Hence, inflation is like a tax on holding money (**Mankiwi, 2016**).

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. There are reasons for this. For example, during a major war, a government needs to acquire large amount of resources (goods and manpower). Printing money seems like a relatively painless way for the government to acquire some of these resources. Wars, falls in export prices, tax evasion, and political stalemate frequently leave governments with large budget deficits. In addition to this, investors often do not have enough confidence that the government will honour its debts in order to buy its bonds. As a result, a government's only choice is to resort to printing money hence contributing to inflation.

1.2.3 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. On the other hand, a person who fits into neither of the first 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. According to the Ethiopian labour law, the labour force does not include children under the age of 14, retired people over 60 years old and those in mental and correctional institutions.

From the economic point of view, unemployment is the macroeconomic problem that affects people most directly and severely. It has economic costs to broader society. For

example, when millions of unemployed but willing workers cannot find jobs, economic resources are unused. The opportunity cost of unemployment is the output that the unemployed workers could have produced. Hence, the costs of unemployment justify making a low level of unemployment a public policy priority. In other words, since one aspect of economic performance is how well an economy uses its resources, and workers are the economy's main resource, keeping workers employed is a paramount concern of economic policymakers. In order to address the problem of unemployment, policy makers need to know about the labour market, the labour force, labour force participation rate and the unemployment rate. These concepts are detailed below.

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.

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.

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

Labour Force

$$\text{Labour Force} = \text{Number of Employed} + \text{Number of Unemployed}$$

Unemployment Rate

$$\text{Unemployment Rate} = \frac{\text{Number of Unemployed}}{\text{Labour Force}} \times 100$$

Labour Force Participation Rate

$$\text{Labour Force Participation Rate} = \frac{\text{Labour Force}}{\text{Adult Population}} \times 100$$

There are different 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. One example of frictional unemployment is the case of individuals entering the workforce for the first time after graduating from college/ university or searching for their first job. They are unemployed until they get their first job.

Cyclical unemployment occurs due to a deficiency of aggregate effective demand resulting from business depressions (**Dewett,1997**). International factors may generate this kind of unemployment. For example, lack of demand for coffee or other agricultural products in overseas markets, resulting from unfavourable business cycles that has a knock-on effect to the employment situation in a domestic economy. Another 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. As the name "structural" implies, the economic changes are extensive amounting to a transformation of an economic structure. It is possible that the work force could grow faster than the stock of capital of a country and the addition of the labour force cannot be absorbed in productive employment. Moreover, 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. For instance, individuals who have degrees can be re-trained if they become structurally unemployed. On the other hand, for people with no skills and little education, that option is more limited. In sum, structural unemployment is caused by such factors as the lack of necessary skills for a particular job, labour immobility, breakdowns of machinery, and shortages of raw materials.

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. Furthermore, there are those who work full time in terms of hours per day but earn very little to rise above the poverty level. Open and disguised unemployment in urban and rural areas are estimated at 30-35% of the labour force in underdeveloped countries.

1.2.4 Business Cycle

In real life, economic growth is often accompanied by cycles of expansion and contraction, boom and bust. The term "business cycle" (also known as "trade cycle", "economic cycle" or "boom-bust cycle") refers to economy-wide fluctuations 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 fluctuations recur with a certain degree of regularity following a pendulum like oscillation. There are upward swings and then downward swings in business as shown in Figure 1.1. According to some economists, every boom is followed by a slump and vice versa (**Vaish**, **2010**). 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.

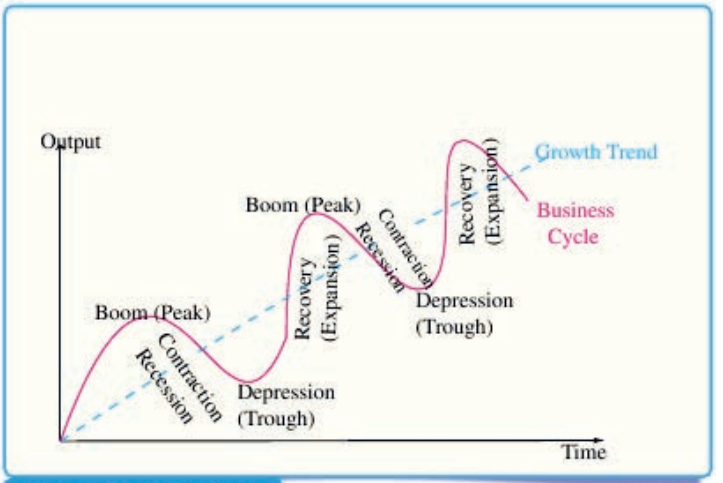


Figure 1.1 Business Cycle

In sum, economic fluctuations are not regular and predictable. Recessions are common but irregular. So, what causes short-run fluctuations? What model should we use to explain

them? Here, a model refers to an organising framework that represents a simplification of the system under investigation. Can policymakers avoid recessions? If so, what policy levers should they use? It is noted that just as Egypt now controls the flooding of the Nile Valley with the Aswan Dam, modern society tries to control the business cycle with appropriate economic policies (**Mankiw, 2016**).

1.2.5 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. For this, they pay a sum of interest payments and repayments of principal on external debt, which is also called ***debt service*** (**Todaro and Smith, 2015**).

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. Now, let us compare two countries, namely, Ethiopia and China, with different trade balances. In 2020, Ethiopia ran a trade deficit of about US$10.7 billion while China had a substantial commodity trade surplus amounting to about US$535 billion in the same year.

The question is: *What happens when trade is out of balance and large trade surpluses, or deficits exist?* Many nations seek trade surpluses; however, some degree of trade deficits is economically tolerable for countries when such a deficit reflects the importing of capital equipment which can then be used to boost productivity and output.

A series of financial crises which are triggered by unbalanced trade can lead economies into deep recessions. These crises begin with large trade deficits. At some point, foreign

investors become pessimistic about the economy and move their money to other countries. The economy then, drops into deep recession, with real GDP often falling up to 10% or more in a single year. This happened to Mexico in 1995 when its GDP fell by 8.1%. Several countries in East Asia (Thailand, South Korea, Malaysia, and Indonesia) succumbed to the same economic illness in 1997-1998 (called the "Asian financial crisis"). In the late 1990s and into the early 2000s, Russia and Argentina had the identical experience (**Mankiw, 2016**).

Problems with trade imbalances do not reduce the importance of the economic benefits from foreign trade. In the globalised world of today, countries benefit from diversity in production possibilities (due to difference in endowments), economies of scale and decreasing costs as the volume of output expands, as well as satisfaction of different tastes/ preferences for commodities from different countries (**Samuelson and Nordhaus, 1995**).

Activity 1.2

1. Define inflation.
2. List the phases of business cycles.
3. Define trade deficit and surplus.

1.3 The Schools of Thought in Macroeconomic Analysis

At the end of this section, you will be able to:

- describe the evolution and recent development in macroeconomic analysis.
- list different schools of thought engaged in macroeconomic analysis.

Start-up Activity

1. Who was the pioneer proponent of economics?
2. What are the major schools of thought in macroeconomic analysis?

1.3.1 Evolution and Recent Developments

From the inception of macroeconomics, different 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.

1.3.2 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 fiscal or monetary policy is needed. Expansionary fiscal or monetary policy would only cause inflation, rather than increase the GDP. In other words, fiscal policy is useless in affecting employment and output while increasing government spending will lead to a higher rate of interest and full crowding out of private investment, without effecting changes in the price level. On the other hand, monetary policy has no effects on the real sphere of the economy, and it only leads to a higher price level. For classical economists, the real and monetary sectors could be studied separately. Demand-side policies merely affect the interest rate and/or the price level, while supply-side policies affect the real wage, employment, and output.

Linked to this preference for supply side policies are economists termed as supply-siders, e.g. Arthur Laffer (1940 -) and Robert Mundell (1932-2021). Supply-siders despise government intervention in the markets and emphasize the distorting effects of taxation. Their policy advice is to cut tax rates to stimulate the economy. They argue that there is no need to cut government spending because the tax cut will pay for itself, hence there is no need to restrain public spending on defence, for example, while having an excuse to substantially cut the tax rate. The central element of this argument lies in the Laffer curve theory that was formalized by Arthur Laffer to show the relationship between tax rates and

the amount of tax revenue that is collected by governments. The curve is used to illustrate the argument that cutting tax rates can sometimes result in increased total tax revenue.

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).

Neoclassicals base their ideas mainly on the writings of Alfred Marshall and his followers. They closely follow the findings 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 fluctuate around its potential GDP and its natural rate of unemployment. The two building blocks of neoclassical economics are that the potential GDP determines the economy's size and wages, and prices will adjust in a flexible manner so that the economy will adjust back to its potential GDP level of output. The key policy implication is that the government should focus more on long-term growth and on controlling inflation 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.

1.3.3 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 offering 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.

Recession, according to the Keynesian view, emerges from two key building blocks. First, aggregate demand is not always automatically high enough to provide firms with an incentive to hire enough workers to reach full employment. Second, the macroeconomy may adjust only slowly to shifts in aggregate demand because of sticky wages and prices, (i.e., wages and prices that do not respond to decreases or increases in demand).

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. In either case, household wealth will decline, and consumption expenditure will follow the same path. Since businesses see that consumer spending is falling, they face reduced expectations of the profitability of investment, so they will decrease investment expenditure.

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.

1.3.4 Monetarist

The monetarist view is represented by Milton Friedman (1912-2006) and his colleagues. They argued that it is monetary policy and not fiscal policy that addresses the macroeconomic problems. They noted that since they assumed the interest sensitivity of investment to be very high, fiscal policy leads only to strong crowding out of private investment. Fiscal policy, under monetarist assumptions, is unable to influence employment and output. This assumption means monetarists oppose the Keynesians who believed in stimulating economic activity by investment to ward off 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. They underline the long- and variable-time lags before a macroeconomic problem is recognized before an appropriate macroeconomic policy is implemented, and yields the required effect. When the policy is set too late, monetary policy can heighten business cycle fluctuations in the economy. To this end, Friedman suggested that the central bank should follow a constant growth rule for some monetary aggregate and not tinker with monetary policy to influence aggregate demand and employment.

1.3.5 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 flexible prices and wages, rational expectations or perfect foresight, the efficiency of the market, and full employment. All observable fluctuations in the economy are due to rational agents responding to the incentives as they observe them, not due to nominal rigidities.

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 ineffectiveness proposition", according to which the policy maker either cannot or should not use countercyclical policy.

1.3.6 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 REH.

The most recent wave of new Keynesian economics is more micro-based. The predominance of imperfect competition, coordination failures, and credit restrictions are stressed. Although it is too early to call in the jury for a verdict, it is clear that this is a very promising avenue of research.

Activity 1.3

1. Discuss the various schools of thought in macroeconomics.
2. Identify the differences between the following school of thoughts in macroeconomics:
   - classical and neoclassical economics.
   - classical and Keynesian economics.
   - Keynesian and monetarist economics.

Unit Summary and Review Questions

Unit Summary

Microeconomics focuses on the actions of individual agents within the economy, like households, workers and businesses. Macroeconomics, on the other hand, looks at the economy as a whole by focusing on broad issues such as growth of production, the number of unemployed people, the inflationary increase in prices, government deficits, levels of exports and imports and trade balance. Yet both microeconomics and macroeconomics are complementary perspectives on the subject of the economy.

The focus areas of macroeconomics are aggregate behaviour of the economy, such as economic growth, employment, inflation, distribution of income, macroeconomic policies and international trade. The macroeconomic variables such as gross domestic product (GDP), the unemployment rate, and inflation help us to determine the macroeconomic performance of a country.

The state of macroeconomics has evolved since the 1930s and **different schools of thought** (the classical and neoclassicals, the Keynesians, the monetarists, the new classical economists, and the new Keynesians) emerged.

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 deficit, 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

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

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 firm 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 of the above
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

For the following questions, write 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.

UNIT 2

AGGREGATE DEMAND AND AGGREGATE SUPPLY ANALYSIS

INTRODUCTION

Aggregate Supply - Aggregate demand (AS-AD) analysis is simply an aggregation of the microeconomic model. Instead of the quantity of output of a single industry, this model represents the quantity of output of an entire economy (national production). Just as there are two sides to a market, a buying side (demand) and a selling side (supply), there are two sides to an economy: demand and supply sides. These are the two forces which operate on the macro economy and they are important tools that help explain the major economic trends. In macroeconomic analysis, we determine the level of overall economic activity in an economy, particularly the levels of output and prices through an interaction of aggregate demand and aggregate supply. This unit presents aggregate demand and aggregate supply, and then study equilibrium of aggregate demand and aggregate supply.

Learning Outcomes

At the end of this unit, you will be able to:

- distinguish the difference between a change in the quantity demanded and a change in demand.
- discuss various explanations for wage and price stickiness.
- demonstrate graphically the short run and long run equilibrium in relation to potential output.
- explain how the AS–AD model is used to analyse economic fluctuations.

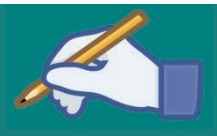
Key Concepts

- Aggregate Demand
- Aggregate Supply
- Equilibrium

2.1 Aggregate Demand

At the end of this section, you will be able to:

- define concept of aggregate demand.
- describe the basic determinants of aggregate demand.
- distinguish the difference between a change in the quantity demanded and a change in demand.



Start-up Activity

1. What important ideas come to your mind when you think of aggregate demand in an economy?
2. What are the similarities and differences between aggregate demand and aggregate supply from your point of view?

2.1.1 Concept of Aggregate 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. More specifically, AD is defined as: the total amount of money which all sections (households, firms, and governments) are ready to spend on the purchase of goods and services produced in an economy during a given period.

Alternatively, 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. In other words, it is the total spending by all the entities in the economy. Moreover, we may say aggregate demand is the total expenditure on consumption and investment.

There are four major components of AD. household consumption demand (C)

- private investment demand(I)
- government demand for goods and services (G)
- net export demand (X-M)

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

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.

2.1.2 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.

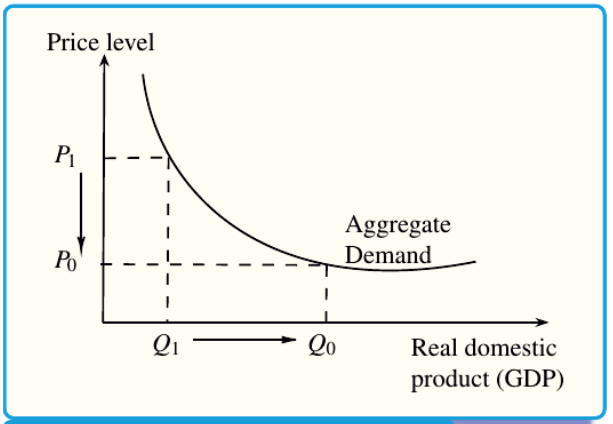


Figure 2.1 Aggregate Demand Curve

In general, it is observed that with other factors held constant, aggregate demand rises with a fall in the general price level. The inverse is also true. Thus, the AD curve is a downward sloping curve. It indicates the output (goods and services) which will be demanded in the economy at various general price levels.

Figure 2.1 shows that when the general price level falls $P_1 to P_0$, the aggregate quantity demanded of the output increases $Q_1 to Q_0$. Consequently, there is an inverse relationship between the general price level and aggregate demand. Remember here what you learnt in **Grade 9** about the relationship between the price of an individual commodity and its demand (law of demand).

Why Does the Aggregate Demand Curve Slope Downward?

Asking why the AD curve slopes downward is the same as asking why there is an inverse relationship between the price level and the quantity demanded of real GDP. This inverse relationship, and the resulting downward slope of the AD curve, is explained by the real balance effect, the interest rate, and the international trade effect.

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.

The inverse relationship between the price level and the quantity demanded of real GDP is established through changes in household and business spending that is sensitive to changes in interest rates. 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. Higher interest rates curtail investment spending and interest-sensitive consumption spending. Firms that expect a 6% rate of return on a potential purchase of capital will find that investment is potentially profitable when the

interest rate is, say, 5%. But the investment will be unprofitable and will not be made when the interest rate has risen to 7%. Similarly, consumers may decide not to purchase a new house or new automobile when the interest rate on loans goes up. So, by increasing the demand for money and consequently the interest rate, a higher price level reduces the amount of real output demanded.

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, the quantity demanded of Ethiopia's 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 from AD_1 to AD_2 (see Figure 2.2). Try to notice also that 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 these factors 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.

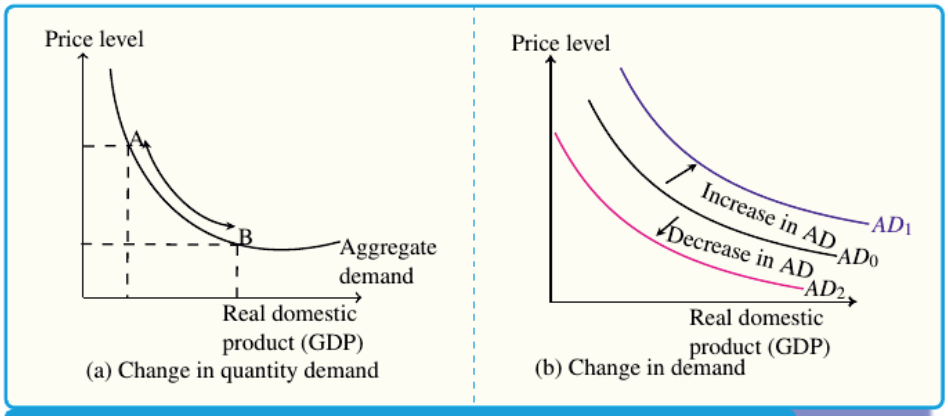


Figure 2.2 Change in quantity demanded Vs Change in aggregate demand

2.1.3 Shifts in the Aggregate Demand Curve

What are the kinds of variables that lead to shift in aggregate demand? In other words, what can cause aggregate demand to rise and what can cause it to fall? The simple answer to these questions is that aggregate demand changes when the spending on Ethiopian goods and services changes. For example, if spending increases at a given price level, aggregate demand rises; if spending decreases at a given price level, aggregate demand falls.

When individuals, firms, and governments want to buy more Ethiopian goods and services even though the prices of these goods have not changed, then we say that aggregate demand has increased. As a result, the *AD* curve shifts to the right. Of course, when individuals, firms, and governments want to buy fewer Ethiopian goods and services at a given price level, then we say that aggregate demand has decreased. As a result, the *AD* curve shifts to the left. In short, a rise in consumption, investment, government purchases, or net exports will increase spending on Ethiopian goods and services. Similarly, a fall in consumption, investment, government purchases, or net exports will lower spending on Ethiopian goods and services.

Since we now know what causes total expenditure on Ethiopian goods and services to change, we can relate the components of spending to (Ethiopian) aggregate demand. 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. We can write these relationships as:

Consumption and Aggregate Demand

- **If, at a given price level,** $C \uparrow \Rightarrow G \uparrow \Rightarrow NE \uparrow \Rightarrow AD \uparrow$
- **If, at a given price level,** $C \downarrow \Rightarrow G \downarrow \Rightarrow NE \downarrow \Rightarrow AD \downarrow$

There are two categories of AD determinants. Namely, policy variables under government control, e.g. monetary and fiscal policy variables, and exogenous variables which are determined outside the AD-AS framework, e.g. Foreign economic activity, technological change.

In this section, we will look at some of the factors that can change consumption, investment, government spending and net exports.

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 financially more secure and thus, more willing to spend. Increases in wealth lead to increases in consumption. For example, if consumption increases, then aggregate demand rises and the *AD* curve shifts to the right. What will happen if wealth decreases? Decreases in wealth lead to a fall in consumption, which in its turn leads to a fall in aggregate demand, consequently, the *AD* curve shifts to the left.

Wealth and Aggregate Demand

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

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. If individuals expect lower prices in the future, they decrease current consumption expenditures. This reduction in consumption leads to a decrease in aggregate demand. Similarly, expectation of a higher future income increases consumption, which leads to an increase in aggregate demand. In contrast to this, expectation of a lower future income decreases consumption, which leads to a decrease in aggregate demand.

Expectations about future prices

- **Expect higher future prices** $\Rightarrow C \uparrow \Rightarrow AD \uparrow$
- **Expect lower future prices** $\Rightarrow C \downarrow \Rightarrow AD \downarrow$

Expectations about future income

- **Expect higher future income** $\Rightarrow C \uparrow \Rightarrow AD \uparrow$
- **Expect lower future income** $\Rightarrow C \downarrow \Rightarrow AD \downarrow$

3. **Interest rate**. Current empirical work shows that spending on consumer durables is sensitive to the interest rate. Many of these items are financed by borrowing. So, an increase in the interest rate increases the monthly payment amounts which are linked to their purchase and thereby reduces their consumption. This reduction in consumption leads to a decline in aggregate demand. Alternatively, a decrease in the interest rate reduces monthly payment amounts which is linked to the purchase of durable goods and thereby increases their consumption. This increase in consumption leads to an increase in aggregate demand.

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; it raises disposable income. In other words, when people have more take-home pay to spend, consumption rises and aggregate demand will increase.

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

Three factors that can change investment are the interest rate, expectations about future sales, and business taxes.

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 as long as tax collections and interest rates do not change as a result. 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. For instance, a change in national income affects net exports. Just as Ethiopians earn a national income, so do people in other countries. For example, as foreign real national income rises, foreigners buy more Ethiopian goods and services. Thus, Ethiopia's exports (*EX*) rise and as exports rise, net exports rise, ceteris paribus. As net exports rise, aggregate demand increases. This process works in reverse, too. This means that as foreign real national income falls, foreigners buy fewer Ethiopian goods and exports fall. This in its turn lowers net exports, which reduces aggregate demand.

Foreign real national income and Aggregate Demand

- **Foreign real national income** ↓⇒ Exports ↓⇒ Ethiopian net exports ↓ ⟹ AD ↓
- **Foreign real national income** ↑⇒ Exports ↑⇒ Ethiopian net exports ↑⇒ AD ↑

In the case of change in exchange rate affecting net exports, when a currency **appreciates** in value if more of a foreign currency is needed to buy it. A currency is said to **depreciate** if more of it is needed to buy a foreign currency. For example, a change in the exchange rate from \$1 = 32 Birr to \$32= 1 Birr means that more dollars are needed to buy 1 Birr, and Birr appreciates. This is because more dollars are needed to buy 1 Birr, when the dollar depreciates. Depreciation of a nation's currency makes foreign goods more expensive. Consider an Ethiopia leather jacket that is priced at 1500 Birr when the exchange rate is 1Birr = 2 Indian Rupee. This would mean a person in India would have to pay 3000 Rupee. Now, suppose that the Indian Rupee depreciates to 3 Rupee = 1 Birr. People in India now have to pay 4500 Rupee for the jacket. This process is symmetrical, so an appreciation in a nation's currency makes foreign goods cheaper.

