The money market, like all other markets, has both a demand side and a supply side. On the supply side, it is assumed that the money supply (amount of currency and demand deposits) is fixed by the monetary authority (e.g. Central Bank) of the country. On the demand side, Keynes suggests that people demand cash for three motives:

- Transaction motive
- Precautionary motive
- Speculative motive

The first two types are positively related to income Y and the third is a function of rate of interest r (with a negative relation).

Our analysis of the money market will be conducted in respect of demand for real balances (and not nominal balances) because people hold a significant part of their cash balances for buying goods and services. The higher the price level, the more nominal balances a person has to hold to be able to purchase a given quantity of goods. If price level (P) doubles , an individual has to hold twice as many nominal balances in order to be able to buy the same amount of goods. So the demand for real balance appears to be the more relevant variable to study.

The demand function for real balances $(M/P)^d$ is given by

$(M/P)^d = k(Y) + l(r), k' > 0$ and $l' < 0$ ..... (1) where k' and l' are partial derivatives

In the above equation k(Y) is real transaction demand (we have clubbed precautionary demand and transaction demand together here) and l(r) is real speculative demand.

We can write equation (1) as

$(M/P)^d = m(r, Y)$ ..... (2) because the RHS of (2) has r and Y as the independent variables.

Now for a given level of Y we can draw demand for money as a negatively sloped curve as depicted in the figure (fig 1) below. At any given level of Y, say Y_0, transaction demand is fixed at k (Y_0) and the m (Y_0) curve shows total money demand for **various values of r**. As r increases people reduces speculative demand, reducing total demand. **[As r increases people in general will be less hopeful about further rises in r and will prefer to keep their liquid assets in interest bearing bonds rather than in money]**

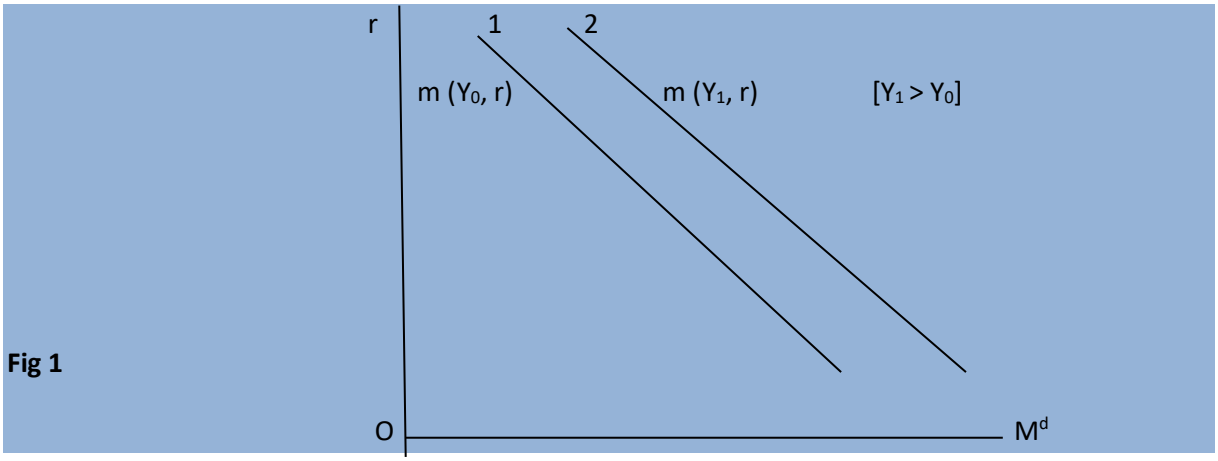


Fig 1

Now as Y increases transaction demand will increase. Therefore, for each level of r, we will have a higher demand for money. As income increases from Y_0 to Y_1 ($Y_0<Y_1$) , there is a right ward shift of demand for money curve from $m(Y_0)$ to $m(Y_1)$. If we assume that the money supply M^s is fixed by the monetary authority, the equilibrium in money market is given by

$(M^s/P) = l(r) + k(Y)$…… (3)

We have depicted the equilibrium in money market in figure 2.

