THE THEORY OF DEMAND AND ELASTICITY

Definition of market.

- A market can be defined as any arrangement, which brings buyers and sellers of particular products into contact. The collective actions of buyers for a particular product establish the market demand for that product, and the collective actions of sellers establish the market supply for that product.
- The interaction of these forces of demand and supply, i.e., market forces, establishes the market price for any given product.

The nature of Demand and it's Determinants

- The amount of a product that consumers wish to purchase is called the quantity demanded. Demand does not simply mean the desire to possess. Effective demand is therefore the desire to possess something backed up by the cash to pay for it. Demand thus means the willingness and the ability to purchase articles.
- However, it is not enough to know the quantity demanded at particular prices. The time period is also relevant. To say that demand is 1000 units at a price of Kshs100 is an incomplete statement. We need to know whether this quantity will be demanded per day, per week or per month.
- At any one moment in time, demand is expressed as a function of price. In other words, any other factors, which might affect demand, are assured to be constant.

Determinants of Quality Demanded.

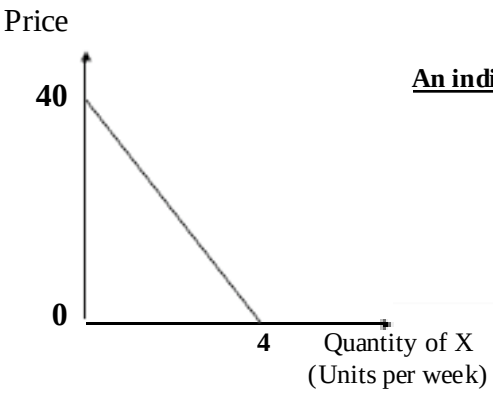
The following variables influence the quantity of each product that is demanded by each individual consumer.

1) **Changes in disposable income:** An increase in disposable income will lead to an increase in demand for most goods and services, i.e., for normal goods.
2) **Changes in the price of substitutes:** A rise in the price of one good will lead to a contraction in the demanded of that good and an increase in the demand for substitutes. The relationship between substitute goods is referred to as **competitive demand.**
3) **Changes in the price of complements:** Certain goods are jointly demanded. Fish and chips, bread and butter, sugar and tea, etc are examples of complements. A rise in the price of one good will lead to a contraction in the quantity of that good demanded and a decrease in the demand for the complement.
4) **The price of the product:** An increase in the price of the product will lead to a decrease in the quantity demanded of that product *ćeteris paribus*.
5) **Various sociological factors:** E.g. changes in fashions, population, etc.
6) **Changes in weather conditions:** Some goods are demanded seasonally an at certain times of the year demand for these goods will increase e.g. Christmas cards, exams cards, etc.
7) **Changes in consumer tastes.**

Individual Demand Function

- An individual's demand for a good, says good X, is the quantity of the good (good X) that the individual is willing and able to buy during some time period.
  Suppose we list some of the factors, which may be expected to influence this consumer's demand for good X over a given period ($\mathbf{d_x}$) as below:
  - The prices of good X (Px)
  - The price of substitutes of good X (Ps)
  - The consumer's income (y)
  - Consumer's taste for good X (T)
  - Consumer's expectation about future prices (E)
  - Advertising (A)
  - Other relevant factors (Z)
- Using functional notation, we write the following demand function:
  $\mathbf{d_x} = f$(Px, Ps, y, T, E, A, Z). This states simply that the individual's demand for Quantity demanded of X is a function of all the factors listed in the brackets
- However, economists analyze the relationship between a consumer's demand for X and the price of X by assuming that all the other factors influencing demand remain unchanged. This is the important "ceteris paribus" assumption which is used so widely in all branches of economics .We can now write the factions:
  $\mathbf{d_x} = f(Px)$, 'ceteris paribus.'

- An individual demand curve for a good shows the relationship between the quantity demanded by the individual and the price of the good ćeteris paribus'.



An individual's demand schedule for good X

Price of X	Demand for X
10	3
20	2
30	1
40	0

Market Demand Function.

