



# **JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**

## **BACHELOR OF SCIENCE IN COMPUTER SCIENCE**

### **HRD 2103: GENERAL ECONOMICS**

#### **MONEY**

**Money** is any item or verifiable record that is generally accepted as payment for goods and services and repayment of debts, such as taxes, in a particular country or socio-economic context

#### **Functions of Money:**

Money performs a number of primary, secondary, contingent and other functions as outlined below:

#### **1. Primary Functions:**

The two primary functions of money are to act as a medium of exchange and as a unit of value.

##### **(i) Money as a Medium of Exchange:**

This is the primary function of money because it is out of this function that its other functions developed.

By serving as a medium of exchange, money removes the need for double coincidence of wants and the inconveniences and difficulties associated with barter.

When money acts as a medium of exchange, it means that it is generally acceptable. It, therefore, affords the freedom of choice.

As a medium of exchange, money acts as an intermediary. It facilitates exchange. It helps production indirectly through specialisation and division of labour which, in turn, increase efficiency and output.

money facilitates trade. When acting as the intermediary, it helps one good or service to be traded indirectly for others.

##### **(ii) Money as Unit of Value:**

The second primary function of money is to act as a unit of value. Under barter one would have to resort to some standard of measurement, such as a length of string or a piece of wood.

The monetary unit measures and expresses the values of all goods and services. In fact, the monetary unit expresses the value of each good or service in terms of price. Money is the common denominator which determines the rate of exchange between goods and services which are priced in terms of the monetary unit. There can be no pricing process without a measure of value.

The use of money as a standard of value eliminates the necessity of quoting the price of apples in terms of oranges, the price of oranges in terms of nuts and so on. Unlike barter, the prices of such commodities are expressed in terms of so many units of dollars, rupees, francs, pounds, etc., depending on the nature of the monetary unit in a country.

measuring the values of goods and services in the monetary unit facilitates the problem of measuring the exchange values of goods in the market. Money as a unit of value also facilitates accounting. “Assets of all kinds, liabilities of all kinds, income of all kinds, and expenses of all kinds can be stated in terms of common monetary units to be added or subtracted.”

Further, money as a unit of account helps in calculations of economic importance such as the estimation of the costs, and revenues of business firms, the relative costs and profitability of various public enterprises and projects under a planned economy, and the gross national product.

## **2. Secondary Functions:**

Money performs three secondary functions: as a standard of deferred payments, as a store of value, and as a transfer of value. They are discussed below.

### **(i) Money as a Standard of Deferred Payments:**

Money acts as a standard of deferred or postponed payments. All debts are taken in money. Money has simplified both the taking and repayment of loans because the unit of account is durable.

Money links the present values with those of the future. It simplifies credit transactions. It makes possible contracts for the supply of goods in the future for an agreed payment of money. It simplifies borrowing by consumers on hire-purchase and from house-building and cooperative societies.

Money facilitates borrowing by firms and businessmen from banks and other non-bank financial institutions.

By acting as a standard of deferred payments, money helps in capital formation both by the government and business enterprises.

**(ii) Money as a Store of Value:**

The good chosen as money is always something which can be kept for long periods without deterioration or wastage.

Money as a store of value is meant to meet unforeseen emergencies and to pay debts.

**(iii) Money as a Transfer of Value:**

Since money is a generally acceptable means of payment and acts as a store of value, it keeps on transferring values from person to person and place to place. A person who holds money in cash or assets can transfer that to any other person. Moreover, he can sell his assets at Delhi and purchase fresh assets at Bangalore. Thus, money facilitates transfer of value between persons and places.

**3. Contingent Functions:**

Money also performs certain contingent or incidental functions, according to Prof. David Kinley. They are:

**(i) Money as the Most Liquid of all Liquid Assets:**

Money is the most liquid of all liquid assets in which wealth is held. Individuals and firms may hold wealth in infinitely varied forms.