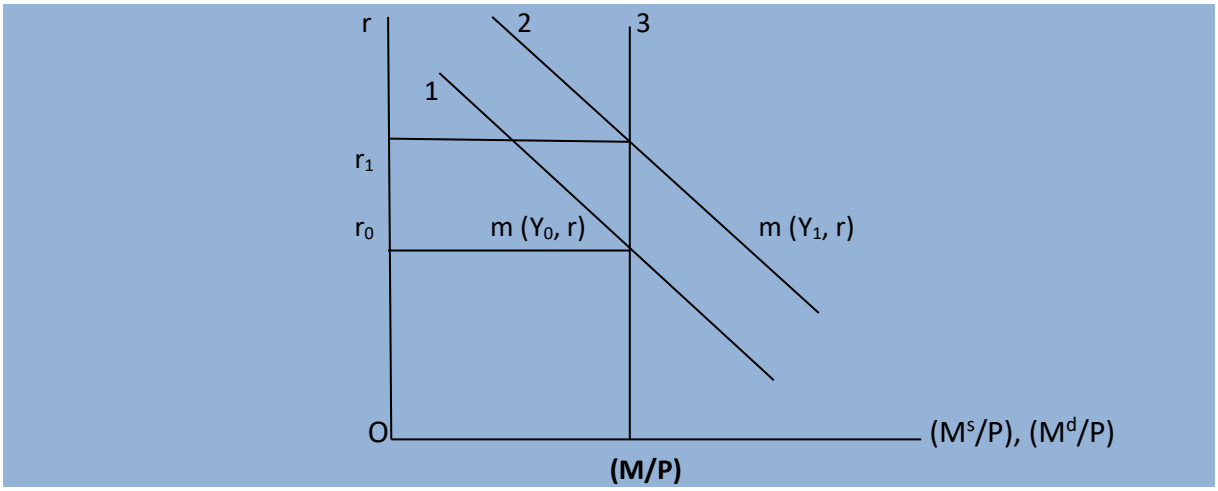


Fig2

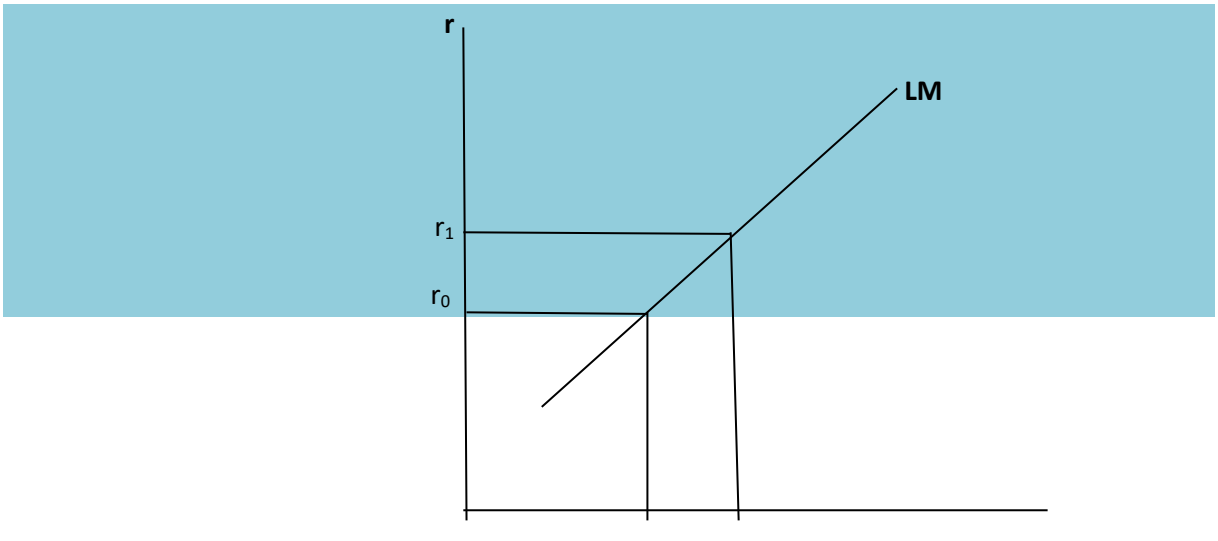
In fig 2, we have shown a fixed supply of money (and a given price level) represented by the vertical straight line 3, and two money demand curves similar to those of fig 1. When income increases from Y_0 to Y_1, there is a right ward shift of demand for money curve from m (Y_0) to m (Y_1). As a result, the new intersection between line 3 and line 2 yields a higher rate of interest r_1.

