Quantity Theory of Money By Irving Fisher

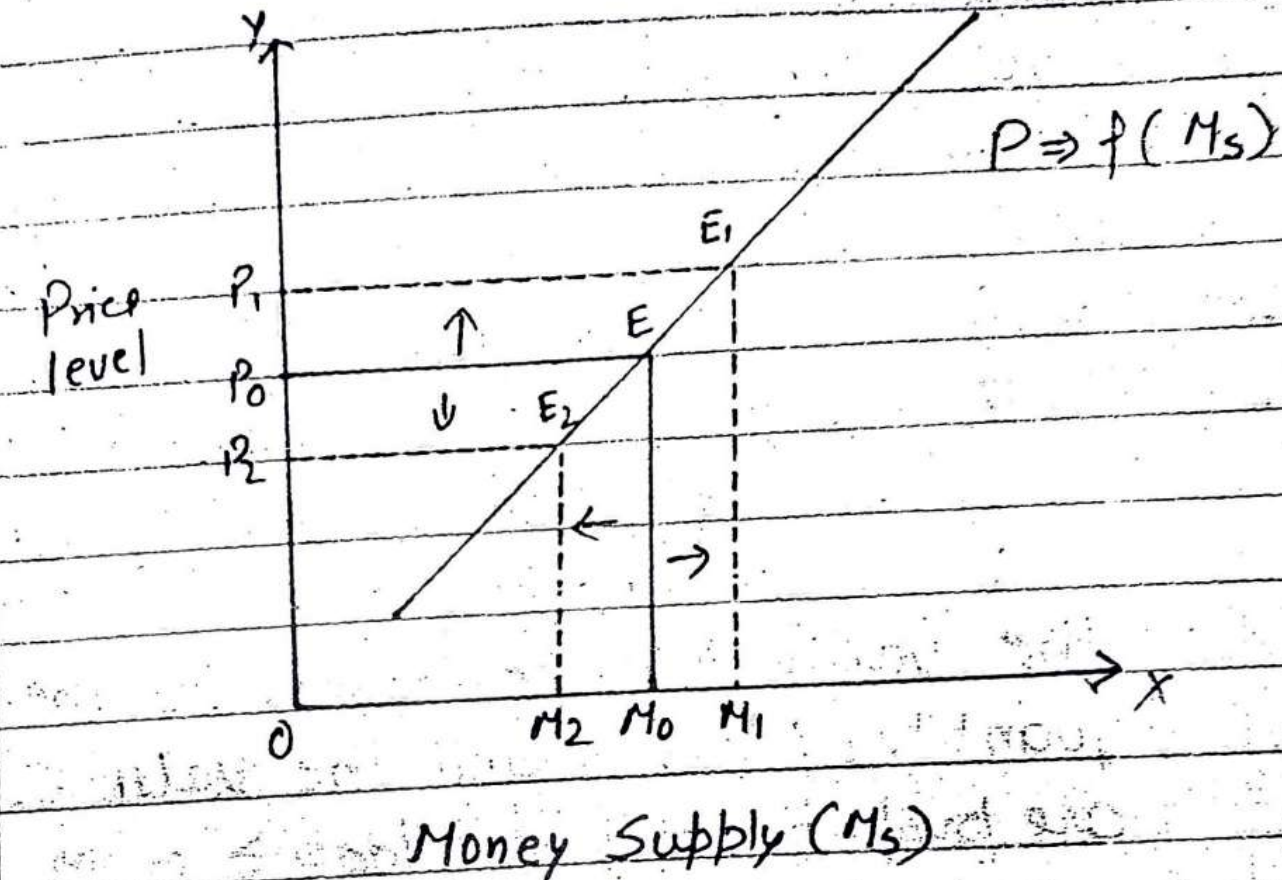
This theory was developed by Classical thinkers like Adam Smith, Recardo, J.S. Mill and lateron popularised by Professior IRVING FISHER.

STATEMENT OF THE THEORY

According to this theory, the value of money Changes inversely and the price level directly to the Change in the Quantity of Money. In other things remain equal the changes in the general price level are directed propotion to Changes in Supply of money.

