UNIT 10

MACROECONOMIC POLICY INSTRUMENTS

Unit Objectives

After completing this unit, you will be able to:

- realize the difference among fiscal, monetary and income policy;
- distinguish the difference between expansionary, fiscal and expansionary monetary policy; and
- explain income policy.

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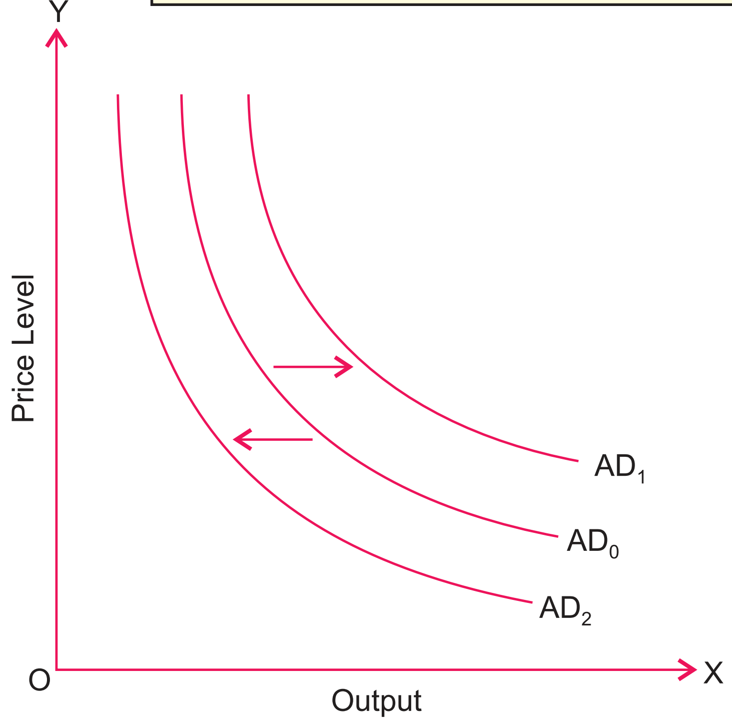


INTRODUCTION

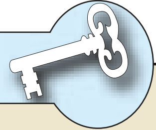
Every economy aims at achieving certain well-defined targets relative to its national income and output. Not only that, economies over the world also strive for a full employment level, stability in prices, and equality in the distribution of income and wealth. How do they plan to achieve all this? How 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, we learn here about the objectives, types, and instruments of major macroeconomic policies.

10.1 DETERMINATION OF LEVELS OF OUTPUT, PRICES, AND EMPLOYMENT

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

- identify the mechanism used to determine the level of overall economic activity and
- distinguish the difference between aggregate demand and aggregate supply.

Key Terms and Concepts



- Aggregate demand
- Aggregate supply

Start-up Activity

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

In macroeconomic analysis we determine the level of overall economic activity in an economy, particularly the levels of output, prices, and employment through an interaction of aggregate demand and aggregate supply. Hence it is necessary that we understand the meaning of these two terms.

Aggregate Demand (AD)

In general terms, aggregate demand refers to the total demand for goods and services in the economy. Because it is measured by total expenditure of the

economy's community on goods and services, aggregate demand is defined as

> "*The total amount of money which all sections (households, firms, and government) are ready to spend on the purchase of goods and services produced in an economy during a given period*".

Alternatively, AD is the total expenditure which the community intends to incur for the purchase of goods and services. Thus aggregate demand is same as aggregate expenditure in the economy. We may say Aggregate Demand is the total expenditure on consumption and investment. The main components of aggregate demand are:

- *Private (household) consumption demand (C)*
- *Gross Private investment demand (Ig)*
- *Government demand for goods and services (G)*
- *Net export demand (X – M)*

So that,

$$AD = C + Ig + G + (X - M) \quad (10.1)$$

In general, it is observed that, with other factors held constant, aggregate demand rises with a fall in general price level. The inverse is also true. Thus 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.

