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college of commerce & management

BBA 1st Year

Subject- Economics of Money & Banking

SYLLABUS

BBA I Year

Subject – Economics of Money & Banking

UNIT – I	Introduction to Money Meaning, Nature and functions of Money, Quantity Theory of Money - Classical, Keynesian, Monetarists; Theories of Money Supply, Components of Money Supply: Measures of Money Supply. Determinants of Money Supply, Money Multiplier.
UNIT – II	Demand of Money Classical Theory. Keynes Theory, Portfolio Balance Theory, Friedman's Theory: Monetary Policy - Meaning Objectives, and Instruments, The structure of interest rate-term structure and yield curve, Theories of term structure of interest rates.
UNIT – III	Financial System Different theories & Approaches; Financial Markets; Functions and Types, Money Market and Capital Market nature, functions and instrument; Structure of Indian money and capital markets, National Institutions of Security Market Investment Planning. Theoretical perspectives on financial and real sectors.
UNIT – IV	Banking Theories of Banking Commercial and Central Banking Systems - Functions, Credit Creation and Credit Control; Banking and Non-Banking Financial Intermediaries in India, RBI - Functions, Monetary Policy - Methods and Recent Changes in India, International Monetary policy transmission mechanism.
UNIT – V	Business Monetary Policy : Concept of Monetary Policy. Instrument of Monetary Policy, Effectiveness of Monetary Policy in Recession; Effectiveness of Monetary Policy in Inflation, Objectives of Monetary Policy, Monetary Policy & Economic Growth. Monetary Policies of the Reserve Bank of India.



UNIT-I

Meaning of Money

Money is an economic unit that functions as a generally recognized medium of exchange for transactional purposes in an economy. Money provides the service of reducing transaction cost, namely the double coincidence of wants. Money originates in the form of a commodity, having a physical property to be adopted by market participants as a medium of exchange.

Money is commonly referred to as currency. Economically, each government has its own money system. Cryptocurrencies are also being developed for financing and international exchange across the world.

Money is used in the settlement of transactions. It functions based on the general acceptance of its value within a governmental economy and internationally through foreign exchange. The current value of monetary currency is not necessarily derived from the materials used to produce the note or coin. Instead, value is derived from the willingness to agree to a displayed value and rely on it for use in future transactions. This is money's primary function: a generally recognized medium of exchange that people and global economies intend to hold, and are willing to accept as payment for current or future transactions.

In general terms, the main function of money in an economic system is "to facilitate the exchange of goods and services and help in carrying out trade smoothly." Its basic characteristic is general acceptability. Functions of money are reflected in the following well-known couplet:

"Money is a matter of functions four A medium, a measure, a standard, a store."

Thus conventionally money performs the following four main functions, each of which overcomes one or the other difficulty of barter. Medium of exchange and measure of value are primary functions because they are of prime importance whereas standard of deferred payment and store of value are called secondary functions because they are derived from primary functions.



Function of Money

1. Money as the Medium of Exchange:

Money came into use to remove the inconveniences of barter as money has separated the act of purchase from sale. Medium of exchange is the basic or primary function of money. People exchange goods and services through the medium of money. Money acts as a medium of exchange or as a medium of payments. Money by itself has no utility (except perhaps to the miser). It is only an intermediary.

The use of money facilitates exchange, exchange promotes specialisation Increases productivity and efficiency A good monetary system is, therefore, of immense utility to human society. Money is also called a bearer of options or generalised purchasing power because it provides freedom of choice to buy things he wants most from those who offer best bargain.

2. Money as a Unit of Account or Measure of Value:

Money serves as a unit of account or a measure of value. Money is the measuring rod, i.e., it is the units in terms of which the values of other goods and services are measured in money terms and expressed accordingly Different goods produced in the country are measured in different units like cloth in metres, milk in litres and sugar in kilograms.

Without a common unit, exchange of goods becomes very difficult Values of all goods and services can be expressed easily in a single unit called money Again without a measure of value, there can be no pricing process. Without a pricing process organised marketing and production is not possible. Thus, the use of money as a measure of value is the basis of specialised production.