Market demand for a product is the sum of the demands of the individual customers in relevant markets. The market demand for good X for instance is the sum of individuals' demand in the economy. The assumption here is that the market for good X is restricted to the home economy. Suppose market demand for good X (D_x) is being influenced by the following factors:

- The prices of good X (Px)
- The price of substitutes of good X (Ps)
- Income of the economy as a whole (Y)
- Society's taste for good X (T)
- Advertising (A)
- Other relevant factors (Z), we write the following market demand function for good X:

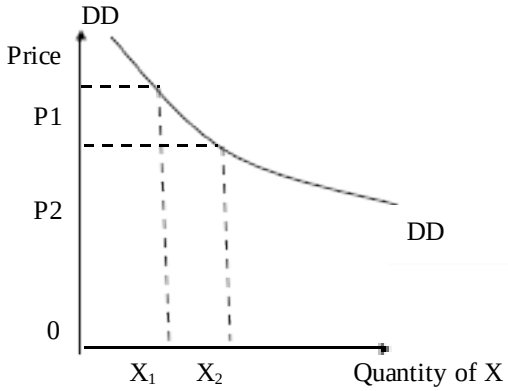
$\mathbf{D_x} = f(Px, Ps, Y, T, A, Z)$.

This states simply that the market demand for good X is a function of all the factors listed in the brackets

- Making ceteris paribus assumption and holding all the influencing factors constant except for the price of X, we can write:

$\mathbf{D_x} = f(Px)$ "Ceteris Paribus".

- Representing this on a graph and assuming that a fall in the price of X will cause an increase in the total quantity demanded, we have a downward sloping market demand curve as shown on the diagram below.



As p[rice falls from OP1 to OP2, the total quantity demanded in the market falls from X_1 to X_2. If the price rise back to 0P1, the quantity demanded would fall back to X_1.

- This inverse relationship between the price of a commodity and the quantity demanded is called the Law of demand. According to this law, a rise in the price of a good leads to a fall in the total quantity demanded and vise versa

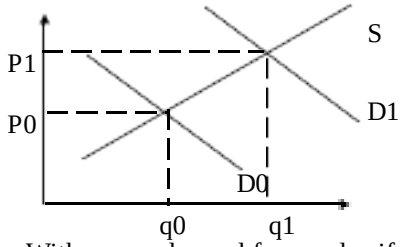
Exceptions to law Demand.

It should be noted that the law of demand does not always apply, i.e., it is not an unassailable truth. There are exceptions to it. The following examples explain this:

NB: Market disequilibrium exists when the price and quantity of a commodity fail to match consumers' and producers' expectation. It sets in motion a chain of adjustments and re-adjustment processes.

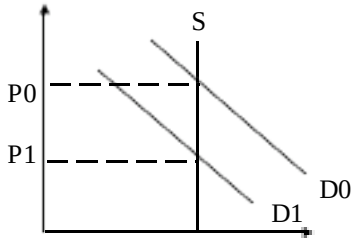
Excess Demand and Excess Supply

- **Excess demand** of a commodity implies a shift of the demand curve to the right. This exerts upward pressure on price until it rises to the new equilibrium. The diagram below illustrates this:



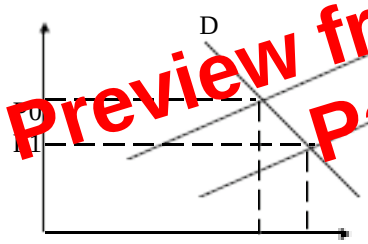
The supply of x is assumed to be fixed and only demand for x has increased causing a shift in the demand curve for good x.

- With excess demand for good x, if price were to remain at P_0 then a shortage equal to q_0-q^1 would exist. This shortage implies that consumers compete for scarce goods and drive the price up. This process continues until the price rises to P_1, the new equilibrium price and quantity is q_1. Notice that q_1, is smaller than q1. Some of the increase in demand is discouraged by price increase that occurs.
- Price and quantity change in this case would be affected by the size of demand shift and the elasticity of supply curve.



The price increase is higher because supply is perfectly inelastic.

