Magadh Mahila College

Patna University, Patna

M A Economics

Semester II

Paper: Macroeconomics (CC 08)

Topic: IS-LM model

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2. Q: Make an evaluation of IS-LM model of value of money.

⇒ The Keynes in his analysis of national income explains that national income is determined at the level where aggregate demand for consumption and investment goods (C+I) equals aggregate output. In other words, in Keynes' simple model, the level of national income is shown to be determined by the goods market equilibrium. The rate of interest, according to Keynes, is determined by money market equilibrium by the demand for and supply of money.

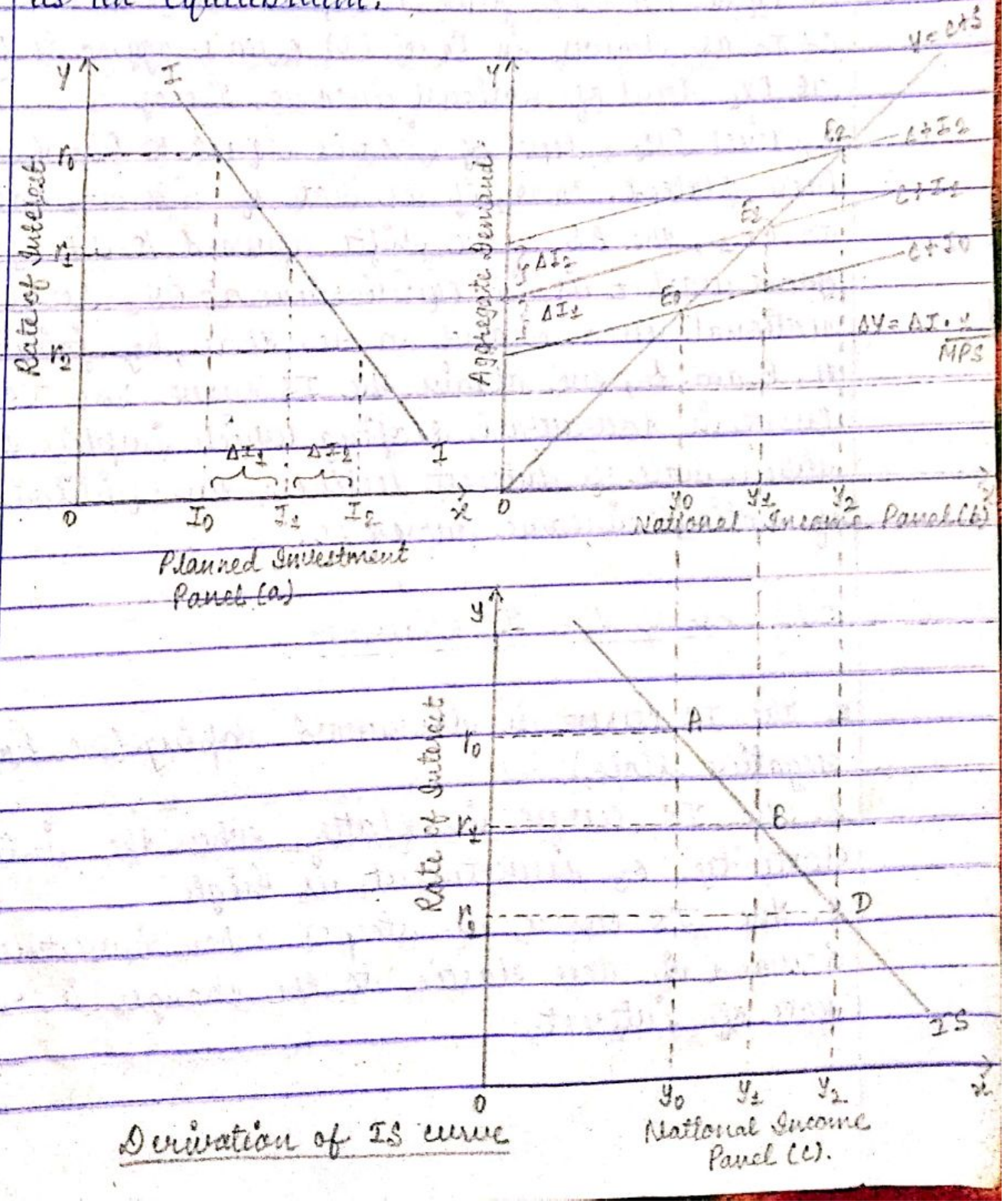
Hicks, Hansen, Lerner and Johnson have put forward a complete and integrated model based on the Keynesian framework wherein the variables such as investment, national income, rate of interest, demand for and supply of money are interrelated and mutually interdependent and can be represented by the two curves called the IS and LM curves. This extended Keynesian model is therefore known as IS-LM model.

Goods Market Equilibrium: IS curve :- The IS-LM model emphasises the interaction between the

goods and money markets. The goods market is in equilibrium when aggregate demand is equal to income. The aggregate demand is determined by consumption demand and investment demand. In the Keynesian model of goods market equilibrium, the rate of interest is an important determinant of investment. When the rate of interest falls, the level of investment increases and vice versa. Thus, changes in the rate of interest affect aggregate demand by causing changes in the investment demand. When the rate of interest falls, it lowers the cost of invest. projects and thereby raises the profitability of investment.