The measuring rod of money is also indispensable to all forms of economic planning. Consumers compare the values of alternative purchases in terms of money Producers also compare the values of alternative purchases in terms of money. Producers compare the relative costliness of the factors



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of production in terms of money and also plan their output on the basis of the money yield. It is, therefore, highly important that the value of money should be stable.

3. Money as the Standard of Deferred Payments:

Deferred payments are payments which are made some time in the future. Debts are usually expressed in terms of the money of account. Loans are taken and repaid in terms of money.

The use of money as the standard of deterred or delayed payments immensely simplifies borrowing and lending operations because money generally maintains a constant value through time. Thus, money facilitates the formation of capital markets and the work of financial intermediaries like Stock Exchange, Investment Trust and Banks. Money is the link which connects the values of today with those of the future.

4. Money as a Store of Value:

Wealth can be stored in terms of money for future. It serves as a store value of goods in liquid form. By spending it, we can get any commodity in future. Keynes places great emphasis on this function of money. Holding money is equivalent to keeping a reserve of liquid assets because it can be easily converted into other things.

People therefore normally wish to keep a part of their wealth in the form of money because savings in terms of goods is very difficult. This desire is known as liquidity preference. Clearly money is the best form of store of value. Wheat or any other product which will command a value cannot be stored for a long period.

Another Function 'Liquidity of Money' is added these days. Money is perfectly liquid. Liquidity means convertibility into cash. Thus, the ability to convert an asset into money quickly and without loss of value is called liquidity of asset. Modern economists are laying stress on liquidity of money.

Since, by definition, money is the most generally accepted commodity, it is also the most liquid of all resources. Possession of money enables one to get hold of almost any commodity in any place



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and money never locks a buyer. It is this peculiarity which distinguishes money from all other commodities. A preference for liquidity is preference for money.

Money, thus, acts as common medium of exchange, a common measure of value, as standard of deferred payments and a store of value.

THEORIES OF VALUE OF MONEY

The concept of the quantity theory of money (QTM) began in the 16th century. As gold and silver inflows from the Americas into Europe were being minted into coins, there was a resulting rise in inflation. This led economist Henry Thornton in 1802 to assume that more money equals more inflation and that an increase in money supply does not necessarily mean an increase in economic output. Here we look at the assumptions and calculations underlying the QTM, as well as its relationship to monetarism and ways the theory has been challenged

QUANTITY THEORY OF MONEY (QTM)

The quantity theory of money states that there is a direct relationship between the quantity of money in an economy 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 quantity theory of money (QTM) also assumes that the quantity of money in an economy has a large influence on its level of economic activity. So, a change in the results in either a change in the price levels or a change in the supply of goods and services, or both. In addition, the theory assumes that changes in the money supply are the primary reason for changes in spending.



One implication of these assumptions is that the value of money is determined by the amount of money available in an economy. An increase in the money supply results in a decrease in the value of money because an increase in the money supply also causes the rate of inflation to increase. As inflation rises, decreases. Purchasing power is the value of a currency expressed in terms of the amount of goods or services that one unit of currency can buy. When the purchasing power of a unit of currency decreases, it requires more units of currency to buy the same quantity of goods or services.

Supply-Demand theory of money or Quantity theory of money

In, the quantity theory of money states that has a direct, proportional relationship with the price level. The determinants of money demand are infinite. In general, consumers need money to purchase goods and services. The most important variable in determining money demand is the average price level within the economy. If the average price level is high and goods and services tend to cost a significant amount of money, consumers will demand more money. If, on the other hand, the average price level is low and goods and services tend to cost little money, consumers will demand less money.

