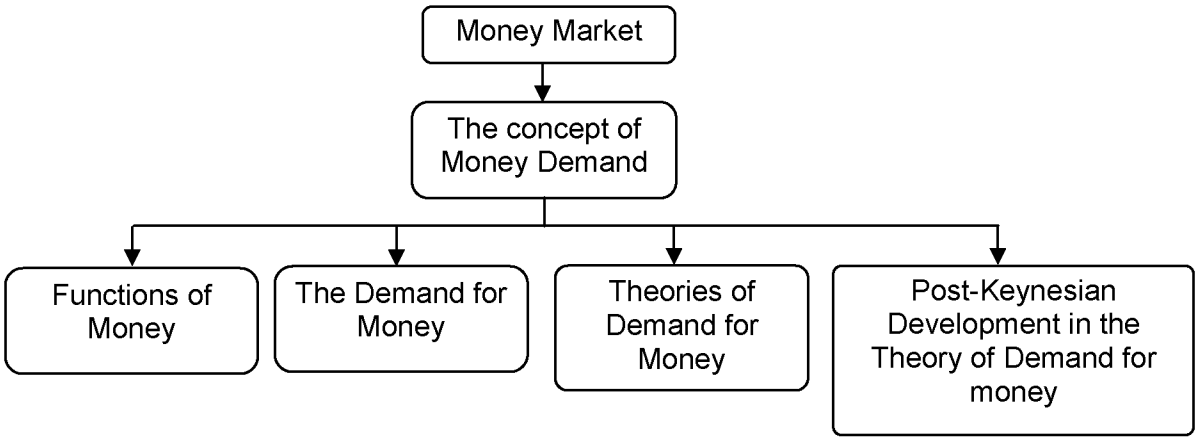
6. MONEY MARKET

6.0 INTRODUCTION



Q.No.1. Define the term money. Explain the nature and characteristics of money. (A) (SM)

Definition of money:

In simple terms, Money refers to assets which are commonly used and accepted as a means of payment or as a medium of exchange or of transferring purchasing power.

For policy purposes, money may be defined as the set of liquid financial assets, the variation in the stock of which will have impact on aggregate economic activity.

Nature of Money:

1. **Holding form of money:** Money is one of the forms of financial assets held by households, firms, and governments in their asset portfolios.
2. **Purchasing power of money:** Money has generalized purchasing power.
3. **General acceptability:** Money is generally acceptable in settlement of all transactions and in discharge of business obligations including future payments.
4. **Liquidity:** Money is a liquid asset as it can be used directly, instantly, conveniently and without any costs or restrictions to make payments
5. **Money has no intrinsic value:** Money represents a certain value, but currency which represents money does not necessarily have intrinsic value.
6. **Legal tenderness:** Though money is a fiat money (having no intrinsic value), it is used as a medium of exchange because the government by law made them "legal tender,"
7. **Money is not necessarily in a physical item:** In modern days, money also constitutes electronic records.
8. **Role of money in economic transactions:** Unlike other financial assets, money conducts most of the economic transactions in an economy.

General characteristics of money: Money in order to serve its functions, it possess the following characteristics:

a) Durable or long-lasting

b) Effortlessly recognizable

c) Difficult to counterfeit i.e. not easily reproducible by people

d) Relatively scarce, but has elasticity of supply

e) Portable or easily transported

f) Possessing uniformity; and

g) Divisible into smaller parts in usable quantities or fractions without losing value

Source: *Reserve Bank of India Manual on Financial and Banking Statistics, 2007.*

'There is no unique definition of 'money', either as a concept in economic theory or as measured in practice. Money can be defined for policy purposes as the set of liquid financial assets, the variation in the stock of which could impact on aggregate economic activity. As a statistical concept, money could include certain liquid liabilities of a particular set of financial intermediaries or other issuers'.

SIMILAR QUESTIONS:

1. Define the term money.

A. Refer Definition

2. What is meant by the term "legal tender"?

A. Refer 6th point

3. List the general characteristics that money should possess? (MTP2 M18 - 2M)

A. Refer 3rd main side heading.

Q.No.2. Explain the functions of Money. (A) (SM)

Money performs many important functions in an economy.

1. **Money serves as a medium of exchange:**
   - **a)** Money is a convenient medium of exchange as it facilitates easy exchange of goods and services.
   - **b)** By acting as an intermediary, money increases the ease of trade and reduces the inefficiency and transaction costs involved in a barter exchange.
   - **c)** By decomposing the single barter transaction into two separate transactions of sale and purchase, money eliminates the need for double coincidence of wants.
   - **d)** Money also facilitates separation of transactions both in time and place and this in turn enables us to economize on time and efforts involved in transactions.
2. **Measure of Value or Unit of value**:
   - **a)** Money is a 'common measure of value' or 'common denominator of value' or money functions as a numeraire. (Rupee is the unit of account in India in which the entire money is denominated).
   - **b)** A common unit of account facilitates a system of orderly pricing which is crucial for rational economic choices.
   - **c)** Goods and services which are otherwise not comparable are made comparable through expressing the worth of each in terms of money.
   - **d)** Money is a useful measuring rod of value only if the value of money remains constant.
   - **e)** The value of money is linked to its purchasing power. Purchasing power is the inverse of the average or general level of prices as measured by the consumer price index.
3. **Standard of deferred payment:**
   - **a)** Money serves as a unit or standard of deferred payment i.e. money facilitates recording of deferred promises to pay.
   - **b)** Money is the unit in terms of which future payments are contracted or stated.
   - **c)** But inflation or deflation reduces the efficacy of money in this function.
4. **Store of value:**
   - **a)** People prefer to hold money as an asset i.e. as part of their stock of wealth.
   - **b)** Money functions as a temporary abode of purchasing power to perform its medium of exchange function.

c) Money also functions as a permanent store of value.

d) There are many other assets such as government bonds, deposits and other securities, land, houses etc. which also have store value. But Money is the only asset which has perfect liquidity.

e) Money commands reversibility as its value in payment equals its value in receipt.

f) The store of value of an asset depends on the degree and certainty with which the asset maintains its value over time.

g) Hence, in order to serve as a permanent store of value in the economy, the purchasing power or the value of money should either remain stable or should monotonically rise over time.

SIMILAR QUESTIONS:

1. **Write notes on the function of money as a medium of exchange.**

A. Refer 1st point

2. **Outline how money is useful as a 'common denominator of value'.**

A. Refer 2nd point

3. **Explain the function of money as a unit of account?**

A. Refer 2nd Point

4. **Examine the relationship between purchasing power of money and general price level.**

A. Refer e) in 2nd point

5. **Critically examine money's function as standard of deferred payment.**

A. Refer 3rd point

6. **Explain the functions performed by money.**

A. Refer above answer

6.1. DEMAND FOR MONEY

Q.No.3. Explain the concept of 'Demand for Money'. (B) (SM)

DEMAND FOR MONEY: The desire of people to hold money is called "Demand for Money". The demand for money is a decision about how much of one's given stock of wealth should be held in the form of money rather than as other assets such as bonds. Although it gives little or no return, households as well as firms hold money because it is liquid and offers the most convenient way to meet their day to day transactions.

1. The demand for money is a derived demand
2. People demand money because they wish to have command over real goods and services with the use of money.
3. Demand for money is actually demand for liquidity and demand to store value.
4. Demand for money has an important role in the determination of interest, prices and income in an economy

SIMILAR QUESTIONS:

1. **Why do we say that money demand is derived demand?**

A. Refer the 4 points in Demand for Money

2. **Why is it important to study about demand for money?**

A. Refer 4th point in Demand for Money

Q.No.4. List out the important variables on which demand for money depends upon? (A) (SM)

Determinants of demand for money: The quantity of nominal money or how much money people would like to hold in liquid form depends on many factors, such as:

1. **Income:** Higher the income of individuals, higher the expenditure and hence richer people hold more money to finance their expenditure.
2. **General level of prices:** The higher the prices, higher should be the holding of money and vice-versa.
3. **Rate of interest:** If the rate of interest is higher then the lower will be the demand for money (higher would be opportunity cost of holding cash) and vice versa.
4. **The degree of financial innovation:** Innovations such as internet banking, application based transfers and automatic teller machines reduce the need for holding liquid money.
5. **Real GDP:** Demand for money increases in less than proportion to the increase in real GDP because more money is needed to finance additional transactions.