The depreciation and appreciation of the Ethiopian Birr 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. As the Birr appreciates, foreign goods become cheaper; Ethiopians increase their purchases of imported goods, and foreigners (whose currency has depreciated) cut back on their purchases of Ethiopia's exported goods. So, if exports fall and imports rise, net exports decrease, and thus, lower aggregate demand.

Exchange Rate and Aggregate Demand

- **ETB** Depreciates ⇒ Exports ↑ and Imports ↓⇒ Ethiopia's net exports ↑⇒ AD ↑
- **ETB** Appreciates ⇒ Exports ↓ and Imports↑⇒ Ethiopia's net exports ↓⇒ AD ↓

Activity 2.1

1. Why do aggregate demand curves shift?
2. Explain why the aggregate demand curve slopes downward.

2.2 Aggregate Supply

At the end of this section, you will be able to:

- define concept of aggregate supply.
- construct and interpret the supply curve.
- describe the basic determinants of aggregate supply.

Start-up Activity

What important idea comes to your mind when you think of aggregate supply in an economy?

2.2.1 Concept of Aggregate Supply

The aggregate demand and aggregate supply model is the basic macroeconomic model

for studying output and price level determination. Aggregate demand is one side of the economy; and aggregate supply is the other side.

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 firms offer for sale. Aggregate supply includes both short-run aggregate supply (SRAS) and long-run aggregate supply (LRAS). The short-run aggregate supply and long-run aggregate supply are discussed in the following section.

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. Average costs of production are assumed not to change as their output level changes.

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 (Dorrnbushpp, 2011).

2.2.2 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. Accordingly, the aggregate supply curve reflects conditions in the factor markets as well as the goods markets.

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? Economists have put forth a few explanations, from which we will discuss only two of them,. sticky wages and worker misperceptions.

***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. For example, management and labour may agree to lock in wages for the next one to three years. Both labour and management may see this as in their best interest. Management has some idea of what its labour costs will be during the time of the contract, and workers may have a sense of security knowing that their wages cannot be lowered. Alternatively, wages may be sticky because of certain social conventions or perceived notions of fairness. Whatever the specific reason for sticky wages, let's see how they provide an explanation of an upward-sloping SRAS curve.

Firms pay nominal wages (e.g., $30 an hour), but they often decide how many workers to hire based on real wages. Real wages are nominal wages which are divided by the price level.

$$\text{Real wage} = \frac{\text{Nominal wage}}{\text{Price level}}$$

For example, suppose that the nominal wage is $30 an hour, and the price level as measured by a price index is 1.50. The real wage is therefore, $20.

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.

With this as background, suppose a firm has agreed to pay its workers $30 an hour for the next three years and it has hired 1,000 workers. When this nominal wage was agreed, it was thought that the price index would remain at 1.50 and the real wage would stay at $20.

Now, suppose that the price index *falls* to 1.25. When the price level falls to an index of 1.25, the real wage rises to $24 ($30/1.25). This is a higher real wage than the firm expected when it agreed to lock in nominal wages at $30 an hour. If the firm had known that the real wage would turn out to be $24 (and not remain at $20), it would never have hired 1,000 workers. It would rather have hired, say, 800 workers instead.

So, what does the firm do? As we stated, there is an inverse relationship between the real wage and the quantity demanded of labour (the number of workers that firms want to hire).

Now that the real wage has risen (i.e. from $20 to $24), the firm cuts back on its labour (say, from 1,000 to 800 workers). With fewer workers working, less output is produced.

In conclusion, if wages are sticky, a decrease in the price level (which pushes real wages up) will result in a decrease in output. This is what an upward-sloping *SRAS* curve represents: as the price level falls, the quantity supplied of goods and services declines.

Worker misperceptions: another explanation for the upward-sloping SRAS curve holds that workers may misperceive real wage changes. To illustrate, suppose that the nominal wage is $30 an hour and the price level as measured by a price index is 1.50. It follows that the real wage is $20. Now, suppose that the nominal wage falls to $25 and the price level falls to 1.25. The real wage is still $20 ($25/1.25 = $20), but workers may not know this. They will know their nominal wage has fallen (they know they are earning $25 an hour instead of $30 an hour). They also may know that the price level is lower, but they may not know initially how much lower the price level is. For example, suppose that they mistakenly believe the price level has fallen from 1.50 to 1.39. They will then think that their real wage has actually fallen from $20 ($30/1.50) to $17.98 ($25/1.39).

In response to (the misperceived) falling real wage, workers may reduce the quantity of labour that they are willing to supply. With fewer workers (resources), firms will end up producing less. In conclusion, if workers misperceive real wage changes, then a fall in the price level will bring about a decline in output, which is illustrative of an upward-sloping SRAS curve.

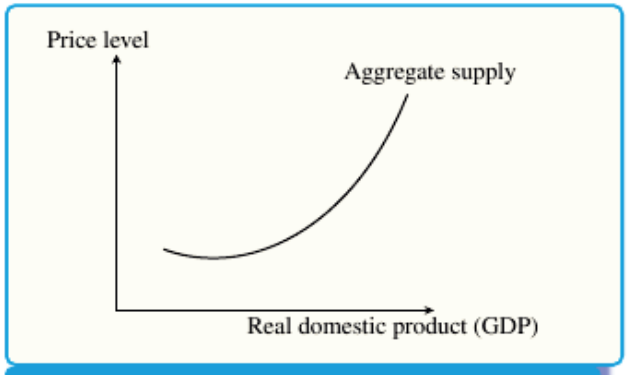


Figure 2.3 Short-run aggregate supply curve (SRAS)

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 a number of factors. Some of these factors are as follows:

a) cost of input or change in input price

b) domestic Resource availability

- ✔ managerial ability, land, labour and capital
- ✔ price of imported resource
- ✔ market power

c) change in productivity

d) state of technology

e) tax policy of government (business taxes and subsidies)

f) 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. The impact of a rise or fall in equilibrium wage rates can be understood in terms of the following equation:

Profit per unit = Price per unit - Cost per unit

Higher wage rates mean higher costs and, at constant prices, translate into lower profits and a reduction in the number of units (of a given good) managers of firms will want to produce. Lower wage rates mean lower costs and, at constant prices, translate into higher profits and an increase in the number of units (of a given good) managers will decide to produce.

The impact of higher and lower equilibrium wages is shown in **Figure 2.4**. At the given price level, P_1 on $SRAS_1$, the quantity supplied of real GDP is Q_1. When higher wage rates are introduced, a firm's profits at a given price level decrease. Consequently, the firm reduces production. This, this corresponds to moving from Q_1 to Q_2, which at the given price level is point B. Point B represents a point on a new aggregate supply curve ($SRAS_2$). Thus, a rise in equilibrium wage rates leads to a leftward shift in the aggregate supply curve. The steps are simply reversed for a fall in equilibrium wage rates.

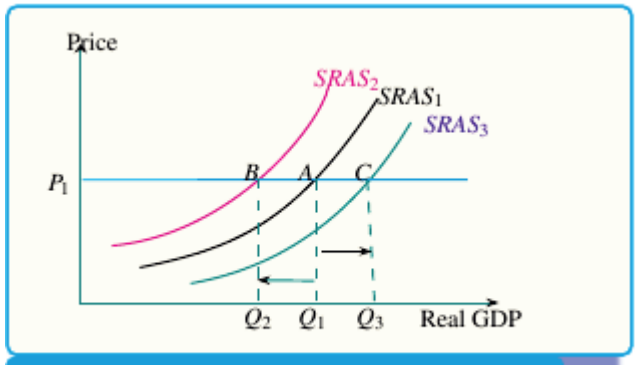


Figure 2.4 Wage rates and a shift in SRAS curve

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

In this section, we will discuss long-run aggregate supply and draw a long-run aggregate supply (*LRAS*) curve. We will also discuss long-run equilibrium and explain how it differs from short-run equilibrium. As explained above, economists give different reasons for an upward-sloping *SRAS* curve. Recall that those reasons have to do with: sticky wages and workers misperception. It follows, then, that short-run equilibrium identifies the real GDP where the economy produces when either of these two conditions hold. 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** (Q_N). The aggregate supply curve that identifies the output the economy produces in the long run is the **long-run aggregate supply (*LRAS*) curve**.

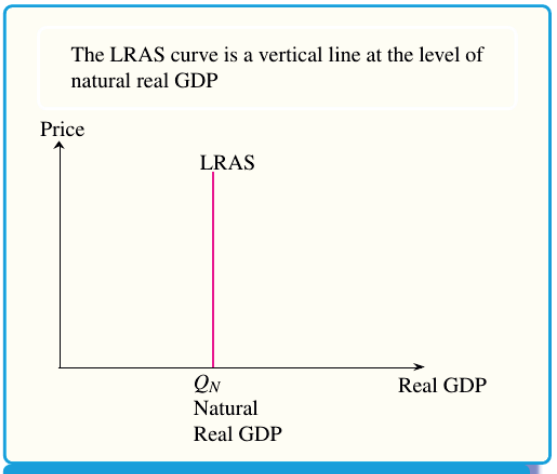


Figure 2.5 Long-run aggregate supply (LASC) curve

It follows that **long-run equilibrium** identifies the level of real GDP that the economy produces when wages and prices have adjusted to their (final) 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*).

Activity 2.2

1. Why does the supply curve slope upward to the right?
2. Explain the meaning of the AS curve and why it shifts when technology or factor prices change.
3. How are movements along the supply curve different from shifts of the supply curve?

2.3 Equilibrium of Aggregate Demand and Aggregate Supply

At the end of this section, you will be able to:

- define market equilibrium.
- identify the concepts of short-run and long-run equilibrium.
- analyse how the market reaches equilibrium, and the possible factors that could cause a change in equilibrium.
- differentiate between demand shock and supply shock.

Start-up Activity

Discuss when an economy's market reaches equilibrium level.

Let's bring aggregate demand and supply together to see how the market price of a product is determined. In this section, we put aggregate demand and short-run aggregate supply together to achieve short-run equilibrium in the economy. Aggregate demand and short-run aggregate supply determine the price level and real GDP. **Figure 2.6** shows an aggregate demand (*AD*) curve and a short-run aggregate supply (*SRAS*) curve. We consider the quantity demanded of real GDP and the quantity supplied of real GDP at three different price levels: P_1, P_2, and P_E.

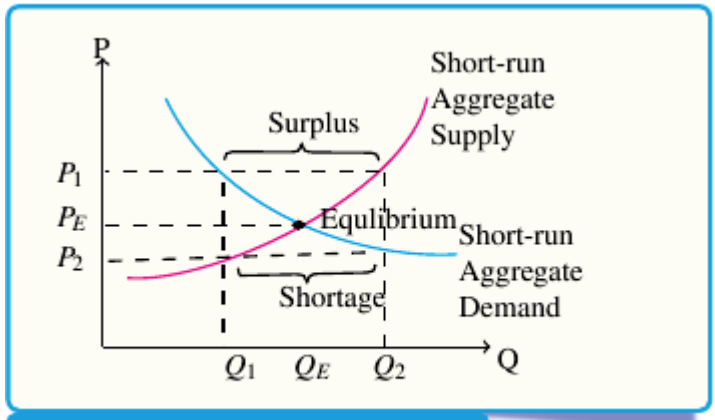


Figure 2.6 Short-run equilibrium

At P_1, the quantity supplied of real GDP (Q_2) is greater than that of the quantity demanded (Q_1). There is a surplus of goods. As a result, the price level drops, firms decrease output, and consumers increase consumption. Why do consumers increase consumption as the price level drops? (Hint: Think of the real balance, the interest rate, and the international trade effects.)

At P_2, the quantity supplied of real GDP (Q_1) is less than that of the quantity demanded (Q_2). There is a shortage of goods. As a result, the price level rises, firms increase output, and consumers decrease consumption.

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

Static Equilibrium

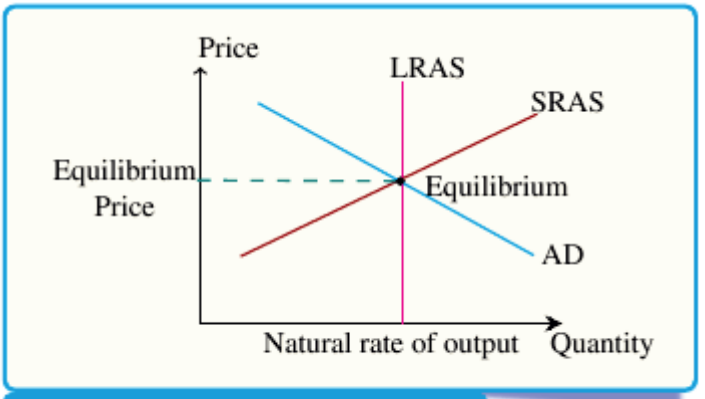


Figure 2.7 Long- run Equilibrium

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. **Figure 2.7** shows this state of long-run and short-run equilibrium. If the aggregate demand curve and aggregate supply curves were to remain unchanged, the economy would continue to produce the natural rate of output and have an equilibrium price indefinitely.

2.3.1 Shocks to Aggregate Demand

However, as noted above, there are many reasons why the AD and AS curves could shift. A change in aggregate demand, short-run aggregate supply, or both will obviously affect the price level and/or real GDP.

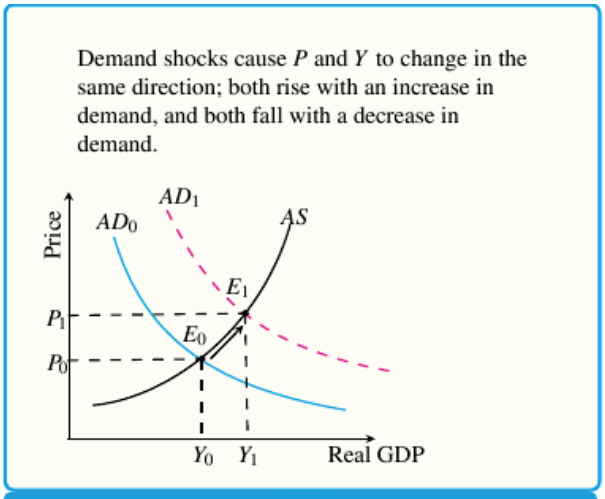


Figure 2.8 Effects of an increase in Aggregate Demand

Consider first the effects of a one-time unexpected exogenous positive shock to aggregate demand. This could arise from an expansionary monetary-policy action, an expansionary fiscal-policy action, or an increase in desired expenditures from another source. 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 effect of the shock on the equilibrium level of output.

2.3.2 Shocks to Aggregate Supply

Aggregate supply shocks cause *P* and *Y* 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. A storm that destroyed agricultural crops or a sudden interruption in the availability of imported inputs such as oil might cause a reduction shift to the left in the AS curves. Consider the effects of a negative supply shock. An example of a negative supply shock is an increase in the price of oil. Beginning at point A, an increase in the price of oil causes a decrease in the supply of the product which results in a leftward shift of the aggregate supply curve from SRAS, results in a decrease in output from Y_1 to Y_2 and an increase in price from Y_1 to Y_2.

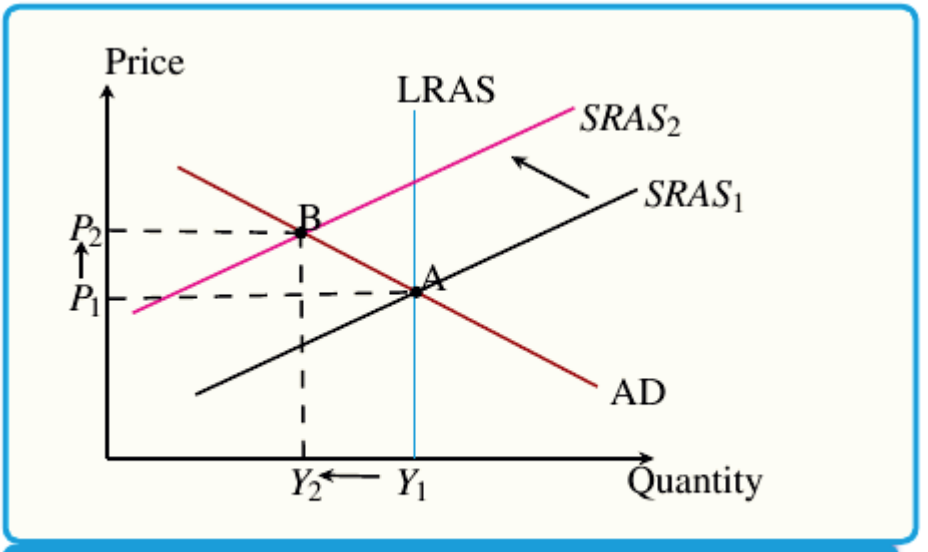


Figure 2.9 Effects of decrease in aggregate supply

Activity 2.3

1. Define " macroeconomic equilibrium"
2. Explain the effects of aggregate demand and aggregate supply shocks on real GDP and the price level.

Unit Summary and Review Questions

Unit Summary

Aggregate demand refers to the total amount of money which all sections (households, firms, and government) are prepare to spend on the purchase of goods and services that are produced in an economy during a given period. $AD = C + I + G + (X - M)$

The AD curve is a downward sloping curve. It indicates the output (goods and services) which will be demanded in the economy at various general price levels. Determinants of aggregate demand are: general level of income of the people, the real interest rate, and level of economic activity in other countries (it determines the level of exports), availability of credit, and the level of economic activity in the economy itself.

Aggregate supply refers to the quantity supplied of all goods and services (real GDP) at various price levels in a given period of time, ceteris paribus. Determinants of Aggregate supply are: cost of input or change in input price, domestic resource availability, state of technology, tax policy of government (business taxes and subsidies) and weather conditions. The short-run AS curve is upward sloping, whereas the long-run AS curves vertical.

Interaction between AD and AS determines the equilibrium level of national output and price level.

Review Questions

Part I: Multiple Choice

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

   E. the wealth effect.
   F. the interest rate effect.
   G. the foreign trade effect.
   H. 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:

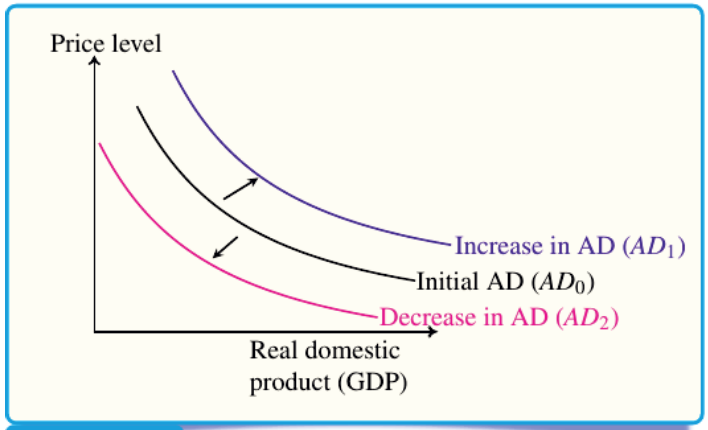


Figure 2.10

   A. Increase in AD
   B. Decrease in AD
   C. Neither curve because government spending does not affect 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.

UNIT 3

MARKET FAILURE AND CONSUMER PROTECTION

INTRODUCTION

In the free market, the equilibrium of a market is determined by the market forces of demand and supply. However, the equilibrium price and the equilibrium quantity of a good may not be the optimal price and quantity. For example, tobacco and alcohol are over-consumed and education and healthcare are under-consumed in the absence of government intervention. Market failure occurs when the free market fails to allocate resources efficiently or distribute goods and services equitably.

Allocative efficiency is achieved when it is impossible to change the allocation of resources in the economy in a way that will increase the welfare of society. This occurs when marginal social benefit is equal to marginal social cost. Marginal social benefit is the sum of marginal private benefit and marginal external benefit, whereas marginal social cost is the sum of marginal private cost and marginal external cost. On the other hand, external costs and benefits, or externalities, are costs and benefits of consumption or production which are experienced by society other than the producers or the consumers. Although the free market has numerous merits, it may not allocate resources efficiently or distribute goods and services equitably. In this unit, market failure, public goods, externalities, asymmetric information and consumer protection will be discussed.

Learning Outcomes

At the end of this unit, you will be able to:

- define market failure.
- identify the cause of market failure.
- state the characteristics of public goods.
- define the concept of externalities and asymmetric Information.
- explain the concept of consumer protection.

Key Concepts

- Market Failure
- Public goods
- Free rider
- Externalities
- Asymmetric Information
- Consumer Protection

3.1 Market Failure

At the end of this section, you will be able to:

- define market failure.
- explain the different types of market failures.
- analyse the solutions of market failures.

Start-up Activity

1. What is market failure from your point of view?
2. What possible solutions can you suggest to solve the problem of 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 benefits that are necessary to provide and consume a good. Furthermore, the individual incentives for rational behaviour do not lead to rational outcomes for the group. In other words, each individual makes the correct decision for himself/herself, but these may prove to be the wrong decisions for the group. 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 inefficient 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 off than if they had not acted in perfectly rational self-interest. Such a group either incurs too many costs or receives too few benefits. The economic outcomes under market failure deviate from what economists usually consider optimal and are usually not economically efficient. Even though the concept seems simple, it can be misleading and easy to misidentify.

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. Special interest groups can gain a large benefit by lobbying for small costs on everyone else, such as through a tariff. When each small group imposes its costs, the whole group is worse off than if no lobbying that had taken place.

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.

3.1.1 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. It is very difficult to privately produce the optimal amount of national defence. Since governments cannot use a competitive price system to determine the correct level of national defence, they also face major difficulty producing the optimal amount. This is an example of a market failure with no pure solution.

3.1.2 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. Consumers and producers can band together to form co-ops to provide services that might otherwise be underprovided in a pure market, such as a utility co-op for electric service to rural homes or a co-operatively held refrigerated storage facility for a group of dairy farmers to chill their milk at an efficient scale.

Activity 3.1

Explain some common causes of market failure

3.2 Public Goods

At the end of this section, you will be able to:

- define public goods.
- explain the characteristics of public goods.
- explain the free rider problem.
- Compare and contrast efficiency difference between pure public and private goods.

Start-up Activity

1. Have you ever appreciated the satisfaction you got from using street lights?
2. What are public goods? What makes them different from the private goods?