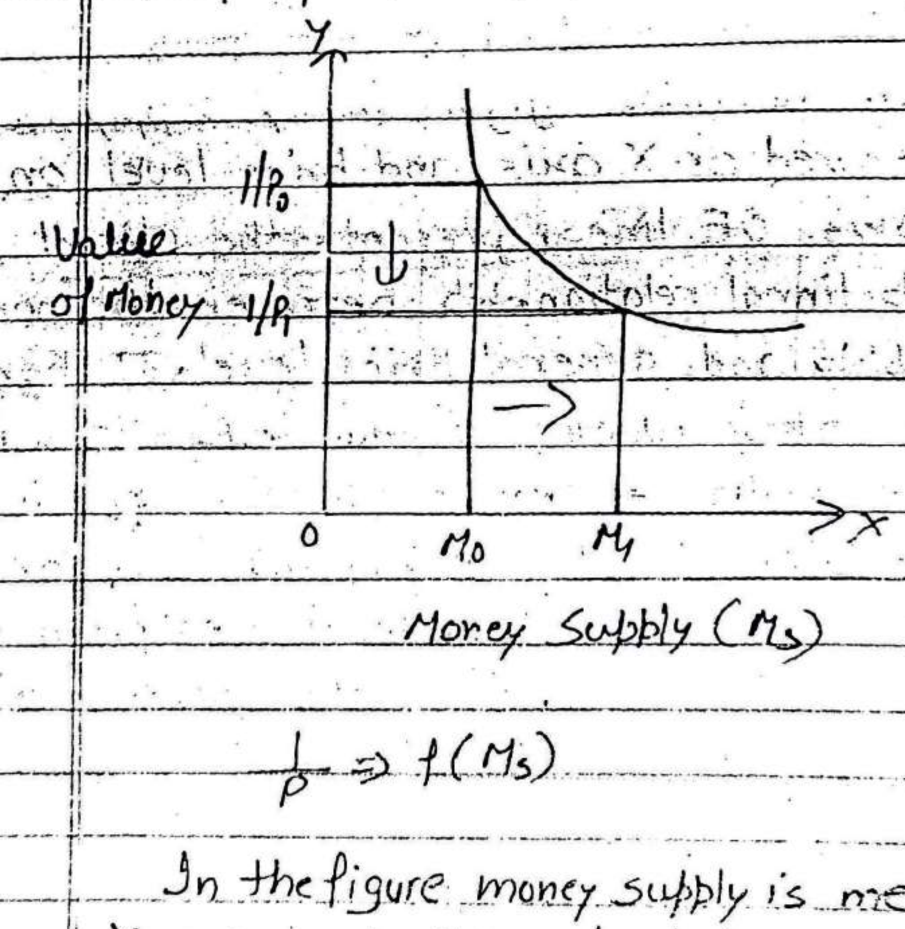
Implication of The Theory:-

1. The money supply or quantity of money and the general price level are directly functionally related. [$P \Rightarrow f(M_s)$], where P denotes price level and $M_s \Rightarrow$ Money Supply. If money supply increases, the price level also increases with the decrease in money supply, the price level also decreases. The Change in the price level is exactly in the Same proportion, i.e. if the money supply is doubled, price level is also doubled



In the Above figure money supply is measured on X axis and price level on Y-axis. OE line represents the direct propotional relationship between the money supply and general price level. When the total quantity of money is circulation is M_0, the general price level is P_0. When the quantity of money increases from OM_0 to OM_1. The price level rises from OP_0 to OP_1. Like arise. when the quantity of money decreases from OM_0 to OM_2, the price level also falls from OP_0 to OP_2.

(2) The money supply and the Value of money or purchase power of a unit of money o inversaly related. Symbolically $[1/P \Rightarrow f(M_s)]$ where $1/P$ denotes the Value of money and M_s the money supply. If quantity of money rises, the value of money falls, and with the fall in the quantity of money the value of money rises. further, the quantity of money and the value of money are propotionally related.



$$\frac{1}{P} \Rightarrow f(M_s)$$

In the figure money supply is measured on X-axis and the value of money on Y-axis. with the increase in money supply from OM_0 to OM_1. As a result the value of money falls from $1/P_0$ to $1/P_1$. Thus, the quantity of money and the value of money are inversly related

Transaction Equation of Exchange

Original Equation

The transaction version of the quantity theory of money was presented by Irving Fisher. In the form of an equation of exchonge.

$$MV = PT$$

Therefore
$MV \Rightarrow$ Supply of Money
$PT \Rightarrow$ Demand for money.

$$P \Rightarrow \frac{MV}{T}$$

$M \Rightarrow$ Quantity of money in Circulation
$V \Rightarrow$ Velocity of Circulation of money. It shows the Average number of times a unit of Currency Changes land.

$P \Rightarrow$ General Price level
$T \Rightarrow$ Total Volume of transaction of Goods and Services during a given period of time.