- Excess supply implies a shift in the supply curve to the right. This exerts downward pressure on price until it lowers the equilibrium as illustrated below

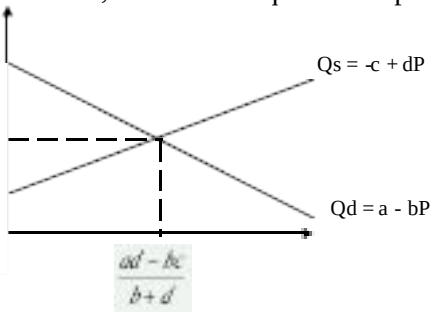


The demand for good x is assumed to be fixed and only supply has increased thereby causing a shift of the supply curve. The new equilibrium price is at P_1, price and quantity change depends on the size of supply shift and elasticity of demand.

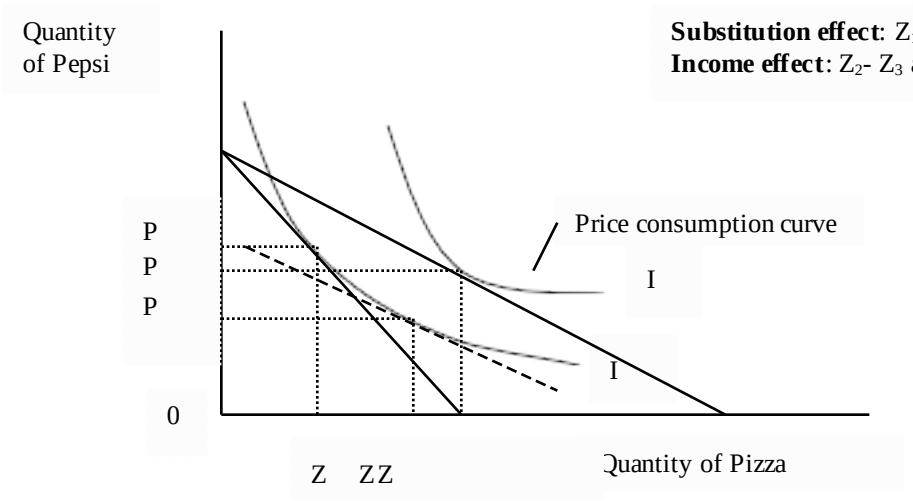
Application of Algebra in determining equilibrium

- Equilibrium price is attained at a point where force of demand and supply are equal. That is to say, demand price equals the supply price.
- Suppose the quantity demanded of commodity (Q_d) x equals a - bP and quantity supplied (Qs) is -c + dP, what is the equilibrium price of commodity x?

$\frac{a+c}{d+b}$



A= qty demand when price is zero
B =change in qty demand due to change in price
C = qty supplied at zero price
D = change in supplied due to change



- The total effect of a price change is the sum of the substitution and income effects. The total effect of the decline in the price of pizza is the increase in quantity demanded from $0Z$ to $0Z$. The movement from $0Z_1$ to $0Z_2$ is attributable to the substitution effect while the movement from $0Z_2$ to $0Z_3$ is the income effect.

PRODUCTION THEORY

Production.

- Production is defined as any economic activity which satisfies human wants. It is thus the creation of utility (where utility means the ability of a good or service to satisfy a human want). Indeed, to the economist, the concept of production is only complete when a good or services is sold to the consumer.
- For any community, the volume of production depends on many factors, including the quantity and quality of available resources, the extent to which they are utilized and the efficiency with which they are combined. The volume of production can therefore be increased when existing inputs yield a higher output. The latter is referred to as an increase in productivity and is usually measured as average production per worker.
- The theory of production consists of an analysis of how the entrepreneur, given the state of art or technology, combines the various inputs to produce a stipulated output in an economically efficient manner. Production takes place within various forms of business organizations.

Forms of Business Organizations.

1. Sole proprietorship.

- A sole proprietorship (or one person business) is a business under the ownership and control of a single individual. It is not only easier to start but it also does not involve a lot of formalities and capital.
- In Kenya, such businesses are very common and are run on family grounds and members of a specific family manage them for profit.
- Sources of fund for sole proprietorship are owners saving, loans from relatives, friends, trade credit and to a lesser extent short term loans from financial institutions.
- Such businesses are usually short term in that the death of the owner leads to its dissolution or closure. In legal circles, there is no difference between the business and its owner. The two are the same from the legal point of view.
- Furthermore, the sole trader has no limited liability, i.e., his assets and liabilities and those of his business are one and the same thing. In the event of its dissolution, should the business assets fail to meet the claims of the creditors, then the personal assets to the sole proprietor can be attached to meet the creditor's claims.