Note: The opportunity cost of holding money is the interest rate that a person could earn on other assets.

SIMILAR QUESTION:

1. **Explain how the higher interest rate affects the demand for money? (MTP1 M18 - 2M)**

A. Refer 3rd point

Q.No.5. Name the different approaches of demand for money and their purpose. (B) (SM)

Theories of Demand of Money: The following are Theories on the Demand of money.

a) Quantity theory of Money (QTM) - Classical Approach (or) Fisher's Approach

b) Cash Balance Approach (or) Neo - Classical Approach (or) Cambridge Approach

c) Liquidity Preference Theory - Keynesian Theory

d) Post Keynesian Theories - (i) Inventory Approach - Baumol and Tobin, (ii) Restatement of Quantity Theory of money - Friedman and (iii) Demand for Money as Behaviour towards Risk - Tobin.

Summary of Theories

Theory of Money	**Concept:** People hold Money in Cash for -	**Determinant of Demand**
Quantity Theory of Money	Transactions Motive only	Supply of Money
Neo Classical Approach	Transactions & Precautionary Motive	Real Income
Keynesian Theory of Demand	Transactions, Precautionary & Speculative Motives	Supply, Income & Interest Rate
Post Keynesian Theories	Store - of - Value (or) Asset Function	[See Note below]

Note:

a) All these Theories establish a positive relation of Demand for Money to Real Income, and an inverse relationship to the Interest Rate.

b) Real Income, Interest Rates and Expectations in respect to Inflation are significant predictors of demand for money.

Q.No.6. Explain the Classical Approach of Quantity Theory of Money (QTM) as propounded by Irving Fisher. (A) (SM)

Classical Approach: The Quantity Theory of Money (QTM)

Theory: The quantity theory of money

Nature of theory: One of the oldest theories in Economics

First propounded by: Irving Fisher (of Yale University)

Publication: 'The Purchasing Power of Money' (1911)

Supported by: Neoclassical economists

Demonstration on QTM: "There is strong relationship between money and price level."

- The quantity of money is the main determinant of the price level or the value of money.
- The changes in the general price level of commodity (or) changes in the value (or) purchasing power of money are determined by changes in the quantity of money in circulation.
- Money does not have any inherent utility of its own but is demanded for transaction motive (I,e, . Money serves as a medium of exchange).

Fisher's version of Quantity Theory of Money:

Fisher termed classical approach of QTM as 'equation of exchange' or 'transaction approach' and stated as follows:

$$MV = PT$$

i.e. Total Supply of money (MV) is equal to Total Demand for money (PT)

Where,

M= the total amount of money in circulation (on an average) in an economy

V = transactions velocity of circulation i.e. the average number of times across all transactions a unit of money(say Rupee) is spent in purchasing goods and services

P = average price level (P= MV/T)

T = the total number of transactions.

Modification by fisher in his equation of exchange:

Fisher extended the equation of exchange to include demand (bank) deposits (M^1) and their velocity (V^1) in the total supply of money. Thus, the equation of exchange becomes:

$$MV + M^1V^1 = PT$$

Where, M^1 = the total quantity of credit money

V^1 = velocity of circulation of credit money

Total Supply of money ($MV + M^1V^1$) is equal to Total Demand for money (PT)

The aggregate demand for money for transactions purpose can be explained as the more the number of transactions people want, the greater will be the demand for money.

Assumptions:

a) V and V^1 remain constant.

b) T is a function of national income. Since full employment prevails, T is fixed in the short run.

The main postulates of the theory are:

a) The proportionality of m and p,

b) The active or causal role of m,

c) Neutrality of money on real variables,

d) Exogenous nature of nominal money supply

e) The monetary theory of the price level and

f) Total Supply of money ($MV + M^1V^1$) is equal to Total Demand for money (PT)

Note: Fisher did not specifically mention anything about the demand for money; but the same is embedded in his theory as dependent on the total value of transactions undertaken in the economy. Thus, there is an aggregate demand for money for transactions purpose and more the number of transactions people want, greater will be the demand for money.

SIMILAR QUESTIONS:

1. **Describe the main postulates of quantity theory of money.**

A. Refer main postulates of theory

2. **'The quantity theory of money is not a theory about money at all, rather it is a theory of the price-level' Elucidate**

A. Refer above answer

3. **Explain the following modified equation of exchange as given by Irving Fisher. (M18 - 3M)**

   MV + M'V' = PT

A. Refer Modification by fisher in his equation of exchange

Q.No.7. Explain the theory of Neo classical Approach with reference to demand for money. (B) (SM)

The Neo classical Approach or The Cambridge approach or The Cash Balance Approach:

In the early 1900's, Cambridge Economists Alfred Marshall, A.C. Pigou, D.H. Robertson and John Maynard Keynes put forward a fundamentally different approach to quantity theory, known as neoclassical theory or cash balance approach.

The Cambridge approach:

The Cambridge version holds that money increases utility in the following two ways:

a) Transaction motive: This motive enables the possibility of split-up of sale and purchase to two different points of time rather than being simultaneous (i.e. Money as a medium of exchange).

b) Precautionary motive: (as a temporary store of wealth)

Since sale and purchase of commodities by individuals do not take place simultaneously, they need a 'temporary abode' of purchasing power as a hedge against uncertainty.

Hence money is demanded for itself.

Explanation:

The quantity of money will be demanded depends partly on income and partly on other important factors such as wealth and interest rates.

The higher the income, the greater the quantity of purchases and as a consequence greater will be the need for money as a temporary abode of value to overcome transactions costs.

The Cambridge equation is stated as:

$$M^d = k\,PY$$

Where,

M^d = is the demand for money

Y = real national income

P = average price level of currently produced goods and services

PY = nominal income

k = proportion of nominal income (PY) that people want to hold as cash balances

The term 'k' in the above equation is called 'Cambridge k'.

The equation explains that the demand for money (M) equals k proportion of the total money income.

Conclusion: The neoclassical theory changed the focus of the quantity theory of money to money demand. It assumed that demand for money is a function of only money income.

SIMILAR QUESTION:

1. **Name the two ways in which money increases utility as per Cambridge version?**

A. Refer points a & b in second side heading.

2. **Explain the Cambridge Version of Cash Balance Approach $M^d = k P Y$ (MTP1 N18 - 3M)**

A. Refer above answer

Q.No.8. Explain the Keynesian Theory of Demand for Money. (A) (SM)

Keynesian theory of demand for money is known as 'Liquidity Preference Theory'. 'Liquidity preference', a term that was coined by John Maynard Keynes in his masterpiece 'The General Theory of Employment, Interest and Money' (1936), denotes people's desire to hold money rather than securities or long-term interest-bearing investments.

According to Keynes, people hold money (M) in cash for three motives:

1. Transactions motive,
2. Precautionary motive, and
3. Speculative motive

According to Keynes, the sum of the transaction demand, precautionary demand and the speculative demand, is the total demand for money.