Definition and Features

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 fulfil 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. A good can satisfy one part of the definition of a public good and not another. These kinds of goods are called "impure public goods". Based on this, we can generally classify public goods into four major groups, as presented in Table 3.1 below.

Table 3.1 Characteristics of public goods

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)

Classification of goods as public goods is not absolute; it depends on market conditions and technology. Technology now allows radio or TV broadcasts to be encrypted so

that those without a special decoder are excluded from the broadcasts. Many forms of information have characteristics of public goods. For example, a poem can be read by many people without reducing the consumption of those goods by others; in this sense, it is non-rivalrous. However, the individual who wrote the poem may prohibit non-payers from using it through copyright (excludable). Some countries have developed tool booths and radio waves to monitor traffic and enforce some payments of using certain road (for example, Ethiopian express roads Addis Ababa to Adama or Addis Ababa to Hawassa). Hence, with the help of technology excludability can easily be applied.

- 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 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 firm to do the job. In both cases, the government provides the services, but it produces only in the former case. **Table 3.2** distinguishes the difference between pure private and pure public goods.

Table 3.2 Distinguish between pure private and pure public goods

No	Criteria	Pure private good	Pure public good
1	Divisibility	At certain price, individuals may consume different amounts.	Indivisible: the same quantity is available to different individuals.
	a) The ability to price a good	Benefits can be priced	Benefits cannot be priced since individuals do not have the incentive to reveal their true preferences.
	b) Principle of exclusion	Possible to apply	Cannot be applied
2	Externality	No externality	Usually characterized by the existence of externality
3	Marginal cost	There is usually positive MC i.e. additional cost by the additional person	Characterized by zero MC. Additional cost incurred by an additional person in obtaining the service is zero
4	Decreasing average cost	It may or may not be subject to economies of scale depending on the size and scale of production.	Characterized by decreasing AC since they are subjected economies of scale

The Free Rider (Social Loafer)

A person who seeks to enjoy the benefit of public goods without contributing anything to the cost of financing the amount made. This problem was first observed in trade union where not-members benefit 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 those cases 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.

Activity 3.2

1. What are public goods? How are they distinguished from private goods?
2. What are the characteristics of public goods?
3. Give examples of public goods, and state why such goods cannot be provided through market.

3.3 Externalities

At the end of this section, you will be able to:

- define the concept of externalities.
- describe positive and negative externalities.

Start-up Activity

What is an externality?

Definition, Nature and Types of Externality

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 suffer from the effects 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 beneficial, 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 first party, and the buyer as the second party. Examples of activities that generate positive externalities include, flower 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 firm 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. Fishermen can be thought as polluting as it creates cost upon producers in using the water. 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 efficiently. This is because the presence of negative or positive externality creates a difference between marginal cost (MC) and price (P) as efficiency 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.

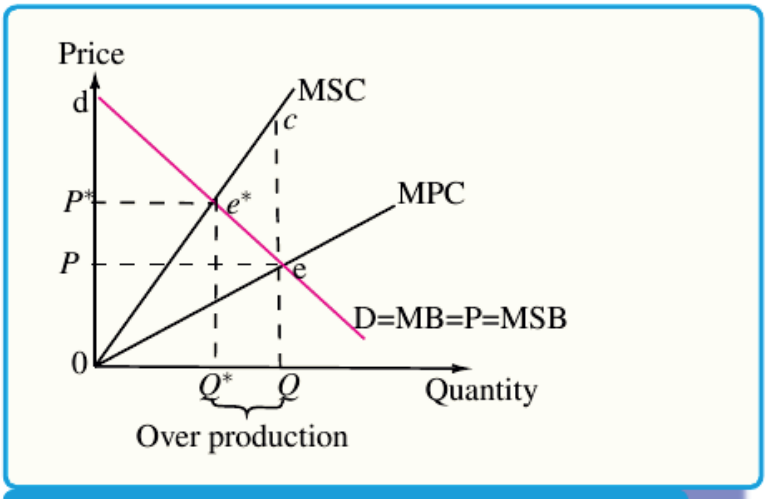


Figure 3.1 Negative externality and efficiency

Profit 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.

At point e, Welfare= Consumer surplus + Producer surplus – external cost

$$W = Ped + oeP - oec = oe^*d + ee^*c$$

At point e^* Welfare= Consumer surplus + Producer surplus

$$W = P^*e^*d + oe^*P^* = oe^*d$$

Thus, W of point e*< W 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 in Figure 3.2.

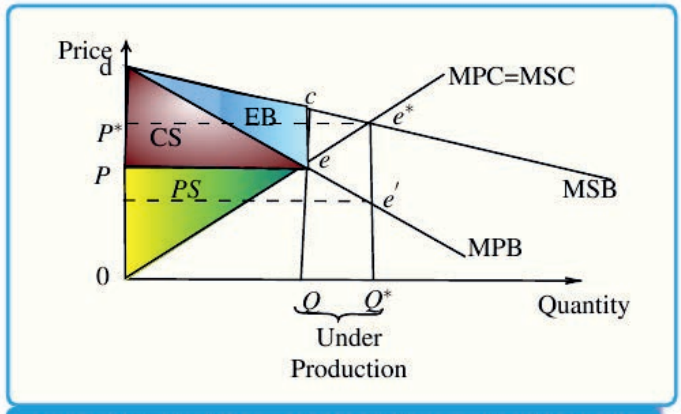


Figure 3.2 Positive externalities and efficiency

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*.

At point e, W= Consumer surplus + Producer surplus+ External benefit

= Ped + oep + dec

= oed + dec

- At pint e*, Welfare = Consumer surplus + Producer surplus

= P*e*d+ oe*p*

= oed + dec + ee*c

- Thus, W of point e*>W 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 profit 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. From **Figure 3.2** the per unit tax should be $e'e^*$. Therefore, the total amount of tax to be imposed should be equivalent to "$Oe'e^*$".

However, we should bear in mind that this type of solution was proposed for the first time by A.C. Pigou in 1920 on the basis of the following assumptions.

- ✔ Externality is the difference between MSC and MPC.
- ✔ There is competitive industry.
- ✔ A firm 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.

c. Defining and enforcing property rights for those who would like to pollute the environment. This means the sale of property rights. Since producers incur some additional costs due to the property rights, they will take this consideration into their production decisions and hence, produce relatively smaller quantities, as a result of which less pollution occurs.

However, there is one limitation of assigning/selling property rights. That is, the market in which we exchange these property rights may not be a perfectly competitive market.

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. As we can see from **Figure 3.2**, the per unit subsidy should be $e'e^*$ and hence, the total amount of subsidy to be provided is $de'e^*$.

b. The government itself can supply the product at a price of P_s and hence, bear the loss. As can be seen from the preceding figure.

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 effects in their actions/decisions.

Activity 3.3

What is meant by positive and negative externalities? Give examples.

3.4 Asymmetric Information

At the end of this section, you will be able to:

- define asymmetric information.
- outline the implications of asymmetric information.

Start-up Activity

What do you understand about 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 differently 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.

ii) Ex-post moral hazard: insured parties do not behave in a more risky manner that results in more negative consequences, but they do ask an insurer to pay for more of the negative consequences from risk as insurance coverage increases.

e.g. without medical insurance, some forgo medical treatment due to its costs or simply deal with substandard health. But, after medical insurance becomes available, some may ask and insurance provider to pay for the cost of medical treatment that would not otherwise have undergone.

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:

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

ii. In a market for used goods, those who own a good used car can offer warranty so that owners of good used car are signalling that they have good cars as owners of bad used cars cannot afford.

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:

i. 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.

ii. Offering health insurance as part of the package of fringe benefits. The insurance company can base its rates on the averages over the set of employees and is assured that all employees will participate in the program, thus eliminating the adverse selection.

Activity 3.4

1. Why is asymmetric information a problem?
2. How does asymmetric information lead to adverse selection?
3. What are the possible solutions for adverse selection?
4. What are the possible solutions for moral hazard?

3.5 Consumer Protection

At the end of this section, you will be able to:

- explain the concept of consumer protection.
- outline the need for consumer protection.
- describe the rights and responsibilities of consumers,
- state the main provisions of the Consumer Protection Act.

Start-up Activity

What is consumer protection from your point of view?

Concept of 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. In this section, we will examine the details about all these points.

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 unscrupulous

and unethical malpractices by the business in order to provide them with speedy redressal of their grievances. The most common business malpractices leading to consumer exploitation are given below.

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.

f) Hoarding and black-marketing leading to scarcity and rise in price.

g) Charging more than the maximum retail price fixed for the product.

h) Supply of defective goods.

i) Misleading advertisements, i.e., advertisements that falsely claim a product or service is of superior quality, grade or standard.

j) Supply of inferior services, i.e., quality of service is inferior to the quality agreed upon etc.

What are some of business malpractices in your area? Give examples. Should we allow this to happen? So, the measures adopted by the government or non-government organizations (NGOs) for safeguarding the interests of the consumers constitute consumer protection.

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 deficiency of services. But many consumers do not exercise their rights due to lack of awareness, ignorance or laziness. However, in view of the prevailing malpractices and their vulnerability to them, it is necessary to provide them physical safety, protection of economic interests, access to information, satisfactory product standard, and statutory measures for redressal of their grievances. The other main arguments in favour of consumer protection are outlined below.

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 effectively for the benefit 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.

Consumer protection experience in Ethiopia

In Ethiopia, the **Consumer Proclamation No. 813/2013** has provided the rights to consumers. Here is a brief outline of about these rights of consumers.

1. Consumers should receive t sufficient and accurate information or explanation as to the quality and type of goods or services they purchase.
2. They should buy goods and services on the basis of their own choice.
3. They should not to be obliged to buy because they looked into quality or options of goods and services or they made price bargains.
4. They should be received humbly and respectfully by any business person and be protected from insult, threat, frustration and defamation by the business person.
5. They should be able to claim compensation either jointly or severally from persons who have participated in the supply of goods or services such as the manufacturer, importer, and wholesaler retailer or in any other way for damages suffered as a result of purchase or use of the goods or services.

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.

Activity 3.5

1. Why is consumer protection important?
2. Do consumer protection measures affect business?

Unit Summary and Review Questions

Unit Summary

Market failure is the economic situation that is defined by an inefficient distribution of goods and services in the free market. Commonly cited market failures include externalities, monopoly, information asymmetries, and factor immobility.

Public goods are goods whose benefits are shared. They have two key characteristics: they are non-excludable and non-rivalrous. These characteristics make it difficult for market producers to sell the goods to individual consumers. **Non-excludable** means, that it is costly or impossible for one user to exclude others from using a good. **Non-rivalrous** means, that when one person uses a good, it does not prevent others from using it.

An externality is a cost or benefit that affects an otherwise uninvolved party who did not choose to be subject to the cost or benefit. **Economic efficiency** is the use of resources to maximize the production of goods; negative externalities are imperfections that limit efficiency. **Symmetric information** means that all parties have complete information about the economic variables that are relevant for their decisions. However, **asymmetric information** arises when some parties know more than others.

Consumer protection means that safeguarding the interest and rights of consumers. In other words, it refers to the measures adopted for the protection of consumers from unscrupulous and unethical malpractices by a business and to provide them speedy redressal of their grievances.

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 benefits.
   B. anyone can be excluded from enjoying its benefits.
   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 benefits.

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.

A	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. Externalities
3. the failure of the market to achieve an optimal allocation of the economy's resources	C. Social cost
4. the cost to society of producing a good including both the private costs and the externalities costs	D. Asymmetric information
5. benefits from these goods are not diminished by consumption and cannot be withheld from anyone	E. Moral hazard
	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.

UNIT 4

MACROECONOMIC POLICY INSTRUMENTS

INTRODUCTION

Every economy aims at achieving certain well-defined targets relative to its national income and output. Economies over the world also strived for a full employment, stability in prices, and equality in the distribution of income and wealth. How do they plan to achieve all these issues? How are the obstacles to these targets removed? What sorts of macroeconomic policies do they adopt? And how do these policies work? This unit gives us introductory-level answers to some of these questions. Specifically, in this unit, we will look at the different types of polices for controlling economic aggregates and how they function to increase output and stabilize the economy.

Learning Outcomes

At the end of this unit, you will be able to:

- realize the difference among fiscal, monetary and income policy.
- distinguish the difference between expansionary and contractionary fiscal and monetary policies.
- explain how income policy affects aggregate supply and aggregate demand.
- understand the different exchange rate policies

Key Concepts

- Fiscal policy
- Foreign exchange policies
- Income policy
- Minimum wages
- Monetary policy
- Price ceiling
- Price floor

Start-up Activity

Why is learning about macroeconomic policies important?

4.1 Definition and Types of Macroeconomic Policies

At the end of this section, you will be able to:

- define macroeconomic policy instruments.
- state the general objectives of macroeconomic policy.

Start-up Activity

What is macroeconomic policy from your point of view?

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 fluctuations often occur in the level of economic activity. At times the economy finds 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 stability

in the economy; recession would cure itself and inflation 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 as you learnt in **Unit 1**.

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, different types of macroeconomic policies – fiscal, monetary, income, and foreign exchange policies – are adopted. Each of these policies and their instruments are discussed below.

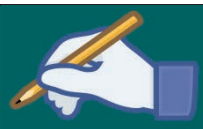
Activity 4.1

What are the main objectives of a macroeconomic policies?

4.2 Fiscal Policy

At the end of this section, you will be able to:

- explain fiscal policy.
- distinguish the difference between expansionary and contractionary fiscal policy.
- explain how expansionary and contractionary fiscal policy can shift aggregate demand and influence the economy.
- analyse the reason why fiscal policy is important.



Start-up Activity

1. What do you think about the economic role of governments?
2. What do you understand about fiscal policy?

Fiscal policy is the expenditure and revenue (tax) policy of the government to achieve the desired objectives.

4.2.1 Tools of Fiscal Policy

There are two key tools of the fiscal policy:

Taxation: funds in the form of direct and indirect taxes, capital gains from investment, etc, help the government function. Taxes affect the consumer's income and changes in consumption lead to changes in real gross domestic product (GDP).

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 fiscal policy tool.

In the standard textbook classification, 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 final goods and 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 benefits, social security benefits, 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 reflects 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 four major components of tax revenue (taxes) are the following:

- **Personal taxes** are composed of income taxes and property taxes, and are major sources of total government revenue.
- **Contributions for social insurance** are primarily social security taxes, which are assessed as a fixed percentage of a worker's wages, up to a fixed ceiling (or cap).
- **Taxes on production and imports** are primarily sales taxes, but they also include taxes on imported goods, known as "tariffs".
- **Corporate taxes** are primary taxes on the profits of businesses.
- **Grants in aid** are the federal assistance to state and local governments and are revenue for them (while they are spending for the federal government).

4.2.2 Types of Fiscal Policy

A fiscal policy can be of two types – expansionary or contractionary depending upon prevailing economic conditions.

I. Expansionary Fiscal Policy

In a situation in which an economy is facing the problem of deficient 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 deficiency 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.

The aggregate demand/aggregate supply model is useful in judging whether expansionary or contractionary fiscal policy is appropriate. For instance, as we can see in **Figure 4.1**, the intersection of aggregate demand (AD_0) and aggregate supply ($SRAS_0$) are occurring below the level of potential GDP as the LRAS curve indicates. At the equilibrium (E_0), a recession occurs and unemployment rises. In this case, expansionary fiscal policy using tax cuts or increases in government spending can shift aggregate demand to AD_1, closer to the full-employment level of output. In addition, the price level will rise back to the level P_1 that is associated with potential GDP.

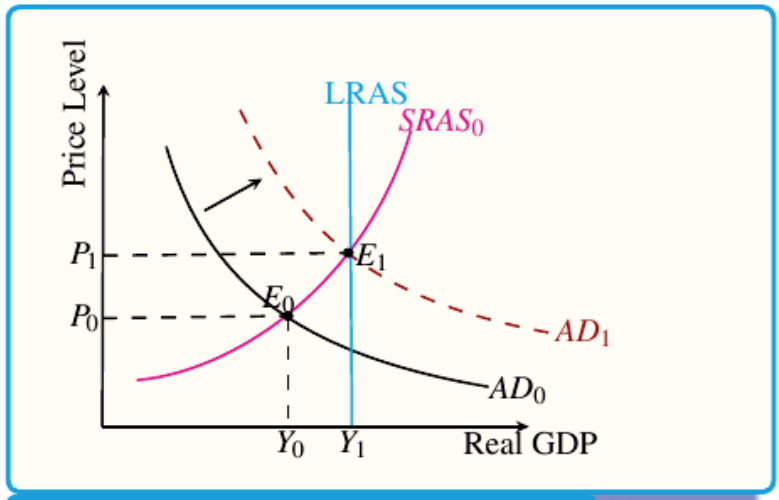


Figure 4.1 Expansionary Fiscal Policy

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 inflation, contractionary fiscal 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 electrification, 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 deficit, which shows excess expenditure over revenue.
- ***Revenue policy (increase taxes):*** during inflation, 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.

Fiscal policy can also contribute to pushing aggregate demand beyond potential GDP in a way that leads to inflation. As **Figure 4.2** shows, a very large budget deficit pushes up aggregate demand, so that the intersection of aggregate demand (AD_0) and aggregate supply ($SRAS_0$) occurs at equilibrium E_0, which is an output level above potential GDP. Economists sometimes call this an "overheating economy" where demand is so high that there is upward pressure on wages and prices, causing inflation. In this situation, contractionary fiscal 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, to AD_0, and causing the new equilibrium E_1 to be at potential GDP, where aggregate demand intersects the LRAS curve

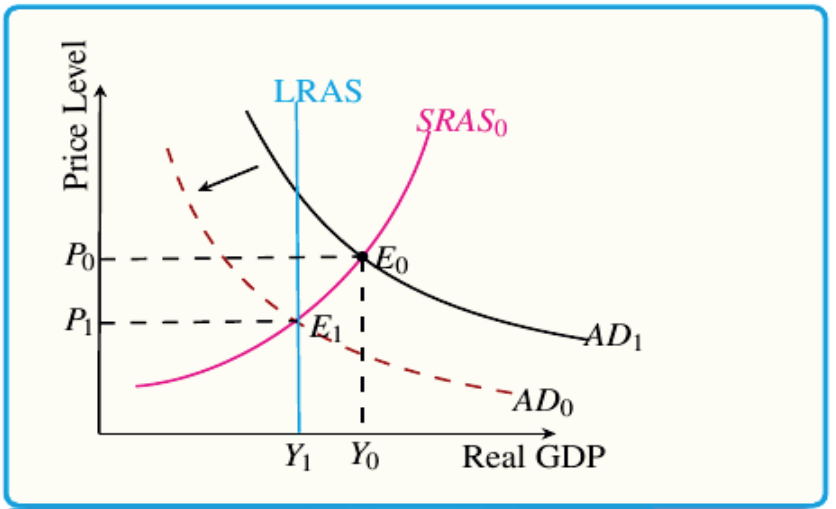


Figure 4.2 Contractionary Fiscal Policy

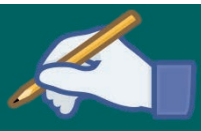
Activity 4.2

1. What is an expansionary fiscal policy? How does it operate in the economy?
2. What is the effect of a contractionary fiscal policy on economy?
3. Who manipulates fiscal policy tools and why?
4. Is there a fiscal policy in all kinds of economies? Why? /Why not?
5. Elaborate the policy implications of fiscal policy and examine the effectiveness of the fiscal policy in an economy.
6. In groups of four, discuss the roles and objectives of fiscal policy in underdeveloped or developing economy like Ethiopia. Prepare a report on the outcome of your group discussion. Everyone in the group should be ready to report as individual swill be chosen randomly.

4.3 Monetary Policy

At the end of this section, you will be able to:

- contrast expansionary monetary policy and contractionary monetary policy.
- explain how monetary policy impacts interest rates and aggregate demand.
- analyse why monetary policy is important.



Start-up Activity

1. What is monetary policy?
2. Who is responsible for implementing monetary policy in Ethiopia?
3. Why is monetary policy important in an economy?

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 different names in different 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. These entities may also ponder concerns which are raised by groups representing industries and businesses, survey results from organizations of repute, and inputs from the government and other credible sources.

4.3.1 Tools of Monetary Policy

The National Bank influences the money supply indirectly by changing the monetary base or the reserve deposit ratio. To do this, it has three instruments/tools at its disposal: **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 influence 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. In light of this, the NBE uses open market operations as one of its monetary policy instruments. In the absence of its own securities, a certain amount of government treasury bills need to be allocated to NBE by the government for its monetary policy purpose (NBE, 2009).

1. **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 affecting 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.
2. **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 offer 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 higher reserve requirement contracts the liquidity as well as credit expansion power of commercial banks and the opposite will increase liquidity and credit expansion power of banks. The National Bank of Ethiopia cut the minimum deposit reserve from 15% to 10% in January 2012. It also cut the liquid assets to deposits ratio by the same margin to 20% from 25% previously. The move is aimed to encourage banks to lend money, particularly to the export sector.

4.3.2 Types of Monetary Policies

Generally speaking, monetary policies can be categorized as either: a monetary policy that lowers interest rates and stimulates borrowing, i.e. an expansionary monetary policy or loose monetary policy, conversely or a monetary policy that raises interest rates and reduces borrowing in the economy, i.e. a contractionary monetary policy or tight monetary policy.

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 influence 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 4.3** below illustrates this situation. This example uses a short-run upward-sloping Keynesian aggregate supply curve (SRAS). The original equilibrium during a recession of E_0 occurs at an output level of 600. An expansionary monetary policy will reduce interest rates and stimulate investment and consumption spending, causing the original aggregate demand curve (AD_0) to shift right to AD_1, so that, the new equilibrium (E_1) occurs at the potential GDP level of 700.

