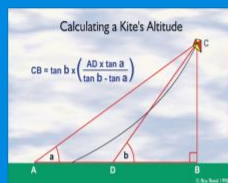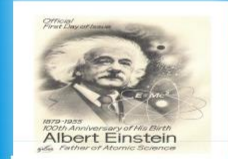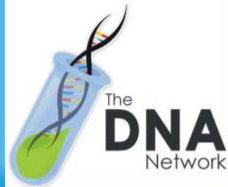# NTA UGC NET

ECONOMICS

SAMPLE THEORY - *(English Medium)*

* **The Classical Approach**

* **The Keynesian Approach**

* **The Total Demand For Money**

UGC NET - ECONOMICS

SAMPLE THEORY

DEMAND FOR MONEY

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DEMAND FOR MONEY

1.   Introduction

The demand for money arises from tw o important functions of money. The first is that money acts as a medium of exchange and the second is that it is a store of value. Thus individuals and businesses wish to hold money partly in cash and partly in the form of assets.

What explains changes in the demand for money? There are tw o views on this issue. The first is the "scale" view which is related to the impact of the income or wealth level upon the demand for money. The demand for money is directly related to the income level. The higher the income level, the greater will be the demand for money. The second is the "substitution" view which is related to relative attractiveness of assets that can be substituted for money. According to this view, when alternative assets like bonds become unattractive due to fall in interest rates, people prefer to keep their assets in cash, and the demand for money increases, and vice versa. The scale and substitution view combined together have been split into the transactions demands, the precautionary demand and the speculative demand. There are three approaches to the demand for money: The classical, the Keynesian, and the post-Keynesian.

2.   The classical approach

(i)   Fisher Version. The classical economists did not explicitly formulate demand for money theory but their views are inherent in the quantity theory of money. They emphasized the transactions demand for money in terms of the velocity of circulation of money. This is

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because money acts as a medium of exchange and facilitates the exchange of goods and services. In Fisher's "Equation of Exchange".

$$MV=PT$$

where M is the total quantity of money, V is its velocity of circulation, P is the price level, and T is the total amount of goods and services exchanged for money.

The right hand side of this equation PT represents the demand for money which, in fact, "depends upon the value of the transactions to be undertaken in the economy, and is equal to a constant fraction of those transactions." MV represents the supply of money which is given and in equilibrium equals the demand for money. Thus the equation becomes

$$Md = PT$$

This transactions demand for money, in turn, is determined by the level of full employment income. This is because the classicists believed in Say's Law whereby supply created its own demand, assuming the full employ ment level of income. Thus the demand for money in Fisher's approach is a constant proportion of the level of transactions, which in turn, bears a constant relationship to the level of national income.

Thus its underlying assumption is that people hold money to buy goods.

But people also hold money for other reasons, such as to earn interest and to provide against unforeseen events. It is, therefore, not possible to say that V will remain constant when M is changed. The most important thing about money in Fisher's theory is that it is transferable. But it does not explain fully why people hold money. It does not clarify whether to include as money such items as time deposits or savings deposits that are not immediately available to pay debts without first being converted into currency.

(ii)   Cambridge Versions

It was the Cambridge cash balance approach which raised a further question. Why do people actually want to hold their assets in the form of money? With larger incomes, people want to make larger volumes of transactions and that larger cash balances will, therefore, be demanded.

The Cambridge demand equation for money is

$$Md = kPY$$

where Md is the demand for money w hich must equal the supply to money (Md = Ms) in equilibrium in the economy. k is the fraction of the real money income (PY) which people wish to hold in cash and demand deposits or the ratio of money stock to income, P is the price level, and Y is the aggregate real income. This equation tells us that "other things being equal, the demand for money in normal terms would be proportional to the nominal level of income for each individual, and hence for the aggregate economy as well."

