MACRO ECONOMICS DECISIONS AND APPLICATIONS

IS-LM CURVE

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Q. MONEY MARKET EQUILIBRIUM - THE DERIVATION OF LM CURVE

- The derivation of the LM curve is based on the Keynesian analysis of money market equilibrium.
- According to Keynes, the demand for money depends upon transaction, precautionary and speculative motives.
- The demand for money under transaction and precautionary motive is a function of level of income Mdtp= f(Y).
- Thus, Higher the level of income, greater the demand for money under transaction and precautionary motives.
- The demand for money under speculative motive is a function of rate of interest Mds= f(r).
- Thus, Higher the rate of interest, lower the demand for money under speculative motive. Keynes calls the demand for money (Cash) as liquidity preference.

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- Thus, Higher the rate of interest, lower the demand for money under speculative motive. Keynes calls the demand for money (Cash) as liquidity preference.
- Thus demand for money depends upon the level of income and rate of interest which can be expressed as: Md=L (Y. r)

Where, Md = Demand for money
L = Liquidity Preference
Y = Real income
r = Rate of interest

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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 upwards to the right.
3. The LM curve is **steep** if the interest-elasticity of demand for money is low. The LM curve is **flatter i**f the interest-elasticity of demand for money is high.
4. The LM curve **shifts** to th**e right w**hen the stock of money supply is increased and it shifts to the **left** if the stock of money supply is reduced.
5. The LM curve shifts to the left if there is an increase in money demand function which raises the rate of interest at a given level of income. On the other hand, the LM curve shifts to the right if there is a decrease in money demand function which lowers the rate of interest at a given level of income.

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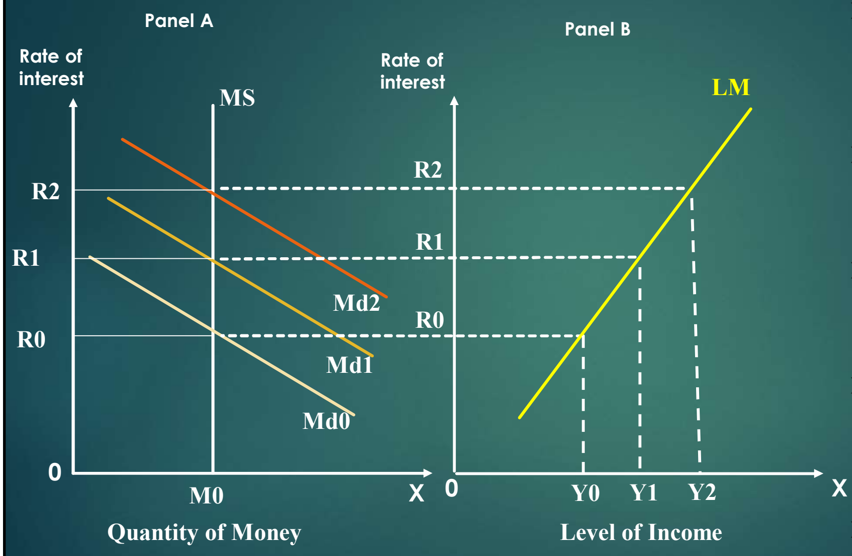
MONEY MARKET EQUILIBRIUM - THE DERIVATION OF LM CURVE



- Md0, Md1, and Md2, represent the various money demand curves corresponding to different levels of income.
- Ms is the supply curve of money which is fixed by the monetary authority and is a vertical straight line.
- The intersection of these money demand curves with the supply curve of money 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**.
- The LM curve tells us what the various rates of interest will be at different levels of income.

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MONEY MARKET EQUILIBRIUM - THE DERIVATION OF LM CURVE

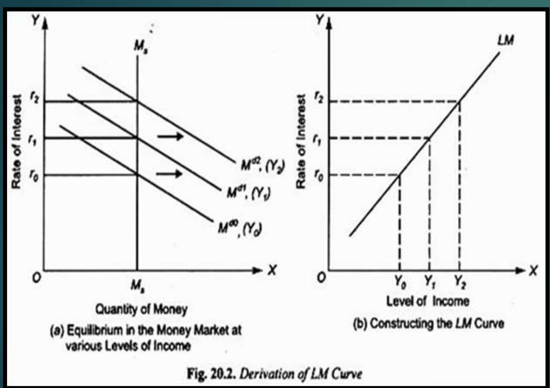

Fig. 20.2. Derivation of LM Curve

- As income increases, the **demand curve** for money shifts upward.
- Therefore, the rate of interest which equates the supply of money with demand for money rises.
- In diagram B, the level of income is measured on the X axis. The interest rates determined through the money market equilibrium by the equality of demand for and supply of money is plotted against corresponding income levels
- Derive the LM curve which slopes upwards to the right.

Source : https://www.economicsdiscussion.net/

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REASONS FOR UPWARD SLOPE OF LM CURVE

The slope of the LM curve depends upon two factors.

- The elasticity or responsiveness of demand for money i.e. liquidity preference) to the changes in income
- The elasticity or responsiveness of demand for money (i.e. liquidity preference for speculative motive) to the changes in the rate of interest.

