B.A. 2ND SEMESTER
PAPER: INTRODUCTORY MACROECONOMICS
UNIT 2=MONEY

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Value of Money:

It is the purchasing power of money over goods and services in a country.

"What a rupee can buy in India represents the value of money of the rupee."

- ✓ It is a relative concept which expresses the relationship between a unit of money and the goods and services which can be purchased with it.
- ✓ So it is also related to the price level, since we can purchase goods & services with a money unit given the prices.
- ✓ But the relationship between value of money and price level is inverse.

If V (Value of money and P (Price level), then V=1/P.

When the price level rises, value of money falls and vice-versa.

- ✓ Two types of value of money- Internal value of money and external value of money.
- ✓ Internal value of money refers to the purchasing power of money over domestic goods and services, whereas external value of money refers to the purchasing power over foreign goods and services.

Quantity theory of Money

The theory answers to questions like **"How is the general price level determined? Why does price level change?"**

In its simplest form, it states that the general price level (P) in an economy is directly dependent on the money supply (M);

$$P = f(M)$$

If M doubles, P will double. If M is reduced to half, P will decline by the same amount.

- ✓ The theory was first stated in **1586**.
- ✓ It received its full-fledged popularity at the hands of Irving Fisher in 1911(*Fisher's Version-Cash Transaction Approach*).
- ✓ Later, an alternative approach was given by a group of Cambridge economists (*Cambridge's Version-Cash Balance Approach*).
- ✓ However, the basic conclusion of these two theories is same price level varies directly with and proportionally to money supply.

In the words of Irving Fisher, "*Other things remaining unchanged, as the quantity of money in circulation increases, the price level also increases in direct proportion and the value of money decreases and vice versa*."
If the quantity of money is doubled, the price level will also double and the value of money will be one half. On the other hand, if the quantity of money is reduced by one half, the price level will also be reduced by one half and the value of money will be twice. Fisher has explained his theory in terms of his equation of exchange:

$$PT = MV + M'V'$$

Where P = price level, or 1/P = the value of money;
M = the total quantity of legal tender money;
V = the velocity of circulation of M;
M' – the total quantity of credit money(financial instruments);
T = the total amount of goods and services exchanged for money or transactions performed by money.

The given equation equates the demand for money (PT) to supply of money (MV=M'V). The total volume of transactions(T) multiplied by the price level(P), that is the (PT), represents the demand for money.

According to Fisher, PT is ∑PQ, that is, price level (P) multiplied by quantity bought (Q) by the comunity (∑) gives the total demand for money. This equals the total supply of money in the community consisting of the quantity of actual money M and its velocity of circulation V plus the total quantity of credit money M' and its velocity of circulation V'. Thus the total value of purchases (PT) in a year is measured by MV+M'V'. Thus the equation of exchange is PT=MV+M'V'.

In order to find out the effect of the quantity of money on the price level or the value of money, we write the equation as-

$$P = \frac{MV + M'V'}{T}$$

Fisher points out that the price level (P) varies directly as the quantity of money (M+M'), provided the volume of trade(T) and velocity of circulation (V, V') remain unchanged. The truth of this proposition is evident from the fact that if M and M' are doubled, while V, V' and T remain constant, P is also doubled, but the value of money (1/P) is reduced to half.

Fig. 65.1.
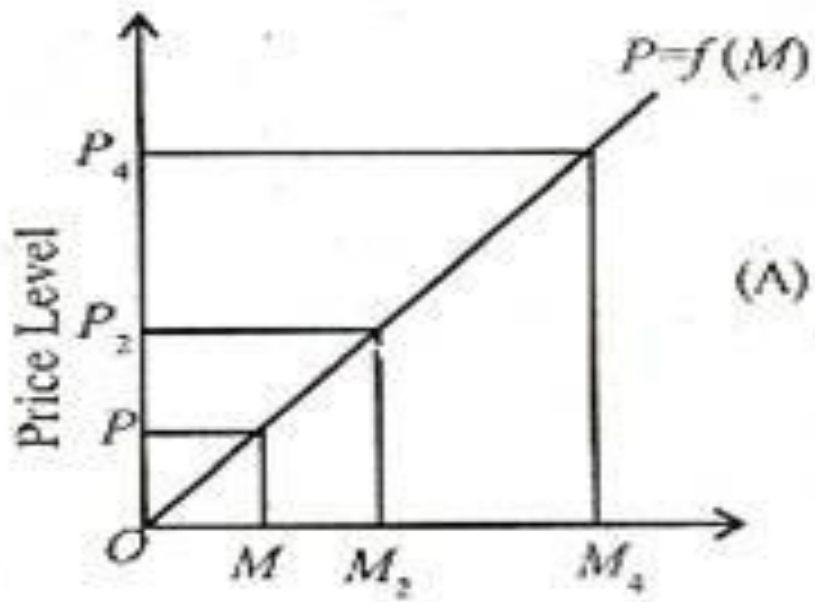
Fisher's quantity theory of money is explained with the help of Figure 65.1. (A) and (B). Panel A of the figure shows the effect of changes in the quantity of money on the price level. To begin with, when the quantity of money is M, the price level is P.