3.   The Keynesian Approach

Keynes in his General Theory used new term "liquidity preference' for the demand for money. Keynes suggested three motives w hich led to the demand for money in an economy

(1) The Transactions demand

(2) The Precautionary demand, and

(3) The Speculative demand.

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The Transactions Dem and for Money

The transactions demand for money arises from the medium of exchange function of money in making regular pay ments for goods and services. According to Keynes, it relates to "the need of cash for the current transactions of personal and business exchange.". It is further divided into income and business motives. The income motive is meant "to bridge the interval between the receipt of income and its disbursement." Similarly, the business motive is means "to bridge the interval betw een the time of incurring business costs and that of the

receipt of the sale proceeds."

There will, be changes in the transactions demand for money depending upon the expectations of income recipients and businessmen. They depend upon the level of income, the interest rate, the business turnover, the normal period between the receipt and disbursement of income, etc.

Given these factors, the transactions demand for money is a direct proportional and positive function of the level of income, and is expressed as

$$LT = kY$$

where LT is the transactions demand for money, k is the proportion of income which is kept for transactions purposes, and Y is the income.

This equation is illustrated in figure w here the line kY represents a linear and proportional relation between transactions demand and the level of income. Assuming k = 1/4 and income Rs 1000 crores, the demand for transactions balances would be Rs 250 crores, at point A. With the increase in income to Rs 1200 crores, the transactions demand would be Rs. 300 crores at point B on the curve kY. If the transactions demand falls due to a change

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in the institutional and structural conditions of the economy, the value of k is reduced to say, 1/5, and the new transactions demand curve is k'Y. It show s that for income of Rs 1000 and 1200 crores, transactions balances w ould be Rs 200 and 240 crores at points C and D respectively in the figure.
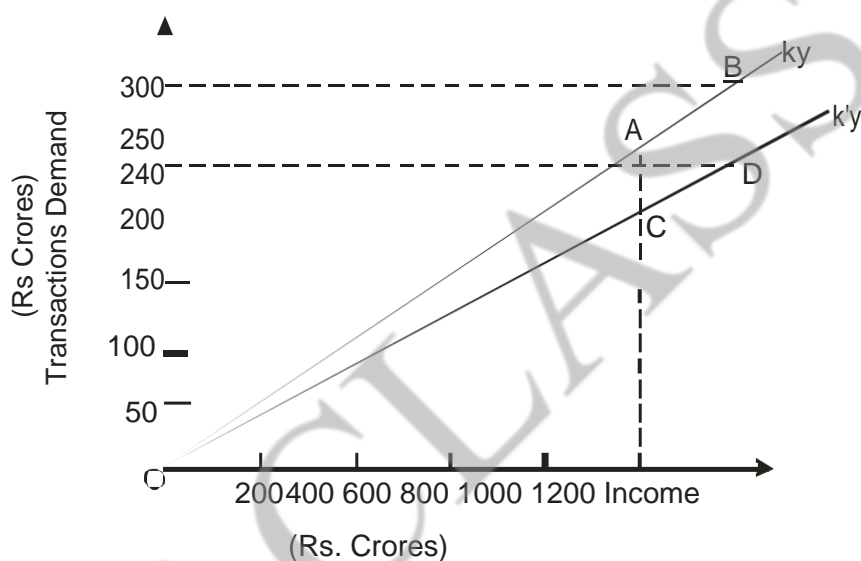
"Thus we conclude that the chief determinant of changes in the actual amount of the transactions balances held is changes in income. Changes in the transactions balances are the result of movements along a line like kY rather than changes in the slope of the line. In the equation changes in transactions balances are the result of changes in Y rather than changes in k."