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Q. . How does money market equilibrium achieve

1) Change in money supply

2) Changes in liquidity preference

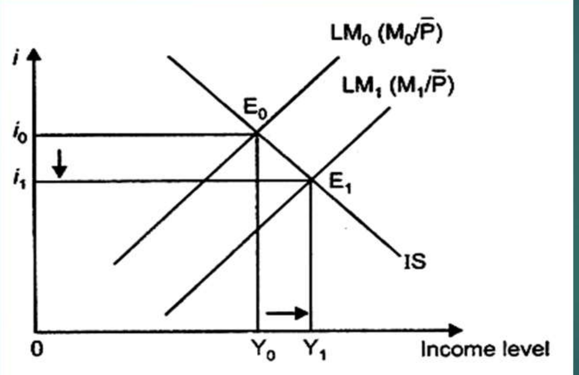

FIG. 9.7. SHIFT IN LM CURVE

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FACTORS INFLUENCING TO SHIFT IN LM CURVE

1. Change in money supply :

The LM Curve is drawn keeping the stock of money supply fixed. When the money supply increases, given the demand for money, the rate of interest will fall at the given level of income. With the fall in the rate of interest, the demand for money for transactions and speculative motive rises to become equal to the increase in money supply. This will cause the LM curve to shift upward to the right.

2. Changes in liquidity preference:

When the liquidity preference for money increases, given the supply of money, the rate of interest will rise at a given level of income. This will cause the LM curve to shift downward to the left. On the other hand, if the liquidity preference for money decreases, given the supply of money, the rate of interest will fall at a given level of income. This will cause the LM curve to shift upward to the right.

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Q. Derive the IS curve of the Goods Market OR What does the IS curve represent

- The "IS curve" (Investment-Saving curve) is a fundamental concept in macroeconomics that represents the equilibrium in the goods market. It shows the relationship between aggregate income (Y) and the interest rate (r) at which the total amount of goods and services demanded (planned investment + planned consumption) is equal to the total amount of goods and services supplied (total output or GDP).
- i.e. S(y) = I(r).
- The IS curve is downward-sloping, indicating an inverse relationship between income and the interest rate.

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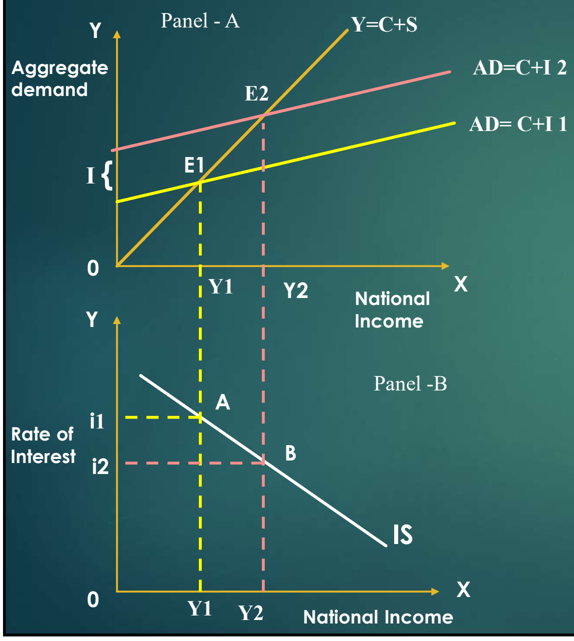
Q. Derive the IS curve of the Goods Market OR What does the IS curve represent



Panel - A. This equals aggregate output at Y_1 level of national income at equilibrium point E1, i.e. AD =Y.
Panel- B, the level of national income Y_1 is plotted against rate of interest r1.
If the rate of interest falls to r2 the planned investment increases. Resulted in aggregate demand curve shifts upwards to a new position AD2 in Panel - A and it pushes the income level upward from Y_1 to Y2, equilibrium point E2 (where AD=Y).
This leads to increase in the equilibrium level of national income in Panel – B.

When we join the points A, B, we get IS curve. This IS curve slopes downwards from left to right because as the rate of interest falls, the equilibrium level of national income increases.

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Q. Equilibrium of the goods market and money market intersection of IS and LM curves

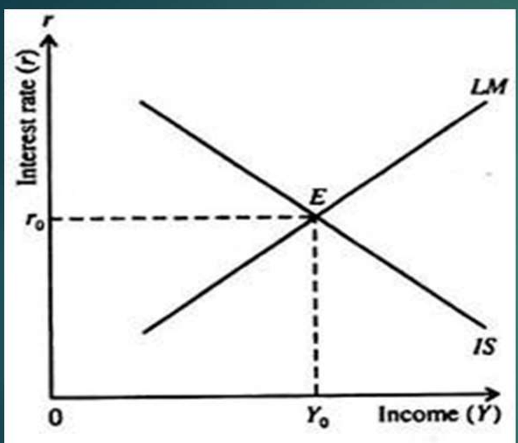

Fig. 9.20 General Equilibrium of Goods and Money Markets

- The IS and LM curves relate to two variables:

  1) **Income** 2) **Rate of interest**.

- The point of intersection of the IS and LM curves determine the rate of interest and the level of income.
- **(E)** is the point of intersection of IS and LM curves. (Oro) is the equilibrium rate of interest and (OYo), is the equilibrium level of income. At this equilibrium point,

1) The **goods market is in equilibrium** ie. Aggregate demand equals the level of aggregate output.

2) The **money market is in equilibrium** ie. demand for money is in equilibrium with the supply of money ie. the desired amount of money is equal to the actual supply of money.

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- The IS-LM curve model is based on:

1) Investment demand function.
2) Consumption function.
3) Money demand function.
4) The quantity of money.

- Thus, according to the IS-LM model, both **Real factors** namely productivity and **Monetary factors i**e. demand for money (Liquidity Preference) and supply of money play a part in the **Joint determination** of the **rate interest and the level of income**.
- Any change in these factors will cause a **shift in IS or LM curve** and therefore, will change the equilibrium levels of rate of interest and income.
- The IS-LM analysis explains the **effect of changes** in certain important economic variables such as supply of money, demand for money, desire to save, investment etc. on the rate of interest and level of income.
- The IS-LM curve model has successfully integrated the theory of money with the theory of income determination and thereby the monetary and fiscal policies.

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END
MODULE 3

Reference: Manan Prakashan : Business Economics