In the ~~determination~~ derivation of the IS curve, the equilibrium level of National income as determined by the equilibrium in goods market by a level of invest. determined by a given rate of interest. Thus, IS curve relates different equilibrium levels of national income with various rates of interest. With a fall in the rate of interest, the planned investment will increase which will cause an upward shift in aggregate demand function (C+I) resulting in goods market equilibrium at a higher level of national income. The lower the rate of interest, the higher will be the equilibrium level

of national income. Thus, the IS curve is the locus of those combinations of rate of interest and the level of national income at which goods market is in equilibrium.



Derivation of IS curve

In the Panel (a), the relationship bet" rate of interest and planned invest. is depicted by the II curve. At the rate of interest OR_0, the planned invest. is equal to OI_0. With OI_0, the AD curve is $C+I_0$ as shown in Panel (b) equals aggregate output at OY_0 level of national income. Therefore in Panel (c), against OR_0, level of income equal to OY_0 has been plotted. Now, if the rate of interest falls to OR_1, the AD curve shifts upward to $C+I_1$ and goods market is in equilibrium at OY_1 level of national income and so on. Thus, by joining A, B and D, we obtain the IS curve. The IS curve is downward sloping which implies that when rate of interest declines, the equilibrium of national income increases.

Features of the IS curve :-

1. The IS curve is downward sloping (i.e. has a negative slope).
2. The IS curve is flatter when the interest elasticity of investment is high.
3. The IS curve is steeper when investment demand is less elastic to the changes in the rate of interest.

4. The IS curve will shift to the right when government expenditure increases and vice-versa.

5. The IS curve shifts to the right when autonomous expenditure increases and vice versa.
6. The IS curve shifts to the left when tax increases and vice versa.

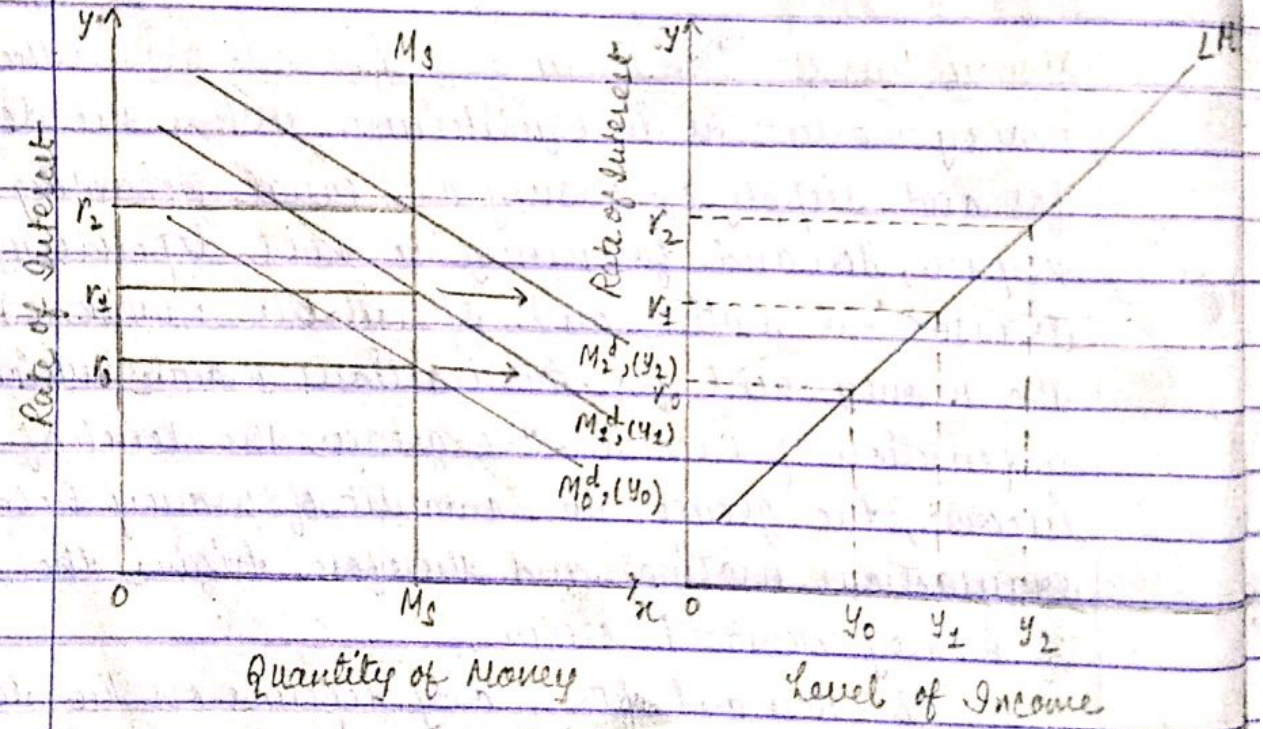
Money Market Equilibrium : LM curve :- The money market is in equilibrium when the demand for and supply of money are equal. According to Keynes, demand for money to hold depends upon transaction motive and speculative motive. It is the money held for transactions motive which is a function of income. The greater the level of income, the greater the amount of money held for transactions motive and therefore higher the level of money demand curve.