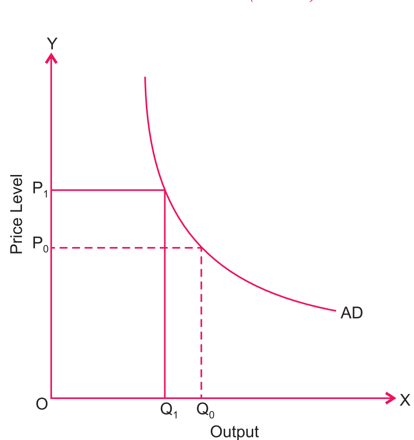


Figure 10.1: Aggregate Demand Curve

The above figure shows that, when the general price level falls from P_1 to P_o, the aggregate quantity demanded of the output increases from Q_1 to Q_o. Hence, there is an inverse relationship between the general price level and aggregate demand. Recall what we learnt in an earlier unit about the relationship between the price of an individual commodity and its demand (Law of Demand).

Factors that Determine Aggregate Demand

In the same way as for the general price level (as discussed above), aggregate demand in an economy depends upon the monetary and fiscal policies of the government and also on all other factors which determine the demand for consumption, investment, and exports. 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, and*
- *the level of economic activity in the economy itself.*

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.

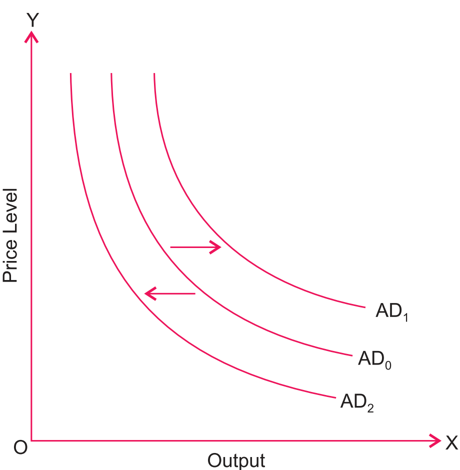


Figure 10.2: Shift of AD Curve

Aggregate Supply (AS)

Aggregate supply refers to *the total output that the producers in an economy are willing and able to produce and sell in a given period of time at a given level of prices and costs*.

In other words it is the value of total output available for purchase by the economy during a given period of time. Since aggregate supply represents the value of total output, we may say it is reflected by national income.

In general, other factors remaining constant, a rise in general price level increases the aggregate supply. The inverse is also true. Thus the AS curve is an upward sloping curve as shown in the following diagram.

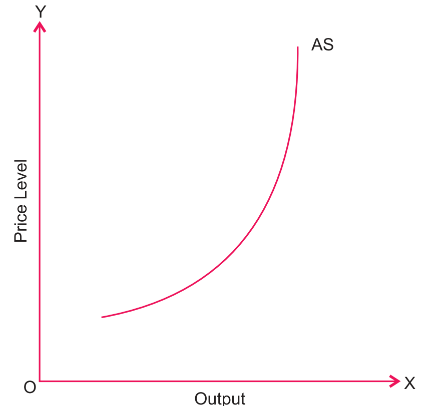


Figure 10.3: Aggregate Supply Curve

Factors that Determine Aggregate Supply

As far the general price level, aggregate supply in an economy depends upon several other factors that include:

- *cost of inputs,*
- *availability of capital and labour,*
- *managerial efficiency,*
- *state of technology,*
- *taxation policy of the government, and*
- *weather conditions (applies particularly to agricultural output).*

Similar to the case of the aggregate demand curve, any change in any of these factors causes a shift in the aggregate supply curve, general price level remaining constant.

Interaction Between Aggregate Demand and Supply

Earlier we learned that interaction between market demand and market supply determines the equilibrium level of output and prices of individual commodities. In the case of macroeconomic analysis also, it is the interaction between aggregate demand and aggregate supply which determines the equilibrium level of national output and the general price level.

In the following diagram, the AD and AS curves intersect each other at point E, which determines the equilibrium level of output and price level. Note that the output (and employment) at equilibrium level, may not be equal to the output at potential level of the economy (full employment).

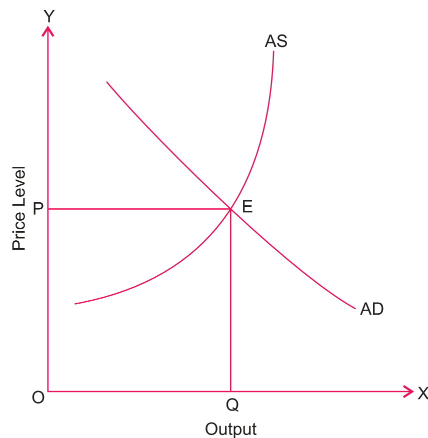


Figure 10.4: Equilibrium between Aggregate Demand and Aggregate Supply

Activity 10.1

1. In the same way as we say 'Aggregate Demand is aggregate expenditure in the economy,' is it correct to say 'Aggregate Supply is the total factor income in the economy'? Discuss this question in your economics workgroup.
2. Do you think that equality between Aggregate Demand and Aggregate Supply takes place only at the full-employment level? Discuss this question in your economics workgroup.