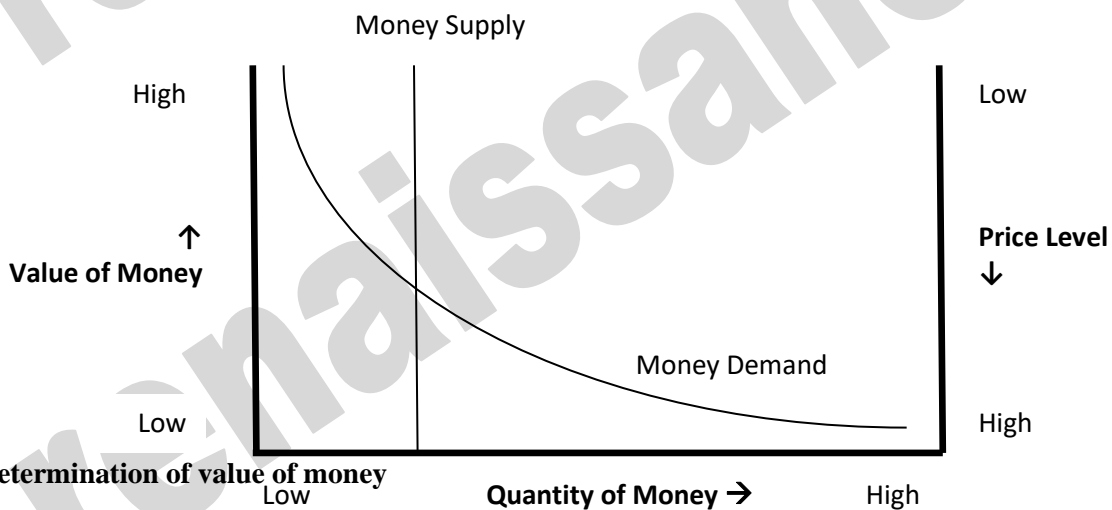


Figure: Determination of value of money

The value of money is ultimately determined by the intersection of the money supply, as controlled by the central bank, and money demand, as created by consumers. The above figure depicts the money market in a sample economy. The money demand curve slopes downward because as the value of money decreases, consumers are forced to carry more money to make purchases because goods and services cost more money.

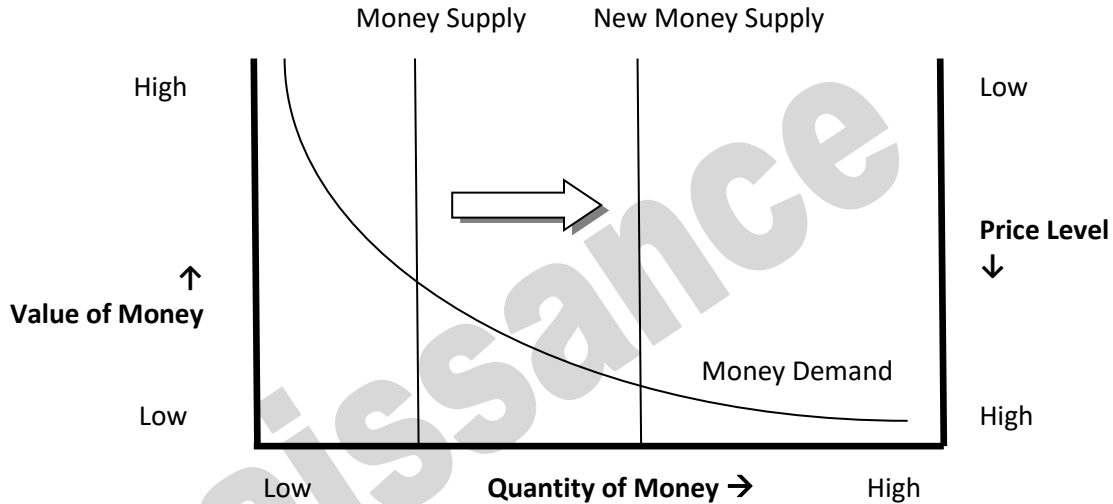


Figure: shift in the money market

The value of money, as revealed by the money market, is variable. A change in money demand or a change in the money supply will yield a change in the value of money and in the price level. An increase in the money supply is depicted in the Figure above.