So there are numerous pairs of r and Y which will maintain equilibrium in the money market given fixed supply of real balance. Locus of all such pairs is known as LM curve and it will be a positively sloped curve in r – Y plane as shown in the figure 3

By totally differentiating the equilibrium condition (equation 3) we have $0= l^/ dr + k^/ dY$ (because d(M/P) =0)

Or, $dr/dY = - k^/ /l^/$
Since $l^/ <0$ and $k^/>0$, $dr/dY>0$. That is, the LM curve is positively sloped.

Also note that LM curve will be steeper for lower magnitude of $l^/$ and higher magnitude of $k^/$



Liquidity Trap Zone: So far, we considered an upward sloping LM curve. However, the interest rate has a floor value, where the speculative demand for money becomes infinitely elastic. Without any exception, everybody will anticipate that interest rates can only rise in future, and not fall. Accordingly, they will keep any additional cash in the form of cash only, and not try to buy some bonds with it. Thus, there is no way that bond prices can rise, so that r may fall.

Thus, we have a horizontal stretch of the LM curve as depicted in fig 4. LM curve is perfectly interest elastic in this zone. We may also have a vertical stretch where LM curve becomes completely interest inelastic. There is no demand for money for speculation purpose (interest rate may be so high that nobody expects it to rise any further). There is only transaction demand for money. Given price level and money supply, money market is at equilibrium for a particular level of Y. This zone is called **classical zone** **(also shown in fig 4).**

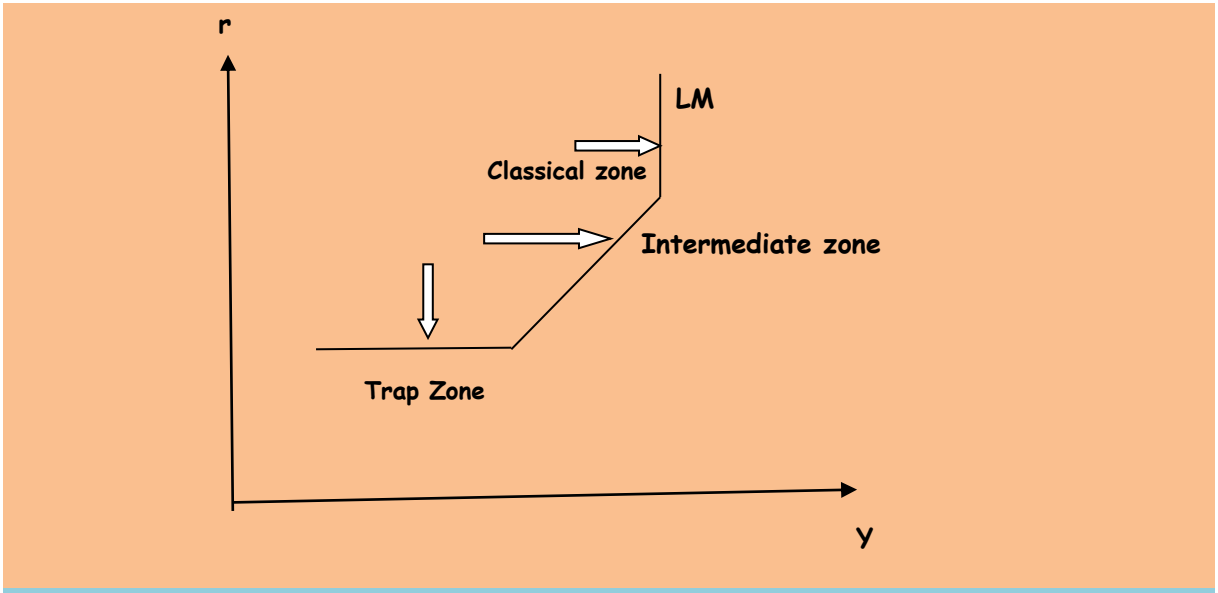


Fig 4