**(ii) Basis of the Credit System:**

Money is the basis of the credit system. Business transactions are either in cash or on credit. Credit economises the use of money. But money is at the back of all credit. A commercial bank cannot create credit without having sufficient money in reserve. The credit instruments drawn by businessmen have always cash guarantee supported by their bankers.

**(iii) Equaliser of Marginal Utilities and Productivities:**

Money acts as an equaliser of marginal utilities for the consumer. The main aim of a consumer is to maximise his satisfaction by spending a given sum of money on various goods which he wants to purchase. Since prices of goods indicate their marginal utilities and are expressed in money, money helps in equalising the marginal utilities of various goods. This happens when the ratios of the marginal utilities and prices of the various goods are equal. Similarly, money helps in equalising the marginal productivities of the various factors.

**(iv) Measurement of National Income:**

It was not possible to measure the national income under the barter system. Money helps in measuring national income. This is done when the various goods and services produced in a country are assessed in money terms.

**(v) Distribution of National Income:**

Money also helps in the distribution of national income. Rewards of factors of production in the form of wages, rent, interest and profit are determined and paid in terms of money.

**4. Other Functions:**

Money also performs such functions which affect the decisions of consumers and governments.

**(i) Helpful in making decisions:**

Money is a means of store of value and the consumer meets his daily requirements on the basis of money held by him. If the consumer has a scooter and in the near future, he needs a car, he can buy a car by selling his scooter and money accumulated by him. In this way, money helps in taking decisions.

**(ii) Money as a Basis of Adjustment:**

To carry on trade in a proper manner, the adjustment between money market and capital market is done through money.

**Demand for Money:**

The old idea about the demand for money was that money was demanded for completing the business transactions. In other words, the demand for money depended on the volume of trade or transactions. As such the demand for money increased during boom period or when the trade was brisk and it decreased during depression or slackening of trade.

However, according to Keynes, the author of the modern idea about money demand, the demand for money, or liquidity preference as he called it, means the demand for money to hold.

**Broadly speaking, there are three main motives on account of which money is wanted by the people by the people, viz:**

- (i) Transactions motive
- (ii) Precautionary motive
- (iii) Speculative motive

**(i) Transactions Motive:**

**This motive can be looked at:**

- (a) From the point of consumers who want income to meet the household expenditure which may be termed the income motive, and

(b) From the point of view of the businessmen, who require money and want to hold it in order to carry on their business, i.e., the business motive.

**(a) Income Motive:**

The transactions motive relates to the demand for money or the need for cash for the current transactions of individual and business exchanges. Individuals hold cash in order “to bridge the interval between the receipt of income and its expenditure.” This is called the income Motive’. Most of the people receive their incomes by the week or the month, while the expenditure goes on day by day. A certain amount of ready money, therefore, is kept in hand to make current payments. This amount will depend upon the size of the individual’s income, the interval at which the income is received and the methods of payments current in the locality.

**(b) Business Motive:**

The businessmen and the entrepreneurs also have to keep a proportion of their resources in ready cash in order to meet current needs of various kinds. They need money all the time in order to pay for raw materials and transport, to pay wages and salaries and to meet all other current expenses incurred by any business of exchange.

Keynes calls it the ‘Business Motive’ for keeping money. It is clear that the amount of money held, under this business motive, will depend to a very large extent on the turnover (i.e., the volume of trade of the firm in question). The larger the turnover, the larger in general, will be the amount of money needed to cover current expenses.

**(ii) Precautionary Motive:**

Precautionary motive for holding money refers to the desire of the people to hold cash balances for unforeseen contingencies. People hold a certain amount of money to provide for the risk of unemployment, sickness, accidents and other more uncertain perils. The amount of money held under this motive will depend on the nature of the individual and on the conditions in which he lives.

**(iii) Speculative Motive:**

The speculative motive relates to the desire to hold one’s resources in liquid form in order to take advantage of market movements regarding the future changes in the rate of interest (or bond-prices).