Advantages of sole proprietorships

- It is simple to start and dissolve this type of business.
- The sole trader enjoys top secret of his business success/failures.
- Profit motives usually motivate the sole trader to work harder.
- Close supervision by sole trader enables him to boost sales.
- The owner can give personal attention to customers because the business is small in size.
- It's the most highly adoptable and flexible form of business when it comes to changes.
- Sole decision making guarantees swift abrupt decision making.

Disadvantages

- The economic life of a sole trader business is usually equal to the life of the sole proprietor. It can therefore not attract long term financing to finance long term plans due to lack of continuity.
- The sole proprietor has unlimited liability.
- The success of the business depends upon the judgment and management abilities of its owners.' Laymen' find it very hard at times.
- Relies on traditional sources of finance.
- Lack of proper accounting knowledge hence the difficulty of distinguishing between their own cash and business capital.
- One person businesses are common in retailing, farming, building and personal services such as hairdressing.

2. Partnerships

- A partnership business is a business under the ownership and control of two or more individuals with a view of profit.
- Usually, most partnerships are of unlimited status, meaning that in the event of the partnership business failing to meet its obligations, then the personal assets of individual partners may be attached to settle such obligations.
- A partnership is ideal where the amount of capital requirements is reasonably large and so calls for contributions from various persons
- Its also ideal where pooling of effort is necessary for best performance and thus efficiency e.g. in legal or audit professions. Ownership of any one partner can not be transferred without the consent of other partner or partners.
- Admission or dismissal of any one partner must have full consent of the other partners.
- By law its account do not have to be audited,

Advantages:

- The business can benefit from talents of individuals partners.
- More capital can be raised from individual partners.
- Unanimous stand on decision making guarantees sound decisions
- Partnerships have high growth due to adequate managerial talents.

Disadvantages:

- Partners may not pool their talents equally and this may lead to apathy among partners who put more efforts in running of the businesses.
- There may be lack of mutual trust among partners therefore, suspicion.
- Disagreements among partners may delay the decision making process.
- Active partners may use business assets to achieve personal interests/gain at the expense of dormant partners.
- Partnership businesses may have a short life span.

3. Joint stock companies

- A joint stock company is a legal entity that carries out business in its own name. The company is owned by its shareholders whose liability is limited.
- These companies are usually governed by an Act of parliament which lay down the formation and general conduct of joint stock companies.
- Joint stock companies are distinct from their owners and its assets are owned by the company and not its shareholders.
- A joint stock company can either be a private limited company or a public limited company.

- LAC curve reaches a minimum when $0q_2$ units are produced. Up to this level of output the LAC curve is declining. The firm is therefore experiencing economies of scale. This is because the firm has increasing returns to scale, assuming fixed factor prices.
- As output is increased above $0q_2$, the LAC curve rises indicating that the firm is facing diseconomies of scale. With fixed factor prices, this must be because the firm is experiencing decreasing returns to scale at these levels of output.
- It is sometimes suggested that firms might experience constant returns to scale as output grows so that a change in all factor inputs results in an equi-proportional change in output.

Sources of Economies of scale

1) **Technical economies**
   These are usually common in manufacturing, since they relate to the scale of the production unit. There are several reasons why costs might fall as the scale of product increases, including,
   a) ***Greater scope for division of labor*** **-** The larger the size of the production unit the more men and machines are able to specialize.
   b) ***Indivisibilities*** **-** Certain items of capital expenditure are relatively expensive and can not be purchased in smaller or cheaper units, yet they may be helping raise output substantially E.g. the installation of automatic electronic control systems in industry, although expensive, yield substantial increases in efficiency. This gives larger firms considerable advantage over smaller firms because the costs of such equipment per unit output falls dramatically as output expands.
   c) ***Research and development*** - A large firm may be able to result its own research and development programme which can result in cost reducing innovations.
   d) ***Economies of linked processes*** - Most manufacturing output requires the use of more than one machine. Large firms are able to operate more efficiently than smaller ones, because it may be when output is large that all the machines can be used to capacity.
   e) ***Economies of increased dimension*** - If the external dimensions of a container are increases more than proportionately.
2) **Marketing economies**
   These include economies from bulk purchases and economies from bulk distribution.
3) **Financial economies**
   Large firms are frequently able to obtain finance more easily on more favourable term than smaller firms e.g. interests rates reduction.
4) **Risk bearing economies**
   Large firms frequently engage in a range of diverse activities so that a fall in return from any one activity does not threaten the viability of the whole firm.
5) **Managerial economies -**