1. **The Transactions Motive:** (function of money income)

   a) It represents 'the need for cash for current transactions for personal and business exchange'.

   b) The need for holding money arises because there is lack of synchronization between receipts and expenditures.

   c) The transaction motive is further classified into income motive and business (trade) motive.

   d) The transactions demand for money is a direct proportional and positive function of the level of income (but not by interest rate) and is stated as follows:

   $$L_r = kY$$

   Where,

   L_r is the transactions demand for money,

   k is the ratio of earnings which is kept for transactions purposes

   Y is the earnings.

   Keynes considered the aggregate demand for money for transaction purposes as the sum of individual demand and therefore, the aggregate transaction demand for money is a function of national income.

2. **The Precautionary Motive:** (function of money income)

   a) Individuals and businesses keep a portion of their income to finance unforeseen and unpredictable contingencies involving money payments occur in our day to day life.

   b) The amount of money demanded under the precautionary motive depends on the size of income, prevailing economic as well as political conditions and personal characteristics of the individual (such as optimism/ pessimism, farsightedness etc.)

   c) Keynes regarded the precautionary balances just as balances under transactions motive as income elastic.

3. **The Speculative Demand for Money:** (function of rate of interest)

   a) The speculative motive reflects people's desire to hold cash in order to exploit any attractive investment opportunity requiring cash expenditure.

   b) According to Keynes, people demand to hold money balances to take advantage of the future changes in the rate of interest, which is the same as future changes in bond prices.

   c) It is implicit in Keynes theory that the 'rate of interest', ***i***, is really the return on bonds.

Assumptions:

i) The expected return on money is zero

ii) The expected returns on bonds are of two types, namely the interest payment and the expected rate of capital gain.

The speculative demand for money and interest are inversely related:

The market value of bonds and the market rate of interest are inversely related.

i) If the current rate of interest (r_n) is higher than the critical rate of interest (r_c) (Investor's expected rate), a typical wealth-holder would hold in his asset portfolio only government bonds

ii) If $r_n < r_c$, his asset portfolio would consist wholly of cash

iii) If $r_n = r_c$, a wealth-holder is indifferent to holding either cash or bonds.

Conclusion: An increase in income increases the transaction and precautionary demand for money and a rise in the rate of interest decreases the demand for speculative demand money.

SIMILAR QUESTIONS:

1. **Describe the Keynesian view of different motives of holding cash.**

A. Refer above answer

2. **Explain the Keynesian theory of demand for money. What motives did Keynes ascribe to demand for money? Illustrate your answer.**

A. Refer above answer

3. **Explain the Transactions Motive in the Keynesian theory of demand for money.**

A. Refer 1st point

4. **Explain the Precautionary Motive in the Keynesian theory of demand for money**

A. Refer 2nd point

5. **Explain the Speculative Motive in the Keynesian theory of demand for money**

A. Refer 3rd point

6. **Explain how speculative motive for holding cash is related to market interest rate.**

A. Refer 3rd point

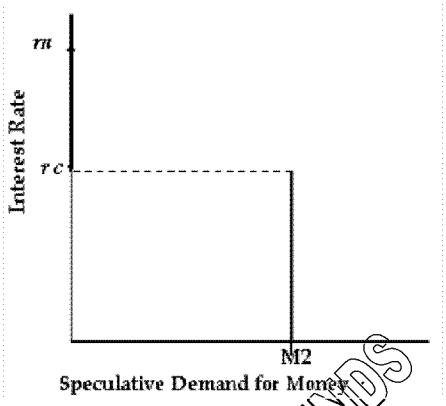
Q.No.9. Explain graphically the speculative demand for money of individuals as given by Keynes. (B) (SM)

According to Keynes, the sum of the transaction demand, precautionary demand and the speculative demand, is the total demand for money.

The Speculative Demand for Money: (function of rate of interest):

According to Keynes, people demand to hold money balances to take advantage of the future changes in the rate of interest, which is the same as future changes in bond prices.

Individual's Speculative Demand for Money: The speculative demand for money of individuals can be diagrammatically presented as follows.



1. It shows discontinuous portfolio decision of a typical individual investor.
2. If $r_n > r_c$, the entire wealth is held by the individual wealth-holder in the form of government bonds.
3. If $r_n < r_c$, the individual will hold his entire wealth in the form of speculative cash balances.

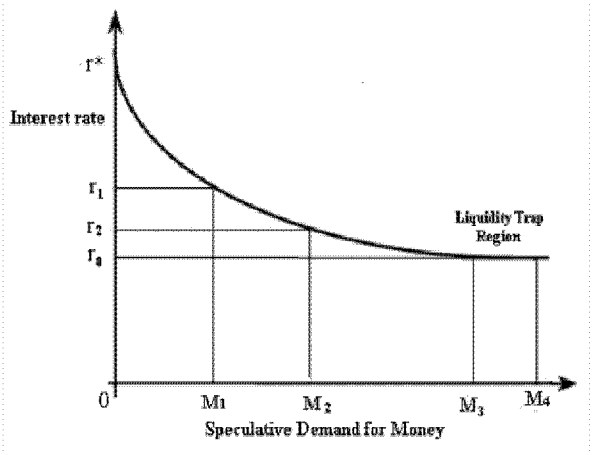
Q.No.10. Explain graphically the aggregate speculative demand for money as given by Keynes. (B) (SM)

According to Keynes, the sum of the transaction demand, precautionary demand and the speculative demand, is the total demand for money.

The Speculative Demand for Money: (function of rate of interest):

According to Keynes, people demand to hold money balances to take advantage of the future changes in the rate of interest, which is the same as future changes in bond prices.

Aggregate Speculative Demand for Money: **Under** aggregate speculative demand for money, the discontinuity of the individual demand curve disappears and a continuous downward sloping demand function is obtained.



It shows the inverse relationship between the current rate of interest and the speculative demand for money.

SIMILAR QUESTION:

1. **Explain Liquidity trap.**

A. Liquidity trap is a situation in which current interest rates are low and saving rates are high, rendering monetary policy ineffective. In liquidity trap consumers choose to avoid bonds and keep their funds in savings with the expectation of rise in interest rate in the near future.

Q.No.11. Explain the term 'real cash balance'. Describe the Inventory Theoretic Approach to demand for money. (B) (SM)

Real cash balance: Real cash balances are money of some base year purchasing power.

Inventory Approach to Transaction Balances:

Baumol (1952) and Tobin (1956) developed a deterministic theory of transaction demand for money, known as Inventory Theoretic Approach.

In this approach, money or 'real cash balance' was viewed as an inventory held for transaction purposes.

i) **Assumptions of Baumol's theory:**

There are two media for storing value: **Money** and an **Interest-bearing alternative financial asset** (say bonds).

There is a fixed cost of making transfers between money and alternative assets e.g. brokerage charges.

ii) **Application of Baumol's theory:**

People hold cash balance which involves an opportunity cost in terms of lost interest. People hold an optimum combination of bonds and cash balance that minimizes the opportunity cost.

iii) **Baumol's propositions of holdings:**

- According to him receipt of income takes place once per unit of time but expenditure is spread at a constant rate over the entire period of time.
- If excess cash over and above transactions is invested in bonds then lower will be the money holdings.
- The higher the income, the higher is the average level of inventory or money holdings.
- The level of inventory holding also depends upon the carrying cost. EX: Brokerage fee.
- The individual will choose the number of times the transfer between money and bonds takes place so that the net profits from bond transactions are maximized.
- The average transaction balance (money) holding is an inverse function of the number of times the transfer between money and bonds takes place.

iv) **Effect of Brokerage fee (i.e. carrying cost):**

- Brokerage fee↑- marginal cost of bond market transaction↑- number of transactions↓- the average bond holding↓- the transactions demand for money↑.
- An individual combines his asset portfolio of cash and bond in such proportions that his cost is minimized.