Fisher's Quantity Theory of Money or Price theory of money

The Quantity Theory was first developed by Irving Fisher in the inter-war years as is a basic theoretical explanation for the link between money and the general price level. The quantity theory rests on what is sometimes known as the **Fisher identity** or the **equation of exchange**. This is an identity which relates total aggregate demand to the total value of output (GDP).

$$MV = PT$$

1. M is the money supply
2. V is the velocity of circulation of money
3. P is the general price level
4. Y is the real value of national output (i.e. real GDP)

The **velocity of circulation** represents the number of times that a unit of currency (for example a Rs.10 note) is used in a given period of time when used as a medium of exchange to buy goods and services. The velocity of circulation can be calculated by dividing the money value of national output by the money supply.

Assumptions in Fisher's Quantity theory of money



Quantity Theory of Money by Fisher proceeds with the idea that price level is determined by the demand for and supply of money. It is based upon the following assumptions.

1. Price level is to be measured over a period of time, it being the average of prices of all sale transactions that take place during the said time period.
2. There are no credit sales in the market. All sales/purchase transactions are cash transactions.
3. Money is only a medium of exchange. Therefore, its demand is determined only because it is needed for making current payments. It is not considered one of the alternative forms of assets for holding wealth. Money is accepted by sellers so as to pay for their own purchases.
4. Each unit of money can change hands several times during the said time interval. The average number of time money changes hands is termed its average velocity of circulation (V). Accordingly, total cash payments during the year are always equal to the average quantity of money in circulation (M) multiplied by its velocity (V), that is equal to MV.
5. Similarly, because there are no credit sales, all cash payments received during the year must be equal to the volume of goods and services sold multiplied by their respective prices. If, therefore, 'T' denotes the aggregate volume of all items sold and 'P' stands for their average price, then total sales proceeds received are equal to 'P'.

Criticism of Fisher's Quantity Theory of money

1. **The price level (P) is wrongly assumed to be a passive factor:** The price level P is not passive as assumed by Fisher. In reality P may be active. P does influence T, because rising prices give profit incentives to business expansion, T would increase. Thus, a rise in P may increase the volume of trade which may cause an increase in the quantity of money and V.
2. **The velocity of circulation of money (V) may not be a constant factor:** Fisher regards V as independent and constant. But, in practice V may vary with the volume of trade and price level, i.e., with P and T. V is also affected by the actual and expected changes in M or money supply. Then, the effect of changes in M may be neutralized by an opposite change in V. Sometimes, M being constant, V may increase, causing the price level to rise. For instance, the hyperinflation in Germany in 1923 was more as a result of the increase in the velocity of circulation rather than the increase in the money supply.
3. **The assumption of full employment is unrealistic:** A fundamental objection raised by Keynes against the cash transactions approach is that it is based on the assumption of full employment, which is a rare possibility in a modern society.
4. **The theory neglects the role of interest rate:** It is argued by critics like Mrs. Robinson that the quantity theory cannot be regarded as an adequate theory of money because it does not take into account the rate of interest.

Cambridge cash Balance Approach

The **Cambridge equation** formally represents the **Cambridge cash-balance theory**, an alternative approach to the classical. Both quantity theories, Cambridge and classical, attempt to express a relationship among the amounts of money, and how money moves. The Cambridge equation focuses on money demand instead of. The theories also differ in explaining the movement of money: In the classical version, associated with money moves at a fixed rate and serves only as a while in the Cambridge approach money acts as its movement depends on the desirability of holding cash.

The Cambridge equation is : $M^d = k.P.Y$

Keynes liquidity preference theory of money

Liquidity preference in theory refers to the demand for money, considered as liquidity. The concept was first developed by John Maynard Keynes in his book *The General Theory of Employment, Interest and Money*



(1936) to explain determination of the interest rate by the supply and demand for money. The demand for money as an asset was theorized to depend on the interest foregone by not holding bonds. Instead of a reward for saving, interest in the Keynesian analysis is a reward for parting with liquidity.