Interest Rate and Transactions Dem and. Regarding the rate of interest as the determinant of the transactions demand for money Keynes made the LT function interest inelastic. But he pointed out that the "demand for money in the active circulation is also to some extent a

function of the rate of interest, since a higher rate of interest may lead to a more economical use of active balances." he did not stress the role of the rate of interest in this part of his analysis, and many of his popularizers ignored it altogether." In recent years, two post-Keynesian economists William J. Baumol and James Tobin have show n that the rate of interest is an important deter minant of transactions demand for money. They have also pointed out that the relationship between transactions demand for money and income is not linear and proportional. Rather, changes in income lead to proportionately smaller changes in transaction demand.

Transactions balances are held because income received once a month is not spent on the same day. In fact, an individual spreads his expenditure evently over the month. Thus a portion of money meant for transactions purposes can be spend on short-term interest-yielding securities.

The higher the interest rate, the larger will be the fraction of any given amount of transactions balances that can be profitably diverted into securities."

The structure of cash and short-term bond holdings is show n in figure (A), (B) and (C). Suppose an individual receives Rs. 1200 as income on the first of every month and spends it evenly over the month. The month has four weeks. His saving is zero. Accordingly, his transactions demand for money in each week is Rs. 300. So he has Rs 900 idle money money in the first week, Rs 600 in the second week, and Rs. 300 in the third week. He will, therefore, convert this idle money into interest bearing bonds, as illustrated in Panel (B) and (C) of figure. Invests Rs 900 in interest-bearing bonds(show n in panal C) of figure. On the first day of the second week, he sells bonds worth Rs 300 to cover cash transactions of the

second week, and his bond holdings are reduced to Rs 600. Similarly, he will sell bonds worth Rs 300 in the beginning of the third and keep the remaining bonds amounting to Rs 300 which he will sell on the first day of the fourth week to meet his expenses for the last week of the month. The amount of cash held for transactions purposes by the individual during each week is shown in saw-tooth pattern in Panel (B), and the bond holdings in each week are shown in blocks in panel (C) of figure.

The modern view is that the transactions demand for money is a function of both income and interest rates which can be expressed as
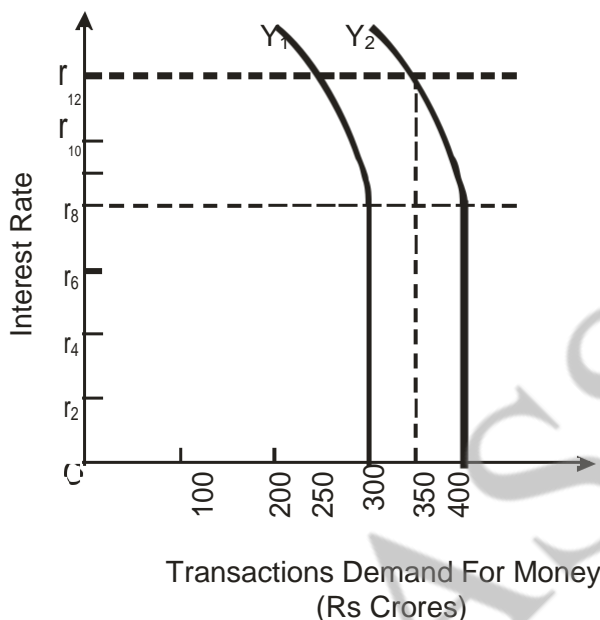
$$LT = f(Y, r).$$

This relationship between income and interest rate and the transactions demand for money for the economy as a whole is illustrated in figure we saw above that $LT = kY$. If $Y = $ Rs 1200 crores and $k = 1/4$, then $LT = $ Rs 300 crores.