10.2 MACROECONOMIC POLICIES

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

- define macroeconomic policy instruments;
- identify the types of macroeconomic policy instruments;
- explain and classify fiscal policy;
- distinguish the difference between expansionary and contractionary fiscal policy;
- classify monetary policies;
- state and define monetary policy instruments;
- distinguish the difference between expansionary and contractionary monetary policy; and
- define the concept of income policy.

Key Terms and Concepts

- Fiscal policy
- Expenditure policy
- Revenue policy
- Monetary policy
- Income policy

Start-up Activity

What is the importance of fiscal policy in an economy?

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 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 ***general objectives*** of a 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, and*
- *a healthy balance of payments.*

To achieve these objectives, normally three types of macroeconomic policies – fiscal policies, monetary policy, and income policy – are adopted. We discuss below each of these types of policies and their instruments.

Fiscal Policy

Fiscal policy is the expenditure and revenue (tax) policy of the government to achieve the desired objectives. 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 income. To increase the aggregate demand and thereby total output and employment levels, expansionary fiscal policies are adopted by governments.

Major instruments of expansionary fiscal policy are:

- ***Expenditure Policy (Increase expenditure):*** *the objective of an expenditure policy should be to pump more money in to 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., and should 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 and grants, interest-free loans, should be given.*
- ***Government (Public) borrowing:*** *Borrowing should be discouraged.*

II *Contractionary Fiscal Policy:*

When an economy's, aggregate demand is for a level of output that is more than the full-employment level of output, 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 is called inflationary because it causes inflation (a continuous rise in prices) in the economy. To control the situation of excess demand and there by 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 would reduce the budget deficit, which shows excess of 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 should be disinflationary and at the same time have no harmful effects on production and savings.*
- ***Government (Public) borrowing:*** *Government should resort to large-scale public borrowing to absorb excess money from the public.*

Monetary Policy

Monetary policy refers to the regulation of the money supply and the control of the cost and availability of credit by the central bank of the country through the use of deliberate and discretionary action for achieving desired objectives. As discussed in the case of fiscal policy, a monetary policy can be *expansionary* or *contractionary* according to the situation of *deficit demand* or *excess demand*, respectively.

Major instruments of expansionary monetary policy, are:

- ***Bank Rate (Reduce it):*** *Bank rate (also called discount rate) is the rate of interest at which the central bank lends to the commercial banks. Those banks in turn increase or decrease lending rates of interest accordingly. To check depression, the central bank reduces the bank rate, thereby enabling the commercial banks to take more loans from it and in turn to give more loans to producers at lower interest rates.*
- ***Open Market Operation (Buy securities):*** *These refer to the buying and selling of government securities which influence money supply in the economy. During depression, the central bank buys government bonds and securities from commercial banks, pay in cash to increase their cash stock and lending capacity.*
- ***Cash-Reserve Ratio (Reduce CRR):*** *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 cash reserve ratio (CRR). During depression, the central bank lowers the CRR, thereby increasing commercial banks' capacity to give credit.*

Major instruments of contractionary monetary policy, are:

- ***Bank Rate (Increase it):*** *In a situation of excess demand leading to inflation, the central bank raises the bank 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. 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.*

- ***Open Market Operation (Sell securities):*** *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. As a result, there is a fall in investment and in aggregate demand.*
- ***Cash-Reserve Ratio (Increase CRR):*** *During inflation, the central bank increases the CRR, thereby curtailing the lending capacity of commercial banks.*

Income Policy

In general terms, income policy is the government control of wages. Control of wages becomes necessary when there is a situation of excess demand (inflation). Ceilings on wages keep disposable income down, which checks the aggregate demand for goods and services.

However, the government has to devise an appropriate income policy. If an increase of wages were to lead to an increase in productivity of labour, higher wages could be paid to workers. But, a wage increase without improvement in productivity will add further inflationary pressure in the situation of excess demand.