SIMILAR QUESTIONS:

1. **List out the factors that determine the demand for money in the Baumol-Tobin analysis of transactions demand for money? How does a change in each factor affect the quantity of money demanded?**

A. Refer above answer

2. **Describe the treatment of transactions demand for money as per Baumol and Tobin's model. (RTP M18)**

A. Refer above answer

3. **Examine the influence of different variables on demand for money according to Inventory Theoretic Approach?**

A. Refer points 3 & 4

Q.No.12. Explain Friedman's Restatement of Quantity Theory with reference to demand for money. (A) (SM)

1. **Friedman's Restatement of the Quantity Theory:**

Milton Friedman (1956) extended Keynes' speculative money demand in terms of asset price theory (theory of demand for capital assets).

2. **Demand for money is affected by the same factors as demand for any other asset, namely**

a) Permanent income.

b) Relative returns on assets. (Which incorporate risk)

Permanent income: Friedman considered permanent income but whereas Keynes considered current income in determining the demand for money.

Permanent income is the present expected value of all future income from wealth.

Relative returns on assets: Different assets have different returns such as zero returns on money; interest on bonds, dividends on equity, cost of storage on physical capital.

3. **Other determinants of the demand for money:**

a) The nominal demand for money is a function of total wealth.

$$\text{Current value of total wealth} = \frac{\text{Permanent Income}}{\text{Discount (Interest) rate}}$$

b) The nominal demand for money is defined as the average return on the five asset classes in the monetarist theory world, namely money, bonds, equity, physical capital and human capital.

c) The nominal demand for money is positively related to the price level.

d) The nominal demand for money is inversely related to the opportunity costs of money holdings (i.e. returns on bonds etc.)

e) Positive inflation rate reduces the real value of money balances, thereby increasing the opportunity costs of money holdings.

SIMILAR QUESTIONS:

1. **What factors determine demand for money in Friedman's modern quantity theory? How does each of the factors affect demand for money?**

A. Refer points 1, 2 & 3

2. **To what extent does Friedman's Restatement of the Quantity Theory explain the demand for money?**

A. Refer above answer

Q.No.13. Explain the Demand for Money as Behavior toward Risk in the words of Tobin. **(B) (SM)**

The Demand for Money as Behavior toward Risk in the words of Tobin:

In his classic article, 'Liquidity Preference as Behavior towards Risk' (1958), Tobin established that the theory of risk-avoiding behavior of individuals.

1. **It provided the foundation for the liquidity preference in terms of:**
   - **a)** Negative relationship between the demand for money and the interest rate.
   - **b)** The risk-aversion theory which is based on the principles of portfolio management.
2. **Analysis of Tobin's approach**: The demand for money which is considered as a store of wealth explains the following:

   An individual Optimal Portfolio Structure is determined by:
   - **a)** The risk/reward characteristics of different assets
   - **b)** The taste of the individual in maximizing his utility consistent with the existing opportunities

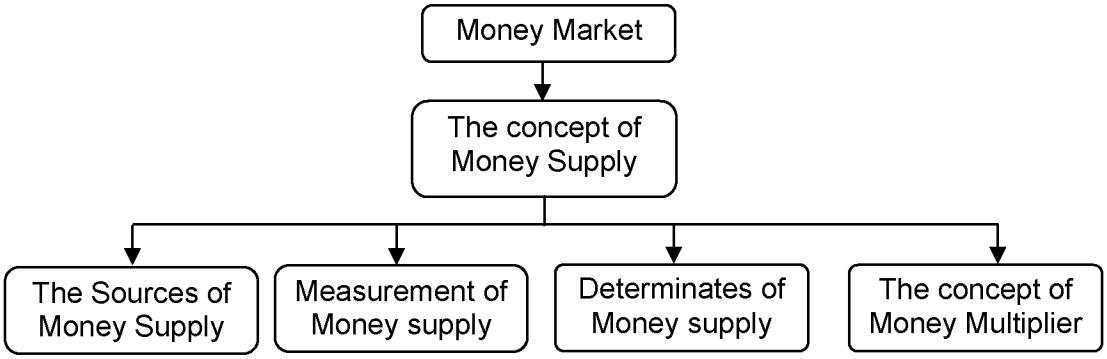
   An individual would hold a portion of his wealth in the form of money in the portfolio because:
   - **a)** The rate of return on holding money was more certain than the rate of return on holding interest earning assets.
   - **b)** It entails no capital gains or losses.
3. **Determinants of demand for money in the words of Tobin**:
   - **a)** Risk involved in buying or holding bonds:
     - Uncertainty about future changes in bond prices.
     - Government bonds and equities are subject to market price volatility, while money is not.
     - Actual return on bonds is uncertain.
   - **b)** Individual will be willing to face the risk if the expected rate of return from the bonds exceeds that of money.
   - **c)** **Rationality:** The rational behaviour of a risk-averse person induces him to hold an optimally wealth portfolio of both bonds and money.
   - **d)** **Risk aversion:** The overall expected return would be higher if the portfolio were all bonds, but an investor who is 'risk-averse' will be willing to exercise a trade- off and sacrifice to some extent the higher return for a reduction in risk.
   - **e)** **Effect of interest rate:** With an increase in the interest rate the individual's portfolio will be effected by more holdings of bonds (by accepting greater risk) and reduces holding of money.

SIMILAR QUESTION:

1. **'Risk-avoiding behavior of individuals provided the foundation for the liquidity preference and for a negative relationship between the demand for money and the interest rate' Elucidate with examples.**

A. Refer above answer

6.2 MONEY SUPPLY



Q.No.14. Define the term Money supply. Mention the two important things about measure of money supply. (A) (SM)

1. **Money Supply:** The term money supply denotes the total quantity of money available to the people in an economy.
2. **Two important things about any measure of money supply:**

   The supply of money is a stock variable i.e. it refers to the total amount of money at any particular point of time.

   It is the change in the stock of money (increase or decrease per month or year), which is a flow.

Note: The stock of money always refers to the stock of money available to the 'public' as a means of payments and store of value. This is always smaller than the total stock of money that really exists in an economy.

SIMILAR QUESTION:

1. **Define money supply.**

A. Refer 1st point

Q.No.15. Define Public, Government and Banking system in terms of Money supply. (B) (SM)

1. **PUBLIC:** The term 'public' is defined to include all economic units (households, firms and institutions) except the producers of money (i.e. the government and the banking system).
   - **a)** The word 'public' is inclusive of all local authorities, non-banking financial institutions, and non-departmental public-sector undertakings, foreign central banks and governments and the International Monetary Fund which holds a part of Indian money in India in the form of deposits with the RBI.
   - **b)** In the standard measures of money, interbank deposits and money held by the government and the banking system are not included.
2. **Government:**

   The government includes the central government and all state governments and local bodies.
3. **Banking system:**

   The banking system means the Reserve Bank of India and all the banks that accept demand deposits (i.e. deposits from which money can be withdrawn by cheque mainly CASA deposits).

Note: CASA deposits = Current A/c & Savings A/c deposits.

SIMILAR QUESTION:

1. **Define Money Supply. Describe the different components of money supply.**

A. Refer Q.No. 14 & 15 **(MTP2 M18 - 3M)**

Q.No.16. What is the rationale of measuring money supply in an economy? (B) (SM)

Empirical analysis of money supply is important for two reasons:

1. It facilitates analysis of monetary developments
2. To evaluate whether the stock of money in the economy is consistent with the standards for price stability and to understand the nature of deviations from this standard.

The central banks all over the world adopt monetary policy to stabilise price level and GDP growth by directly controlling the supply of money. This is achieved mainly by managing the quantity of monetary base. The success of monetary policy depends to a large extent on the controllability of money supply and the monetary base.