According to Keynes, demand for liquidity is determined by three motives:

1. **The transactions motive:** people prefer to have liquidity to assure basic transactions, for their income is not constantly available. The amount of liquidity demanded is determined by the level of income: the higher the income, the more money demanded for carrying out increased spending.
2. **The precautionary motive:** people prefer to have liquidity in the case of social unexpected problems that need unusual costs. The amount of money demanded for this purpose increases as income increases.
3. **Speculative motive:** people retain liquidity to speculate that bond prices will fall. When the interest rate decreases people demand more money to hold until the interest rate increases, which would drive down the price of an existing bond to keep its yield in line with the interest rate. Thus, the lower the interest rate, the more money demanded (and vice versa).

The liquidity-preference relation can be represented graphically as a schedule of the money demanded at each different interest rate. The supply of money together with the liquidity-preference curve in theory interact to determine the interest rate at which the quantity of money demanded equals the quantity of money supplied

Monetarism

According to monetarists, a rapid increase in the money supply can lead to a rapid increase in inflation. This is because when money growth surpasses the growth of economic output, there is too much money backing too little production of goods and services. In order to curb a rapid rise in the inflation level, it is imperative that growth in the money supply falls below the growth in economic output.

When monetarists are considering solutions for a staggering economy in need of an increased level of production, some monetarists may recommend an increase in the money supply as a short-term boost. However, the long-term effects of monetary policy are not as predictable, so many monetarists believe that the money supply should be kept within an acceptable bandwidth so that levels of inflation can be controlled.

Instead of governments continually adjusting economic policies through government spending and taxation levels, monetarists recommend letting non-inflationary policies—like a gradual reduction of the money supply—lead an economy to full employment.

What Is the Money Supply?



The money supply is all the currency and other liquid instruments in a country's economy on the date measured. The money supply roughly includes both cash and deposits that can be used almost as easily as cash.

Governments issue paper currency and coin through some combination of their central banks and treasuries. Bank regulators influence the money supply available to the public through the requirements placed on banks to hold reserves, how to extend credit, and other money matters.

- The money supply refers to the amount of cash or currency circulating in an economy.
- Different measures of money supply take into account non-cash items like credit and loans as well.
- Monetarists believe that increasing the money supply, all else equal, leads to inflation.

Understanding Money Supply

Economists analyze the money supply and develop policies revolving around it through controlling interest rates and increasing or decreasing the amount of money flowing in the economy. Public and private sector analysis is performed because of the money supply's possible impacts on price levels, inflation, and the business cycle. In the United States, the Federal Reserve policy is the most important deciding factor in the money supply. The money supply is also known as the money stock

Effect of Money Supply on the Economy

An increase in the supply of money typically lowers interest rates, which in turn, generates more investment and puts more money in the hands of consumers, thereby stimulating spending. Businesses respond by ordering more raw materials and increasing production. The increased business activity raises the demand for labor. The opposite can occur if the money supply falls or when its growth rate declines.



Change in the money supply has long been considered to be a key factor in driving macroeconomic performance and business cycles. Macroeconomic schools of thought that focus heavily on the role of money supply include Irving Fisher's Quantity Theory of Money, Monetarism, and Austrian Business Cycle Theory.

Historically, measuring the money supply has shown that relationships exist between it and inflation and price levels. However, since 2000, these relationships have become unstable, reducing their reliability as a guide for monetary policy. Although money supply measures are still widely used, they are one of a wide array of economic data that economists and the Federal Reserve collects and reviews.¹

How Money Supply is Measured

The various types of money in the money supply are generally classified as Ms, such as M0, M1, M2, and M3, according to the type and size of the account in which the instrument is kept. Not all of the classifications are widely used, and each country may use different classifications. The money supply reflects the different types of liquidity each type of money has in the economy. It is broken up into different categories of liquidity or spendability.²

M1, for example, is also called narrow money and includes coins and notes that are in circulation and other money equivalents that can be converted easily to cash. M2 includes M1 and, in addition, short-term time deposits in banks and certain money market funds.¹ M3 includes M2 in addition to long-term deposits. However, M3 is no longer included in the reporting by the Federal Reserve.³ MZM, or money zero maturity, is a measure that includes financial assets with zero maturity and that are immediately redeemable at par. The Federal Reserve relies heavily on MZM data because its velocity is a proven indicator of inflation.⁴

Money supply data is collected, recorded, and published periodically, typically by the country's government or central bank. The Federal Reserve in the United States measures and publishes the total amount of M1 and M2 money supplies on a weekly and monthly basis. They can be found online and are also published in newspapers.