Activity 10.2

1. You know that achieving greater equality in income distribution is one of the major objectives of a macroeconomic policy. Suggest how public (government) expenditure should be controlled in Ethiopia through government fiscal policy so as to achieve this objective.
2. Compile in tabular form the various measures to correct excess/deficient demand. Create this table on chart paper and display your results in your classroom.
3. You have learned about excess demand and deficient demand in this sub-unit. By discussing the meaning of excess demand and deficient demand with your friends, try to identify the various causes that may lead to such situations in an economy.
4. In your economics workgroup, discuss what the roles and objectives of fiscal policy should be in an underdeveloped or developing economy like Ethiopia's. Prepare a report on the outcome of your group discussion.

UNIT REVIEW

UNIT SUMMARY

- Aggregate demand refers to the total amount of money which all sections (households, firms, and government) are ready to spend on the purchase of goods and services produced in an economy during a given period.

  $$AD = C + Ig + G + (X - M)$$

- Determinants of AD:
  - *price*
  - *level of income*
  - *real interest rate*
  - *level of economic activity in other countries*
  - *availability of credit.*
- The AD curve indicates the output which will be demanded in the economy at various price levels.
- The AD curve is a downward sloping curve.
- Aggregate supply refers to the total output that producers in an economy are willing to produce and sell in a given period of time at a given level of prices and costs.
- Determinants of AS:
  - *price*
  - *cost of inputs*
  - *availability of capital and labour*
  - *managerial efficiency*
  - *state of technology*
  - *taxation policy of the government*
  - *weather conditions.*
- The AS curve is an upward sloping curve.
- Interaction between AD and AS determines the equilibrium level of national output and price level.
- Types of macroeconomic policies:
  - *fiscal policy*
  - *monetary policy*
  - *income policy.*
- Fiscal policy is the expenditure and revenue (tax) policy of the government.
- Monetary policy is the policy of the central bank related to supply, availability, and cost of money.
- Income policy refers to the control by the government over worker wages.

- Excess demand is a situation in which the AD is for a level of output that is more than the full-employment level of output.
- Deficient demand is a situation in which AD falls short of output at full -employment level.
- Expansionary policies are adopted in the situation of deficient demand.
- Contractionary policies are adopted in the situation of excess demand.
- Major instruments of expansionary fiscal policy:
  - *increase of government expenditure.*
  - *reduction in tax rates.*
  - *reduction in public borrowing.*
- Major instruments of contractionary fiscal policy:
  - *reduction in government expenditure*
  - *increase in tax rates*
  - *increase in public borrowing.*
- Major instruments of expansionary monetary policy:
  - *reduction in bank rate*
  - *buying of securities by the central bank*
  - *reduction in CRR.*
- Major instruments of contractionary monetary policy:
  - *increase in bank rate*
  - *selling of securities by the central bank*
  - *increase in CRR*

REVIEW EXERCISE FOR UNIT 10

I *Write detailed answers to the following.*

1. Explain, with the help of a diagram, how the equilibrium level of output is determined by aggregate demand and aggregate supply.
2. Define aggregate demand. What are its main components?
3. Explain, with the help of a diagram, the behaviour of aggregate demand and aggregate supply.
4. What are the main objectives of a macroeconomic policy?
5. What is excess demand in an economy? How can fiscal measures be used to correct it?
6. What is deficient demand? Explain any two monetary measures that can control it.

7 What is the difference between monetary policy and fiscal policy? Explain briefly any two measures of fiscal policy which can be used for controlling excess demand.

8 What is the meaning of fiscal policy? Explain how the following affect demand in an economy:

a Change in government expenditure.

b Change in tax rates

9 Explain the various monetary measures by which excess demand in an economy can be checked.

10 What is fiscal policy? What possible fiscal policy measures can be taken, with respect to expenditure and income, to correct:

a excess demand and b deficient demand?

11 What is deficient demand in macroeconomics? How do the following affect it?

a Change in cash reserve ratio b Change in tax rates

12 Explain the concept of inflationary gap. Explain any two measures by which a central bank can try to reduce this gap.

II *Distinguish between the following:*

13 Fiscal policy and monetary policy

14 Excess demand and deficient demand

III *Write 'True' or 'False' each of the following:*

15 To correct excess demand, the central bank decreases the bank rate.

16 During depression, the central bank buys government securities.

17 During depression, the central bank lowers the CRR.

18 Expansionary fiscal policies are adopted to reduce aggregate demand.

19 In situations of deficient demand, government expenditure should be curtailed.

20 Government should reduce tax rates to increase aggregate demand.

21 A country faced with the problem of deficient demand should discourage imports.

22 Control of wages becomes necessary when there is a situation of inflation.

IV *For each of the following, four choices are given, but only one out of them is correct. Choose the correct one.*

23 In the case of inflationary gap:

A AD > AS

B AD = AS

C AD < AS

D None of these

24 Aggregate demand is determined by:

A population of the country

B cost of inputs

C managerial efficiency

D state of technology

25 To control the situation of deficient demand:

A Government expenditure is reduced.