(A)

(B)
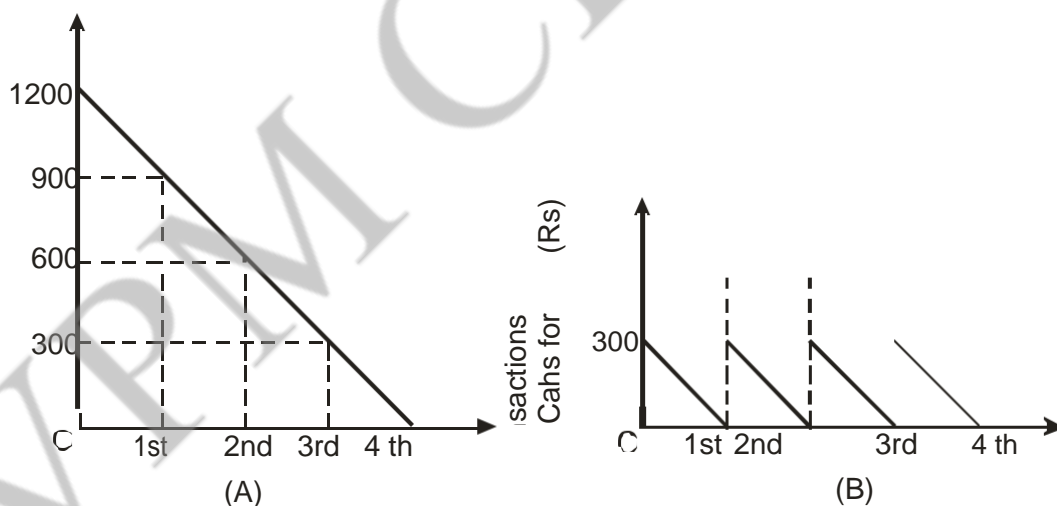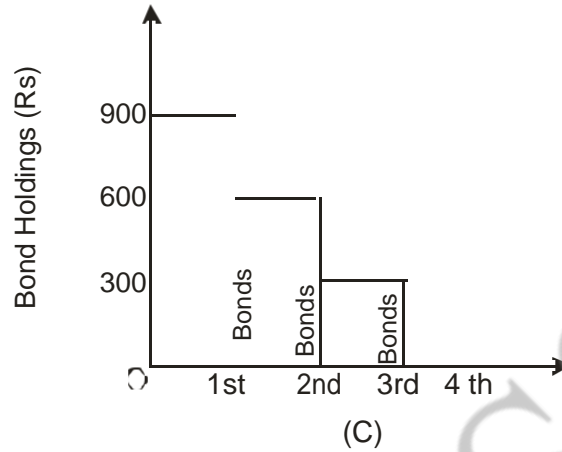
Time in Weeks

This is show n as Y_1 curve in figure. If the income level rises to Rs 1600 crores the

transactions demand also increases to Rs 400 crores, given k = 1/4. Consequently, the

transactions demand curve shifts to Y_2 . The transactions demand curves Y_1 and Y_2 are

interest-inelastic so long as the rate of interest does not rise above r_8 per cent. As the rate of

interest starts rising above r_8, the transactions demand for money becomes interest elastic.

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Transactions Demand For Money
(Rs Crores)

The backward slope of the Y_1 curve shows that at still higher rates, the transaction demand

for money declines. Thus when the rate of interest rises to r_{12}, the transactions demand

declines to Rs 250 crores with an income level of Rs 1200 crores. Similarly, when the national

income is Rs 16000 crores the transactions demand would decline to Rs 350 crores at r_{12}

interest rate. Thus the transactions demand for money varies directly with the level of income

and inversely with the rate of interest.

The Precautionary Dem and for Money

The precautionary motive relates to "the desire to provide for contingencies requiring sudden

expenditures and for unforeseen opportunities of advantageous purchases." Both individuals

and businessmen keep cash in reserve to meet unexpected needs. Individuals

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hold some cash to provide for illness, accidents, unemployment and other unforeseen contingencies. Similarly, businessmen keep cash in reserve to tide over unfavourable conditions or to gain from unexpected deals. Therefore, "money held under the precautionary motive is rather like depends upon the level of income, and business activity, opportunities for unexpected profitable deals, availability of cash, the cost of holding liquid assets in bank reserves, etc.