How is money supply determined?

A central bank regulates the level of money supply within a country. Through monetary policy, a central bank can undertake actions that follow an expansionary or contractionary policy. Expansionary policies involve the increase in money supply through measures such as open market operations, where the central bank purchases short-term Treasuries with newly created money, thus injecting money into circulation. Conversely, a contractionary policy would involve the selling of Treasuries, removing money from circulating in the economy.

What's the difference between M0, M1, and M2?

In the United States, the money supply is categorized by various monetary aggregates including M0, M1, and M2. These are used by the Federal Reserve to measure how open market operations impact the economy. The monetary base, or M0, is equal to coin currency, physical paper, and central bank reserves. M1, typically the most commonly used aggregate, covers M0 in addition to demand deposits and travelers' cheques. Meanwhile, M2, which may be used as an indicator for inflation when compared to GDP, covers M1 in addition to savings deposits and money market shares.

Reserve money is also called central bank money, monetary base, base money, or high-powered money. It is the base level for the money supply or the high-powered component of the money supply.

In the most simple language, Reserve Money is **Currency in Circulation plus Deposits of Commercial Banks with RBI.**

M₀

- = Currency in circulation + Bankers' deposits with the RBI + 'Other' deposits with the RBI



- = Net RBI credit to the Government + RBI credit to the commercial sector + RBI's claims on banks + RBI's net foreign assets + Government's currency liabilities to the public – RBI's net non-monetary liabilities.

M1 (Narrow Money)

- = Currency with the public + Deposit money of the public (Demand deposits with the banking system + 'Other' deposits with the RBI).

M2:

- = M1 + Savings deposits with Post office savings banks.

M3: (Broad Money)

- = M1 + Time deposits with the banking system
- = Net bank credit to the Government + Bank credit to the commercial sector + Net foreign exchange assets of the banking sector + Government's currency liabilities to the public – Net non-monetary liabilities of the banking sector (Other than Time Deposits).

M4:

- = M3 + All deposits with post office savings banks (excluding National Savings Certificates).

The Money Multiplier refers to how an initial deposit can lead to a bigger final increase in the total money supply.

For example, if the commercial banks gain deposits of £1 million and this leads to a final money supply of £10 million. The money multiplier is 10.

The money multiplier is a key element of the fractional banking system.

1. There is an initial increase in bank deposits (monetary base)
2. The bank holds a fraction of this deposit in reserves and then lends out the rest.
3. This bank loan will, in turn, be re-deposited in banks allowing a further increase in bank lending and a further increase in the money supply.

$$\text{Money Multiplier} = \frac{\text{Change in total money supply}}{\text{Change in monetary base (reserves)}}$$



The Reserve Ratio

The reserve ratio is the % of deposits that banks keep in liquid reserves.

For example 10% or 20%

Formula for money multiplier

$$\text{Money Multiplier} = \frac{1}{\text{Reserve Ratio}}$$

In theory, we can predict the size of the money multiplier by knowing the reserve ratio.

- If you had a reserve ratio of 5%. You would expect a money multiplier of $1/0.05 = 20$
- This is because if you have deposits of £1 million and a reserve ratio of 5%. You can effectively lend out £20 million.

Using the Reserve ratio to influence monetary policy

In theory, if a Central Bank demands a higher reserve ratio – it should have the effect of acting like deflationary monetary policy. A higher reserve ratio should reduce bank lending and therefore reduce the money supply.

Money Multiplier in the real world

In a simple theory of the money multiplier, it is assumed that if the bank lends \$90 – all of this will return. However, in the real world, there are many reasons why the actual money multiplier is significantly smaller than the theoretically possible money multiplier.