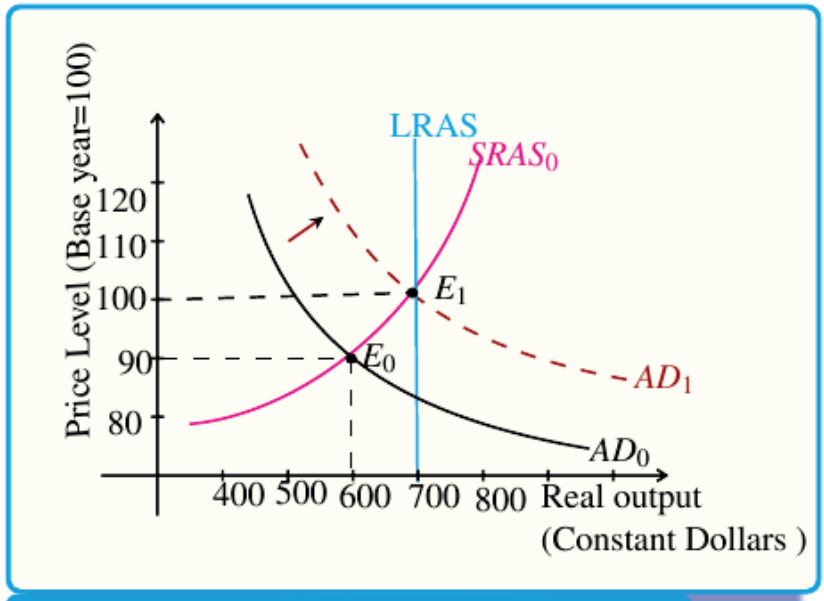


Figure 4.3 Expansionary Monetary Policy

Contractionary Monetary Policy

Increased money supply can lead to higher inflation, 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 inflation 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 inflation, 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 inflation, the central bank sells government securities to commercial banks, which lose an equivalent amount of their cash reserves, thereby reducing their capacity to offer 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, thereby curtailing the lending capacity of commercial banks.

For example, if an economy is producing at a quantity of output above its potential GDP, a contractionary monetary policy can reduce the inflationary pressures for a rising price level. In **Figure 4.4** below, the original equilibrium (E_0) occurs at an output of 750, which is above potential GDP. A contractionary monetary policy will raise the interest rate, which discourages borrowing for investment and consumption spending, and causes the original demand curve (AD_0) to shift left to AD_1, so that, the new equilibrium (E_1) occurs at the potential GDP level of 700.

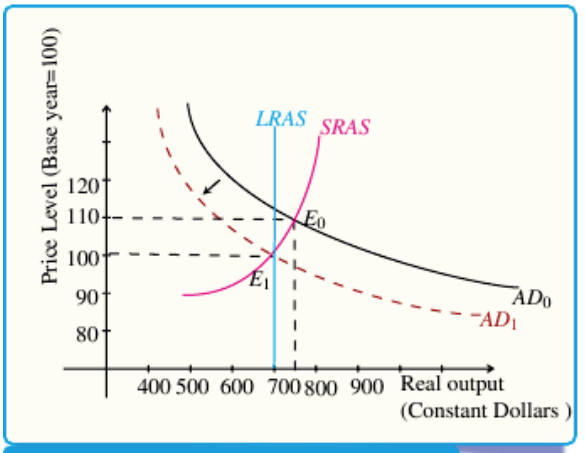


Figure 4.4 Contractionary Monetary Policy

The two examples above suggest that 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. Of course, countercyclical policy does pose a danger of overreaction. If loose monetary policy that seeks to end a recession goes too far, it may push aggregate demand so far to the right that it triggers inflation. If tight monetary policy that seeks to reduce inflation goes too far, it may push aggregate demand so far to the left that a recession begins. **Figure 4.5 (a)** and **(b)** summarizes that the chain of effects that connect loose and tight monetary policy to changes in output and the price level.

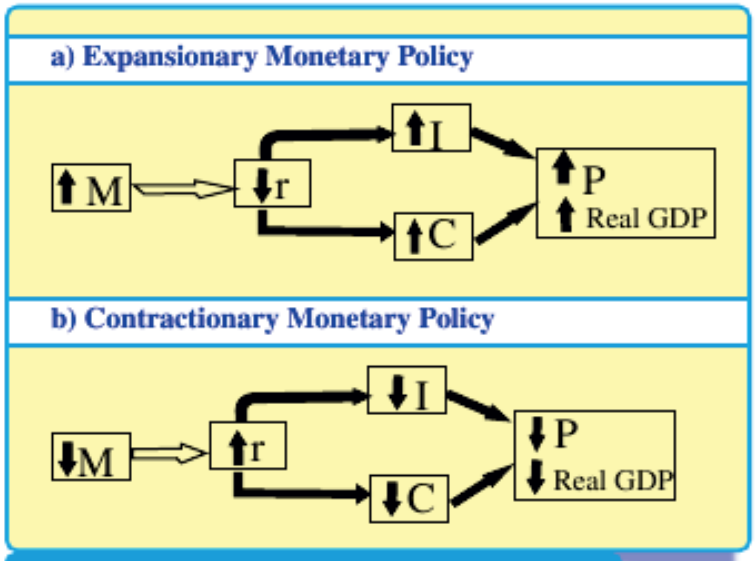


Figure 4.5 The Pathways of Monetary Policy

In the expansionary monetary policy (a) pathway. the central bank causes the supply of money and loanable funds to increase, which lowers the interest rate, stimulating additional borrowing for investment and consumption, and shifting aggregate demand right. The result is a higher price level and, at least in the short run, higher real GDP. (b) In contractionary monetary policy pathway (b), the central bank causes the supply of money and credit in the economy to decrease, which raises the interest rate, discouraging borrowing for investment and consumption, and shifting aggregate demand left. The result is a lower price level and, at least in the short run, lower real GDP.

Activity 4.3

1. What are the tool s of monetary policy?
2. Explain briefly any two measures of monetary policy, which can be used for controlling excess demand.

4.4 Income Policy and Wage

At the end of this section, you will be able to:

- state income policy.
- explain how income policy impacts aggregate supply and aggregate demand.
- explain minimum wages and the effect of 'pricing policy
- summarize the purposes of income policy.

Start-up Activity

What do you understand about minimum wages, price ceiling and price floor?

Income policies in economics are economy-wide wages and price controls, most commonly instituted as a response to inflation, 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 fiscal 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 inflationary environment, it is possible to stabilize the price level through the instruments of the income policy. Governments can take this step if restrictive fiscal and monetary policies fail to reduce the increasing price level. We can use these tools of the income policy to preserve price stability:

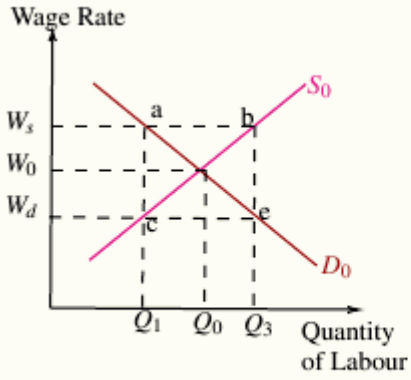
Determination of wage rates in a free market

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 firms 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 offer 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.



Wage and employment determination; the equilibrium wage rate W_O and level of employment Q_O occur at the intersection of labour supply and demand. A surplus, or excess supply, of *ba* would occur at wage rate W_s, a shortage or excess demand would occur if the wage was at W_d. At equilibrium wage W_O the number of hours offered by labour suppliers just matches the number of hours that firms desire to employ.

Figure 4.6 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 floor on hourly wages, below which workers may not be offered or accept a job.

Minimum wages have been defined 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 4.7**).

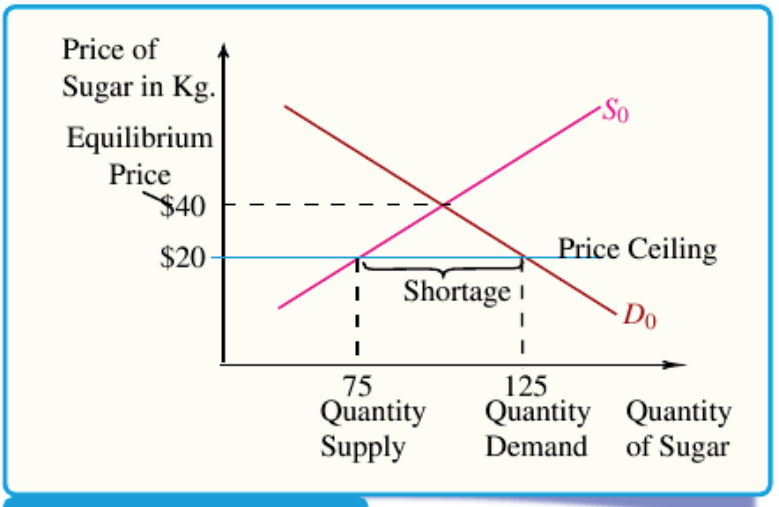


Figure 4.7 Price Ceiling

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 floor must be higher than the equilibrium price in order to be effective. An example of a price floor 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 floors which are implemented by non-governmental organizations such as companies, and the practice of resale price maintenance. With resale price maintenance, a manufacturer and its distributors agree that the distributors will sell the manufacturer's product at certain prices (resale price maintenance), at or above a price floor (minimum resale price maintenance).

A price floor which is set above the market equilibrium price has several side-effects. Consumers find that they must now pay a higher price for the same product. As a result, they reduce their purchases, switch to substitutes (e.g., from butter to margarine) 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 (known as a "surplus") of the product in the market to maintain the price floor over the long term. The equilibrium price is determined when the quantity demanded is equal to the quantity supplied. Furthermore, the effect of mandating a higher price transfers some of the consumer surplus to producer surplus, while creating a deadweight loss as the price moves upward from the equilibrium price. A price floor may lead to market failure if the market is not able to allocate scarce resources in an efficient manner (see **Figure 4.8**).

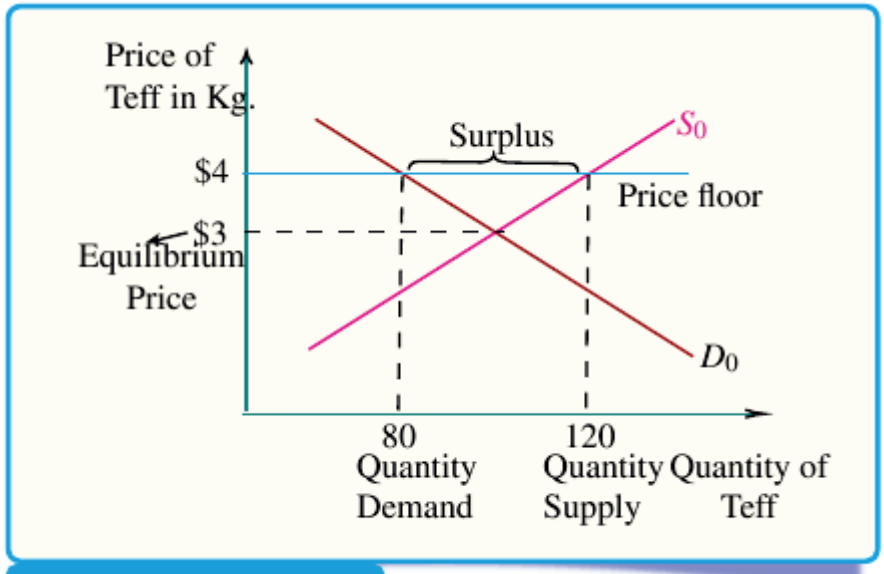


Figure 4.8 Price floor

Activity 4.4

1. Explain the difference between price ceilings and price floors.
2. What is the effect of a price ceiling on the quantity demanded of a product?
3. Does a price ceiling change the equilibrium price?
4. What would be the impact of imposing a price floor below the equilibrium price?

4.5 Foreign Exchange Policies

At the end of this section, you will be able to:

- explain how appreciating or depreciating currency affects exchange rates.
- analyse how the foreign exchange market works.
- identify exchange rate policies.

Start-up Activity

What do you think about the economic importance of government's foreign exchange rate policies?

The policy of the exchange rate affects aggregate demand through its effect on export and import prices of tradable goods and services; in turn, influencing 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.

Most countries have different currencies, although that is not true in all cases. Sometimes small economies use an economically larger neighbour's currency. For example, Ecuador, El Salvador, and Panama have decided to dollarize; that is, to use the US dollar as their

currency. Sometimes nations share a common currency. A large-scale example of a common currency is the decision by 17 European Nations—including some very large economies such as France, Germany, and Italy to replace their former currencies with the Euro. With these exceptions, most of the international economy takes place in a situation of multiple national currencies in which both people and firms need to convert from one currency to another when selling, buying, hiring, borrowing, travelling, or investing across national borders. We call the market in which people or firms use one currency to purchase another currency, the foreign exchange market. Exchange rate policy is concerned with how the value of the domestic currency, relative to other currencies, is determined.

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 U.S. Dollars 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 firm 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 firm; (4) international investors making financial investments that do not involve ownership.

Firms that buy and sell in international markets find that their costs for workers, suppliers, and investors are measured in the currency of the nation in which their production occurs, but their revenues from sales are measured in the currency of the different nations in which their sales took place. Thus, an Ethiopians firm exporting abroad will earn some other currency, say US dollars, but will need Ethiopian Birr to pay the workers, suppliers, and investors who are based in Ethiopia. In the foreign exchange markets, this firm will be a supplier of US. dollars and a demander of Ethiopia Birr.

International tourists will supply their home currency to receive the currency of the country that they are visiting. For example, an American tourist who is visiting Ethiopia will supply US dollars into the foreign exchange market and demand Ethiopian Birr.

Types of Exchange Rate Policies

There are two types of exchange rate policy. Namely: fixed and flexible exchange rate policies. Each of them is discussed below.

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 fixed 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 artificially 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 effect, acting as an import subsidy and an export tax. Fixing the exchange rate at an artificially high level, benefits domestic consumers by encouraging imports and discouraging exports, through decreasing the price of imported inputs.

Fluctuation in exchange rate under fixed 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 flexible/floating 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 flexible 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 4.9** below).

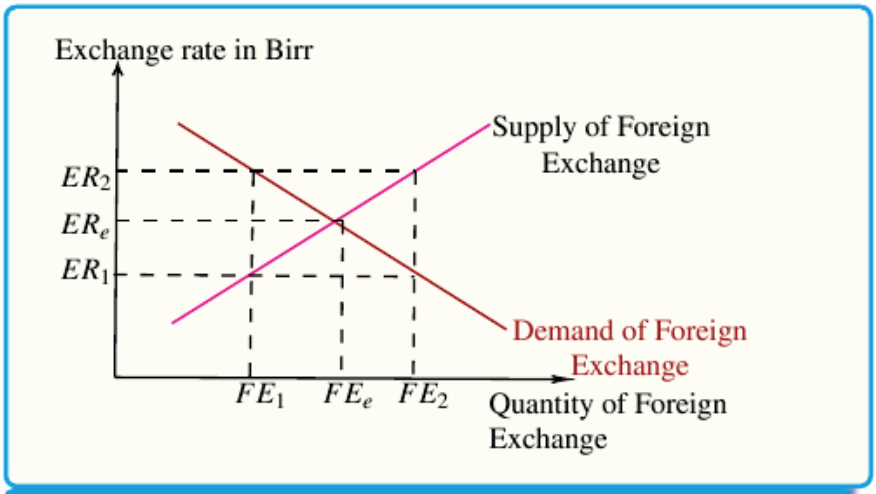


Figure 4.9 Exchange rate under floating exchange rate regime

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 find exports cheaper while residents find 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 find exports more expensive while residents find 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

The foreign exchange rate is one of the most important means through which a country's relative level of economic health is determined. A country's foreign exchange rate also provides a window to its economic stability, which is why it is constantly watched and analysed. If you are thinking of sending or receiving money from overseas, you need to keep a keen eye on the currency exchange rates.

The exchange rate is defined as "the rate at which one country's currency may be converted into another". It may fluctuate daily with the changing market forces of supply and demand of currencies from one country to another. For these reasons, when sending or receiving money internationally, it is also important to understand what determines exchange rates.

Inflation rates: changes in market inflation cause changes in currency exchange rates. A

country with a lower inflation 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 inflation rate exhibits a rising currency value while a country with higher inflation 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 reflects 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 inflation. 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 affect 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 financial 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 fixed exchange rate, firms will always know the exchange rate which makes trade and investment less risky.
- **Absence of speculation** - with a fixed exchange rate, there will be no speculation if people believe that the rate will stay fixed with no revaluation or devaluation.
- **Constraint on government policy** - if the exchange rate is fixed, 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 fixed exchange rate means that there may be no mechanism for the government to respond rapidly to balance of payments crises.
- **Problems with reserves** - fixed 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 significantly in terms of its foreign exchange reserves.
- **Deflation** - if countries with balance of payments deficits deflate their economies to try to correct the deficits, this will reduce the surpluses of other countries as well as deflating their own economies to restore their surpluses. This may give the system a deflationary bias.
- **Policy conflicts** - the fixed exchange rate may not be compatible with other economic targets for growth, inflation and unemployment and this may cause conflicts of

policies. This is especially true if the exchange rate is fixed 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 float, 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 floating exchange rate system to pursue the policies they feel are appropriate for the domestic economy without worrying about them conflicting with their external policy.
- **Correction of balance of payments deficits** - a floating 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 fluctuations in value and this can cause uncertainty for firms. Investment and trade may be adversely affected.
- **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 first introduced in 1945 with an official exchange rate of Birr 2.48 per US dollar with a value of 0.36 grams of fine gold. The linkage with fine gold was in accordance with the monetary system established by the Bretton Woods Agreement of 1944 which established the exchange rate between the national currency and other currencies with the same arrangement. This fixed exchange rate was under operation for almost two decades. On 1 January 1964 the Ethiopian Birr was slightly devalued to 2.50 birr per US dollar. Following the collapse of the Bretton Woods System in 1971, the Ethiopian dollar was revalued to 2.30 birr per US dollar on 21 December 1971. The

subsequent 10% devaluation of the US dollar temporarily brought about undervaluation of the Birr. It was again revalued to 2.07 Ethiopian Birr per US dollar in February 1973. From then on, the Ethiopian currency was pegged to the US dollar at the rate of 2.07 Birr per dollar until massive devaluation in October 1992.

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 fixed 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 official exchange rate. Before the unification of official exchange rate and auction-based exchange rate systems in August 1995, the official exchange rate was used for imports of fertilizer, petroleum, pharmaceutical products, Ethiopia's contribution to international organizations and external debt service payments. In July 1996 the NBE introduced a weekly auction replacing the previous auction system. The NBE also replaced the retail auction system by a wholesale auction system where banks are considered as wholesale bidders.

In 1998, the NBE issued directives aimed at establishing interbank foreign exchange and money markets. The interbank foreign exchange market is a wholesale market, where the amount traded is large and the spread between buying and selling rates is narrower than the normal situation for commercial transactions. It is an exclusive market for banks to trade foreign exchange with each other. The establishment of this market is primarily motivated by the recognition that the foreign exchange supply by NBE through the auction system is not sufficient to satisfy the demand of banks. 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.

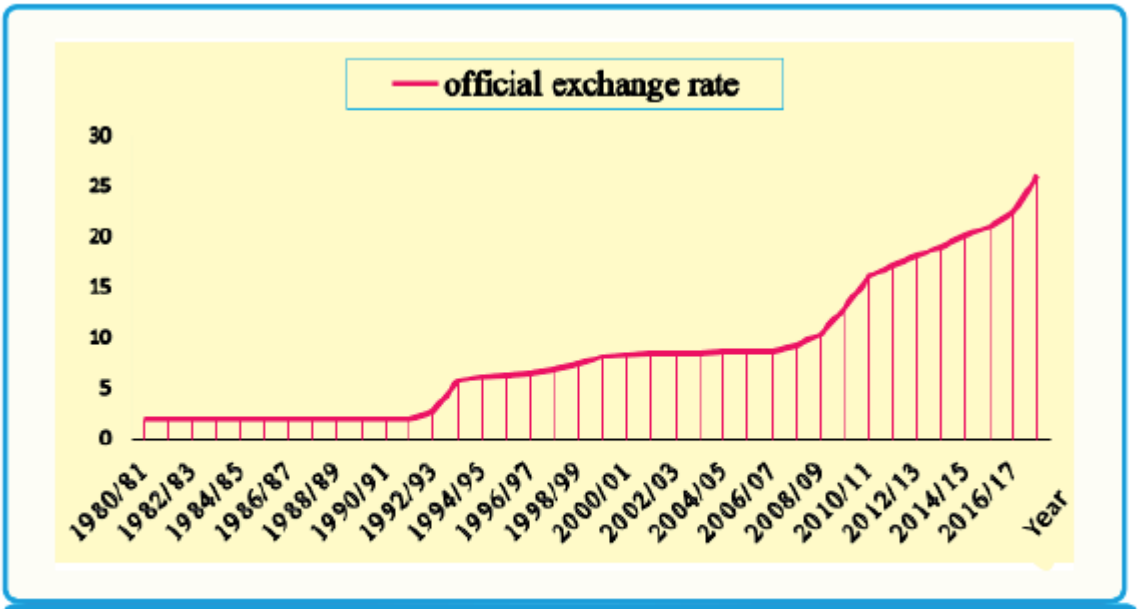


Figure 4.10 Trends of Official Exchange Rate in Ethiopia (Birr Per USD)

Source: *Computed based on NBE data*

Furthermore, NBE continued to devalue the Birr in August 2010 by 20% from 13.63 to 16.35 per US dollar as a mechanism to boost foreign exchange earnings. The devaluation of the Birr in 2010 was followed by the rise in inflation of about 33% in 2011 (after one year of currency devaluation). This type of relationship between exchange rate change and change in inflation tells us that inflation in Ethiopia responds positively to devaluation. The Birr continued to depreciate but at a very slow rate and it reached 18.19/US$ October 2012/13. This gradual depreciation is in line with the goal to enhance the competitiveness of Ethiopian exports and attract foreign direct investment. The average exchange rate of Birr against US dollar in the official market showed an annual depreciation of 5.4% since 2011/12. In January 2014, the exchange rate reached 19.107 Birr/US$, a 4.85% depreciation since January 2013.

The fluctuation in commodity prices in international markets and the strength of US dollar relative to other currencies, led to the decline of Ethiopia's export commodities, especially coffee, oilseed, gold, and leather. The World Bank suggested that the Ethiopian government should devalue its currency by at least 10%, pointing out that in real terms it may lead to a 5% increase in export earnings and 2% increase in growth. As a result, on October 10, 2017, the NBE devalued the Birr by 15% against international currencies (**National Bank of Ethiopia, 2017**). According to the government, the devaluation was

undertaken to encourage exports and overcome the foreign exchange shortage as well as to suppress the black market. Since 10 October 2017, inflation seems to have picked up. Annual inflation as measured by the CPI growth rate increased from 2.8% in 2010 to 20.2% 2020. In general, at every time of devaluation, the rise in inflation is inevitable. (**National Bank of Ethiopia**, **2020/21**).

Activity 4.5

1. What is exchange rate policy?
2. What are the effects of foreign exchange rate policies on an economy?

Unit Summary and Review Questions

Unit Summary

Macroeconomic policies can play a useful role in achieving maximum feasible output, a high rate of economic growth, full employment, price stability, equality in the distribution of income and wealth, and a healthy balance of payments. To achieve these objectives, different types of macroeconomic policies, such as, fiscal, monetary, income, and foreign exchange policies are adopted. **Expansionary policies** are adopted in the situation of deficient demand, whereas **contractionary policies** are adopted in the situation of excess demand.