B Tax rates are increased.

C Public borrowing is increased.

D The bank rate is reduced.

26 To control the situation of excess demand:

A The central bank reduces bank rate.

B The central bank sells government securities.

C The central bank decreases CRR.

D None of these.

27 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

V *Write very short answers to the following.*

28 What happens to the level of income in an economy when there is deficient demand?

29 When does a situation of deficient demand arise in an economy?

30 What do you mean by depression?

31 How is aggregate demand in the economy affected by levying taxes at higher rates?

32 What problem in the economy is solved when the credit supply is restricted?

33 Mention two fiscal measures to correct excess demand.

34 Mention two monetary measures to correct excess demand.

35 Mention two measures to correct deficient demand.

36 What happens when the bank rate is increased?

37 Name two factors that determine aggregate demand.

38 When actual aggregate demand falls short of the aggregate demand required at full employment, what do you call it?

39 What should be the taxation and public expenditure policy in the situation of excess demand?

40 What should be the taxation and public expenditure policy in the situation of deficient demand?

41 What will be the impact of the following on aggregate demand:

a Increase or decrease in public expenditure

b Increase or decrease in taxes

c Increase or decrease in reserve ratio

d Increase or decrease in interest rate

42 Name two factors that determine aggregate supply.

GLOSSARY

Absolute advantage – *a theory stating that countries should specialize in the goods or services they are able to produce more efficiently than other nations, while trading for other goods or services that they produce less efficiently.*

Accounting profits – *any income in excess of a firm's explicit costs of production.*

Aggregate demand total spending – *comprised of consumption spending business investment, government spending, and the difference between the value of a country's exports and imports.*

Aggregate supply total production – *the total value of all goods and services produced in an economic system.*

Automatic fiscal policy – *changes in government spending or taxing that do not require new legislation or a government decision to act.*

Barrier to trade – *any condition that reduces the ability or incentive to import or export goods or services.*

Barter – *a system of exchange based on a unit other than money that is used to complete transactions.*

Budget constraint – *a graphic representation of alternative combinations of two products that could purchased with a given amount of money.*

Business cycle – *a term that is used to describe the ups and downs in economic activity.*

Capital – *any object that may be used to produce a good or service; the tools of production.*

Capital gain – *income that is the result of selling an asset for more than its purchase price.*

Capital goods – *products that are used to produce other goods or services but that are not capable of directly satisfying human wants.*

Capitalism – *an economic system in which the factors of production are owned and controlled by people.*

Cartel – *a group of similar producers that cooperate with each other, usually to maintain artificially high prices by jointly restricting supply.*

Ceteris paribus – *A phrase that means "all else remaining equal or unchanged."*

Circular flow chart – *A representation of a mixed capitalist economic system, showing the flows of goods and services and of resources (in a clockwise direction) and the flow of many (in a counter clockwise direction) through the product and factor markets.*

Classical economic theory – *an economic theory asserting that competitive free. market economies are self regulating.*

Coefficient of elasticity – *The ratio between a percentage change in one factor and the resulting percentage change in some other condition.*

Command economy – *an economic system that relies on a central authority to own most resources and to make the three central economic decisions.*

Common stock – *a unit of ownership in a corporation that gives its owner a voice in making important business decisions and a right to share in the firm's profit after the firm's other financial responsibilities have been met.*

Communism – *An economic and political system that combines government ownership and control of the factors of production with a totalitarian form of government.*

Comparative advantage – *a special ability to produce a good or service at a lower relative cost than others can produce it.*

Competition – *a situation in which many producers offer the same good or service for sale to many consumers.*

Complementary goods – *related goods that must be used together; an increase in the price of one will cause a decrease in the quantity demanded of the other, even if its price remains the same.*

Consumer goods and services – *goods and services that are capable of directly satisfying human wants.*

Corporation – *a business organization that is owned by many people but is considered a single legal entity.*