Keynes held that the precautionary demand for money, like transactions demand, was a function of the level of income. But the post-Keynesian economists believe that like transactions demand, it is inversely related to high interest rates. The transactions and precautionary demand for money will be unstable, particular ly if the economy is not at full employment level and transactions are, therefore, less than the maximum, and are liable to fluctuate up or down. Since precautionary demand like transactions demand is a function of income and interest rates, the demand for money for these two purposes is expressed in the single equation LT = f(Y,r). Thus the precautionary demand for money can also be explained diagrammatically in terms of figures.

The Speculative Dem and for Money

The speculative (or asset or liquidity preference) demand for money is for "securing profit from knowing better than the market what the future will bring forth". Individuals and businessmen having funds, after keeping enough for transactions and precautionary purposes, like to make a speculative gain by investing in bonds.

Bond prices and the rate of interest are inversely related to each other. Low bond prices are indicative of high interest rates, and high bound prices reflect low interest rates. A bond carries a fixed rate of interest. For instance, if a bond of the value of Rs. 100 carries 4 per cent interest and the market rate of interest rises to 8 percent, the value of this bond falls to Rs 50 in the market. If the market rate of interest falls to 2 percent, the value of the bond will rise to Rs 200 in the market.

Individuals and businessmen can gain by buying bonds worth Rs 100 each at the market price of Rs 50 each when the rate of interest is high (8 per cent), and sell them again when they are dearer (Rs. 200 each when the rate of interest falls (to 2 per cent).

According to Keynes, it is expectations about changes in bond prices or in the current market rate of interest that deter mine the speculative demand for money.

Relationship between an individual's demand for money and the rate of interest is shown in figure where the horizontal axis shows the individual's demand for money for speculative purposes and the current and critical interest rates on the vertical axis. The figure shows that when r is greater then r_c, the asset holder puts all his cash balances in bonds and his demand for money is zero. This is illustrated by the LM portion of the vertical axis. When r falls below r_c, the individual expects more capital losses on bonds as against the interest yield. He, therefore, converts his entire holdings into money, as shown by OW in the figure. This relationship between an individual asset holder's demand for money and the current rate of interest gives the discontinuous step demand for money curve LMSW.

Speculative Demand
for Money
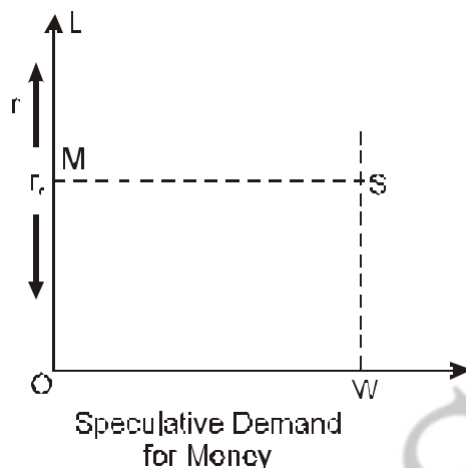
For the economy as a whole the individual demand curve can be aggregated on this presumption that individual asset-holders differ in their critical rates r_c. It is a s mooth curve which slopes downward from left to right, as shown in figure.

Thus the speculative demand for money is a decreasing function of the rate of interest. The higher the rate of interest, the lower the speculative demand for money, and the lower the rate of interest, the higher the speculative demand for money. It can be expressed algebraically as $Ls = f(r)$, w here Ls is the speculative demand for money and r is the rate of interest. Geometrically, it is shows in figure. The figure shows that at a very high rate of interest r_{12}, the speculative demand for money is zero and businessmen invest their cash holdings in bonds because they believe that the interest rate cannot rise further. As the rate of interest falls to say, r_8 the speculative demand for money is OS. With a further fall in the interest rate to r_6, it rises to OS'. Thus, the shape of the Ls curve shows that as the interest rate rises, the speculative demand for money declines, and with the fall in the interest rate, it