Fiscal policy is the expenditure and revenue (tax) policy of the government to achieve the desired objectives. It can be expansionary or contractionary depending upon prevailing economic conditions. The instruments of expansionary fiscal policies are an increase in government expenditure and a reduction in tax rates; and the instruments of contractionary fiscal policies are a reduction in government expenditure and an increase in tax rates.

Monetary policy is what a government, National Bank, or monetary authority of a country uses to control the supply of money and the cost of money (rate of interest). Similar to fiscal policy, monetary policy can also be expansionary or contractionary depending upon prevailing economic conditions. The instruments of expansionary monetary policy are: a reduction in the bank rate (discount rate), buying of securities by the central bank and

reduction in required reserve ratio. On the other hand, the instruments of contractionary monetary policies are increase in discount rate, selling of securities by the central bank and an increase in required reserve ratio.

Income policies are wage and price controls which usually seek to establish wages and prices that are below free market level. Minimum wages have been defined as the minimum amount of remuneration that an employer is required to pay wage earners for the work performed during a given period, which cannot be reduced by collective agreement or an individual contract. A **price floor** is a minimum price at which a product or service is permitted to sell. Many agricultural goods have price floors imposed by the government. The most important example of a price floor is the minimum wage. **Foreign exchange policy** is concerned with how the value of the domestic currency, relative to other currencies, is determined. **Fixed and floating** are the major categories of exchange rate policies.

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 fiscal policy.
   B. an expansionary fiscal 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 appreciation 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 price 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 deficient 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?

UNIT 5

TAX THEORY AND PRACTICE

INTRODUCTION

Taxation forms a critical element of modern government. This section explores the concept of taxation and the theory and practice of taxation in Ethiopia and around the world. The unit is divided into five sections. The first part defines the concept of taxes, their classification, principles and objectives. The second section covers approaches to tax equity. The third section examines the tax system and structure in Ethiopia. The fourth section describes the types of tax and tax accounting in Ethiopia. The fifth section examines the problems which are associated with taxation in Ethiopia.

Learning Outcomes

At the end of this unit, you will be able to:

- understand the concept of taxes.
- explain the objectives of taxes
- distinguish between the various types of taxes.
- identify the basic principles of taxation and characteristics of a good tax system.
- explain the nature and problems of taxation in Ethiopia.

Key Concepts

- Types of taxes
- Direct taxes
- Indirect taxes
- Tax rate
- Tax base
- Impact of a tax
- Effect of a tax
- Tax shifting
- Tax avoidance
- Tax evasion

Start-up Activity

Discuss taxes and why they exist.

5.1 Taxes: Definition, Principles, Objectives and Classifications

At the end of this section, you will be able to:

- define taxation.
- list the basic principles of taxation.
- explain the characteristics of a good tax system.
- compare and contrast taxation systems across the world.

5.1.1 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, different 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 benefit 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 firm 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 final 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 final 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.

5.1.2 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.

Although governments have monetary and fiscal tools to achieve the above and other related goals, taxation plays a significant role in allocation, distribution, and re-distribution of resources.

5.1.3 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 deficit financing. This is called the "canon of fiscal adequacy".

These classical maxims can be translated to modern principles of taxation. According to these principles, a tax system should not distort the optimal allocation of production

factors in efficient markets; it should be fair; it should be a flexible automatic stabilizer; it should be clear and transparent, definitive, provide inexpensive collection. In sum, the principles of taxation touch on issues of equity or fairness, certainty, convenience, economy, flexibility, simplicity, diversity, and buoyancy.

5.1.4 Characteristics of a Good Tax System

Taxation is broadly characterised by the compulsory nature whereby it imposes obligations on taxpayers. It cannot be escaped, which means a non-payment is a criminal offense. Moreover, revenues from taxation are supposed to be spent on collective use, thus serving a common interest where both payers and non-payers will benefit. Taxation is also paid on regular and periodic basis with known due dates. Finally, tax is levied on all people without discrimination, yet according to their ability to pay.

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.

In addition, the revenue yield should be adequate; the distribution of the tax burden should be equitable. Moreover, taxes should be chosen so as to minimize interference with economic decisions in otherwise efficient markets. The tax system should also permit fair and non-arbitrary administration and should be understandable to the taxpayer. The tax structure should facilitate the use of fiscal policy for stabilization and growth objectives. These and other requirements may be used as criteria to appraise the quality of a good tax structure. Eventually, a good tax system should not only be equitable, but it should also be efficient.

5.1.5 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.

Direct taxes are further divided into income tax, transfer tax, entitlement tax, property tax and capital gains tax.

i. Income tax: the type of tax that governments impose on income generated by individuals and businesses within their jurisdiction.

ii. Transfer tax: the most common form of transfer tax is levied on real estate. Such a tax is levied on the taxable portion of the property of a deceased individual including trusts and financial accounts.

iii. Property tax: this tax is charged on properties such as land and building and is used for maintaining public service.

iv. Capital gains tax: this tax is charged when an individual sells assets such as stocks real estate, or a business. This kind of tax is computed by acquisition amount and the selling amount.

Indirect taxes impose the impact (immediate burden) and incidence (ultimate burden) on different 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.

5.1.6 Major Categories and Sources of Taxes

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. This is explained in detail in this unit.

In the case of the UK, during the time of preparing this book, the main types of taxes are:

- Income tax – a tax on one's income. The basic rate of income tax is 20%, paid on income over the income tax threshold of £11,500.
- National insurance contributions – a kind of income tax based on a similar principle of taking a certain percentage of income.
- Consumption tax – VAT – 17.5%.
- Excise duties on alcohol, tobacco.
- Corporation tax – tax on company profit.
- Stamp duty – tax on buying houses/shares.

The UK also has a minor category known as "sin tax" which is imposed on goods and services that commonly include tobacco, alcohol, sugar-added drinks, and gambling. The main purposes of imposing sin taxes are to reduce the consumption of harmful goods and to increase government revenue.

In the USA, there are five most common types of taxes. They are:

1. earnings (payroll tax).
2. individual income, (individual income tax, capital gains).
3. corporate income (corporate income tax).
4. wealth (property taxes, estate taxes).
5. consumption (consumption tax, sales taxes, excise tax).

From this list, items 1-4 are direct taxes and item 5 represents indirect ta. In terms of the share of tax sources, the US Federal Government generates tax revenue from individual income tax (41.6%) and payroll taxes (34.8%), corporate income tax (15.1%), with very small shares from consumption and other taxes (such as wealth taxes (**Gruber**, **2015**).

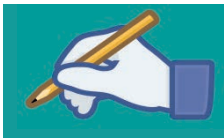
Activity 5.1

Use reference texts such as library books or Internet (e.g. Google search) to compare and contrast tax structures in a country in *Africa*, *Latin America* and *South Asia*.

5.2 Approaches to Tax Equity

At the end of this section, you will be able to:

- list the different approaches to tax equity.
- describe the incidence of taxes.



Start-up Activity

1. Discuss the idea of tax fairness or equity.
2. Should the rich pay less or more taxes? Why? Discuss this with a partner sitting next to you and report what you have discussed to the class.

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

5.2.1 The Benefits Approach

According to the benefits approach, an equitable tax system is one in which each tax payer contributes in line with the benefits 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 benefits 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. The reason for this lies in the fact that while some types of government spending such as health, education, and social subsidies can easily be attributed to beneficiary households, about half of government spending may not be so allocated. It is difficult, if not impossible, to determine who benefits most from spending on such items as the army, police, diplomatic service, or the judicial system.

5.2.2 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 differing 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**).

Accordingly, 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.

In connection with the ability to pay approach, one may ask: *How is the ability to pay measured? Or what tax base better represents ability to pay (or taxable capacity of individuals)?* Ideally, the measure for ability to pay would reflect the entire welfare which a person can derive from all options available to him/her including consumption (present and future), holding of wealth, and the enjoyment of leisure. Unfortunately, such a comprehensive measure is not practicable.

Activity 5.2

Explain the difference between progressive and regressive taxation.

5.3 Tax System and Structure in Ethiopia

At the end of this section, you will be able to:

- explain the tax system in Ethiopia.
- explain various tax policies.

Start-up Activity

Make a group of four and discuss your perception of the major sources of taxation in Ethiopia. Then, report and share what you have discussed in your group and finally, report back to the whole class.

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 officials. 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 fiscal 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.

The legal framework for taxation is provided by ***Proclamation No. 33/1992*** and the ***Federal Democratic Republic of Ethiopia (FDRE) Constitution (1995)*** that promulgated the sharing of revenue between the federal and regional governments. Accordingly, the Federal government shall levy taxes and collect duties on revenue sources which are reserved to the federal government. Moreover, it draws up, approves, and administers the federal government's budget (***Article 51(10)***). The regional states levy and collect taxes

and duties on revenue sources which are reserved to the states and draw up and administer their respective state budgets (***Article 52 (2(e)***). As of April 2022, Ethiopia has 11 regional states and 2 autonomous administrations of Addis Ababa and Dire Dawa Cities.

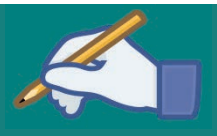
Activity 5.3

Visit a business in your locality and find out how they pay taxes. Write a no more than 2 pages note to summarise your findings.

5.4 Types of Tax and Tax Accounting in Ethiopia

At the end of this section, you will be able to:

- describe the various types of taxes and tax system in Ethiopia.
- explain various tax policies of Ethiopia.



Start-up Activity

Discuss various types of taxes in Ethiopia in groups of four. Then, share what you have discussed with classmates sitting near you. Finally, report your responses to the whole class.

According to the ***Tax Proclamation No. 286/2002*** and ***Regulations No. 78/2002*** of Ethiopia, there are four schedules of income in addition to exempt income. They are:

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 final 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 benefits 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 tax rates in Ethiopia are shown in **Table 5.1**.

Figure 5.1 Employment Income Tax Rate

Monthly employment income (Birr)	Employment income tax rate
0-600	0%
601-1650	10%
1651-3200	15%
3201-5250	20%
5251-7800	25%
7801-10900	30%
More than 10900	35%

Table 5.2 Employment Income Tax Deduction

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)

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, specified 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 taxes are levied by the Ethiopian

government. They are VAT, TOT, excise tax and surtax, as detailed below. The list also includes tax related legal provisions in Ethiopia.

Value added tax (VAT): is a tax levied on the value added at different stages. It is a sales tax that is administered in a different 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 fulfil 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%).

Table 5.3: Summary of taxes other than Schedule D or other income

Tax types	Rate	Frequency of payment
Business income tax	30% for bodies Progressive rate of 10-35% for individuals	Annual
Employment income tax	At progressive rate of 10%-35%	Monthly
Rental Income tax	30% for bodies At progressive rate of 10%-35%	Annual
Mining and petroleum tax	25% of taxable income	Annual
Value added tax	15%	Monthly for taxpayers with annual transactions of more than ETB 70 million Quarterly for taxpayers with annual transactions of less than ETB 70 million
Turnover tax	2% on goods 10% on services	Annual, quarterly
Excise tax	From 5%-500%, depending on type of goods. The lowest and highest tax rates are applicable to: 5% tax is applicable on rubber tyres, various types of new completely built-up cars and cars assembled by domestic industry, while 500% tax is applicable on various types of used cars of age exceeding seven years.	Monthly and on import
Withholding tax	2% on domestic transactions 30% on suppliers without a tax identification number (TIN) and business license	Monthly

Source: Ethiopian Investment commission (2020)

Withholding Tax all bodies and specified 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 affixing seals. Stamp is an official 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 affixed 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 stiff competitions with the products of competitive and subsidized foreign companies/ importers.

Tax and accounting are two separate entities that are also linked. All taxation involves accounting processes which is the practice of calculating financial statements and figures. These statements are used to make tax calculations. Thus, tax accounting is used by individuals, businesses and other entities. Tax accounting for an individual focuses on income, qualifying deductions, and any investment gains or losses. Individuals with employment in different public establishments in Ethiopia get their income tax paid their employers. Businesses need to keep up to date financial records to help determine their tax liabilities.

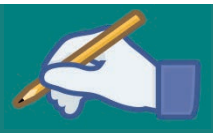
Activity 5.4

Write down the different tax schedules in Ethiopia. Then, compare what you have written with your partner sitting next to you.

5.5 Problems Associated with Taxation in Ethiopia

At the end of this section, you will be able to:

- explain prevailing problems of taxation in Ethiopia.
- suggest possible remedial actions to alleviate the problems associated with tax collection in Ethiopia.



Start-up Activity

Form a group of four and discuss whether or not there are problems of 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.

Other problems which tax administrations face, both in Ethiopia and elsewhere, are a steadily growing workload, the complexity of fiscal 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 efficient and effective management. These problems raise questions about the efficiency and the effectiveness of tax collection and the ways in which they can be improved.

Activity 5.5

Do some small-scale research to find out whether there are tax clubs, associations or any related groups that aim to increase awareness in your locality. If you find one, write down its background, goals and activities. Then, suggest ways to alleviate the problems that are associated with tax collection. If you do not find any such a group, think of what you can do to contribute to increased awareness about tax matters.

Unit Summary and Review Questions

Unit Summary

Taxes are compulsory, unrequited payments to general government. Governments impose taxes to achieve several important common goals. Moreover, they impose tax to raise revenue for government spending, to promote redistribution of income and wealth as well as discourage consumption/production of harmful goods and services.

A good tax system is **equitable** and **efficient**. Equitability involves **horizontal** and **vertical equity**. A good tax system should also be easier to administer, difficult to evade, efficient, non-distortive and easy to understand.

Taxes are divided into **direct** and **indirect taxes**. Direct taxes impose the burden or impact on the same person who earns the income whereas indirect taxes impose the burden on a different person. Moreover, progressive, proportional, and regressive taxes denote the type of tax by its impact.

Different countries have different names to classify their tax systems. In **Ethiopia**, taxes are classified as Schedules. Tax systems face different problems, most of them surround the issues of complexity of administration and the difficulty for taxpayers to understand and comply with the laws. Ethiopia is not immune to these problems. **Tax avoidance** and **tax evasion** remain a challenge.

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 different 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, financially 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.

UNIT 6

POVERTY AND INEQUALITY

INTRODUCTION

Poverty and inequality are interrelated concepts which are also a daily reality for millions of people around the world. This unit focuses on these two aspects of reality. It contains five main sections. The first part defines the concepts of poverty and inequality. The second section provides a brief overview of global and regional poverty. The third section overviews the poverty situation in Ethiopia. The fourth section looks at the situation of women, poverty and inequality. The fifth section introduces indigenous knowledge and institutions and their roles in reducing poverty in Ethiopia.

Learning Outcomes

At the end of this unit, you will be able to:

- discuss the meaning of poverty and its measurements.
- appreciate the meaning and measurement of income inequality.
- recognise the social groups that are mainly affected by poverty and inequality problems.
- compare and contrast the global, regional and national poverty figures.
- appreciate the role of indigenous knowledge and institutions in reducing poverty and inequality in Ethiopia.

Key Concepts

- Poverty.
- Absolute poverty.
- Relative poverty.
- Inequality.
- Capability approach.
- Gini-coefficient.
- Lorenz Curve.
- Poverty reduction.
- Indigenous knowledge and practices

6.1 Concept of Poverty and Its Measurement

At the end of this section, you will be able to:

- explain the meaning of poverty.
- describe how poverty can be measured.

6.1.1 Poverty

Start-up Activity

Discuss the following situation.

There are two households, ***Household A*** *and* ***Household B****.* ***Household A*** *lives in a rural community. It has 6 members, including a husband and wife, 1 hectare farm, grows 5-6 crops, and has fruit trees, 3 cows, 5 chickens, and various pieces of farm equipment. The members of the household consume part of what it produces and sells the surplus. They have access to health clinics, schools and rural market..*

Household B *lives in the slums which are close to a major regional city. It has 5 members. The household head does not have a regular income. They barely have enough for accommodation or feeding themselves. Only 1 child goes to school.*

Think of being member of one of the households. What do you think of your wellbeing? How do you compare yourself with others? What do you think about the type of poverty the household experiences?

To learn the meaning of poverty, it is useful to start by understating what poor people think and say about their circumstances. The following quotes represent the voices of the poor:

> "*When one is poor, she has no say in public, she feels inferior. She has no food, so there is famine in her house; no clothing, and no progress in her family.*" **A poor woman from Uganda**
>
> "*…low salaries and lack of jobs. And it's not having medicine, food, and clothes.*" **A discussion group in Brazil**.
>
> "*Life in the area is so precarious that the youth and every able person has*

> *to migrate to the towns or join the army at the war front in order to escape the hazards of hunger escalating over here.*" **A discussion group in rural Ethiopia** (**Todaro**, **1999**, p.7)

The common thread running through the above quotes are the manifestations of poverty. They indicate that poverty is multidimensional. At least six dimensions feature prominently in poor people's definition of poverty (**Nafziger**, **2006**, pp.163-64).

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. The maintenance of cultural identity and social norms of solidarity helps poor people to continue to believe in their own humanity, despite inhumane conditions. 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. Poor people realize that education offers an escape from poverty – but only if the economic environment in the society at large and the quality of education improves. 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.

Apart from the perception of the poor about their conditions, development discourse too defines and describes poverty in several ways. Poverty is a widely used term; it encompasses both income and non-income dimensions of deprivation, including lack of income and other material means, lack of access to basic social services such as education, health, and safe water, lack of personal security, and lack of empowerment to participate in the political process and in decisions that influence someone's life.

The World Bank (2000) defines poverty as "the pronounced deprivation in wellbeing". Wellbeing is seen from three angles. First, the conventional view perceives wellbeing as linked to command over commodities. The poor are those who do not have enough income or consumption to put them above some adequate minimum threshold. This view sees poverty largely in monetary terms. Second, poverty is tied to a specific type

of consumption (people could be house poor, food poor or health poor). Third, the broad approach to wellbeing focuses on the capability of the individual to function in society. Poor people often lack key capabilities. This means that they may have inadequate income or education, or be in poor health, or feel powerless, or lack political freedoms (**Haughton and Khandker**, **2009**).

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

6.1.2 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. For example, one can think of relative poverty of some groups of people in rich countries compared to other groups. Relative poverty is, sometimes, seen as a phenomenon most relevant in societies in which there is no acute problem with absolute poverty.

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 $1.25 a day or $2 per day in purchasing power parity (PPP) dollars.

Absolute poverty is seen as a failure of meeting the requirements of basic dignity of human beings or even a failure to meet human rights, while relative poverty is seen as a matter of failure of distributive justice.

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. These generalisations are supported by empirical data from a broad cross section

of developing nations (**Todaro and Smith, 2015**). On average, about 80% of all target poverty groups are located in the rural areas in Africa and Asia, and the percentage for Latin America is about 50%.

6.1.3 Measuring Poverty

Let's start the measurement of poverty by answering why we need to measure 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.

Once the reasons for measuring poverty are clear, the next step is to list the three steps needed to measure poverty. They are:

1. defining an indicator of welfare.
2. establishing a minimum acceptable standard of that indicator to separate the poor from the non-poor (the poverty line).
3. generating a summary statistic to aggregate the information from the distribution of this welfare indicator relative to the poverty line (**Haughton and Khandker, 2009**).

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. The most common implementation of these steps is to have a fixed, monetary, consumption-based threshold for poverty, with data coming from a household survey, and poverty measured as the percentage of individuals with per capita consumption below the poverty line (**Hughton and Khandker, 2009**).

There are different ways of measuring poverty. One measurement is called the **poverty headcount index**. Assume a headcount (H) of those whose incomes or consumption fall below the absolute poverty line (Y_p) 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. The idea is to set this level at a standard below which we would consider a person to live in

absolute human misery such that the person's health is in jeopardy (**Todaro and Smith**, **2015**).

Another measure is what is known as a **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 difference 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.

The **Foster-Greer-Thorbecke index** 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 (**Todaro and Smith**, **2015**).

The aforementioned are unidimensional measures which are based on income. There are also other composite or multidimensional poverty measures.

The **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 suffer from multiple deprivations.

In 2010, the UNDP used the MPI by building up the index from the household level. It used the three dimensions (health, education, and standard of living) and each of their corresponding indicators because they reflect problems which are often mentioned by the poor, and they have been long considered important by the development community. Moreover, they are well established philosophically as human rights or basic needs.

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 five 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) insufficiently safe drinking water, c) inadequate sanitation, d) inadequate

flooring, e) unimproved cooking fuel, and f) lack of more than one of five assets (telephone, radio, television, bicycle, and motorbike or similar vehicle) (**Todaro and Smith, 2015**).

Multidimensional poverty measurement cannot be adequately measured with income alone. To fill this gap, Sabina Alkire and James have extended the FGT index (mentioned above) to multiple dimensions. In the multidimensional poverty approach, a poor person is identified to be multidimentionally poor through what is called the "dual cut-off method": first, the cut-off levels within each of the dimensions (analogous to falling below a poverty line such as $1.25 per day if income poverty were being addressed) and second, the cut-off of the number of dimensions in which a person must be deprived (below the line).

6.1.4 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 effect, 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, except perhaps as a cooking fuel.

Sen argues against relying only on the poverty percentage or headcount approach to measure poverty and deprivation, the approach pursued by the World Bank economists. To make any sense of the concept of human wellbeing in general, and poverty in particular, it is necessary to think beyond the availability of commodities and consider their use: i.e.,

to address their *functionings*. 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. Moreover, what people have reason to value ranges from being healthy, well nourished, and well clothed, to being mobile, having self-esteem, and taking part in the life of the community.

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. Whether someone can convert a set of resources and public goods into a functioning (i.e., whether one has a particular capability) depends on personal, socio-political, and environmental conditions, which are called *conversion factors.* Capabilities are thus real or substantive freedoms as they denote the freedoms that have been cleared of any potential obstacles, in contrast to mere formal rights and freedoms.

Eventually, human wellbeing means being well. In other words, it means being healthy, well nourished, well clothed, literate, and long-lived, and more broadly, being able to take part in the life of the community, being mobile, and having freedom of choice in what one can become and can do. The lack of these indicates deficiency in wellbeing, and therefore poverty.

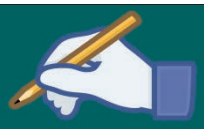
Activity 6.1

1. Describe absolute and relative poverty.
2. What does the the term Multidimensional poverty index measure?
3. Write down the salient points in Amartiya Sen's capability approach relating to wellbeing and poverty.