Cost – *an expense that is paid.*

Cost-push inflation – *the inflation that occurs when the quantity of products being supplied at the current price level declines because of an increase in the cost of production.*

Currency – *paper money and coins provided by a government .*

Default failure – *failure to pay on time, either the interest or the principal on a bond.*

Demand – *the quantity of a product that consumers will purchase at each possible price.*

Demand curve – *a graph indicating the product quantities that will be demanded at different possible prices.*

Demand-pull inflation – *the inflation that occurs when the quantity of products demanded at the current price level exceeds the quantity supplied.*

Demand schedule – *a table indicating the product quantities that will be demanded at different possible prices.*

Depreciation – *a decline in an asset's value that occurs as a result of time or use; a decrease in the value of a currency in relation to other types of currency in a floating exchange rate system.*

Determinants of demand – *factors that cause people to demand different quantities of a product even if its price remains the same.*

Determinants of supply – *factors that cause firms to supply different quantities of a product even if its price remains the same.*

Differentiate – *to convince consumers that a product is significantly better in some way than other similar goods or services.*

Diminishing marginal productivity – *the relationship between employment and production in which each additional worker hired in the short run results in a smaller amount of additional production.*

Diminishing marginal utility – *a principle stating that additional units of a product have less value than preceding units of that product.*

Discretionary fiscal policy – *changes in government spending or taxing that are the result of new legislation or the result of a government decision to act.*

Disposable income – *the actual money income that households have available to spend after personal taxes are paid.*

Dividend – *a share of a corporation's profits that is paid to its stockholders.*

Division of labor – *dividing the job of producing a particular product into many individual tasks and training different people to complete each task.*

Easy money policy – *a banking policy to lend money to all qualified borrowers, usually at relatively low interest rates.*

Economic fluctuation – *a term used to describe the ups and downs in economic activities.*

Economic profit – *any income in excess of a normal profit.*

Economics – *the study of how we use scarce resources to produce goods and services to satisfy our wants.*

Economic system – *a set of rules or understandings that governs how scarce resources are used to produce goods and services that satisfy human wants.*

Elasticity – *the measurement of a cause-and-effect relationship.*

Entrepreneurship – *the ability to organize land, labor, and capital to produce goods and services.*

Equation of exchange – *a formula that relates changes in the amount of money in circulation to changes in prices; MV=PQ.*

Equilibrium – *level of total income the amount of total income resulting in an aggregate demand that is exactly equal to the aggregate supply.*

Equilibrium price – *a price at which the quantity of a product demanded is the same as the quantity businesses are willing to supply.*

Expenditure approach – *a way of measuring the value of the GDP based on the idea that the value of all the expenditures of money that are made to purchase all final goods and services produced in the economy must have the same value as the GDP.*

Explicit cost – *the total amount a firm spends to produce or acquire the goods or services it offers for sale.*

Factor inputs – *are inputs of production which constitutes the factors of production: Land, labor, capital and entreprenurship.*

Final goods – *goods that have been completed and are ready to be sold to their final consumers.*

Fiscal policy – *an attempt by the government to affect the economy through its taxing and spending.*

Fixed costs (FC) – *costs that must be paid regardless of how many products a firm produces or offers for sale.*

Floating exchange rate – *the value of currencies relative to other currencies, as set by international financial institutions according to the demand and supply for each currency.*

Four factors of production – *the resources necessary to the production of goods or services: land, labor, capital, and entrepreneurship.*

Franchise – *the purchased right to organize and operate a business under an established trade name.*

Free enterprise – *a system in which people are free to start businesses and decide how resources will be used to produce goods and services of their choice.*

Free trade association – *an organization of countries that lowers or eliminates barriers to trade within the group but that maintains barriers to nonmember nations.*

Frictional unemployment – *term describing the situation of people who have recently started to look for work or who are temporarily between jobs; short-term unemployment.*

Functional distribution of income – *the relationship between people's income and production suggesting that a certain distribution of income will result in the greatest total production.*

General Agreement on Trade and Tariffs (GATT) – *an international agreement intended to set rules for how international trade is carried out.*

Good – *a tangible object that is capable of satisfying human wants.*

Gross Domestic Product (GDP) – *the most common measure of an economy's production; the current market value of all final goods and services produced in an economy for a specific period of time (typically one year), using factors of production located within the country.*

Imperfect competition – *a market condition in which firms operate with some degree of monopoly-like power; a condition between perfect monopoly and perfect competition.*