**Interest-rate Determination:**

Money demanded for all these motives or purposes constitutes demand for money, or liquidity preference. Liquidity preference means how much cash people like to keep with them at a

particular time. The higher the liquidity preference, given the supply of money, the higher will be the rate of interest; and vice versa. Further, given the liquidity preference, the larger the supply of money, the lower will be the rate of interest, and the smaller the supply of money, the higher the rate of interest.

According to Keynes, the demand for money, i.e., the liquidity preference, and supply of money determine the rate of interest. It is in fact the liquidity preference for speculative motive which along with the quantity of money determines the rate of interest. The supply of money, it is determined by the policies of the Government and the Central Bank of the country.

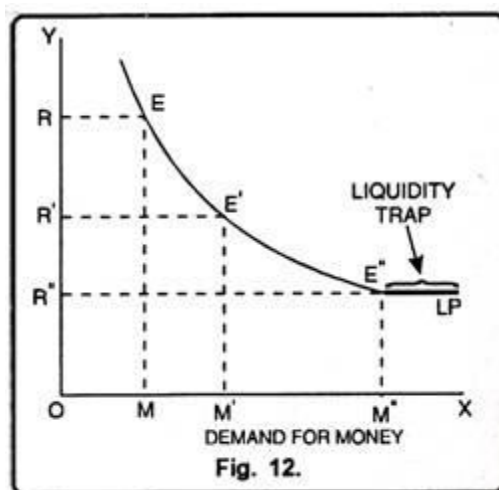
According to liquidity preference theory, the rate of interest is purely a monetary phenomenon. Productivity of capital has very little, though indirect, say in determining the rate of interest.

**Some of the major importance of liquidity preference theory in interest rate are as follows:**

### 1. Liquidity Trap:

By liquidity trap, we mean a situation where the rate of interest cannot fall below a particular minimum level. It means rate of interest is always positive.

It cannot be zero or negative. It can be shown with the help of Fig. 12.



Along the X-axis is represented the speculative demand for money and along the Y-axis the rate of interest. The liquidity preference curve LP is downward sloping towards the right. It signifies that the higher the rate of interest, the lower the demand for speculative motive, and vice-versa. Thus, at the high current rate of interest OR, a very small amount OM is held for speculative motive. This is because at a high current rate of interest much money would have

been lent out or used for Buying bonds and therefore less money will be kept as inactive balances.

If the rate of interest rises to  $OR_1$  then less amount  $OM_1$  will be held under speculative motive. With the further fall in the rate of interest to  $OR_2$ , money held under speculative motive increases to  $OM_2$ . It will be seen in Fig. 12 that the liquidity preference curve LP becomes quite flat i.e., perfectly elastic at a very low rate of interest. It is horizontal line beyond point  $EE_1$  towards the right. This perfectly elastic portion of liquidity preference curve indicates the position of absolute liquidity preference of the people.

That is, at a very low rate of interest people will hold with them as inactive balances any amount of money they come to have. This portion of liquidity preference curve with absolute liquidity preference is called liquidity trap by some economists.

$$M_1 = L_1, (Y)$$

## **2. Interest is Monetary Phenomenon:**

According to Keynes, interest is a purely monetary phenomenon. His theory has focused on the role of money in determining the rate of interest.

## **3. More Generalized:**

The classical theory was a special theory applicable only to a full-employment situation. Keynes theory is more general in that it is applicable both to full as well as under employment situations.

## **4. Integrated Theory:**

A great merit of Keynes theory is that it has integrated the theory of interest with the general theory of output and employment. Employment depends on the level of investment and inducement to invest is influenced apart from marginal efficiency of capital, by the rate of interest.

## **5. Integration with Price:**

Keynes has integrated the theory of interest with the theory of price. The classical writers had unduly emphasized such real factors as abstinence and time preference. According to Keynes, interest is the price of money, and like the price of any commodity, it is determined by the demand for and supply of money.