6.2 Concept of Inequality and its Measurements

At the end of this section, you will be able to:

- explain the meaning of inequality.
- analyse the measurements of inequality.



Start-up Activity

Discuss in groups of four, what you understand the term "inequality". Then, report what you have discussed to the whole class through one of your group members.

So far, we covered the definition of poverty and its measurement. We also have explored a different approach to human wellbeing which moves away from income alone and towards what the incomes translate into functioning and capabilities. Now, we will explore the concept of inequality which is closely related to poverty.

Inequality refers to the situation of being unequal or uneven, or a social disparity of distribution or opportunity. Inequalities take different 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 depicts 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 (i.e., the returns to land and financial and physical capital). 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 (**Todaro and Smith, 2015**).

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. Next, we will see some of the methods of measuring income inequality.

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. For example, take the hypothetical data in **Table 6.1**. In this data, 20 individuals (households) representing the entire population of a given developing country are arranged in order of ascending annual personal income, ranging from the individual with the lowest income (0.8 units) to the one with the highest (15.0 units). 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.

Table 6.1 Typical Size Distribution of Personal Income in a Developing Country by Income Shares-Quintiles and Deciles

	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

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 first 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 fifth 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%.

Finally, if you want to know what the top 5% receives, you divide the total population into 20 equal groups of individuals (i.e. each of the 20 individuals) and calculate the percentage of total income that is received by the top group. This means that the top 5% or the 20th individual receives 15% of the total income, a higher share than the combined shares of the lowest 40% individuals (i.e. only14%).

Lorenz Curve as a Measure of the Distribution of Income

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 and Gini Index (G) 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 (see Figure 6.1 below).For example, at point 20, we have the lowest (poorest) 20% of the population, at point 60 we have the bottom 60%, and at the end of the axis all 100% of the population has been accounted for.

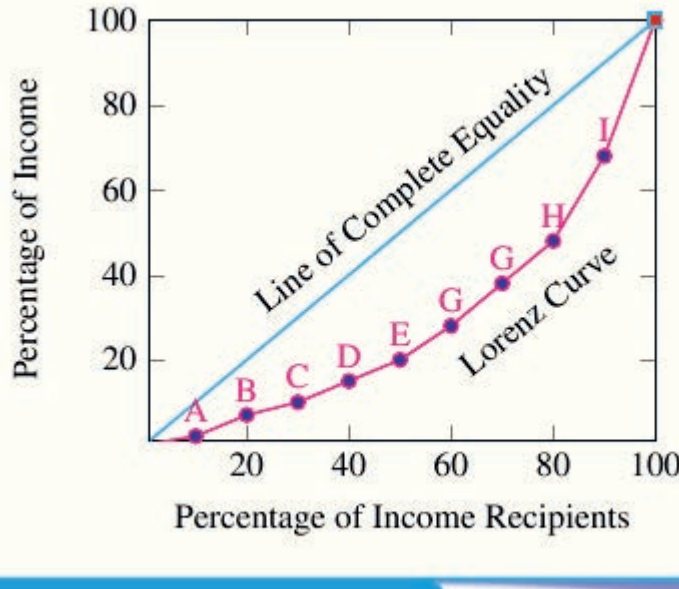


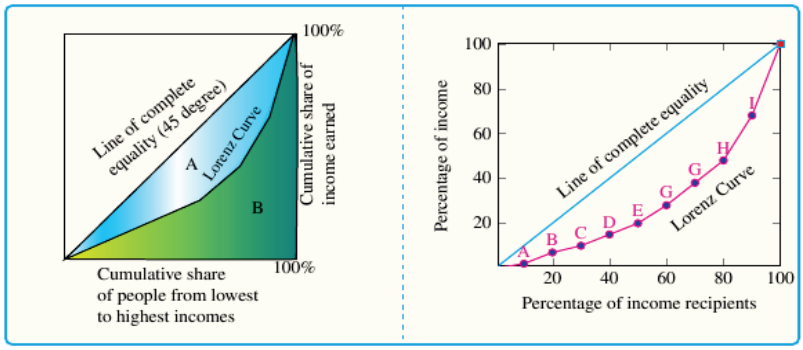
Figure 6.1 The Lorenz Curve

Similarly, the vertical axis shows the share of total income received by each percentage of the population. It is also cumulative up to 100%, meaning that both axes are equally long. So, the entire figure is enclosed in a square, and a diagonal line is drawn from the lower left corner (the origin) of the square to the upper right corner.

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-quartiles 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 (see **Figure 6.2** below). The more bowed out the curve, the less equal the distribution.



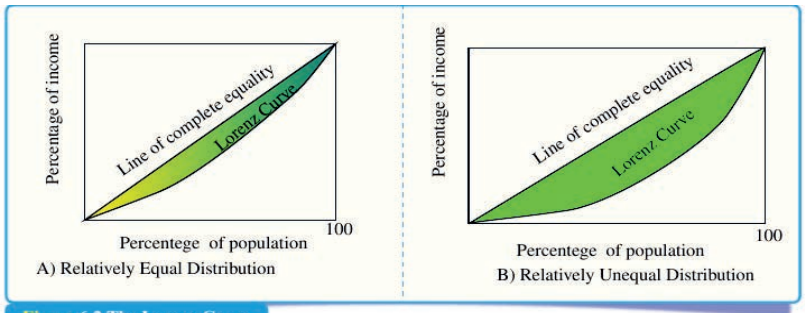


Figure 6.2 The Lorenz Curve

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 coefficient is named after the Italian statistician, Corrado Gini, who first formulated it in 1912. **Figure 6.3** illustrates the diagrammatic representation of the Gini Coefficient.

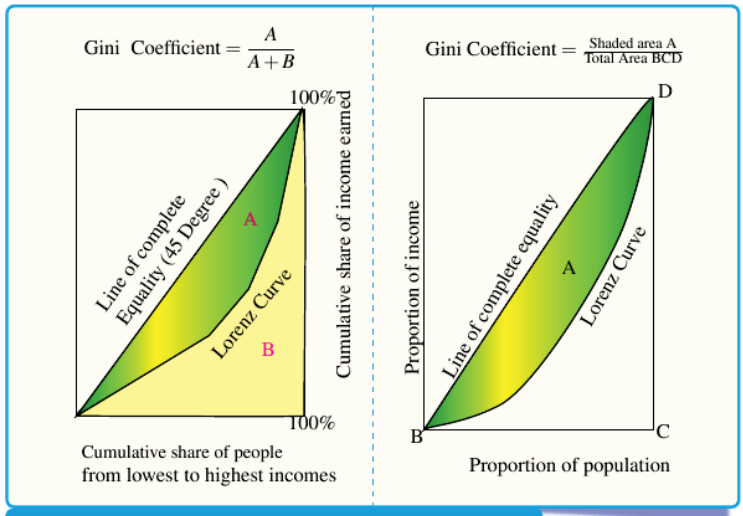


Figure 6.3 Gini coefficient

The two illustrations, above, show the diagrammatic way of measuring Gini coefficient. The higher is the value of Gini coefficient, the higher the inequality. If the Gini coefficient is 0, the Lorenz curve coincides with the main diagonal and implies perfect equality. If the Gini- coefficient 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 coefficient 0.28 and 0.60, respectively, it implies that Country B is characterized by more unequal distribution of income than A.

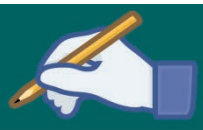
Activity 6.2

1. Explain how economic inequality is measured.
2. Briefly write down the use of the Gini coefficient and the Lorenz curves.

6.3 Global and Regional Poverty

At the end of this section, you will be able to:

- recognise the situation of poverty from global and regional perspectives.
- explain the reasons why extreme poverty still remains a challenge in parts of the world, especially sub-Saharan Africa, including Ethiopia.



Start-up Activity

1. What are Sustainable Development Goals (SDGs)?
2. Which goals relate to dealing specifically with 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. Subsequently, the number of people living in extreme poverty declined from 36% in 1990 to 10% in 2015. 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. Indeed, sub-Saharan Africa experienced virtually no rate reduction from 1950 to 2000. 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.

Table 6.2 The 17 SDGs to transform our world

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

The World Bank is said to favour the Poverty Reduction Strategy Paper (PRSP) process to help countries think systematically about how the position of poor people may be improved, and to act accordingly (**Hughton and Khandker, 2009**). 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.

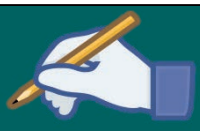
Activity 6.3

List the Sustainable Development Goals.

6.4 Women and Poverty

At the end of this section, you will be able to:

- appreciate why some groups in society such as women face poverty.
- identify measures to address the problem of poverty facing women.



Start-up Activity

In developing countries, women are disproportionately poor. Why do you think this is the case?

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 benefits.

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.

In urban areas, women are much less likely to obtain formal employment in private companies or public agencies and are frequently restricted to illegal, low-productivity jobs. Similarly, rural women have less access to the resources that are necessary to generate stable incomes. Social customs and laws sometimes play a restrictive role in owning property.

Household income alone fails to describe the severity of women's relative deprivation. This is because a higher proportion of female-headed households are situated in the poorest areas, which have little or no access to public services such as piped water, sanitation, and health care, so household members are more likely to fall ill and are less likely to receive medical attention. In addition, children in female-headed households are less likely to be enrolled in school and more likely to be working in order to provide additional income.

The degree of economic hardship may also vary widely within a household depending on the distribution of income within the household, which may be unequal. In terms of intra-household resource allocation, there may exist a bias against females in areas such as nutrition, medical care, education, and inheritance.

The extent of these internal biases is strongly influenced by the economic status of women. 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.

When household income is marginal, most of women's income is contributed towards household nutritional intake. Since this fraction is considerably smaller for men, a rise in male earnings leads to a less than proportionate increase in the funds available for the provision of daily needs. It is thus unsurprising that programs designed to increase nutrition and family health are more effective when targeting women than when targeting men.

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 is unremunerated, for example, collecting firewood and cooking, and may even be intangible, as with parenting.

Women's control over household resources may also be constrained by the fact that many women from poor households are not paid for the work they perform in family agriculture or business. It is common for a male head of household to control all funds from cash

crops or the family business. These combined factors perpetuate the low economic status of women and can lead to strict limitations on their control over household resources.

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 benefits of current investments in human capital are more likely to be passed onto future generations if women are successfully integrated into the growth process.

In addition, considering that human capital is perhaps the most important prerequisite for growth, education and enhanced economic status for women are critical to meeting long-term development objectives. Women-centred poverty strategies often require us to challenge basic assumptions. Understanding is necessary of the crucial role that women can play in a community's escape from poverty. The involvement of women will be most effective if it forms the basis for action, when addressing poverty. In general, women must be drawn into the economic mainstream in order to improve living conditions for the poorest individuals (**Todaro and Smith, 2015**).

Activity 6.4

Explain the consequences of decline in women's economic status.

6.5 Overview of Poverty and Inequalities in Ethiopia

At the end of this section, you will be able to

- recognise the extent of poverty and inequality in Ethiopia.

Start-up Activity

What is happening to poverty and inequality in your locality?

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 (**MoFEC**, **2019**).

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.

Similarly, the International Fund for Agricultural Development (IFAD) estimated that more than 12 million people are chronically or at least periodically food insecure. Most of these people live in rural areas whose households live on a per capita income of less than US$ 0.50 a day. The majority are smallholder farmers who are the largest group of poor people in Ethiopia.

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.

Ethiopia pursues the World Bank's Poverty Reduction Strategy Paper (PRSP) process. As part of this process, the Central Statistical Agency conducts regular Household Income and Consumption Expenditure Surveys (HICES) and the Welfare Monitoring Survey (WMS), established in 1996, while the Ministry of Finance and Economic Development prepares the corresponding analytical Poverty Analysis Report that provides the status and trends of national-, rural-, urban- and regional-level poverty incidence, gap and severity as well as income inequality measured by Gini coefficient (**MOFED**, **2013**).

Activity 6.5

"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" Discuss this in groups of four and report back to the whole class through one of your group members.

6.6 Role of Indigenous Knowledge in Reducing Poverty

At the end of this section, you will be able to:

- appreciate the role of indigenous knowledge and practices in reducing poverty.
- identify different local actors and actions that work to improve the wellbeing of the society.

Start-up Activity

1. Does any member of your household benefit from indigenous practices such as *Iqub*, *Idir* and *Debo* or similar groups?
2. What mechanisms do people in your locality use to reduce 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. It forms the basis for local level decision-making in agriculture and connects people directly with their environment (**Warren and Rajasekaran, 1993**). Thus, 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. More often than not the practices associated with indigenous knowledge serve as pooling resources for a common good.

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 the wider environment. The following sections explore some of the common practices in different parts of Ethiopia.

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 affordable by all. *Idir* guarantees grieving families the complete assistance (financial 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.

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 flexible 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 flow of money to help any member of the group on a rotational basis.

Iqub and *Idir* can be characterized as traditional financial 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.

These informal associations 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 financial and social support. *Iqub* and *Idir* are remarkable examples to show that poverty does not define a person or a society. Economically disadvantaged societies are able to use traditional practices and knowledge to sustain themselves. Their motto is: "*Idir, Iqub*, for mutual benefits, to lessen societal burden."

These associations are based on participatory principles, and as a result they promote accountability, transparency, tolerance and dialogue. In addition, they tend to foster friendship among members. The strong ties established among *Iqub* members also tend to discourage defaults.

Other informal associations include ***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 figure 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 out of a

home rather than a purpose-built facility. Cottage industries are defined by the amount of investment required to start, as well as the number of people employed.

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 significant 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.

Finally, 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.

Activity 6.6

Write down the difference *Iqub* and *Idir* make to the wellbeing of the poor.

Unit Summary and Review Questions

Unit Summary

Widespread poverty and high inequality are the two fundamental economic manifestations of underdevelopment. The conditions of poverty are reflected in the lack of income and assets to attain basic necessities, lack of access to education and other basic services. **Different views and definitions exist on poverty**. While some focus on income poverty, others focus on consumption poverty. Still others focus on **wellbeing** expressed as the capability (or lack) of the individual to function in society. Poverty can be seen in relative and absolute terms. The reduction or eradication of **absolute poverty** is one of the crucial goals of developing countries. It is also the subject of concern internationally as recommended in the SDGs.

The analysis and **measurement of poverty** is crucial for understanding people's wellbeing and the factors determining their poverty. Different measurements are used to measure poverty and inequality. Inequality, in particular, is expressed in terms of **distribution of income** which is measured by the **Lorenz curve**. Both poverty and **inequality** have global, regional and gender dimensions.

In the last few decades, Ethiopia attempted to reduce poverty; yet the challenge remains. The role of **indigenous knowledge** and institutions in the reduction and relief of poverty is significant and needs to be explored further.

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 classified 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 defined 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 sufficient 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 benefits.
   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 coefficient.
5. Describe the roles of indigenous knowledge and institutions in reducing poverty and inequality in Ethiopia.

UNIT 7

MACROECONOMIC REFORMS IN ETHIOPIA

INTRODUCTION

Economic reform began throughout Africa in the mid-1990s. Before that, the two decades of donor-sponsored reform efforts to Africa failed to help most sub-Saharan economies to overcome the fiscal and balance of payment deficits. 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 different governments.

This unit presents an overview of macroeconomic reforms in Ethiopia. We will also examine the national development objectives and strategies under the Monarchy, Derg, and FDRE before and after a reform. Finally, we will study an overview of home-grown economic reforms and fiscal decentralization in Ethiopia.

Learning Outcomes

At the end of this unit, you will be able to:

- explain economic reforms in Ethiopia.
- understand national development objectives and strategies
- understand home grown economic reforms.
- recognize the role of private sector in the reform process.

Key Concepts

- Economic reform
- National development plan objectives and strategies
- Imperial regime
- Derg
- EPRDF
- home-grown
- Fiscal decentralization

7.1 National Development Objectives and Strategies- Historical Review

At the end of this section, you will be able to:

- identify national development plan objectives and strategies.
- analyse the national development plans of the Monarchy, Military and EPRDF governments.

Start-up Activity

1. Discuss with a partner any ideas you have which are related to the various national development objectives and strategies that are adopted by the preceding regimes of Ethiopia.
2. When did Ethiopia begin to launch national development plans

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 effort 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. Torn by bloody coups, uprisings, widespread drought, and massive emigration problems, the 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 first multiparty election was held in 1995.

7.1.1 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 and ancillary services. By the early 1950s, Emperor Haile Selassie I had renewed calls for a transition from a subsistence economy to an agro-industrial economy. A key element of the emperor's new economic policy was the adoption of centrally administered development plans. Between 1945 and 1957, several technical missions, including one each from the United States, the Food and Agriculture Organization of the United Nations (FAO), and former Yugoslavia, prepared a series of development plans. However, these plans failed to achieve any meaningful results, largely because basic statistical data were scarce and the government's administrative and technical capabilities were minimal. 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 figure 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 coffee, 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.

However, according to data from the Central Statistical Authority, from 1960/61 to 1973/74 the economy achieved sustained economic growth. Between 1960 and 1970, for example,

Ethiopia enjoyed an annual average growth rate of 4% in percapita gross domestic product. The manufacturing sector's growth rate more than doubled (from 1.9% in 1960/61 to 4.4% in 1973/74), and the growth rate for the wholesale, retail trade, transportation, and communication sectors increased from 9.3% to 15.6%. By the early 1970s, Ethiopia's economy not only had started to grow but also had begun to diversify into areas such as manufacturing and services. 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.

7.1.2 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 significantly 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%. Benefiting 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 effects of the 1984/85 droughts undercut these achievements and contributed to the economy's overall stagnation during this period.

7.1.3 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-sufficiency 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.

The ADLI also encompassed wider socio-economic development programmes, including investment in infrastructure such as roads, telecommunication and electricity grids. Furthermore, the plan aimed at enhancing the flow of finance, local governments' administrative capacity, and the development of agro-processing industries. A series of investment plans were made under the ADLI, including rural technical and vocational education and training services (TVETs), the development of water resources (hydro power and irrigation), improvements in microfinance institutions, improvements in the marketing of agricultural products, and the restructuring of smallholder co-operatives.

The government heavily invested in extension programmes and introduced the Participatory Demonstration and Training Extension System (PADETES). PADETES was used to distribute fertilizers, seed and credit, as well as to spread information on better agricultural practices, to smallholder farmers. 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)

The Ethiopian People's Revolutionary Democratic Front (EPRDF) government initiated the Five-Year Development Program known as Peace, Democracy and Development Program which emphasized the interrelationships between peace, democracy and development. 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 neighbouring 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 on cooperation and participation of the private sector.

Development Programs of EPRDF

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.

The first year of the programme was marked by a drought which led to an 11.6% fall in agricultural productivity, contributing to a 3.6% fall in gross domestic product. It was because of this that the average growth for the three-year period was 5.5%. However, the country experienced 11.3% and 8.8% growth during the second and third years, respectively.

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

The development policies and strategies pursued during the three year Sustainable Development and Poverty Reduction Program (SDPRP) (2002/03-2004/05) together with the vision expressed in and achievements realized by the 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.

To achieve these objectives, the PASDEP was built on the following eight strategic goals:

1. Building all-inclusive implementation capacity.
2. A massive push to accelerate economic growth.
3. Creating the balance between economic development and population growth.
4. Unleashing the potentials of Ethiopia's women.
5. Strengthening the infrastructural backbone of the country.
6. Strengthening human resource development.
7. Managing risk and volatility
8. Creating employment opportunities.

Based on these strategic pillars, two alternative economic growth scenarios were considered. In the base case scenario, it was considered that to achieve the MDGs, an average economic growth rate of 7% per annum was necessary. For the high case scenario, which aimed beyond achievement of MDGs targets, a 10% annual average economic growth target was set so as to lay the foundation for the realization of the development vision of the country.

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. Regarding agricultural sector growth strategies, GTP

I highlighted the need to identify and scale up smallholders' best agricultural practices. It introduced new agricultural technologies which aimed at helping to improve soil productivity, and it provided support to small-scale farmers through training and fertilizer provisions. In addition, GTP I promoted the production of high-value crops and set sector-based targets

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 significant 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.

The achievements of the first GTP, lessons drawn from its achievement, and challenges faced during its implementation were used as inputs in the preparation of the second Growth and Transformation Plan. In addition, economic and social development projects commenced during the first GTP and still under construction are also considered as the bases of the plan.

d. **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 deficit.

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 beneficiaries from development outcomes.

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

Pillar Strategies

The pillar strategies of GTPII are built on that of GTP I complemented by additional pillar strategies that serve as foundation for sectorial plans. Therefore, in order to achieve the objectives of GTP II set out above, the following pillar strategies were pursued:

i) Sustain the rapid, broad based and equitable economic growth and development witnessed during the last decade.

ii) Increase the productive capacity and efficiency to reach the economy's production possibility frontier through concurrently improving quality, productivity and competitiveness of productive sectors (agriculture and manufacturing industries).

iii) Speed up and catalyse transformation of the domestic private sector and render them a capable development force.

iv) Build the capacity of the domestic construction industry, bridge critical infrastructure gaps with particular focus on ensuring the quality of infrastructure

services through strengthening the implementation capacity of the construction sector.

v) Properly manage and administer the on-going rapid urbanization to unlock its potential for sustaining growth and structural transformation of the economy.

vi) Accelerate human development and technological capacity building and ensure its sustainability.

vii) Establish democratic and developmental good governance through enhancing implementation capacity of the public sector and mobilization of public participation.

viii) Promote women and youth empowerment, ensure their participation in the development process and enable them to equitably benefit from the outcomes of development.

ix) Build a climate resilient green economy.

GTP I and II Performances and their Major Challenges

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 fiscal year to Birr 1.99 trillion in2019/20 fiscal 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). When the economic growth performance is disaggregated into major economic sectors, agriculture, industry and services respectively registered an average annual growth rate of 5.3%, 17.2% an 9.7% (See **Table 7.1**).

Table 7.1: Growth in gross domestic product by major economic sectors (%)

	Average growth rates		
	2010-2015	2016-2020	2010-2020
Agriculture	6.6	4.1	5.3
Crop	7.5	4.8	6.1
Livestock	5.0	2.5	3.7
Industry	19.1	15.2	17.2
Manufacturing	15.1	13.0	14.1
Construction	27.7	17.3	22.5
Service	11.1	8.2	9.7
Wholesale and retail trade	11.7	8.9	10.3
Transport and communication	13.0	11.5	12.2
Financial industry	11.4	12.5	11.9
Gross domestic product	10.1	8.2	9.2

Source: FDRE Planning and Development Commission

The agricultural sector, on average, contributed 24% to the GDP growth, whereas the crops sub-sector contributed 72.7%. Similarly, the industry sector contributed 37.9% of which the construction and manufacturing sub-sectors respectively contributed 77.1% and 22.8% to the overall industry sector GDP growth performance. This shows that the major source of gross value additions (GVA) registered in the industry sector has been the construction sub-industry. On the other hand, the service sector has contributed 40.8% to the GDP growth. The wholesale and retail trade sub-sector had the share of 37.8% within the services sector. In general, the overall economic growth performance shows that construction, crops, and wholesale and retail trade were the main sources of supply side growth, in that order.