Income approach – *a way of measuring the value of GDP that counts all payments received by economic participants for the production or sale of all final goods and services produced in the economy.*

Indifference curve – *a graph showing different combinations of two products that provide the same amount of total utility to a person.*

Inferior good – *a product of relatively low quality; demand for inferior goods is negatively related to disposable income.*

Inflation – *a sustained increase in the average price level.*

Inflationary gap – *an equilibrium level of total income at which spending creates more jobs than there are people who want to work.*

Infrastructure – *the permanent installations, such as roads, sewers, and water systems, that make up the foundation of a city.*

Intermediate goods – *goods that are in-process or raw materials that are in some stage of production.*

International Monitory Fund (IMF) – *an organization that uses money provided by member nations to make loans to developing nations.*

Labor – *human effort used to produce something of value.*

Law of demand – *a law stating that, all else remaining equal, more of a product will be demanded at a lower price than at a higher price and that less of a product will be demanded at a higher price than at a lower price.*

Land – *natural resources before they are changed by human effort.*

Law of increasing costs – *a law stating that, as a firm makes more units of product, it will eventually reach a point where the per-unit cost of producing the additional products is greater than the per-unit cost of producing the preceding products.*

Law of supply – *a law stating that, all else remaining equal, more of a product will be supplied at a higher price than at a lower price, and that less of a product will be supplied at a lower price than at a higher price.*

Liquid capital – *a term sometimes used to describe money.*

Long run – *a period of time that is long enough for a firm to change the size of its physical plant.*

Average cost curve — *a line showing the average total costs and marginal costs associated with the different sizes of physical plants a firm could build.*

Lorenz curve – *a graphic demonstration of a nation's distribution of income among family groups.*

Macroeconomics – *the study of economics from a global or overall point of view.*

Marginal cost (MC) – *the additional cost of making one more product at any level of production.*

Marginal factor cost – *the cost of adding an additional resource to production, such as the wage of an additional worker.*

Marginal physical product (MPP) – *the change in total physical product that results from adding an additional resource, such as an additional worker.*

Marginal propensity to consume (MPC) – *the average share of each monetary unit (for example, one Birr) of disposable income that people choose to spend.*

Marginal propensity to save (MPS) – *the average share of each monetary unit (for example, one Birr) of disposable income that people choose to save.*

Marginal revenue product (MRP) – *the change in a firm's total revenue that results from adding an additional resource, such as an additional worker.*

Marginal revenue – *the change in total revenue that results from selling one more product unit.*

Marginal tax rate – *the share of the next monetary unit (for example, one Birr) that a person receives that will be taken by the government in taxes.*

Marginal utility – *the value of the next unit of a product; the amount a person is willing to pay fur the next unit of a product.*

Market – *the transactions that take place between all buyers and sellers of a specific good or service.*

Medium of exchange – *a term describing the function of money, when people are willing to accept money as having value, to carry out transactions.*

Megalopolis – *an area of urbanization that includes many cities and suburban areas blended into each other with little to distinguish one part from another except arbitrary boundaries created by governmental units.*

Microeconomics – *the study of economics from the point of view of individual businesses or people.*

Mixed capitalism – *an economic system that is similar to capitalism but has some characteristics of other economic systems.*

Model – *a representation of reality used to help people understand relationships and predict the future.*

Monetory policy – *the attempt of the federal reserve system to stabilize the economy by affecting the amount of money in circulation and its speed of circulation.*

Money – *anything that functions as a medium of exchange; a unit of account; and a store of value.*

Money supply – *the quantity of money available to be spent at a given time.*

Monopolistic competition – *a market condition in which many firms produce similar products that are distinguished from one another, often through advertising.*

Monopoly – *a condition in which a firm is the only producer of a product that has no substitutes; a firm that has a monopoly.*

National income – *the income received from all purchases of factors of production; the value of the GDP minus the values of depreciation, net income earned abroad, and indirect business taxes.*

Negative balance of trade – *the situation resulting when the value of a nation's imports exceeds the value of its exports.*

Net domestic product (NDP) – *the value of the GDP minus depreciation.*

Net exports – *the difference between the total value of a nation's exports and the total value of its imports.*

Net investment – *the value of gross private domestic investment minus depreciation.*

Non-factor inputs – *are inputs of production out of the factors of production.*

Oligopoly – *a market condition in which a few firms dominate production of a particular type of good or service and have a substantial degree of interdependence.*