increases. Thus, the Keynesian speculative demand for money function is highly volatile, depending upon the behavior of interest rates.
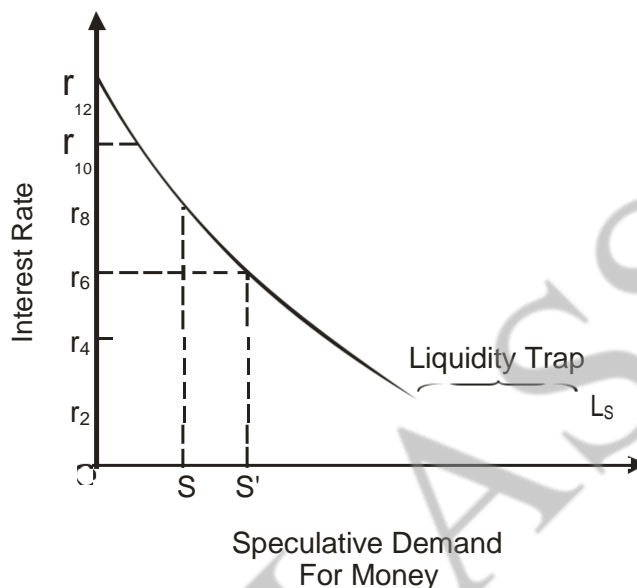
Liquidity Trap

Keynes visualized conditions in which the speculative demand for money would be highly or even totally elastic so that changes in the quantity of money would be fully absorbed into speculative balances. This is the famous Keynesian liquidity trap. In this case, changes in the quantity of money have no effect at all on prices or income. According to Keynes, this is likely to happen when the market interest rate is very low so that the yields on bond, equities and other securities will also be low.

At a very low rate of interest, such as r_2, the LS curve becomes perfectly elastic and the speculative demand for money is infinitely elastic. of the Ls curve is know n as the liquidity trap. At such a low rate, people prefer to keep money in cash rather than invest in bonds because purchasing bonds will mean a definite loss. People will not buy

bonds so long as the interest rate remains at the low level and they will be waiting for the rate of interest to return to the "normal" level and bond prices to fall.

According to Keynes, as the rate of interest approaches zero, the risk of loss in holding bonds becomes greater. "When the price of bonds has been bid up so high that the rate of interest is, say, only 2 per cent or less, a very small decline in the price of bonds will wipe out the yield entirely and a slight further decline w ould result in loss of the part of the principal. Thus the low er the interest rate, the smaller the earnings from bond. Therefore, the greater the demand for cash holdings. Consequently, the Ls curve will become perfectly elastic.

Further, according to Keynes, "a long-term rate of interest of 2 per cent leaves more to fear than to hope, and offers, at the same time, a running yield which is only sufficient to offset a very small measure of fear." This makes the L_s curve "virtually absolute in the sense that almost everybody prefers cash to holding a debt which yields so low a rate of interest."

4.   The Total Demand for Money

According to Keynes, money held for transactions and precautionary purposes is primarily a function of the level of income, LT = f(Y), and the speculative demand for money is a function of the rate of interest, Ls = f(r). Thus the total demand for money is a function of both income and the interest rate:

LT + +Ls = f(Y) + f(r)

or   L = f(Y) + f(r)

or   L = f(Y, r)

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where L represents the total demand for money.

Key Points

1. In Fisher's equation of exchange

$$MV = PT$$

where, M = Total quantity of money

V = Velocity of circulation

P = Price level

T = Total amount of goods and services exchanged for money.

2. According to keynes there are three motives of demand for money

(i) The transactions demand

(ii) The precautionary demand

(iii) The speculative demand

3. The situation w here the speculative demand for money becomes infinitely elastic is know n as liquidity trap.

4. Transactions demand for money is a direct proportional and positive function of the level of income .

5. Total demand for money $\rightarrow \lambda = f(Y, r)$

Where Y = income

r = rate of interest

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