## **6. More Practical:**

The theory is of great practical significance also. The rate of interest depends on the demand for and supply of money. The supply of money is regulated by the government or the monetary

authority of the country. Therefore, the government can greatly influence the rate of interest by regulating money-supply. Also, through its liquidity trap hypothesis, the theory stresses the limitation of monetary authority in lowering the rate of interest beyond a certain level.

### **7. Inverse Relation between Interest and Price:**

Another importance of Keynes liquidity preference is that bond prices are inversely related to interest rate. It means, interest rate and bond prices move in opposite direction.

### **8. Long Term Vs. Short Term Interest Rates:**

According to Keynes, interest is a reward for parting with liquidity. The interest rate differs on debts of different lengths and maturities. The interest rate on daily loans will be different from the rates of interest on weekly, monthly and yearly loans. Debts of longer maturity' like three, five or ten years will have different interest rates.

### **Supply of Money:**

Money supply is the entire stock of currency and other liquid instruments circulating in a country's economy as of a particular time.

Various types of money supply are generally classified as M1, M2, M3 according to the type and size of the account in which the instrument is kept.

M1 contains physical money (paper and coins), checking accounts, demand deposits and negotiable order of withdrawals (NOW) accounts.

M2 includes all elements of M1, as well as savings deposits, money market securities, mutual funds and other time deposits.

M3(broad money) contains M2 as well as large time deposits, institutional money market funds, short term repurchase agreements and other larger liquid assets. It is used by economists to estimate the entire money supply within an economy, and by governments to direct policy and control inflation over medium and long-term periods.

Changes in M3 are as a result of changes in net domestic assets of the banking system which comprise; net foreign assets, domestic credit and other items net.

### **Main determinants of the supply of money**

Main determinants of the supply of money are (a) monetary base and (b) the money multiplier. These two broad determinants of money supply are, in turn, influenced by a number of other factors. Various factors influencing the money supply are discussed below:

#### **1. Monetary Base:**



Magnitude of the monetary base (B) is the significant determinant of the size of money supply. Money supply varies directly in relation to the changes in the monetary base.

Monetary base refers to the supply of funds available for use either as cash or reserves of the central bank. Monetary base changes due to the policy of the government and is also influenced by the value of money.

## **2. Money Multiplier:**

Money multiplier (m) has positive influence upon the money supply. An increase in the size of m will increase the money supply and vice versa.

## **3. Reserve Ratio:**

Reserve ratio (r) is also an important determinant of money supply. The smaller cash-reserve ratio enables greater expansion in the credit by the banks and thus increases the money supply and vice versa.

Reserve ratio is often broken down into its two component parts; (a) excess reserve ratio which is the ratio of excess reserves to the total deposits of the bank ( $r_e = ER/D$ ); (b) required reserve ratio which is the ratio of required reserves to the total deposits of the bank ( $r_r = RR/D$ ). Thus  $r = r_e + r_r$ . The  $r_r$  ratio is legally fixed by the central bank and the  $r_e$  ratio depends on the market rate of interest.

## **4. Currency Ratio:**

Currency ratio (c) is a behavioural ratio representing the ratio of currency demand to the demand deposits. The effect of the currency ratio on the money multiplier (m) cannot be clearly recognised because enters both as a numerator and a denominator in the money multiplier expression  $(1 + c/r(1 + t) + c)$ . But, as long as the r ratio is less than unity, a rise in the c ratio must reduce the multiplier.

## **5. Confidence in Bank Money:**

General economic conditions affect the confidence of the public in bank money and, thereby, influence the currency ratio (c) and the reserve ratio (r). During recession, confidence in bank money is low and, as a result, c and r ratios rise. Conversely, during prosperity, c and r ratios tend to be low when confidence in banks is high.

## **6. Time-Deposit Ratio:**

Time-deposit ratio (t), which represents the ratio of time deposits to the demand deposits is a behavioural parameter having negative effect on the money multiplier (m) and thus on the money supply. A rise in t reduces m and thereby the supply of money decreases.