Sources of Diseconomies:

- There is always an optimum level of capacity and increases in scale beyond this level lead to diseconomies of scale which manifest themselves in rising average costs of production Diseconomies of scale have several sources, including:

1) **Managerial difficulties -** It becomes increasingly difficult to control and coordinate the various activities of planning, product design, sales promotion and so on as firms grow. This is especially true where a diverse range of products is produced.
2) **Low morale -** This leads to high rates of absenteeism and lack of punctuality. It may also lead to a lack of interest in the job which inhibits the growth of productivity and leads to high incidence of spoiled work.
3) **High input prices -** As the scale of production increases, firms require more inputs, and increasing demand for these might bid up factor prices. Additionally, when firms produce on a large scale, the power of trade unions to negotiate wage awards in excess of the growth of productivity thus increasing average labor costs.

etc.

4. Economic bads e.g. pollution, congestion and other disamenities of modern living. Economic bads are also referred to as negative outputs.

Gross National product (GNP)

- The total value of income the domestic residents receive in a given period of time is referred to as Gross National Product (GNP).
- For a closed economy GNP = GDP.
- For an open economy, GNP = GDP. This is because for an open economy, GNP would include the income for domestic residents outside the country.

Reason:

- Parts of incomes of factors of production in the domestic economy belong to foreigners.
- Some domestic residents may received their income from abroad e.g. payment for employment while abroad or payment to stock of shares in a foreign company.
- GDP measures income received from the factors of production within the national boundaries.
- GNP measures the income of residents of the economy regardless of its source. The different between GDP and GNP can be depicted in the revised flow diagram on the figure on page iv.

Real GDP

- GDP at market prices = the average price level x real production in the economy; i.e. GDP = P.Q, where P is the average price level, and Q = real GDP (index of physical production)
- Real GDP = the sum of all expenditures in the economy i.e., Q = C + I + G (X-M) where Q = real GDP, C=real consumption, G = government real consumption, X=real export, M=real import and I= real investment.
- Using the normal GDP and real GDP, the GDP deflator can obtained .

$$\text{GDP deflator (p)} = \frac{\text{Normal GDP}}{\text{Real GDP}} = \frac{\text{GDP}}{Q}$$

Where P is the GDP deflator or implicit GDP price index or price deflator

- P is obtained indirectly or implicitly by dividing $\frac{\text{GDP (nominal GDP)}}{\text{Q (real GDP)}}$

Real and Nominal GDP

- Although prices serve as a convenient of market value, they also distort our perception of real output. Imagine what would happen to our calculations if all prices were to double from one year to the next. Obviously, they would lead to a doubling of the value of final output. Such an increase in GDP does not reflect an increase in the quantity of goods and services available to us.
- Hence, a change in GDP brought about by changes in price level can give us a distorted view of economic reality.
- In order to distinguish increases the quantity of goods and services from increases in their prices, we must construct a measure of GDP that takes into account price level changes.

production process, or finished goods by firms. Inventory investment is the change, in those stocks of goods in a given period and a rise in inventories implies **positive investmen**t while a decline in inventories implies **disinvestment**.

3. **Investment in Residential Structures:** This includes expenditures on the maintenance of housing and on the production of new housing. NB: When a household purchases an existing house from other household, no investment occurs in terms of the economy as a whole, there is no change in capital stock, only in its' ownership.
   - The total level of investment is referred to **gross investment.** That part of investment that raises capital stock is referred to as **net investment.**

UNEMPLOYMENT AND INFLATION

- According to the International Labor Office (ILO), unemployment refers to a pool of people above a specified age who are without work, are currently available for work and are seeking work during a period of reference.
- All three conditions must be present for a person to be considered as unemployed. A person must take clear actions in pursuit of a job. Such actions include registration at employment office, application to employers, checking at work sites (farms, factory gates, market, etc) and placing or responding to newspaper adverts, etc.
- The unemployment rate refers to the number of unemployed people as a proportion of the laborforce. The laborforce refers to all those with work and all those seeking work, i.e., the sum of employed plus the unemployed. Individuals that are neither employed nor seeking work are considered to be out of the laborforce.