Based on current prices, the economy registered an average growth of 9.2% per year from 2009/10 to 2019/20 years, and nominal GDP increased from Birr 395.9 billion in 2009/10 to Birr 3.37 trillion in 2019/20. From the demand side, total final consumption expenditure contributed 79% to GDP where more than three-quarters of this has been attributed to the private final consumption expenditure (see **Table 7.1**). On the other hand, total investment, exports and imports of goods and services, on average, were 35.1%, 10.1% and 25.9% of GDP, respectively.

The share of gross domestic investment (as% of GDP) increased from 31.1% in 2009/10 to 38.4% in 2015/16. However, because of the prevailing political instability during much of 2016/17, domestic and foreign direct investment slowed down, and similarly, government capital expenditure decreased. This brought the share of total investment (as a percentage of GDP) down to 34.1%. Nevertheless, following the political transition that took place in 2017/18, total investment performance improved during 2018/19 and the share increased to 35.2%. In 2019/20, however, due largely to the COVID-19 pandemic, the share of total investment declined to 30.8%.

Table 7.2: Share of final consumption expenditure in GDP (%)

	Average share (as % of GDP)		
	2010-2015	2016-2020	2010-2020
Total final consumption expenditure	80.7	77.6	79
Government final consumption expenditure	10.5	10.2	10.3
Private final consumption expenditure	70.0	67.5	68.7
Total investment	35.0	35.2	35.1
Exports of goods and services	12.5	7.8	10.1
Imports goods and services	29.5	22.2	25.9
Resource balance	(17.1)	(14.5)	(15.8)
Gross domestic savings	19.3	22.4	21

Source: FDRE Planning and Development Commission

Net export (the difference between export and import trade) has shown a widening gap and the annual average resource deficit was 15.8% per year in the 10 years up to 2020. This was mainly attributed to the fact that export performance has been very weak, and the country's productive capacities to generate export earnings were limited. Moreover, the overall economic growths were largely dependent on import trade.

The rate of gross domestic savings rose from 17.3% of GDP in 2009/10 to 20.9% of GDP in 2019/20. Similarly, GDP per capita registered an average annual growth of 10.7% and as a result, it increased from USD 389 in 2009/10 to USD 1,080 in 2019/20.

The poverty headcount ratio at the national poverty lines (percentage of population) reduced from 29.6% in 2009/10 to 23.5% in 2014/15 and the poverty rate went down from 30.4% in 2009/10 to 25.6% in 2020 in the rural areas. Similarly urban poverty rates fell from 25.7% to 14.8% during the same period. With regard to equitable distributions of

growth, Gini Coefficient has increased from 0.30 in 2009/10 to 0.33 in 2014/15. During this period, the Gini coefficient in rural areas went up from 0.37 to 0.38 while in the urban areas it increased from 0.27 to 0.28.

On the other hand, the urban unemployment rate showed an upward trend in both sexes. The unemployment rate increased from 18% in 2009/10 to 18.7% in 2019/20. The youth (aged between 15 and 29) unemployment rate was on average 25.7% in 2019/20, a significant increase when compared to the total urban unemployment rate. When it is seen in terms of gender decomposition, urban unemployment rate of men in 2009/10 was 11.4% while it was 25.3% for women. The unemployment rate went up for both sexes and reached 12.2% for men and 26.1% for women in the urban areas in 2019/20 respectively.

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 benefit from the growth proceeds. The major challenges are identified 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.

To realize the objective of boosting domestic saving, a host of reform measures were undertaken during the GTP-I and GTPII period in Ethiopia. The measures include: awareness creation and community mobilization activities, expanding financial institutions (banks) and services, raising the minimum deposit rate, strengthening existing and introducing new

saving mobilization instruments such as saving for housing programs, Renaissance Dam Bond, introducing private social security schemes, strengthening government employees social security scheme, etc. Besides these measures, allocating government expenditure on capital investment that augments capital accumulation has also been used to increase domestic saving. Accordingly, the share of gross domestic saving in GDP increased from 9.5% in 2009/10 to 24.3% in 2017/18 from 22.4% in 2014/15 end of GTP-I period and slightly lower than the 24.6% GTP II target for the fiscal year. In parallel with the increase in domestic savings, the rate of gross national savings in GDP ratio also increased from 24.7 in 2009/10 to 32.2% in 2017/18. The difference between the two rates was mostly covered by net current transfer from the rest of the world.

At the same time, the share of gross domestic investment in GDP increased from 22.3% in 2009/10 to 34.1% by 2017/18. This domestic investment ratio is believed to have made a significant contribution to the rapid economic growth registered during the planning period. This very high investment rate is the result of both private and public investment spending.

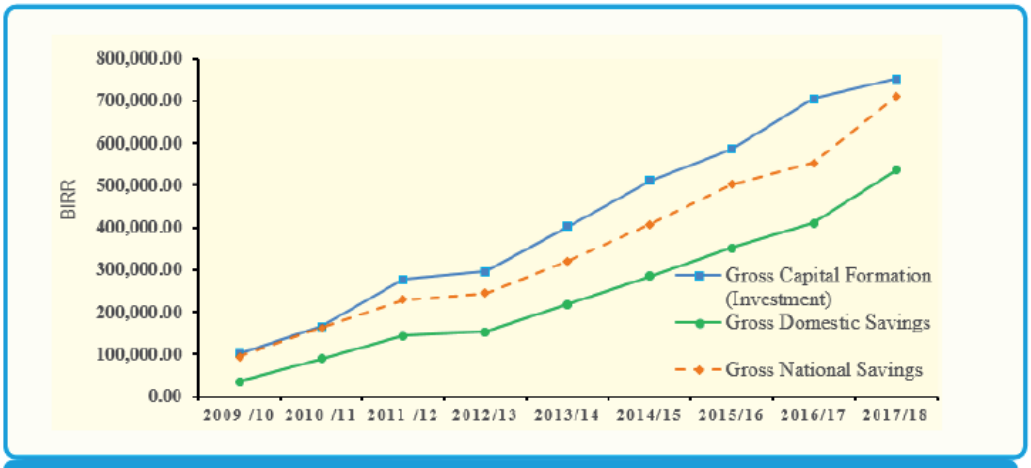


Figure 7.1 Gross domestic saving ,Gross national saving and Investment

Source: *Ministry of Finance and Economic Development (MoFED) annual reports*

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 affecting the sustainability of investment.

Historically, the Ethiopian economy was known for its low inflation. Prior to 2003/04, the country had not suffered from high inflation. The major hikes in the general price level occurred during the times of war and drought only. However, since 2003/04 Ethiopia has experienced the highest inflation and higher inflation rate of 55.2% was recorded during 2008.The major causes were the then high fuel and food prices shocks, weaker foreign exchange earnings, and rising demand for imports that depleted foreign currency reserves of the country. The highest prices were for food, housing, fuel and transport services, making the urban poor the most vulnerable to the effects of inflation.

In 2019/20, the annual average headline inflation rose to 19.9% from 12.6% a in the previous year.This was largely owing to a 10.2% rise in food and non-alcoholic beverages inflation from 13.1% to 23.3% and a 3.9% increase in non-food inflation from 11.9 to 15.8%. Likewise, annual average non-food inflation scaled up by 3.9% and reached 15.8% in 2019/20 due to higher inflation in alcoholic beverage and tobacco (11.9%), transport (11.0%), housing, water, electricity, gas and other fuels (9.6%), restaurant and hotel (4.3%), recreation and culture (2.8%), communication (1.5%), health (1.3%) and miscellaneous goods (0.8%). Similarly, headline inflation surged to 21.5% from 15.3% in the previous year on account of a 3.3% increase in food and non-alcoholic beverages inflation and 9.2% in non-food inflation (**Figur.7.2**) (**NBE2019/20**).

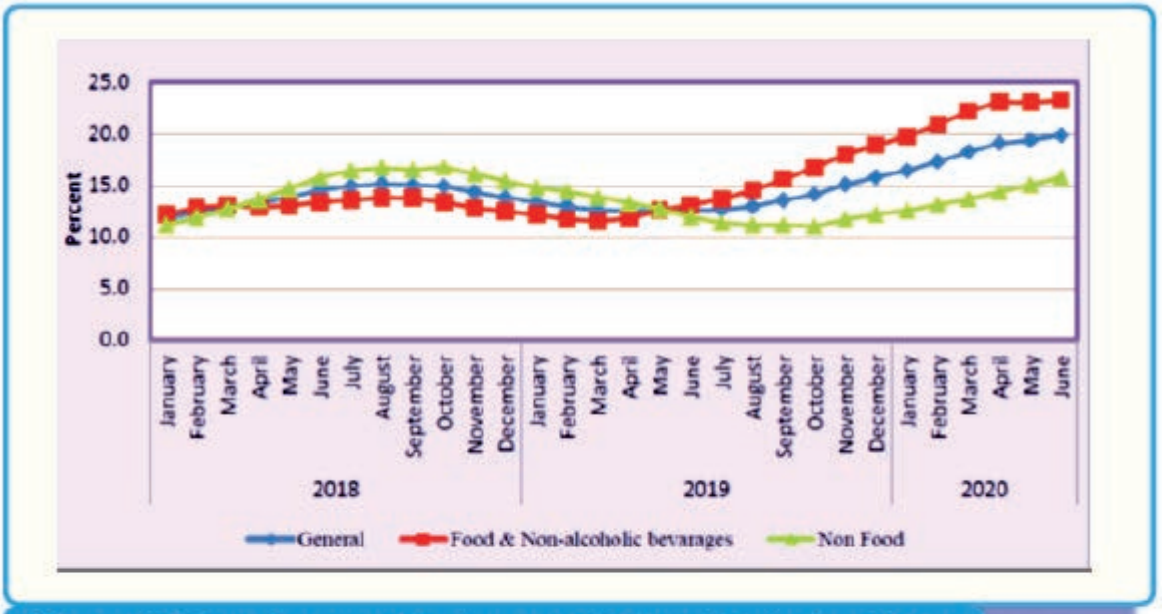


Figure 7.2 Developments in Average National Inflation Rates

Source: *MoFED annual reports*

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 efforts 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 affected 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 different geographies. There was also a wide gap in terms of quality infrastructure provisions. There were also deficiencies 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. This has affected attempts to create equal opportunity for all citizens.

Limited government capacity and widespread malpractices: between 2010 and 2020

limitations in government capacity were evident in terms of achieving the development goals set in various sectors. In particular, besides the limited capacity and coordination failures observed in areas of project management, there was serious resource wastage and corruption. There were no robust systems established in order to correct the failures and ensure accountability.

7.1.4 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 sufficient conditions. Ensuring high per capita income through rapid economic growth is one of the sources of prosperity, but not a measure of prosperity on its own. Prosperity is largely defined 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 defined 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 affairs 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 beneficiaries 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.

Strategic Pillars and Key Priority Areas

The overall development goal is to achieve improved welfare of the society by improving the standard of living and quality of life that are captured in the broader national prosperity vision. The key strategic pillars of the ten-year development plan are:

1. quality economic growth and shared prosperity
2. economic productivity and competitiveness,
3. technological capability and digital economy
4. sustainable development financing
5. private sector-led economic growth
6. resilient green economy
7. institutional transformation
8. gender and social inclusion
9. access to justice and efficient civil Services
10. Regional Peace Building and Economic Integration.

From the national prosperity vision, development objectives and strategic pillars, a set of overarching priority areas are identified for the efficient allocation of resources, as well as the effectiveness of reforms, policy initiatives and implementation actions. The priorities are set for the medium-term to provide substantial milestones for the long-term development plan against which progress will be measured. These key priority areas are

the basis for the homegrown economic reforms and policy direction at the macroeconomic and sectoral levels. 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

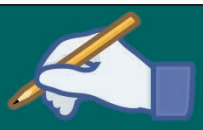
Activity 7.1

1. What were the overall objectives of setting national development plans during the Monarchy period?
2. State the challenges faced by the EPRDF development plan adopted for 2002/03 – 2004/05.

7.2 Overview of Home-grown Economic Reforms in Ethiopia

At the end of this section, you will be able to

- explain the home-grown economy reforms and the needs for reform.



Start-up Activity

What is your understanding of the new home-grown economic reform taken by the government?

The rapid and sustained economic growth that Ethiopia registered between 2010 and 2020mainly driven by aggregate demand and it was recorded largely as a result of the expansion of government funded large-scale infrastructure developments. These public

investments were financed through heavy debt and external aid. The manner in which these public investments were realized and the rapid growth achieved over the years has also caused continuous inflationary pressures. In addition, despite its rapid growth, the economy failed to raise productivity and create adequate job opportunities. Due to the heavy debt burden, it has become challenging to sustain the rapid pace of the growth, calling for a new growth financing approach doing away from the heavy reliance on public spending and debt financing.

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 inflationary pressures. The HGER plan is classified into macroeconomic reforms, sectoral reforms, and structural reforms.

7.2.1 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, and the following key focus areas have been identified in the macroeconomic reform plan.

- Ensuring fast, sustainable and broad-based economic growth. Reform efforts have been underway across various sectors of the economy to ensure high economic growth that has been slowed over t recent years. The efforts are being implemented in the way that involves several actors in the economy including the private sector and development partners. Evaluation of past development plans has been thoroughly done in order to learn from past strengths and rectify the weaknesses through the experiences gained from the challenges so as to design and implement inclusive development plans in the future. Economic growth performance that has been registered over the past years has been assessed in detail and it has been used as an input for subsequent reform measures.

- with regard to the fiscal policy reform process, new operational mechanisms are taking effect to modernize and enhance tax collection capacity as well as citizens' awareness about tax paying duties and responsibilities, proper public expenditure management and strict reform actions in the public debt management. The operational dimensions of the fiscal reform process mainly focused on making the overall tax administration fair, transparent and accountable. Similarly, strict justice sector reforms and operations have targeted the informal sector and contraband, which has a detrimental impact on domestic income, and the business community. These measures have already started showing encouraging results.

- Moreover, budget administration and auditing system have given due attention. Strict auditing and monitoring is necessary in order to ensure that the allocated budget is utilized for the intended social and economic purposes by ensuring that development projects designing follows thorough appraisal and feasibility studies. Proper administrations and systems have also been designed to facilitate support, monitoring and accountability so as to complete the projects within the timeline and without leading to waste of resources.

- With regard to the financial sector reform process, the ultimate objective is ensuring financial stability, financial inclusion, and promoting productivity and competitiveness of the private sector and thereby solving structural financing constraints of the economy by encouraging domestic savings and facilitating credit supply for the private-sector investment. In order to achieve this goal, it was found necessary to undertake market-oriented financial sector reform, through which the financial sector will eventually promote market-based interest rate and foreign currency exchange rate determination, establishing and expanding capital markets, and strengthening the monitoring and regulatory capacity of the National Bank of Ethiopia.

- Several policy reform measures have also been initiated to expand the inflow of foreign currencies. Particular emphasis has been paid to identify structural constraints of export market performance and taking macroeconomic reform actions to improve the diversification of export commodities by addressing the supply side problems of low production capacity and productivity. These reform process has not only targeted broadening the export base, but also creating value additions to export commodities so that the competitiveness of the economy in the regional and global value chains will improve.

- Emphasis has also been paid to other sources of foreign currency inflow. For instance, in order to increase the inflow of remittances, the reform aims to eventually broaden the incentive structure to encourage the diaspora to send foreign currencies through the formal banking system. Moreover, the promotion of quality foreign direct investment is also vital not just for the inflow of foreign currencies but also for technological transfer and creation of job opportunities. Similar focuses have been paid to reforming the overall foreign currency allocation directives and policies to promote the predictability and efficiency of foreign currency allocations across different sectors of the economy.
- With regards to external public debt, the macroeconomic reform process emphasized two main aspects and these are minimizing the commercial external loans, searching more for concessional loans and rescheduling the existing external public debt.

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 significant 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 finance, 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. As Ethiopia is at the early stage of mining subsector development, the role of the government in terms of infrastructure development and other targeted support in the subsector is vital for boosting private sectors' confidence and trust.

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.

Structural Reforms

Although the role of government in the economy shall continue, adjustments and reforms will be made based on strategic policy performances and prevailing conditions. It is, in fact, very important that the government plays a role in the economy, and in particular, through public investments and lead the overall economy to a desired direction based on market principles. In order to ensure an efficient government intervention, thorough studies would be conducted to see if there are failures that call for government interventions, and also to evaluate the feasibility of any government interventions in order to make sure that the necessary capacity and resource is available to implement the identified public project. It should also be noted that any public development projects, whether they are still at inception phase or even after completion, could possibly be handed over to private investors through fair and transparent approach, as long as the private investor has the necessary capacity and resources to take the projects forward.

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**: by reducing the transit time and costs of trade, the reform is mainly emphasizing on the competitiveness of agricultural and industrial products, accessibility of coordinated transport services in order to sustainably support the investment and business activities of foreign and local investors, and improving the quality and effectiveness of transport corridors for import and export activities and improving stations providing dry port services.

- **Implementing import substituting development strategy**: maintaining the fact that our economic development strategy is outward-looking guided by international integration, extensive domestic support and policy intervention is designed to substitute the import of some strategic commodities that consumes large sums of foreign currencies including food items, edible oil, wheat, and other commodities by domestic productions.

- **Reforming the investment and job creation landscape:** in order to encourage domestic job creation as well as direct foreign investment, industrial parks that have been established so far and have the necessary infrastructure should be put to maximum capacity utilization by providing the necessary infrastructure. Furthermore, efforts have been consolidated to improve the overall investment and business environment, eliminate unnecessary bureaucracy and improve the supply of finance under the Ease of Doing Business initiative.

- **Increasing the role and participation of the private sector in the economy:** broad-based domestic economic reforms have been under way to thoroughly examine the role that the private sector had in the economy and the challenges it encountered and then to create favourable conditions to enable the sector play the role expected of it in a more appropriate and better way. A lot of endeavours are in progress to make the bureaucracy support and encourage, as opposed to hindering or crowding-out, the participation of foreign and domestic investors and improve the country's business environment. This reform works in line with the reform in the financial and other sectors so as to make Ethiopia a start-up nation in terms of investment promotion and job creations.

- **Expediting the privatization of large state-owned enterprises and liberalization of priority sectors**: once the transfer of selected state-owned enterprises to the private sector as well as liberalization of selected sectors is completed, it is expected to bring about a significant change in the efficiency and quality of economic growth and job opportunities.
- **Strengthening Ethiopia's global and regional partnership**: the ongoing negotiation for accession to the World Trade Organization (WTO) as well as the ratification of the African Continental Free Trade Area (AfCFTA) proves Ethiopia's HGER commitment to boost the trade and investment partnership both at the global, continental and regional levels. The significance of linking our economy with that of the continent and the region is so paramount. As a land-locked economy, our domestic reform process will embrace strong partnerships to develop across-country development infrastructure and different ports together with our neighbours. Such cross-country partnerships will not only reduce transportation and trade costs, but also ensures shared prosperity.
- **Promoting free movement of labour:** in order to alleviate the high rate of unemployment in the country, it is necessary to design mechanisms that ensure free mobility of skilled labour both domestically as well as internationally.
- **Promoting the development of civic societies**: domestic reform processes are designed to create a conducive environment for civic societies to play a significant role in economic, social and political activities. Despite the popular misconception about the role and participation of civic societies, promoting the role of civic societies does not stunt the role of the government but facilitates genuine transition to democracy, including for the media, in which ideas and thoughts freely circulate and thereby renders the government effective. This is a way of building a political economic outlook that includes citizens' political and moral authority. It helps to correct previous challenges and exhaustively utilize the capacity that is created as a result of free expression of thoughts. It is necessary to see all actors as an integrated whole. This, in the main, facilitates the opportunity to recognize and appreciate the key roles that all stakeholders play and their impacts. It also helps to understand that development does not focus only on incomplete material being but also expands to multifaceted freedoms to have its complete meaning.
- Diversifying Ethiopia's development partnerships and the sources of development finances: domestic policy reforms that are designed to secure different sources of development finance depend largely on the strong relationship and partnership with

multilateral and bilateral development partners. Moreover, the partnership with development partners encourages technical assistance indifferent areas of capacity building both for government and private sectors. A diversified development partnership is expected to encourage our development partners to, in addition to providing development aid, motivate their investors to invest in our economy. The contemporary practices of the flow of international development finance do not necessarily follow the conventional approach. Multilateral forums and bilateral financial sources that were previously major sources of development finance for developing countries are dwindling and are being substituted by new bilateral arrangements and agreements. With this understanding, reforms are being domestically tailored to enable Ethiopia properly benefit from the current global supply of development finance.

Activity 7.2

1. What does home-grown economic reform mean?
2. What are the major objectives of home-grown economic reform?

7.3 Fiscal Decentralization

At the end of this section, we will be able to:

- explain main objectives of fiscal decentralization.
- identify the advantages and disadvantages of decentralization.

Start-up Activity

Why is fiscal decentralization important?

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.). It deals with studies of which function /expenditure and which instruments/revenue are best centralized and which are best placed in the sphere of decentralized levels of government.

Nowadays in the world many governments including that of Ethiopia are structured in to federal systems. However one federal system differs 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 fiscal 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.

In the past ten years 2010 to 2020, additional budgetary support has been provided for regional governments to finance capital projects that help achieve the targets of the Millennium Development Goals and Sustainable Development Goals (SDGs).For instance, in 2017/18, Birr 7 billion has be allocated to regional states as per the grant formula for the implementation of the Sustainable Development Goals (SDGs). This also to enhance fiscal equalization and narrow regional disparities in basic social services such as education, health, water and sanitation.

7.3.1 Disadvantages and Advantages of Decentralized System

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 benefits 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. Think of

localities /state as a firm producing local public goods such as like Education, sewage

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. Of course, various activities have different scale economies and optimal scale.

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. Finally. the region left with small tax base which leads to abandonment of the program.

Advantages of Decentralized System

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

Tailoring output to local tastes/local specific: peoples in different regions and communities have different 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 differ. 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. A closely related notion is that local government's greater proximity to the

people makes it more responsive to citizen's preference than central government. In the same way, economic regulations enacted at the national level may not make sense in every community.