## **7. Value of Money:**

The value of money ( $1/P$ ) in terms of other goods and services has positive influence on the monetary base ( $B$ ) and hence on the money stock.

#### **8. Real Income:**

Real income ( $Y$ ) has a positive influence on the money multiplier and hence on the money supply. A rise in real income will tend to increase the money multiplier and thus the money supply and vice versa.

#### **9. Interest Rate:**

Interest rate has a positive effect on the money multiplier and hence on the money supply. A rise in the interest rate will reduce the reserve ratio ( $r$ ), which raises the money multiplier ( $m$ ) and hence increases the money supply and vice versa.

#### **10. Monetary Policy:**

Monetary policy has positive or negative influence on the money multiplier and hence on the money supply, depending upon whether reserve requirements are lowered or raised. If reserve requirements are raised, the value of reserve ratio ( $r$ ) will rise reducing the money multiplier and thus the money supply and vice versa.

#### **11. Seasonal Factors:**

Seasonal factors have negative effect on the money multiplier, and hence on the money stock. During holiday periods, the currency ratio ( $c$ ) will tend to rise, thus, reducing the money multiplier and, thereby, the money supply.

### **THE QUANTITY THEORY OF MONEY (QTM)**

The **quantity theory of money (QTM)** states that the general price level of goods and services is directly proportional to the amount of money in circulation, or money supply and the level of prices of goods and services sold.

According to QTM, if the amount of money in an economy doubles, price levels also double, causing inflation (the percentage rate at which the level of prices is rising in an economy). The consumer, therefore, pays twice as much for the same amount of the good or service.

Another way to understand this theory is to recognize that money is like any other commodity: increases in its supply decrease marginal value (the buying capacity of one unit of currency). So, an increase in money supply causes prices to rise (inflation) as they compensate for the decrease in money's marginal value.

### The Theory's Calculations

In its simplest form, the theory is expressed as:

#### **MV = PT (the Fisher Equation)**

Each variable denotes the following:

**M** = Money Supply

**V** = Velocity of Circulation (the number of times money changes hands)

**P** = Average Price Level

**T** = Volume of Transactions of Goods and Services

It is built on the principle of "equation of exchange":

$$\text{Amount of Money} \times \text{Velocity of Circulation} = \text{Total Spending}$$

Thus, if an economy has US\$3, and those \$3 were spent five times in a month, total spending for the month would be \$15.

### **QTM Assumptions**

In its most basic form, the theory assumes that **V** (velocity of circulation) and **T** (volume of transactions) are constant in the short term.

The theory also assumes that the quantity of money, which is determined by outside forces, is the main influence of economic activity in a society. A change in money supply results in changes in price levels and/or a change in supply of goods and services. It is primarily these changes in money stock that cause a change in spending. And the velocity of circulation depends not on the amount of money available or on the current price level but on *changes* in price levels.

Finally, the number of transactions (**T**) is determined by labour, capital, natural resources (i.e. the factors of production), knowledge and organization.

The theory assumes an economy in equilibrium and at full employment.

Essentially, the theory's assumptions imply that the *value* of money is determined by the *amount* of money available in an economy. An increase in money supply results in a decrease in the value of money because an increase in money supply causes a rise in inflation. As inflation rises, the purchasing power, or the value of money, decreases. It therefore will cost more to buy the same quantity of goods or services.

## **Money Supply, Inflation and Monetarism**

As QTM says that quantity of money determines the value of money, it forms the cornerstone of monetarism.

Monetarists say that a rapid increase in money supply leads to a rapid increase in inflation. Money growth that surpasses the growth of economic output results in inflation, as there is too much money behind too little production of goods and services. In order to curb inflation, money growth must fall below growth in economic output.

This premise leads to how monetary policy is administered. Monetarists believe that money supply should be kept within an acceptable bandwidth so that levels of inflation can be controlled. Thus, for the near term, most monetarists agree that an increase in money supply can offer a quick-fix boost to a staggering economy in need of increased production. In the long term, however, the effects of monetary policy are still blurry.