Types of Unemployment

1. **Frictional unemployment:** This type is associated with normal labor turnover. It occurs because workers vacate certain jobs and search for others; or because some workers leave the labor market, thus vacating jobs, while new entrants do not posses the skills required.
2. **Structural unemployment:** This is caused by a change in the structure of demand. When demand for an industry's product falls and output contracts, the number of workers employed in that industry falls. Because particular regions, structural unemployment often leads to regional unemployment.
3. **Seasonal unemployment: This** demand for certain products subject to regular and predictable fluctuations in unemployment, e.g. there is greater demand for construction workers in the summer months than in the winter months.
4. **Cyclical unemployment:** This type of unemployment is associated with the downsizing of the trade cycle. It is sometimes called demand deficient unemployment because during the downsizing of the cycle aggregate demand falls and is insufficient to purchase the full employment level of output.

- More recently, views on the causes of unemployment have changed and following categories are always identified.

5. **Voluntary unemployment:** This is caused by the operation of the tax and social security system. It's difficult to estimate the extent of this, but there is no doubt that the extent of incentive for many unemployed workers to accept employment is very low indeed.
6. **Real wage unemployment:** There is quite a widely held view that a great deal of unemployment is caused by relatively high real wages. Workers price themselves out of jobs.
7. **Residual unemployment:** This is the label given to that group of unemployed workers who suffer from mental or physical disabilities which may limit the number of job opportunities available to them.

Defining full employment

- Full employment refers to the use of all available resources to produce want-satisfying goods of services.
- It's the situation in which the unemployment rate and equal to the full employment rate and there's frictional and real GDP of the economy equals potential output.

Measuring unemployment:

$$U = \frac{Number\ of\ unemployed\ claimants}{Workforce} \text{X100}$$

Costs of unemployment

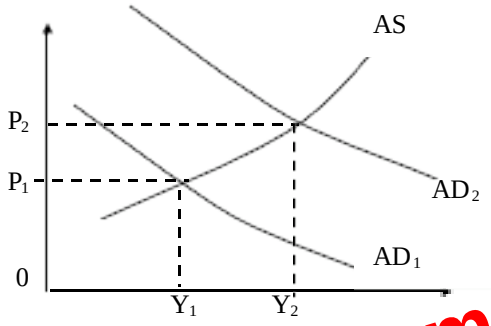
households incur costs of adjusting to the new sets of price. The actions of the unions have the effect of reducing the economy" total output (e.g. strikes, go-slows and working to rule)

- A country with a fixed exchange rate but with a faster rate of inflation than its trading parties is likely to develop a deficit on its balance of payments because the domestic inflation makes its exports less competitive and its imports relatively more competitive. This deficit is likely to deplete the country's reserves. With flexible exchange rate, the country with faster inflation is likely to experience a depreciating currency.

Causes of inflation

1) Demand Pull inflation

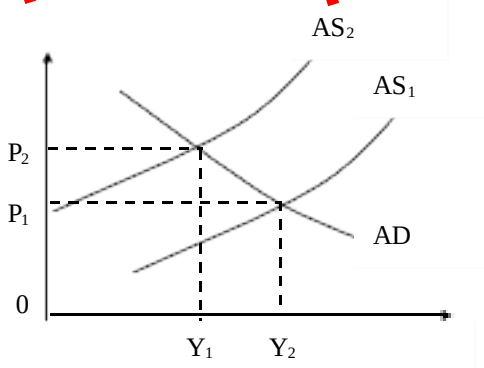
This occurs when aggregate demand exceeds aggregate output at the existing price level. It's thus excess demand, which initiates inflationary pressure. The diagram below illustrates this:



An increase in aggregate demand shifts the AD curve to the right. At the original price level OP_1, there is excess demand, which pulls the price level up to OP_2.