The product of M and V represent the total supply of money during a given period of time. The Product of P and T represent the demand for money. The Supply of money must, At any time be equal to the demand for money.

MODIFIED EQUATION

The Above equation was critisied by some of the monetary exberts ignoring Credit money and its velocity, both of which were important in a modern economy. Irving fisher, therefore extended his original equation to incorporate bank deposits (M') and its velocity (V')

$$MU + M'U' = PT$$

$M' \Rightarrow$ Value of Bank Deposits

$V' \Rightarrow$ Velocity of Circulation of bank deposits

This equation boardly indicates that the total transaction effected during the given period of time multiplied by the brice level are equal to the total amount of money multiplied by its velocity. This equation of exchange is simply an identity. The quantity theory of money is derived from this identity with the help of Certain assumption. By making the assumption that M, V, V' and T remains Constant. Professor fisher argues that Change in M will lead to a propotinate Change in P.

CONCLUSION OF IRVING FISHER THEORY

① Other things remaining unchanged, as the quantity of money in circulation increases, the price level also increase in direct propotion.

$$P \Rightarrow \frac{MU + M'U'}{T}$$

② Other things remaining unchanged, if the quantity of money is doubled, the Value of money or, purchasing power of a unit of money is halfed, and if the quantity of money is halfed, the Value of money is doubled.

ASSUMPTIONS OF FISHER EQUATION

① Price level or P is Constant factor in the equation of exchange. Price is affected by other factors in the equation but does not affect or Cause Change in those factors. The relation between P and Other factors in the equation is one sided in as much as P is determined by other elements in the Equation but it does not determined by them.

(2) The Theory assumes that T and V remain Constant during a short period. Since 'T' depends upon the volume of Production, techniques of Production remaining unchanged during the short period, It also unchanged. Similarly V depends upon the size of population, State of economic development, money habits of the people, Which remain Constant during the short period.

(3) The Theory assumes that the ratio of bank money to legal tender money remains Constant. In Fisher's word "Under any given condition of Industry and Civilisation deposits stand for hold a fixed normal ratio to money in Circulation. Thus, the inclution of M' does not normally disturbed the quantitive relation between money and Prices. If the ratio of bank money to legal tender money does not remain Constant, then the quantitative relation between money and prices will not hold true.

Thus four variables that means M, V, V' and T remains Constant in Fisher's equation of exchange during the short period. Since general price level P, is also a passive element in the equation, therefore the

Changes in the quantity of money directly effect with the price level.

CRITICISM OF TRANSACTION APPROACH

The quantity theory of money has been widely Criticised. The main criticism are the following.

1. The theory is based upon unreal assumptions:

Fisher has assumed the quantity of bank money (M'), Velocity of Circulation of the bank money V, Velocity of circulation of the ~~bank~~ legal tender money (V) and total Volume of transaction (T) as Constant during the short run, which is not proper, If the quantity of money remains unchanged. but its velocity increases, then the prices are bound to increase. Similarly Change in the level of production also influences the General price level.

2. Money Supply and price level are not directly related: Professor Keynes is one of the opinion that the relationship between the quantity of money and the price level is not so direct and

imigiate as assumed by fisher. In his view, the Change in quantity of money influences the price level in the following way.

PROCESS

Change in money Supply

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Change in rate of interest

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Change in investment

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Change in Income & Employment

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Change in Cost of Production

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Change in Price level

(3) Price also affect money Supply. It is wrong

to assume price level as a passive element is the equation of exchange. A Change in price level may Cause a change in money Supply. High Price level may activate the economy and this may ~~ness~~ necessiate the issue of more money. The reverse is equally true.

(4) Inclusion of inconsistont factor in the Equation : In fisher's equation M denotes the Supply of money at a point of time, while V denotes the Velocity of circulation during a period of time. The multiplication M and V will give us incossistont results.

(5) Limited Application of the Theory : Fisher's Theory fails to sustain the test of time. During the period of depression even if there is no reduction in the quantity of money price level is bound to fall.

(6) Non Monetary factors ignored : Fisher's himself has agreed that there are many other factors besides money which influence the price level. factors like the diversity of human wont, decenterlisation of industries, developmment of meons of transportation Propensity to Consume etc.

(7) Propotional relationship between money supply and Price level does not exist :

It is not always necessary that the price level must change exactly in the Same propotion as the Supply of money. It is only at the full employment level that ~~means~~ money supply affect the price level propotionately. But full employment is Simply a myth.