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 find out is to let each community choose its own way and then compare the results. The case in Ethiopia is different. 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.

Activity 7.3

1. What are the main objectives of fiscal decentralization?
2. What are the advantages and disadvantages of decentralization of systems?

Unit Summary and Review Questions

Unit Summary

Under the Monarchy, three Five-Year National Development Plans were implemented: 1957-61, 1962-67, and 1968-73.The National Development Plans formulated under the **Derg** aimed at the establishment of a socialist state through nationalization of private enterprises and through restructuring the economy. **The Ethiopian People's Revolutionary Democratic Front (EPRDF)** government initiated the Five-Year Development Program known as Peace, Democracy and Development Program which

emphasized the interrelationships between peace, democracy and development.

Sustainable Development and Poverty Reduction Programme (SDPRP) was launched in 2002 following wide-ranging public consultations in 2001 and covered a period of three years 2002/03 – 2004/05. The **PASDEP** was Ethiopia's second poverty reduction strategy, covering the period 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).

GTP-I was the third national development plan covering the period between 2010/11 and 20 14/15.**GTP-II** was built on that of GTP I complemented by additional pillar strategies that serve as foundation for sectoral plans. During the implementation of the two Growth and Transformation Plans **(GTP I and II),** Ethiopia has registered rapid and high economic growth. Despite the faster and high economic growth that was realized over the past ten years, the economy has encountered several challenges in terms of sustaining the growth and making all citizens equitably benefit from the growth proceeds.

To achieve the national long-term plan of making Ethiopia an African beacon of prosperity, a 10 years plan was formulated. 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 was. therefore, been domestically initiated.

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 inflation.

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?

UNIT 8

ECONOMY, ENVIRONMENT AND CLIMATE CHANGE

INTRODUCTION

The concepts of economy, environment and climate change are closely linked. This unit helps explain these intricate links and their implications for sustainable development. The unit is divided into four sections. The first section explores economics and its relation to environment. The second section examines the notions of global warming and climate change. The same section covers the scope of the problem of climate change, its causes, indicators, impacts, vulnerability to climate change, and the means to deal with it, mainly via mitigation and adaptation. The third section seeks to explain the green economy and green growth. Finally, the forth section overviews the environment and climate change in Ethiopia.

Learning Outcomes

At the end of this unit, you will be able to:

- appreciate the links between economics and the environment.
- recognise the interaction between development, population, resources and the environment.
- define climate change and global warming.
- recognize the causes, indicators, impacts, and vulnerability to climate change.
- appreciate the role of green economy for sustainable development.
- explain climate change and environmental policies of Ethiopia.

Key Concepts

- Economy.
- Environment.
- Ecosystem.
- Environmental resources.
- Environmental Degradation.
- Population.
- Greenhouse gases.
- Global warming.
- Climate change.
- Mitigation of climate change,
- Adaptation to climate change,
- Green growth

8.1 Economy and the Environment

At the end of this unit, you will be able to:

- explain the link between economics, environment, rural development, urbanization, resources and population.

Start-up Activity

1. What are the types of resources in your area? Discuss.
2. Discuss the link between resources and the environment.

A range of major forces are set to cause profound changes in natural and human environments across the world over the next 50 or so years. Examples include climate change, the growth of mega-cities, land degradation and the profound consequences of increasing global population which is consuming ever more natural resources (**Foresight, 2011**).

Economics is the study of the allocation of limited resources to satisfy human wants. The word "resource" is used synonymously with the factors of production (inputs). The commonly identified classes of production inputs include land, labour, capital, and entrepreneurship. Sometimes, energy is also specified as a separate production factor.

The fundamental principle of economic theory argues that economic resources are scarce in a sense that they are in finite 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 finite. Concern for exhaustion of future environmental resources is increasing and the need for conservation is growing.

Environmental resources can be classified into different categories. The prominent classification is between **renewable** and **non-renewable resources**. Biologically renewable resources include forests, fish, 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. Hence, optimal and efficient growth and a sustainable development path has to be pursued. Some resources yield monetized flows such as forests, exploited oil, and minerals. Other resources yield non-monetized benefits such as fresh air, rivers, lakes, and oceans.

The concept of ecosystem is a complex set of interdependencies between the biological and physical systems and is continually in a dynamic process of development and change. The resilience of an ecosystem is a measure of the extent to which it can be subjected to disturbances without the system's parameters being changed. The threshold levels of some system variables can be reduced due to economic behaviour. These insights from ecology have important implications for human behaviour and in particular for the rates of depletion and harvesting of non-renewable and exhaustible resources.

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 flow 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. Underlying the pressure on the sources and sinks is the growth of the world population and industrial production (**Swanson, 2012**).

Key terms

- **Sustainable development** is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
- **Ecology** deals with nature's allocation of scarce resources.
- **Environmental degradation** is when there is a decline in the quality of the natural environment in particular of air water and land quality.
- **Depletion of natural capital** is reduction in the stock of natural resources such as oil and gas reserves, stocks of fish etc.

Acute awareness about the environment is not new. It dates back to the 1950s with the growing concern over the great smog of London in 1952, the publication of Rachel Carson's *Silent Spring* in 1962 and the "Limits to Growth" report of 1972. The concern is borne of the fact that perpetual economic growth entails severe consequences for the environment. For example, resources may be used up quickly, while more and more by-products of production are dumped into the environment, which leads to severe environmental degradation.

Is it then 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 first 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**". The notion is related Kuznets's hypothesis which states that inequality would first rise and then fall as incomes increased (**Todaro and Smith, 2015**).

In spite of these theoretical arguments, the growing concern and commitment by the international community over environment and development persisted for decades. Examples include the publication of the Brundtland Commission Report "Our Common Future" in 1987, the UN Conference on Environment and Development (also known as the Rio Earth Summit) convened in 1992, the Kyoto Protocol signed in 1997, the Intergovernmental Panel on Climate Change (IPCC) formed in 1998 followed by the Millennium Development Goals launched in 2000, the Rio+20 Earth Summit in 2012, and the Sustainable Development Goals agreed in 2015.

Nowadays, economists increasingly focused on the implications of environmental issues for the success of development efforts. 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 affects 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 figures.

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.

In the next sections, we will briefly focus on basic issues that define the economy and the environment involving linkages between the environment and rural development, urban development, population and resources.

8.1.1 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, 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, desertification and unsustainable rates of water usage, and air pollution (**Perman et al, 2003**).

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 **intensification** 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 **extensification** (land expansion) which causes deforestation and desertification. Both intensification and extensification 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.

Low income households cut trees for firewood and cultivate marginal land during the process of intensification of land use. The logging of trees and cutting of forests for cultivation leads to deforestation. These and overgrazing means the soil is exposed to flooding and erosion which in turn acts as factors in the cycle of rural poverty and environmental destruction.

8.1.2 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. By 2045, the world's urban population will increase by 1.5 times to 6 billion. Hence, city leaders need to move quickly to plan for growth and provide the basic services,

infrastructure, and affordable housing that their expanding populations need.

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 first to rise with national income levels and then to fall.

Urbanisation in developing countries creates such problems as housing, power, water, transport etc. (**Jhingan**, **2012**). 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 inflate the high environmental costs of urban crowding. The inaccessibility of clean water and the lack of sanitation are some of the environmental factors which affect the health of the urban poor.

Moreover, the rising levels of industrial emissions or pollution directly affect the health of urban inhabitants. The urban poor, in particular, are likely to suffer 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.

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

8.1.3 Population, Resources and the Environment

The world's population reached about 7.7 billion in 2019. According to the United Nations Population Division, this figure is projected to rise to about 8.1 billion in 2025 and about 9.6 billion by the year 2050. The overwhelming majority or more than three-quarters of the world's population will live in the developing world (**Todaro and Smith**, **2015**).

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 difficult to invest in roads, public services, drainage and other agricultural infrastructure needed to tap such resources (**Jhingan**, **2012**).

Given limited resources, the consequences are felt by society, economy and the environment. The following example shows some of the linkages between the above factors.

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 suffers 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 difficulties. Thus, the growth of population retards agricultural development and creates a number of other problems discussed above.

Moreover, the pressure of rapid growth forces people to obtain more food for themselves and their livestock. Hence, they over-cultivate the semi-arid areas. This leads to desertification over the long run when land stops yielding anything. Besides, rapid population growth leads to the migration of large numbers of people to urban areas with industrialization resulting in severe air, water and noise pollution in cities and towns (**Jhingan**, **2012**).

It has to be noted, nonetheless, that much of the concern over environmental issues stems from the perception that we may reach a limit to the number of people whose needs can be met by the earth's finite resources. We may or may not reach this point given the potential

for new technological discoveries, yet it is clear that continuing on the present path of accelerating environmental degradation will severely compromise the ability of present and future generations to meet their needs (**Todaro and Smith**, **2015**).

A slowing of population growth rates would help ease the intensification 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 firm commitment from the government and the policy makers.

Activity 8.1

Write down a summary of the link between population, resources and the environment.

8.2 Global Warming and Climate Change

At the end of this section, you will be able to:

- describe the link between global warming and climate change.
- define climate change.
- explain the causes, indicators, vulnerability to and impacts of climate change.
- examine the means to address the problems of climate change.
- appreciate the policy measures that Ethiopia is undertaking to mitigate and adapt to climate change.

Start-up Activity

1. What is climate change?
2. What are the causes of global warming?
3. What is the impact of climate change?

8.2.1 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 (H_2O), carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4) and ozone (O_3). 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). Three GhGs, in particular, had increased in the atmosphere. They are CO_2, CH_4, and N_2O.

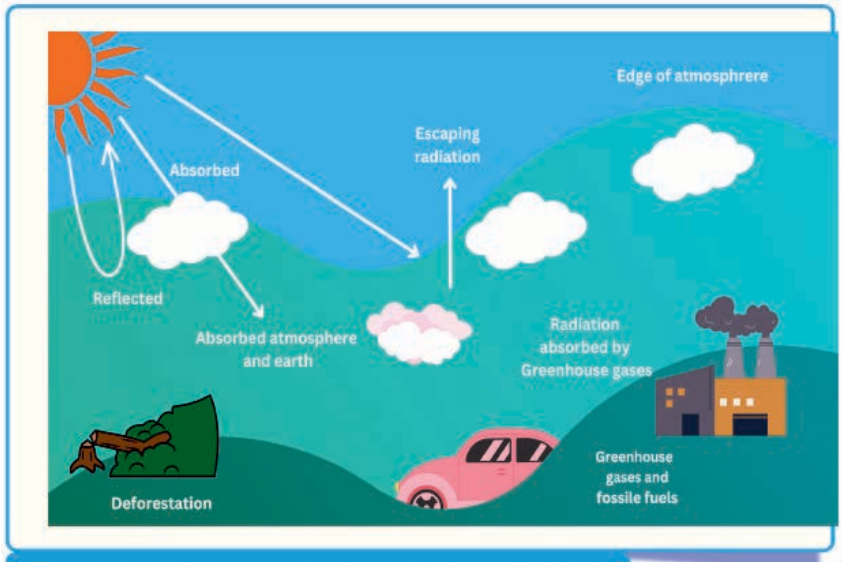


Figure 8.1 Greenhouse gases and global warming

Greenhouse gases of the atmosphere are both natural and anthropogenic which absorb and emit radiation at specific wavelengths within the spectrum of thermal infrared radiation

emitted by the Earth's surface, the atmosphere itself, and by clouds. This property causes what is known as the **greenhouse effect**.

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, CO_2 increased by 40% while N_2O increased by 150% and nitrous oxide by 20% (**IPCC, 2013**). The increase is due to burning of fossil fuels and reductions in some of the "sinks" for carbon dioxide, notably forests. There is an economic activity-energy-emission link through the greenhouse effect. In other words, the process of global warming relates economic activity to an associated level and pattern of energy and material flows corresponding to which are flows 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.

8.2.2 Climate Change

Climate change denotes a variation in the mean state of the climate persisting for an extended period (typically decades or longer) and resulting from anthropogenic greenhouse gas emissions (**IPCC, 2007, 2013**). In other words, climate change refers to significant 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 difference 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.

8.2.3 Scope of the Problem and the Causes of Climate Change

The Intergovernmental Panel on Climate Change (IPCC) predicted that, unless something is done to curb intensive fossil fuel emissions, there will be a probable rise in mean temperatures between 1.5°C and 4°C by 2099. By 2016, the mean temperatures had already reached 1°C above the pre-industrial level.

Climate change is caused by or attributed to the emissions of greenhouse gases triggering global warming. Of the greenhouse gases, CO_2 is the largest in causing global warming and hence, climate change. It contributes 77% to the greenhouse effect. Methane (CH_4) follows with about 14%, and nitrous oxide (N_2O) with 8% (**IPCC**, **2007**).

According to the American Environmental Protection Agency, the largest source of greenhouse gas emissions from human activities in the United States is from burning fossil fuels (oil, coal, natural gas) for electricity, heat, and transportation.

In developing countries, deforestation is said to contribute over 20% of harmful greenhouse gases, in addition to the losses it causes of valuable biodiversity and the environmental services of cleaning air and water.

8.2.4 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 (**Tietenberg and Lewis**, **2012**).

There are several indicators of climate change. They include unpredictable rain patterns, too much and too little rain, higher average air and ocean temperatures, floods, 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.

Globally, precipitation has increased in Australia, Central Asia, the Mediterranean Basin, the Sahel, the Western United States. Heavy rainfall and floods have become more common; so are storms and tropical cyclones. Many other regions have seen more frequent and more intense droughts.

8.2.5 Impacts of Climate Change

Climate change has direct impact on the physical and ecological environments, again with lagged effects which may induce additional indirect impacts. For example, with the temperature rising over 2 degrees, people in different countries will suffer different impacts. Some areas will face damage from heat waves; others face harm from hurricanes and tornadoes. The list is long. Flooding from heightened rainfall, moisture stress from reduced rainfall, and displacement from rising sea levels are some of them. There could also be losses of grasslands, farmlands, and marine ecosystems.

Long-term changes can influence agriculture, water, health and other sectors. It is often the shifting frequencies and magnitudes of storms, floods, droughts and other extremes that bring home the significance of climate change for vulnerable populations (**IPCC 2014**; **Todaro and Smith**, **2015**).

In semi-arid and arid areas, the area that is suitable for agriculture, the length of growing seasons and yield potential are expected to decrease. This will further adversely affect food security and exacerbate malnutrition. Coastal fisheries, mangroves, and coral reefs will be degraded and threatened by rises in sea level and storms.

The worst impact will likely be felt by the very poor, who depend mostly on natural resources, including rain-fed agriculture. Moreover, the housing of the poor in urban as well as in rural areas is often poorly constructed and located in the most environmentally stressed areas. Due to this and other factors, they are vulnerable to heat waves, flooding, mud-slides, and diseases.

Impacts of climate change also have health dimension. The World Health Organization (WHO) estimated that by 2004, over 140,000 excess deaths per year were due to diarrhoea, malaria, and malnutrition. The deaths were caused by the global warming that had taken place since the 1970s. Mosquito-carried malaria is expected to migrate further to higher altitudes, newly threatening Nairobi, Harare, and other cities.

In sum, one or more of the following impacts are expected to affect most of the world's poorest countries during this century. They are prolonged droughts, expanded desertification, increased severity of storms with heavy precipitation and flooding and consequent erosion, longer and more severe heat waves, reduced summer river flow and water shortages, decreased grain yields, climate-induced spread of pests and diseases, lost

and contaminated groundwater, deteriorated freshwater lakes, and coastal flooding. Other likely ecological damage includes the loss of essential species such as pollinators and soil organisms, and forest fires.

8.2.6 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.

In terms of regions, Africa and South Asia are identified as two of the most vulnerable regions to both current variations in climate and future climate change. The IPCC identified four zones which are highly vulnerable to climate change: sub-Saharan Africa faces drying, Asia faces flooding, and small islands face multiple sensitivities, while the Arctic face melting glaciers.

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 flooding while the Horn of Africa for droughts. Towns like Dire Dawa in Eastern Ethiopia are prone to flooding. The Ethiopian Meteorological Agency provides information and alerts through radio and other media to populations in Ethiopia.

In terms of poverty and wellbeing, poor communities in high-risk areas are especially vulnerable to the impacts of climate change as they tend to have more limited adaptive capacities and are more dependent on climate-sensitive resources such as local water and

food supplies.

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 difficult to finance adaptation. The international community has an obligation to support them in adapting to climate change. Without such support there is a serious risk that development progress will be undermined (**Stern**, **2007**).

8.2.7 Means to Address Climate Change Challenges

There are two main ways to address the climate change crisis. The first is mitigation, and the second is adaptation. Mitigation deals with the causes of climate change whereas adaptation deals with the consequences.

Mitigation of Climate Change

Mitigation efforts are linked to reducing GhGs, especially CO_2 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. This is a preventive policy approach in some sense by its attempt to reduce costs (**Perman** et al, **2003**).

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.

Some of the mitigation measures are linked to forests. The Reducing Emissions from Deforestation and Forest Degradation (REDD) mechanism, along with enhanced incentives for re-establishing and maintaining forests with engagement of indigenous communities that depend on them (known as REDD-plus), are examples. Another mitigatory mechanism is called Clean Development Mechanism (CDM), which emerged from the Kyoto Protocol of 1997 (**Todaro and Smith**, **2015**).

Global warming is primarily but not exclusively a developed-country-caused problem. Although much of the accumulated greenhouse gases to date have been emitted by the high-income countries, action still needs to be taken to contain greenhouse gas emissions of the developing world, which are projected to grow at alarming rates. This has many causes, but the rapid industrial growth in Asia is already a major contributor, and is expected to worsen substantially with the planned expansion of coal-fired electrical generation in China, India, and elsewhere. Policies and mechanisms have been introduced essentially to pay for costs of avoiding emissions in developing countries.

Historically, most of the greenhouse gases have been emitted in developed countries. Therefore, they have historic responsibility to deal with the problem. For example, they should take immediate steps to reduce emissions. They should also develop new technologies that will enable further reductions as well as successful adaptation to climate change.

At the same time, developing countries share current and future responsibilities. With high fertility rates, rising average incomes, and increasing greenhouse gas emissions, developing countries should take mitigation measures. China is now the world's largest greenhouse gas emitter, although lower on a per capita basis than most rich countries. It will have to reduce emissions, and without such action, reductions in the developed world will only delay the possibly catastrophic consequences (**Todaro and Smith**, **2015**).

The poorer the country, the more difficult it is to absorb the costs of mitigation. Hence, low-income countries need for technical and financial 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 (**Kyoto 1995**, **Paris 2015**, **Kigali 2016**).

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, defining 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 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.

The UNDP defines adaptation to climate change as a process by which strategies to moderate, cope with and take advantage of the consequences of climatic events are enhanced, developed and implemented. As a policy response, adaptation is a reactive policy that attempts to minimize the adverse impact of climate change ex post (**Perman** et al, **2003**).

A related term, "adaptive capacity", refers to the ability of a system to adjust to climate change to moderate potential damage, to take advantage of opportunities, or to cope with the consequences.

Why is adaptation to climate change necessary? While action on mitigation is necessary, a significant 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 firms in response to climate change. Local communities also take measures appropriate to their specific geography to address the problems of environmental degradation and climate change.

There are four classes of adaptation strategies: mobility, storage, diversification, and e communal pool. Mobility avoids risks across space; storage reduces risks which are experienced over time; diversification 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.

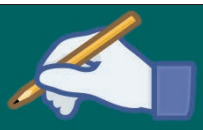
Activity 8.2

List the impacts of climate change on least developed countries.

8.3 Green Economy and Green Growth

At the end of this section, you will be able to:

- define green economy.
- explain green growth.
- identify the sources of renewable energy.



Start-up Activity

What do you think is meant by a "green economy"?

A **green economy** is an economy that results in improved human wellbeing and social equity, while significantly reducing environmental risks and ecological scarcities. It uses low carbon; it is resource efficient; and it is socially inclusive.

Green growth is defined as "fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our wellbeing relies" (**OECD, 2011**). The OECD justifies green growth by citing growing risks to development as growth continues to erode natural capital which means increased water scarcity, worsening resource bottlenecks, greater pollution, climate change, and unrecoverable biodiversity loss.

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. Hence, the green economy is said to be relevant not only to advanced economies but also a key catalyst for growth and poverty eradication in developing countries.

Activity 8.3

Describe why green growth is important in the age of climate change.

8.4 Overview of Environment and Climate Change in Ethiopia

At the end of this unit, you will be able to:

- gain insight into national policies to address climate change in Ethiopia.

Start-up Activity

Discuss what you can do to protect environment at individual level.

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 affecting 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. Moreover, the government identified agriculture, health, transport, natural resources, energy and industry sectors as most vulnerable to climate change.

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

In June 2020, the Ethiopian Government launched the Green Legacy Initiative, which is a tree-planting campaign aimed at curbing the effects of climate change and deforestation. Its aims are preventing flooding, food insecurity, environment-related conflicts, and other adverse effects 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 management.

Activity 8.4

Write down national actions that are being taken to promote climate resilient green economy in Ethiopia.

Unit Summary and Review Questions

Unit Summary

Exclusive focus on **economic growth**, without considering the social and environmental impacts has global implications, including **climate change**. In addition to rising population, the destruction of the world's remaining forests will greatly contribute to climate change. **Rapid population growth** and **expanding economic activity** are likely to do extensive **environmental damage** unless steps are taken to **mitigate** their negative consequences. They lead to land, water, and fuel wood shortages in rural areas and to urban health crises stemming from lack of sanitation and clean water.

Environmental challenges in developing countries like Ethiopia caused by poverty include health hazards created by lack of access to clean water and sanitation, indoor air pollution from biomass stoves, **deforestation** and severe **soil degradation**, all of which are most common where households lack economic alternatives to unsustainable patterns of living.

The developing world, particularly the poorest countries, can expect the major consequences from **global warming**, involving larger and more severe heat waves, hurricanes, floods from heavy rains, prolonged droughts, losses of valuable species, and crop and fishing losses.

Countries take different measures to **mitigate** and **adapt** to climate change. **Green economy** and **green growth** are expected to reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services. In this regard, the Ethiopian government initiated the **Climate Resilient Green Economy Strategy** which envisioned **carbon-neutral growth** based on an **energy-efficient development** trajectory. It also undertook the **Green Legacy Initiative.**

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 the terms "climate" and "weather".
2. Global warming refers to increasing average air and ocean temperatures.
3. O_2 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 flow 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 affect the environment?
2. What is urban development and how does it affect 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 briefly Ethiopia's Climate Resilient Green Economy strategy.