1. **Import spending.** If consumers buy imports the money leaves the economy
2. **Taxes.** A percentage of income will be taken in taxes.
3. **Savings.** Not all money is spent and circulated, a significant percentage will be saved
4. **Currency Drain Ratio.** This is the % of banknotes that individual consumers keep in cash, rather than depositing in banks. If consumers deposited all their cash in banks, there would be a bigger money multiplier. But, if people keep funds in cash then the banks cannot lend more
5. **Bad loans.** A bank may lend out \$90 but the company goes bankrupt and so this is never deposited bank into the banking system.



6. **Safety reserve ratio.** This is the % of deposits a bank may like to keep above the statutory reserve ratio. i.e. the required reserve ratio may be 5%, but banks may like to keep 5.2%.
7. **It might not be possible to lend more money out.** Just because banks could lend 95% of their deposits doesn't mean they can, even if they wanted to. In a recession, people may not want to borrow, but they prefer to save.
8. Banks may not want to lend Also, at various times, the banks may not want to lend, e.g. during a recession they feel firms and individuals more likely to default. Therefore, the banks end up with a higher reserve ratio.

Therefore, due to these factors, the reserve ratio and money multiplier are theoretical.

Money Multiplier

The money multiplier is a concept which measures the amount of money created by banks with the help of deposits after excluding the amount set for reserves from the deposits. It tells the maximum number of times the amount will be increased with respect to the given change in the deposits. The money multiplier has an inverse relationship with the Reserve Ratio (RR).

RR refers to the number of deposits that the banks are required to keep with them as reserves all the time, to meet the uncertainties, and also to maintain the trust of the public. There are two types of reserves that the banks are required to maintain:

- a. Cash reserves ratio (CRR), the reserves which the banks have to maintain with the central bank.
- b. Statutory Liquidity ratio (SLR), which shows the number of reserves that the banks are required to maintain in the form of liquid assets with themselves. The simple money multiplier formula works as a great tool in the monetary economy for the Central Bank to control the money creation because it works as a total money supply formula that is used for calculating money supply.

Money Multiplier Formula

Money multiplier = $1 \div RR$

Where RR = Reserve Requirements

Money Multiplier Equation

Money Multiplier =

Δ In Total Money Supply / Δ In the Monetary Base

It is also known as the credit multiplier formula. The higher the LRR leads to a lower money multiplier because the commercial banks will have to maintain the larger reserves due to which there will be less amount available to lend to the public.



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Example

Suppose an initial deposit of ₹10,000 is made into the bank. The Legal Reserve Ratio (LRR), which has to be maintained by the commercial banks, is 20%. All the payments and deposits are done through the bank. The banks keep only the minimum balance of LRR and lend the rest of the money to the public.

Solution: Money multiplier Formula = $1 \div RR$

multiplier = $1 \div 20\%$

Money multiplier = $(1 \div 0.20) * 100$ Money

multiplier = 5 times



It shows that the initial deposit of ₹10,000 will be increased up to 5 times excluding the reserves.

The following table will explain the process:

	Deposits	Loans	LRR @20%
Initial Deposit	10,000	8,000	2,000
1st	8,000	6,400	1,600
2nd	6,400	5,120	1,280
3rd	5,120	4,096	1,024
4th	4,096	3,276.8	819.20
5th	3,276.8	2,621.44	655.36
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Total	50,000	40,000	10,000

Explanation

The initial deposits of ₹10,000 have been made into the bank, and the banks are required to maintain 20% of the deposits with them as the LRR is 20%, therefore the bank has to maintain 20% of ₹10,000 i.e. ₹2,000 with itself and can lend the rest of the money i.e. ₹8,000 as loans to the public. As all the payments are done through the banks, therefore the amount of ₹8,000 comes again to the bank and the bank will keep 20% of this amount i.e. ₹1,600 with itself, and will lend again the rest of the amount i.e. ₹6,400 to the public. This process will go again and again till the time the value of deposits doesn't become ₹50,000. As the value of the money multiplier is 5, it means the value of initial deposits of ₹10,000 will become ₹50,000 till the end. This process will continue till the initial deposits increase to ₹50,000.