When the quantity of money is doubled to M_2, the price level is also doubled to P_2. Further, when the quantity of money is increased four-fold to M_4, the price level also increases by four times to P_4. This relationship is expressed by the curve P=f(M) from the origin at 45°.
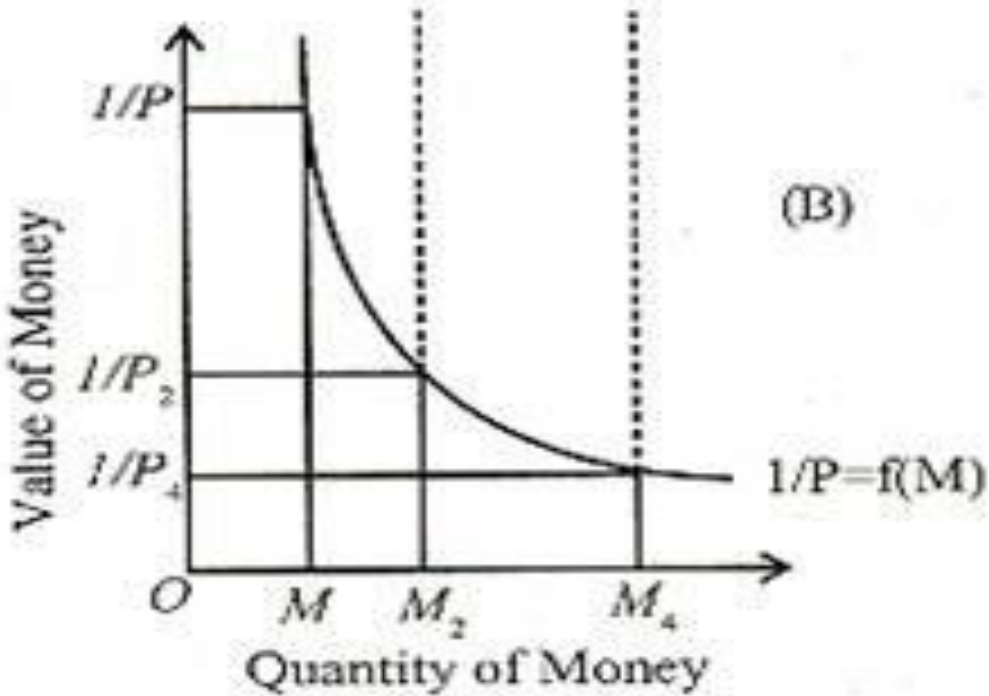
In panel B of the figure, the inverse relation between the quantity of money and the value of money is depicted where the value of money is taken on the vertical axis. When the quantity of money is M_1 the value of money is $1/P$. But with the doubling of the quantity of money to M_2, the value of money becomes one-half of what it was before, $1/P_2$. And with the quantity of money increasing by four-fold to M_4, the value of money is reduced by $1/P_4$. *This inverse relationship between the quantity of money and the value of money is shown by downward sloping curve $1/P = f(M)$.*

Assumptions of the Theory:

1) P is a passive factor in the equation of exchange which is affected by the other factors.

2) The proportion of M' to M remains constant.

3) V and V are assumed to be constant and are independent of changes in M and M'.

4) T also remains constant and is independent of other factors such as *M, M', V* and *V'*.

5) The demand for money is proportional to the value of transactions.

6) The supply of money is assumed as an exogenously determined constant.

7) The theory is applicable in the long run.

8) There is the existence of full employment in the economy.

Criticisms of the Theory:

1. Static:

Fisher's theory is static in nature because of its such unrealistic assumptions as long run, full employment, etc. It is, therefore, not applicable to a modern dynamic economy.

2. Other things not equal:

Fisher's equation is based on the assumption that "other things remain unchanged". But in real life, V, V and T are not constant. Moreover, they are not independent of M, M' and P. Rather, all elements in Fisher's equation are interrelated and interdependent.

3. Neglects Interest Rate:

One of the main weaknesses of the theory is that it neglects the role of the rate of interest as one of the causative factors between money and prices. Fisher's equation of exchange is related to an equilibrium situation in which rate of interest is independent of the quantity of money.