The demand for money depends on the level of income. It also depends on the rate of interest which is the cost of holding money.
Thus, demand for money (M^d) can be written as:-

$$Md = L(Y, r).$$

Now, the intersection of these various

money demand curves corresponding to different income levels with the supply curve of money fixed by the monetary authority would gives us the LM curve. The LM curve relates the level of income with the rate of interest which is determined by money-market equilibrium corresponding to different levels of demand for money.



Derivation of LM curve

In the given fig, we have derived the LM curve from a family of demand curves for money. As income increases, money demand shifts outward

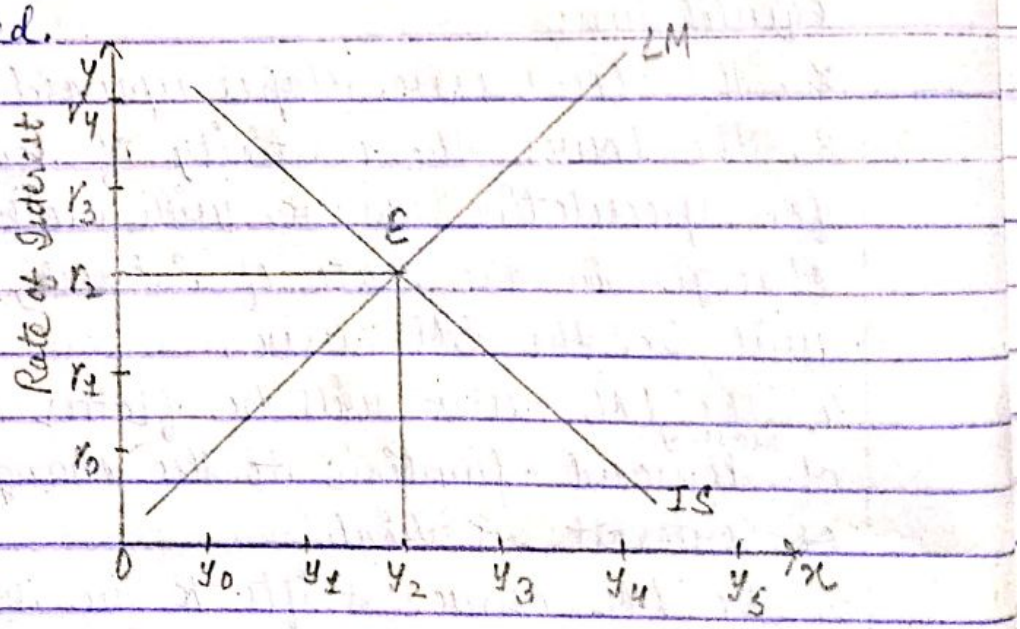
and therefore the rate of interest which equates supply of money with demand for money varies. We measure income on the x-axis.

Features of LM curve :-

1. The LM curve is a schedule that describes the combinations of rate of interest and level of income at which money market is in equilibrium.
2. The LM curve slopes upward to the right.
3. The lower the elasticity of demand for money for speculative motive with respect to the changes in the rate of interest, the steeper will be the LM curve.
4. The LM curve will be flatter if the elasticity of money demand-function to the changes in the rate of interest is high.
5. The LM curve shifts to the right when the stock of money supply is increased and it shifts to the left if the stock of money supply is reduced.
6. The LM curve shifts to the left if there is an increase in the money demand function and vice versa.

Simultaneous Equilibrium of the Goods Market and Money Market :-

The IS and LM curves relate the two variables income and the rate of interest. Income and the rate of interest are therefore determined together at the point of intersection of these two curves, i.e. E in the given fig. The equilibrium rate of interest thus determined is OY_2 and the level of income OY_2 is determined.



Thus, the IS-LM model is based on :-

(i) the investment-demand function
(ii) the consumption function
(iii) the money demand function
(iv) the quantity of money

Criticisms :-

The IS-LM model is not without limitations. These are as follows :-

1. It is based on the assumption that the rate of interest is quite flexible, that is, free to vary and not rigidly fixed by the Central Bank of a country.

2. The model is based on the assumption that investment is interest-elastic, i.e, investment varies with the rate of interest. If it is so, then the IS-LM model breaks down since the required adjustments do not occur.

3. Don Patinkin and Milton Friedman have criticised the IS-LM model as being too artificial and over-simplified. Division of the economy into 2 sectors is artificial and unrealistic.

4. Patinkin has pointed out that the IS-LM model has ignored the possibilities of changes in the price level of commodities.

Conclusion :- Despite these limitations, IS-LM model ~~is~~ represents a more general, inclusive

and realistic approach to the determination of the rate of interest and the level of income. Further, it succeeds in integrating and synthesising fiscal with monetary policies, and theory of income determination with the theory of money.