SIMILAR QUESTION:

1. **List out the need for and rationale of measuring money supply.**

A. Refer above answer

Q.No.17. Explain the sources of money supply in an economy? (A) (SM)

The supply of money in the economy depends on:

1. Monetary authority
2. Banking system

1. **Monetary authority:**
   - **a)** In every country its central bank is the primary source of money as it is empowered to issue currency.
   - **b)** High powered money issued by monetary authorities is the source of all other forms of money.
   - **c)** The currency issued by the central bank is 'fiat money' and its value is guaranteed by the government.
   - **d)** The currency issued by the central bank is a liability of the central bank and the government.
   - **e)** In principle, currency must be backed by an equal value of assets consisting of gold and foreign exchange reserves.
   - **f)** In practice, most countries have adopted a 'minimum reserve system (i.e the central bank is empowered to issue currency to any extent by keeping a certain minimum reserve of gold and foreign securities).
2. **Banking System:**

   Banks create money supply in the process of borrowing and lending transactions with the public. Money so created by the commercial banks is called 'CREDIT MONEY'.

Note: The high powered money and the credit money broadly constitute the most common measure of money supply, or the total money stock of a country.

SIMILAR QUESTIONS:

1. **Elucidate the different sources of money supply**

A. Refer above answer

2. **Explain the nature of currency issue under minimum reserve system.**

A. Refer f) in 1st point

3. **Define 'credit money'.**

A. Refer b) in 2nd point

Q.No.18. Explain the concept of measurement of money supply. (A) (SM)

Measurement of Money Supply:

Till 1967-68, the RBI used to publish only a single 'narrow measure of money supply' (M_1) defined as the sum of currency and demand deposits held by the public. From 1967-68, a 'broader' measure of money supply, called 'aggregate monetary resources' (AMR) was additionally published by the RBI.

From April 1977, following the recommendations of the Second Working Group on Money Supply (SWG), the RBI has been publishing data on four alternative measures of money supply denoted by M_1, M_2, M_3 and M_4 besides the reserve money.

The respective empirical definitions of these measures are:

M_1 = Currency notes and coins with the people + demand deposits of banks (Current and Saving deposit accounts) + other deposits of the RBI.
M_2 = M_1 + savings deposits with post office savings banks.
M_3 = M_1 + net time deposits with the banking system.
M_4 = M_3 + total deposits with the Post Office Savings Organization (excluding National Savings certificate).

Note: The RBI has specified four measures of money stock in the descending order of liquidity, M_1 being the most liquid and M_4 the least liquid of the four measures.

SIMILAR QUESTION:

1. Illustrate the various measures of money supply.

A. Refer above answer

Q.No.19. Explain the components of Narrow money (A) (SM)

M_1 = Currency notes and coins with the people + demand deposits of banks (Current and Saving deposit accounts) + other deposits of the RBI.

Components of Narrow Money:

1. **Currency:** It consists of paper currency as well as coins.
2. **Demand deposits:** The demand deposits comprise the current-account deposits and the demand deposit portion of savings deposits, all held by the public.
   - **a)** These are also called CASA deposits and also cheapest source of finance for a commercial bank.
   - **b)** The total deposits include both deposits from the public as well as inter- bank deposits.
   - **c)** Net demand deposits of banks = Total demand deposits - Interbank deposits

     (Since inter- bank deposits are not held by the public, they are deducted from total demand deposits).
   - **d)** Only Net demand deposits of banks are included in the measure of money supply.
3. **'Other deposits' of the RBI:** These are deposits other than those held by the government (the Central and state governments), and include
   - **a)** Demand deposits of quasi- government institutions, other financial institutions,
   - **b)** Balances in the accounts of foreign central banks and governments,
   - **c)** Accounts of international agencies such as IMF and the World Bank.

     Empirically, 'other deposits' of the RBI constitute a very small proportion (less than one percent) of the total money supply.

SIMILAR QUESTIONS:

1. **List the components of M_1.**

A. Refer above answer

2. **What is the rationale behind inclusion of net demand deposits of banks in money supply measurement?**

A. Refer a) and b) in 2nd point.

Q.No.20. Explain the new monetary aggregates provided on the recommendations of the Working Group on Money (1998). (A) (SM)

Following the recommendations of the third Working Group on Money (1998), the RBI has started publishing a set of four new monetary aggregates on the basis of the balance sheet of the banking sector in conformity with the norms of progressive liquidity. The new monetary aggregates are:

Reserve Money = 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
NM_1 = Currency with the public + Demand deposits with the banking system + 'Other' deposits with the RBI.
NM_2 = NM_1 + Short-term time deposits of residents (including and up to contractual maturity of one year).
NM_3 = NM_2 + Long-term time deposits of residents + Call/Term funding from financial institutions

SIMILAR QUESTION:

1. **Classify the new monetary aggregates based on the Working Group on Money (1998) provided by the RBI.**

A. Refer above answer

Q.No.21. Define the terms Narrow money and Reserve money. Compare the both terms. (B) (SM)

a) **Narrow Money:** Narrow money (M_1) is defined as the sum of currency held by the public, demand deposits of the banks and other deposits of RBI.

b) **Reserve money:**

i) Reserve money is comprised of the currency held by the public, cash reserves of banks and other deposits of RBI.

ii) Reserve money, also known as central bank money, base money or high-powered money.

iii) Reserve money determines the level of liquidity and price level in the economy and, therefore, its management is of crucial importance to stabilize liquidity, growth, and price level in an economy.

c) **On comparison of M_1 and reserve money:** M_1 includes the demand deposits while reserve money includes the cash reserves of banks.

SIMILAR QUESTIONS:

1. **Define 'Reserve Money'.**

A. Refer point b

2. **Write a note on two major components Reserve money?**

A. Refer point b

3. **Distinguish between M_1 and M_2.**

A. Refer point c

Q.No.22. State the macroeconomic liquidity aggregates measured by Central bank in addition to the monetary aggregates? (B) (SM)

Liquidity aggregates includes:

i) The instruments issued by the banking system which are included in 'money'.

ii) The instruments which are close substitutes of money but are issued by the non-banking financial institutions.

L_1 = NM_3 + All deposits with the post office savings banks (excluding National Savings Certificates).
L_2 = L_1 +Term deposits with term lending institutions and refinancing institutions (FIs) + Term borrowing by FIs + Certificates of deposit issued by FIs.
L_3 = L_2 + Public deposits of non-banking financial companies

SIMILAR QUESTION:

1. **Write a note on the liquidity aggregates compiled by RBI**

A. Refer above answer

Q.No.23. Briefly explain the concept of Money Multiplier? (A) (SM)

MONEY MULTIPLIER APPROACH:

'Money multiplier approach' focuses on the relation between the money stock and money supply in terms of the monetary base or high-powered money.

This approach holds that total supply of nominal money in the economy is determined by the joint behaviour of the central bank, the commercial banks and the public.

1. **Money Supply:**

   The money supply is defined as

   M = m X MB

   Where M is the money supply, m is money multiplier and MB is the monetary base or high powered money.

2. **Money multiplier:** Money multiplier (m) is defined as a ratio of changes in the money supply to a given change in the monetary base. **(MTP1 N18 - 2M)**

$$\text{Money Multiplier (m)} = \frac{\text{Money Supply}}{\text{Monetary Base}}$$

   a) It denotes by how much the money supply will change for a given change in high-powered money.

   b) The multiplier indicates what multiple of the monetary base is transformed into money supply.

SIMILAR QUESTIONS:

1. **Define 'Money Multiplier'? What is the nature of relationship between money multiplier and the money supply? (MTP1 M18 - 3M)**

A. Refer above answer

2. **Explain the money multiplier approach to money supply? (MTP1 N18 - 2M)**

A. Refer above answer

Q.No.24. How the money multiplier approach can determine the supply of money? (A) (SM)

The money multiplier approach to money supply propounded by Milton Friedman and Anna Schwartz, (1963) considers three factors as immediate determinants of money supply, namely:

1. The stock of high-powered money (H): (behaviour of the central bank)
2. The ratio of reserves to deposits, *e = {ER/D}* : (behaviour of the commercial banks)
3. The ratio of currency to deposits, *c ={C/D}: (*behaviour of the general public)

1. **The Behaviour of the Central Bank: (H)**

   The behaviour of the central bank is reflected in the supply of the nominal high-powered money.

