QUANTITY THEORY OF MONEY

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M.A. 2^{nd} Semester
Paper code:- 202
Economics

TRANSACTIONAL APPROACH TO THE QTM

- The quantity theory of money states that the quantity of money is the main determinant of the price level or the value of money. Any change in the quantity of money produces an exactly proportionate change in the price level.

- "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."

- 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;
- V' = the velocity of circulation of M;
- T = the total amount of goods and services exchanged for money or transactions performed by money.

ASSUMPTIONS OF THE THEORY:

1. P is 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. It is assumed that the demand for money is proportional to the volume of transactions.
6. The supply of money is assumed as an exogenously determined constant.
7. The theory is applicable in the long run.
8. It is based on the assumption of the existence of full employment in the economy.

CRITICISMS OF THE THEORY:

1. Truism
2. Other things are not equal
3. Constant relate to different time
4. Fails to measure value of money
5. Weak theory
6. Neglects the interest rate
7. Unrealistic assuptions
8. Neglects store of value function of the money
9. Static theory

CAMBRIDGE EQUATION (CASH BALANCE APPROACH)

- As an alternative to Fisher's quantity theory of money, Marshall, Pigou, Robertson, Keynes, etc. at the Cambridge University formulated the Cambridge cash-balance approach. Fisher's transactions approach emphasised the medium of exchange functions of money. On the other hand, the Cambridge cash-balance approach was based on the store of value function of money.
- According to cash-balance approach, the demand for money and supply of money determine the value of money. This approach, considers the demand for money and supply of money at a particular moment of time. Since, at a particular moment the supply of money is fixed, it is the demand for money which largely accounts for the changes in the price level. As such, the cash-balance approach is also called the demand theory of money.

1. MARSHALL'S EQUATION:

MV = KPY or P = M/KY

- Where,

- M is the supply of money (currency plus demand deposits)
P is the price level
Y is aggregate real income; and
K is the fraction of the real income which the people desire to hold in the form of money.

- The price level (P) is directly proportional to the money supply (M)
- the price level (P) is indirectly proportional to the aggregate real income (Y) and the proportion of the real income which people desire to keep in the form of money (K)
- M and Y being constant, with the increase in K price level (P) falls and with the decreases in K price level (P) rises
- K and Y remaining unchanged, if supply of money (M) increases, price level (P) rises and if supply of money (M) decreases, price level (P) falls.

PIGOU'S EQUATION:

$P = M/KR$

Where,
P = the price level and $1/p$ is the purchasing power;
R = the total real income or the real resources;
K = the proportion of real income held by the people in the form of money; and
M = the total money supply.

Since money is held by the community in the form of cash and in the form of bank deposits,

PIGOU FURTHER EXTENDED HIS EQUATION TO INCLUDE BANK DEPOSITS IN MONEY. THUS HIS MODIFIED EQUATION IS :

- $P = \frac{M}{KR}[\frac{1}{(c+h)(1-c)}]$

- Where,
  c =the proportion of cash which people keep with them
  1–c =the proportion of bank balances held by the people
  h =the proportion of cash reserves to deposits held by the banks.

- According to Pigou, K was more significant than M in explaining changes in the purchasing power of money (value of money).

- This means that the value of money depends upon the demand of the people to hold money.

- Moreover, assuming K and R (and also c and h in the modified equation) to be constant, the relationship between money supply (M) and price level (P) is direct and proportional.

ROBERTSON'S EQUATION :

- $M = KPT$ or $P = M/KT$

- Where,
  P = the price level;
  M = the money supply;
  T = the total amount of goods and services to be purchased during a year.
  K = the proportion of T which people wish to hold in the form cash.
- According to Robertson's cash balance equation, P changes directly with M and inversely with K and T.

KEYNE'S EQUATION :

- n = pk or p = n/k

- Where
  n = the cash held by the general public;
  p = the price level of consumer goods;
  k = the real balance or the proportion of consumer goods over which cash is kept.

- Assuming K to be constant, a change in 'n' causes a direct and proportional change in 'p'. In other words, if the quantity of money in circulation is doubled the price level will also be doubled, provided k remains constant.

IN ORDER TO INCLUDE BANK DEPOSITS IN MONEY SUPPLY, KEYNES EXTENDED THE EQUATION AS FOLLOWS :

- $p = n/k+rk'$

- Where,
  r is the cash reserve ratio of the banks;
  k' is the real balance held in the form of bank money.

- Again, assuming k, k' and r to be constant, a change in 'n' causes a direct and proportional change in 'p'.

LIMITATIONS OF THE CASH-BALANCE APPROACH:

1. Truisms
2. Price level does not measure the purchasing power
3. More importance to total deposits
4. Neglects other factors
5. Neglect of saving and investment effect
6. K and Y are not constant
7. Fails to explain the dynamic behavior of prices
8. Neglects interest rate
9. Demand for money is not interest elastic
10. Neglect of commodity market
11. Elasticity of Demand for Money not Unity
12. Neglects Speculative Demand for Money

THANK YOU