Opportunity cost – *the value of the second-best choice that is given up when a first choice is taken.*

Partnership – *a business organization that is owned by two or more individuals under a contractual agreement.*

Patent – *a document registering a new product or process with the government, making it illegal for others to use this product or process for a specified period of time, usually 17 years.*

Personal *income-the amount of income that a person receives due to her or his own productivity and from other sources.*

Point of equilibrium – *the point where a product's demand and supply curves meet, which indicates the product's equilibrium price.*

Positive balance of trade – *the situation resulting when the value of a nation's exports exceed the value of its imports.*

Price-elastic demand – *the type of demand that exists when a change in a product's price results in a larger relative change in the quantity that is sold.*

Price-elastic demand – *the relationship between a change in price and the resulting change in the quantity of a product that is sold.*

Price-inelastic demand – *the type of demand that exists when a change in a product's price results in a smaller relative change in the quantity that is sold.*

Prime interest rate – *the rate of interest charged by banks to large business customers.*

Producer price index (PPI) – *a measure of inflation similar to the CPI except that it is based on the cost of roughly 2,500 resources typically purchased by businesses in the factor market.*

Production – *the creation of goods or services.*

Profit – *what results when a firm's revenues are greater than its costs.*

Progressive tax – *a tax that takes a larger share of a person's income as his or her earnings grow.*

Proportional tax – *a tax that takes the same percentage of all people's income.*

Protective tariff – *a tax on an imported good or service that is primarily intended to protect a nation's businesses from foreign competition.*

Public good – *a government-provided product that is available to all members of a community on an equal basis.*

Quota – *a limit on the quantity of a product that may be imported into a country.*

Real GDP – *the value of the GDP adjusted for a change in price, expressed in constant dollar.*

Recession – *a period of time when the level of economic activity is lower than the average trend over time.*

Regressive tax – *a tax that takes a smaller share of a person's income as his or her earnings grow.*

Revenue – *income received.*

Revenue tariff – *a tax on an imported good or service that is primarily intended to generate income for a nation's government.*

Scarcity – *a condition in which it is impossible to satisfy all human wants for goods and services; the central concept in economics.*

Service – *an intangible action that is capable of satisfying human wants.*

Short run – *a period of time that is not long enough for a firm to change the size of its physical plant.*

Specialization – *concentrating labor on a particular task to increase productive efficiency.*

Stagflation – *an economic state in which production is stagnant or falling and prices are increasing.*

Structural unemployment – *layoffs of workers because they lack required skills for employment.*

Substitute goods – *related goods that may be used interchangeably; an increase in the price of one will cause an increase in the quantity demanded of the other, even if its price remains the same.*

Supply – *the quantity of a good or service that firms will offer for sale at each possible price.*

Supply curve – *a graph indicting the product quantities that will be supplied at different possible prices.*

Supply schedule – *a table indicating the product quantities that will be supplied at different possible prices.*

Tariff – *a tax on an imported good or service that increases the price consumers must pay for those imported products, and that therefore discourages their sales.*

Tastes and preferences – *personal feelings toward the value or desirability of various products.*

Three central economic questions – *the basic decisions that must be made in all economic systems; what goods and services should be produced, how these goods and services should be produced, and for whom these goods and services should be produced.*

Time lag – *the time it takes government to form and implement economic policy.*

Total cost (TC) – *the sum of a firm's fixed and variable costs.*

Total physical product (TPP) – *the total quantity of products a firm is able to produce from a given quantity of resources.*

Total revenue – *the amount of income a firm generates from its sales; price times quantity sold.*

Total utility – *the utility that is derived by a person from all the units of a particular product that he or she owns.*

Trade-off – *the act of choosing one alternative at the expense of another.*

Transfer payments – *payments of money by the government to people for social reasons rather than as compensation for labour or products.*

Unemployed – *a term describing workers who are over 16, are not institutionalize, and have actively looked for work but are not able to find employment.*

Unit-elastic demand – *the type of demand that exists when a change in the price of a product results in an equal relative change in the quantity sold.*

Utility – *a measure of the value of a good or service.*

Value-added tax – *a tax on the additional value that firms add to the products they produce.*

Variable costs (VC) – *costs that change with the number of products a firm makes or offers for sale.*

Velocity – *the speed at which money circulates through the economy.*

Yield – *the percentage of return a financial instrument pays on its price.*