   Money stock is determined by the money multiplier and the monetary base is controlled by the monetary authority.

   Other determinants remaining same, the total supply of nominal money will vary directly with the supply of H.

2. **The Behaviour of Commercial Banks:** (e = ER/D)

   By creating credit, the commercial banks determine the total amount of nominal demand deposits.

   The reserve ratio on demand deposits and money supply are inversely related.

   Excess reserves of commercial banks have no effect on deposits or currency and hence no effect on money supply.

   Money supply become subject to 'shocks' which may present variations overtime either cyclically and more permanently.

3. **The Behaviour of the Public:** (*c =C/D)*

   a) The behaviour of the public influences bank credit through the decision on ratio of currency to the money supply designated as the 'currency ratio'.

   b) If many people decide to keep more money in their pockets and less money in banks then currency ratio increases.

   c) But demand deposits undergo multiple expansions while currency in hands does not.

   d) The money multiplier and money supply are negatively related to the currency ratio *c*.

   e) The currency-deposit ratio (c) is related to the level of the GDP growth and is influenced by the degree of financial sophistication

   f) An increase in TD/DD ratio (Time deposit/ demand deposit ratio) means that greater availability of free reserves and it leads to multiple deposit expansion and monetary expansion.

SIMILAR QUESTIONS:

1. **Explain the concept of money multiplier and bring out its impact on money supply.**

A. Refer above answer **(RTP N18)**

2. **Briefly explain the stock of high-powered money (H) or the behaviour of the central bank in the money supply.**

A. Refer 1st point

3. **Briefly explain the ratio of reserves to deposits (e) or the behaviour of the commercial banks in the money supply.**

A. Refer 2nd point

4. **Briefly explain the ratio of currency to deposits (c) or the behaviour of the general public in the money supply.**

A. Refer 3rd point

5. Describe with illustrations how changes in high powered money, required reserves, excess reserves and currency ratio, influence the money supply in an economy?

A. Refer 2nd point

Q.No.25. What are excess reserves of Commercial banks? What is their impact on the economy? (A) (SM)

Excess Reserves: In a banking system these are the bank reserves in excess of reserve requirement set by a Central bank. They have no effect on deposits or currency and hence no effect on money supply.

Excess Reserves arises when:

1. In the commercial banking system the large portion of SLR is in the form of cash reserves the additional units of 'H' goes into 'excess reserves' of the commercial banks
2. If the central bank injects money into the banking system and these are held as excess reserves by the banking system.
   a) **Costs and benefits of holding excess reserves:** These costs and benefits are influenced by market interest rates and Expected deposit outflows.
      - If the costs of holding the excess reserves rise, then the level of excess reserves falls.
      - If the benefits of holding excess reserves rise, then the level of excess reserves rises.
   b) **Cost of holding excess reserves is in terms of its opportunity cost: (Market interest rate):**
      - The banking system's excess reserves ratio is negatively related to the market interest rate
      - If interest rate increases, the opportunity cost of holding excess reserves rises and desired ratio of excess reserves to deposits falls and vice-versa.
   c) **Cost of holding excess reserves is in terms of expected deposit outflows:** If expected deposit outflows increase, banks want more assurance against this possibility and will increase the excess reserves ratio and vice-versa.

Q.No.26. State the effect of government expenditure on Money supply? (A) (SM)

Effect of Government Expenditure on Money Supply:

If the central and the state governments' cash balances fall short of the minimum requirement, they are eligible to avail of a facility called Ways and Means Advances (WMA)/overdraft (OD) facility.

a) When the RBI lends to the governments under WMA /OD, it results in the generation of excess reserves.

b) This happens because when government incurs expenditure, it involves debiting the government balances with the RBI and crediting the receiver (for e.g., salary account of government employee) account with the commercial bank.

c) The excess reserves thus created can potentially lead to an increase in money supply through the money multiplier process.

Q.No.27. Explain Credit Multiplier with an example. (B) (SM)

The Credit Multiplier or the deposit multiplier or the deposit expansion multiplier:

It describes the amount of additional money created by commercial bank through the process of lending the available money it has, in excess of the central bank's reserve requirements.

The credit multiplier is the reciprocal of the required reserve ratio.

$$\text{Credit multiplier} = \frac{1}{\text{Required Reserve Ratio}}$$

The credit multiplier explains that when a bank uses the deposited money for lending, the bank generates another claim on a given amount of deposited money.

For example, If A deposits Rs. 1000 in cash at a bank (Bank X), this constitutes the bank's current total cash deposits. The Proceeds are as follows:

a) If the required reserve is 10 percent, the bank would lend Rs.900 to B.

b) By lending B Rs. 900, the bank creates a deposit for Rs. 900 that B can now use. It is as though B owns Rs.900. This in turn means that A will continue to have a claim against Rs.1000 while B will have a claim against Rs.900.

c) The bank has Rs.1000 in cash against claims of Rs.1900. In short, the bank has created Rs.900 out of "thin air" since these Rs.900 are not supported by any genuine money.

d) At any time, the fractional reserve commercial banks have more cash liabilities than cash in their vaults.

e) Now suppose B buys goods worth Rs.900 from C and pays C by cheque. C places the cheque with his bank, Bank Y.

f) After clearing the cheque, Bank Y will have an increase in cash of Rs.900, which it may take advantage of and use to lend out Rs.810 to D which may again be deposited in another bank, say Bank Z. (Rs.90 (i.e. 10% of 900) should be maintained as required reserves)

g) Again 10 percent of Rs.810 (Rs.81) has to be kept as required reserves and the remaining Rs.729 can be lent out, say to E.

h) This sequence keeps on continuing until the initial deposit amount Rs.1,000 grows exactly by the multiple of required reserves(in this case, 10%).

i) Ultimately, the expanded credit availability would be 1000 + 900 (i.e. 90% of 1000) + 810 (i.e. 90% of 900) + 729 (i.e. 90% of 810) + 656.10(i.e. 90% of 729) +……. This summation would end with an amount which is equivalent to 1/10% of 1000, which is Rs.10,000.

j) Thus, in our example, the initial deposit is capable of multiplying itself out 10 times.

In short, we find that the fact that banks make use of demand deposits for lending it sets in motion a series of activities leading to expansion of money that is not backed by money proper.

Q.No.28. Why the deposit multiplier and the money multiplier though closely related are not identical? (B) (SM)

Though the deposit multiplier and the money multiplier are closely related but are not identical because:

i) Generally banks do not lend out all of their available money but instead maintain reserves at a level above the minimum required reserve.

ii) All borrowers do not spend every Rupee they have borrowed. They are likely to convert some portion of it to cash.

QUESTIONS FOR ACADEMIC INTEREST - FOR STUDENT SELF STUDY

Q.No.29. "Anything that would act as a medium of exchange is not necessarily money." Comment on it. (B) (SM)

For example, a bill of exchange may also be a medium of exchange, but it is not money since it is not generally accepted as a means of payment.

Q.No.30. What is an obvious advantage of money having a single unit of account? (C) (SM)

An obvious advantage of having a single unit of account is that it greatly reduces the number of exchange ratios between goods and services.

Q.No.31. "It is convenient to trade all commodities in exchange for a single commodity i.e. in terms of money." Comment on it. (C) (SM)

It is convenient to measure the prices of all commodities in terms of a single unit, rather than record the relative price of every good in terms of every other good. Use of money as a unit of account can encourage trade by making it easier for individuals to know how much one good is worth in terms of another.