2) Cost Push Inflation:

- This occurs when excessive oil prices results from an exogenous rise in costs e.g. rising money wages or other production costs like costs of imported raw materials are passed to the consumers in form of high prices.



Rising production costs shifts the AS curve to the left from AS_1 to AS_2. With unchanged AD curve the price level is pushed from OP_1 to OP_2.

MONEY AND BANKING

Despite the fact that we are all familiar with money and use it almost everyday of our lives, it is difficult to define exactly what money is over the years, a variety of commodities have been accepted as money, ranging from precious metals to cattle. The fact is that money is as money does, and therefore anything, which performs the functions of money, is money. Money is a means of payment accepted in exchange. It is thus anything, which is generally acceptable as a medium of exchange, acts as a measure of value and a store of value.

commercial banks are required to provide periodic record to the central bank in their foreign exchange dealings.

6) **Lender of last resort:** The central bank extends financial accommodation to banks in case of emerges to commercial banks. This happens when commercial banks are temporally in short of cash.
7) **Credit control:** This is the controlling of the lending capacity of the commercial banks and other financial institutions. Because excessive supply of currency into the economy will be harmful to economic development, it is incumbent upon the government through the Central Bank to ensure that there is just the right amount of money in circulation issued in the form of credit to the various stakeholders.

The methods employed to control credit

1) **Raising the bank rate:** This is the rate at which the CB (central bank) lends is money to the commercial banks. When the bank rate is raised, the commercial banks will also raise their lending rates and vise versa.
2) **Raising the liquidity ratio:** The central bank instructs the commercial bank to retain a certain portion of their deposits in cash form. This tends to reduce the lending capacity of the commercial banks.
3) **Compulsory or special deposits:** The central bank instructs the commercial banks to deposit with it a certain part of their deposit. This therefore reduces the lending capacity of the commercial banks.
4) **Selective control:** If there is too much money in circulation, the central bank can instruct commercial banks and other financial institutions to approve loans to only a selected industry.
5) **Open market operation:** The central bank can instruct commercial banks and individuals to participate in buying govt. securities. This will reduce the money that banks have for lending and that which individuals will have to spend.

NB: Foreign assets are held by the central bank due to:

1) To pay for govt. imports and external debt servicing
2) As a means to intervene in the foreign exchange market in order to stabilize the value of domestic money vis-avis its peg.
3) Often used to gauge the capacity of the economy to withstand any external or domestic stocks.

· CB makes loans to financial institutions like banks to enable the borrowing institution meet its liquidity shortage. These loans constitute an asset for the CB
· In its function as a banker to the govt., CB also makes loans to the govt. Nowadays; these borrowings are legally stipulated to limit excessive borrowing by the govt. These also constitute an asset to the CB.
· Govt. securities are another asset of the CB acquired thus, an open market operation in which the central bank purchases Treasury securities from the public rather than directly from the Treasury. In some economies, central banks allowed to purchase Treasury securities from the Treasury.
· CBs hold banker's deposits and govt. deposits because they act as their bankers.
· Foreign liabilities represent short-term obligations by the central banks to foreign sources. The largest foreign liabilities of central bank of Kenya are in respect to Kenya's relations with the International Monetary Fund (IMF).
· Other assets may include furniture, buildings, vehicles, etc
· Currency and notes form part of the monetary base (can also be referred to as base money or high powered money)

According to Keynesian perspective, the CBs objective of stimulating the economy is achieved in 3 distinct steps:

1. An increase in money supply
2. A reduction in the interest rate
3. An increase in aggregate spending

· If the price level remains constant (as Keynes assumed), the increases spending implies an increases quantity of goods and services demanded, i.e., shift in AD as well.
· Lower interest rates might also stimulate consumer spending. Household appliances, cars and other expensive goods are often purchased with borrowed money.
· State and local govts are particularly sensitive to money market conditions and may postpone planned expenditures when interest rates are too high.

Effectiveness of monetary policy

According to the above illustrations, monetary policy can be an effective mechanism for altering the rate of aggregate spending. Monetary policy does not always succeed so easily like that according to Keynes. He