Q.No.32. The splitting of purchases and sale into two transactions involves a separation in both time and space. How this separation is possible? (C) (SM)

This separation is possible because money can be used as a store of value or store of means of payment during the intervening time.

Q.No.33. "All assets other than money lack perfect reversibility." Support the sentence. (C) (SM)

All assets other than money lack perfect reversibility in the sense that their value in payment is not equal to their value in receipt.

Q.No.34. Despite having the advantages of potential income yield and appreciation in value over time, name the assets which are subject to limitations such as storage costs, lack of liquidity and possibility of depreciation in value. (C) (SM)

Government bonds, deposits and other securities, land, houses etc.

Q.No.35. Even financial assets like the riskless government bonds do not command perfect reversibility. Why? (C) (SM)

As the purchase and sale of financial assets are subject to certain brokerage costs although this may be quite small they do not command perfect reversibility.

Q.No.36. How the role of money in the macro economy is usually examined? (C) (SM)

The role of money in the macro economy is usually examined in a supply/demand framework.

Q.No.37. If a person hold his wealth in the form of interest yielding asset other than money what will be the opportunity cost of holding money? (C) (SM)

The opportunity cost of holding money is the interest rate a person could earn on other assets.

Q.No.38. Name the versions which are chiefly concerned with money as a means of transactions or exchange, and represents models of the transaction demand for money? (C) (SM)

The versions are of Irving Fisher (classical approach) and Cambridge approach (Neo-classical approach) represents models of the transaction demand for money.

Q.No.39. According to Speculative demand for money by Keynes the market value of bonds and the market rate of interest are inversely related. Explain the sentence. (C) (SM)

Keynes the market value of bonds and the market rate of interest are inversely related.

1. If wealth-holders consider that the current rate of interest is high compared to the 'normal or critical rate of interest', they expect a fall in the interest rate (rise in bond prices). At the high current rate of interest, they will convert their cash balances into bonds because:
   - **a)** They can earn high rate of return on bonds
   - **b)** They expect capital gains resulting from a rise in bond prices consequent upon an expected fall in the market rate of interest in future.
2. If the wealth-holders consider the current interest rate as low, compared to the 'normal or critical rate of interest', i.e., if they expect the rate of interest to rise in future (fall in bond prices), they would have an incentive to hold their wealth in the form of liquid cash rather than bonds because:
   - **a)** The loss suffered by way of interest income forgone is small,
   - **b)** They can avoid the capital losses that would result from the anticipated increase in interest rates, and
   - **c)** The return on money balances will be greater than the return on alternative assets
3. If the interest rate does increase in future, the bond prices will fall and the idle cash balances held can be used to buy bonds at lower price and can thereby make a capital-gain.

Q.No.40. What is meant by carrying cost in the words of Baumol's theory? (C) (SM)

Carrying cost is the interest forgone by holding money and not bonds. It is the net of the cost to the individual of making a transfer between money and bonds, say for example brokerage fee.

Q.No.41. In general what will be the relation of demand for money with real income and interest rate? (C) (SM)

All the theories of demand for money establish a positive relation of demand for money to real income and an inverse relation to the rate of return on earning assets, i.e. the interest rate.

Q.No.42. Name the significant predictors of demand for money. (C) (SM)

Real income, interest rates and expectations in respect to inflation are significant predictors of demand for money.

Q.No.43. Name the two alternate theories in respect of determination of money supply? On which determinant of money is current practice is based upon? (C) (SM)

The two alternate theories in respect of determination of money supply:

1) The money supply is determined exogenously by the central bank.
2) The money supply is determined endogenously by changes in the economic activities which affect people's desire to hold currency relative to deposits, rate of interest, etc.

The current practice is to explain the determinants of money supply based on 'money multiplier approach'.

SIMILAR QUESTION:

1. **Name the different determinants of money supply. (RTP M18)**

A. Refer above answer

Q.No.44. Define the following terms. (C) (SM)

Reserve ratio: The ratio of cash reserves of commercial banks to deposits known as the 'reserve ratio'.

Currency-deposit ratio (c): The currency-deposit ratio (c) refers to the relationship between the amount of cash a person holds and the amount of money maintained in readily accessible accounts. It also represents the degree of adoption of banking habits by the people.

Time Deposit - Demand Deposit Ratio: The time deposit - demand deposit ratio represents how much money is kept as time deposits compared to demand deposits,

Q.No.45. Briefly summarise the money multiplier approach. (C) (SM)

Money multiplier refers to the maximum amount of money supply that could increase due to increase in reserves within the banking system.

1. The size of the money multiplier is determined by:
   - **a)** The required reserve ratio (*r*) at the central bank,
   - **b)** The excess reserve ratio (*e*) of commercial banks and
   - **c)** The currency ratio (*c*) of the public
2. The lower these ratios, the larger will be the money multiplier.
3. The money supply is determined by high powered money (H) and the money multiplier (m) and varies directly with changes in the monetary base, and inversely with the currency and reserve ratios.
4. Although these three variables do not completely explain changes in the nominal money supply, nevertheless they serve as useful devices for analysing such changes.
5. Consequently, these variables are designated as the 'proximate determinants' of the nominal money supply in the economy.

Q.No.46. Define the term credit multiplier. How is it calculated? (C) (SM)

The Credit Multiplier or the deposit multiplier or the deposit expansion multiplier:

It describes the amount of additional money created by commercial bank through the process of lending the available money it has, in excess of the central bank's reserve requirements.

a) The deposit multiplier is tied to the bank's reserve requirement. (i.e. it is inversely related to the reserve requirement ratio.)

b) This measure tells us how much new money will be created by the banking system for a given increase in the high- powered money.

c) It reflects a bank's ability to increase the money supply.

d) The credit multiplier is the reciprocal of the required reserve ratio.

$$\text{Credit multiplier} = \frac{1}{\text{Required Reserve Ratio}}$$

e) The existence of the credit multiplier is the outcome of fractional reserve banking.

f) It explains how increase in money supply is caused by the commercial banks' use of depositors' funds to lend money. When a bank uses the deposited money for lending, the bank generates another claim on a given amount of deposited money.

TEST YOUR KNOWLEDGE

1. Define money. How does the economist's use of this term differ from its everyday meaning?

2. Who determines the nation's money supply? Explain how the money supply could be expanded or reduced in an economy in which all money is in the form of currency.

3. What is the relationship between the price level and the nominal money supply? What is the relationship between inflation and the growth rate of the nominal money supply?

4. Describe the various theories related to demand for money.

5. Explain why bond prices move inversely to market interest rates.

6. Differentiate Narrow Money and Broad Money.

7. Name the post Keynesian theories of demand for money.

8. Why should you hold money balances?

9. Will you choose to hold only interest bearing assets?

10. What would your choice be if you can pay for nearly all transactions through online transfers?

11. Do you think money is a unique store of value? **(RTP N18)**

12. Distinguish between the different variables considered by each of the theories of demand for money.

13. Describe with illustrations how changes in high powered money, required reserves, excess reserves and currency ratio, influence the money supply in an economy?

14. What would be the effect on money multiplier if banks hold excess reserves?

(RTP M18, MTP2 M18 - 2M)

15. What effect does government expenditure have on money supply?

16. What is the value of the money multiplier in a system of 100% reserve banking?

17. Name the different determinants of money supply in a country.

18. Prepare separate graphs using excel on 'Money Stock: Components and Sources' and 'Reserve Money: Components and Sources' for four previous months from the weekly statistical supplements published by Reserve Bank of India. Identify the trends in each.

19. How would each of the following affect money multiplier and money supply? **(RTP N18)**

a) Commercial banks in India decide to hold more excess reserves

b) Fearing shortage of money in ATMs, people decide to hoard money

c) Banks open large number ATMs all over the country

d) E banking becomes very common and nearly all people use them

e) During festival season , people decide to use ATMs very often

f) If banks decide to keep 100% reserves. What would be the effect on money multiplier and money supply?

g) Suppose banks need to keep no reserves only 0% reserves are there.

20. If commercial banks in India decide to hold more excess reserves, how would it affect the money multiplier and money supply? **(MTP2 M18 - 2M)**

21. Are there any standards across the world to measure money supply?

22. In India by whom the range of monetary and liquidity measures are compiled and published?

23. What is the effect of money constituents on money supply?

24. What is the cost of holding excess reserves is in terms of its opportunity cost?

25. What would be the behaviour of money supply when depositors decide to increase currency holding, with all other variables unchanged?

LIST OF FORMULAE

1. Concepts of Demand for Money: (Formulae are based on transaction motive only)

a) Irving Fisher (Classical Approach: The Quantity Theory of Money): MV + M'V' = PT

b) Cambridge Approach (Neo Classical Approach): $M^d = kPY$

c) Keynes (Liquidity Preference Theory): $L = kY$

2. Net Demand and Time Liabilities = Demand and Time Liabilities (with the public or other bank) - Deposits in the form of assets held by the other bank.

3. Money Supply = Currency + Deposits

4. Monetary Base = Currency + Reserves

5. Currency ratio (or) Currency deposit ratio *(c)* = $\frac{\text{Currency in the hands of the public}}{\text{Deposits}}$

6. Reserve ratio (r) = $\frac{\text{Reserves}}{\text{Deposits}}$

7. Money multiplier (or) Credit multiplier (or) Deposit multiplier = $\frac{1}{\text{Reserve Requirement}}$

8. Money multiplier (Mm) = $\frac{\text{Money Supply (M)}}{\text{Monetary Base (H)}} = \frac{c+1}{c+r}$

a) $M = Mm \times H$

b) $M = \left(\frac{c+1}{c+r}\right) \times H$

9. From April 1977, following the recommendations of the Second Working Group on Money Supply (SWG), the RBI published data on four alternative measures of money supply:

M_1 = Currency notes and coins with the people + demand deposits of banks (Current and Saving deposit accounts) + other deposits of the RBI.
$M_2 = M_1$ + savings deposits with post office savings banks.
$M_3 = M_1$ + net time deposits with the banking system.

M_4 = M_3 + total deposits with the Post Office Savings Organization (excluding National Savings Certificates).

10. Following the recommendations of the Working Group on Money (1998), the RBI published a set of four new monetary aggregates as:

Reserve Money = Currency in circulation + Bankers' deposits with the RBI + Other deposits with the RBI,
NM_1 = Currency with the public + Demand deposits with the banking system + 'Other' deposits with the RBI,
NM_2 = NM_1 +Short-term time deposits of residents (including and up to contractual maturity of one year),
NM_3 = NM_2 + Long-term time deposits of residents + Call/Term funding from financial institutions

11. The Liquidity aggregates are

L_1 = NM_3 + All deposits with the post office savings banks (excluding National Savings Certificates).
L_2 = L_1 +Term deposits with term lending institutions and refinancing institutions (FIs) + Term borrowing by FIs + Certificates of deposit issued by FIs.
L_3 = L_2+ Public deposits of non-banking financial companies.

PROBLEMS FOR CLASS ROOM DISCUSSION

1. What would be the impact of each of the following on credit multiplier and money supply?

i) If commercial Banks keep 100 percent reserves.

ii) If commercial Banks do not keep reserves.

iii) If commercial Banks keep excess reserves. **(M18 - 3M)**

2. In a period Reserve Money is 36,000 and Narrow Money M_1 is Rs. 42,000. If the Total of Currency in Circulation + Other Deposits of RBI is 15,000, Compute (a) Banker's Deposits with RBI, (b) Net Demand Deposits of banks. (assume amounts in Rs. Crores)

(ANS.: (a) RS. 21,000 CRORES; (b) RS. 27,000 CRORES) (SOLVE PROBLEM NO. 1 OF ASSIGNMENT PROBLEMS AS REWORK)

3. Computation of New Monetary Aggregates and Liquidity Aggregates. From the following data, compute NM_1, NM_2, NM_3 **(in crores)**

Particulars	Amount (Rs.)
Banker's Deposits with RBI	600
Call/Term Funding from Financial Institutions	1,000
Total Deposits with Post Office Savings Banks (Incl. NSC)	1,900
National Saving Certificates (NSC)	300
Term Deposits with Term Lending & Re-Financing Institutions	900
Term Borrowing by and CD's issued by Financing Institutions	500
Currency in circulation with Public	700
Demand Deposits of Banks	1,300
Other Deposits of RBI	400
Time Deposits of Banks - Short Term	2,800
Time Deposits of Banks - Long Term	6,400
Public Deposits of NBFC's	1,200

(ANS.: NM_1 = RS. 2,400 CRORES, NM_2 = RS. 5,200 CRORES, NM_3 = RS. 12,600 CRORES, L_1 = RS. 14,200 CRORES, L_2 = RS. 15,600 CRORES, L_3 = RS. 16,800 CRORES) (SOLVE PROBLEM NO. 2 & 3 OF ASSIGNMENT PROBLEMS AS REWORK)

4. What will be the total credit created by the commercial banking system for an initial deposit of Rs.1,000/- for required reserve ratio 0.02, 0.05 and 0.10 percent respectively? Compute credit multiplier. ***(MTP2 M18 - 2M) (ANS.: 50,000; 20,000; 10,000)***

5. In the economy, the following statistics describe the money supply:

Currency = $ 1,000 billion, Reserves = $ 125 billion Deposits = $ 4,000 billion

Calculate the amount of the monetary base; Quantity of the money supply; ratio of reserves to deposits; ratio of currency to deposits, money multiplier.

(ANS.: $1,125 BILLION; $5,000 BILLION; 0.0313; 0.25; 4.4444)

6. While clearing debris from a house destroyed by Hurricane Katrina, a group of student helpers discovered a shoe box full of $100 bills--$30,000 in all. The students found the displaced homeowner, who promptly deposited the full amount in the local bank. Suppose the reserve requirement is 25%, and the bank was just meeting its reserve requirement prior to the deposit.

a) How much of this new deposit is this bank required to hold in reserve? How much does the deposit create in excess reserves?

b) What is the value of the monetary multiplier?

c) What is the potential increase in the money supply this new deposit can generate?

(ANS.: a) REQUIRED RESERVES: $ 7,500 AND EXCESS RESERVES: $ 22,500; b) 4; c) $ 90,000)

ASSIGNMENT PROBLEMS - FOR STUDENT'S SELF PRACTICE

1. Compute Reserve Money from the following data published by RBI:

Components	(In billions of Rs.) As on 7th July 2017.
Currency in Circulation	15,428.40
Bankers' Deposits with RBI	4,596.18
'Other' Deposits with RBI	183.30

(SM) (ANS.: RS. 20,207.88)

2. Compute M_3 from the following data published by RBI.

Components	(In billions of Rs.) as on 31 March, 2017
Currency with the Public	12,637.1
Demand Deposits with Banks	14,106.3
Time Deposits with Banks	1,01,489.5
'Other' Deposits with Reserve Bank	210.9

(SM) (ANS.: RS. 1,28,443.80)

3. The RBI Published the following data as on 31st March, 2018. You are required to compute M_4:

Particulars	(in crores)
Currency with the public	1,12,206.6
Demand Deposits with Banks	1,93,300.4
Net Time Deposits with Banks	2,67,310.2
Other Deposits of RBI	614.8
Post Office Savings Deposits	277.5
Post Office National Savings Certificates (NSCs)	110.5

(N18 - 3M)

THE END