TOPIC 3.3

Money Supply (theory)
Keynesian and Monetarist Schools
The Demand for Money and Interest Rate Determination

MCQ Section

1. In a banking system, all banks maintain 20 % of deposits as cash.

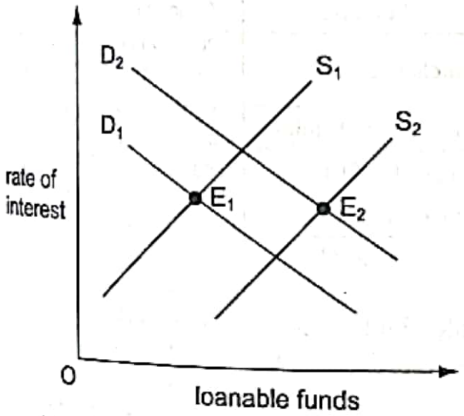
One bank receives a new cash deposit of $200. Subsequent net withdrawals of cash from the banking system are zero.

What will be the resulting increase in bank loans and the total increase in bank deposits?

	increase in bank loans	total increase in deposits
A	$160	$200
B	$160	$360
C	$800	$1000
D	$1000	$1000

[J08/P3/Q23]

2. The diagram shows the market for loanable funds.



Which changes could cause the equilibrium to move from E_1 to E_2?

A an increase in the propensity to save and an increase in bank lending

B the discovery of oil reserves and an increase in the propensity to save

C advances in technology and a decrease in bank lending

D a decrease in the propensity to save and the introduction of new products

[J08/P3/Q25]

3. What will be the short-run effect on the level of output of an increase in the money supply, according to Keynesian theory (assuming the liquidity trap does not apply) and according to monetarist theory (assuming the increase is unanticipated)?

	effect on output	
	Keynesian theory	monetarist theory
A	increase	increase
B	increase	unchanged
C	unchanged	increase
D	unchanged	unchanged

[N08/P3/Q15]

4. In an economy, the volume of output rises by 3% in a year, while the quantity of money rises by 5%.

If the velocity of circulation of money remains the same, what will be the approximate increases in the money value of national income and the price level?

	increase in money value of national income	increase in price level
A	5%	2%
B	5%	3%
C	8%	2%
D	8%	3%

[N08/P3/Q18]

HELPS to MCQ

1. **C** The extent of credit creation depends upon the size of the cash ratio banks maintain. Thus if the cash ratio is 20% then the credit multiplier is 5.

Credit multiplier

$$= \frac{1}{\text{Reserve ratio}} = \frac{1}{0.20} = 5$$

Increase in bank deposits

$200 \times 5 = 1000$

Increase in bank loans

80 % of 1000 = 800

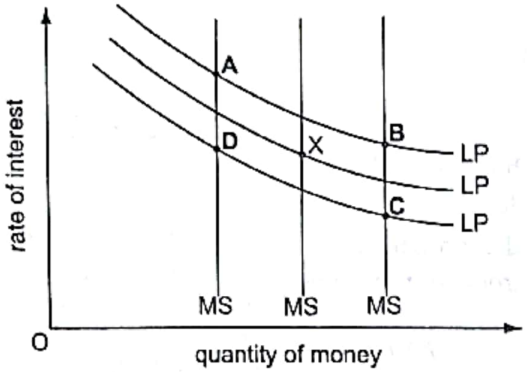
2. **B** Discovery of oil reserves increases demand for funds from D_1 to D_2 and higher propensity to save results in an increase in supply of funds from S_1 to S_2.

3. **A** Both Keynesians and Moneterists agree that an increase in money supply would result in an increase in AD and hence an increase in output. In the long run, however, monetarists assume that the economy operates at full employment and increase in money supply would not result in any increase in output.

5. The diagram shows three different levels of money supply (MS) and three different demand curves for holding money balances (LP). The initial equilibrium is at point X.

   Banks create more credit and people decide to hold less money as a precaution against emergencies.

   What is the new equilibrium point?



[N08/P3/Q20]

6. According to monetarist theory, which policy objectives are in conflict in the short run, but not in the long run?

   A economic growth and full employment

   B economic growth and price stability

   C price stability and full employment

   D price stability and equilibrium in the balance of payments

[J09/P3/Q17]

7. According to Keynesian theory, in which circumstance would there always be an increase in the demand for money?

	real income	price level	interest rates
A	increase	decrease	increase
B	constant	constant	increase
C	increase	increase	decrease
D	constant	decrease	decrease

[J09/P3/Q22]

8. Assuming a constant income velocity of circulation of money, if the rate of growth of the money supply is 8% and the average price level increases by 5%, what will be the approximate change in real output?

   A –3 % **B** +3 %

   C +8 % **D** +13 %

[N09/P3/Q16]

9. According to monetarist theory, what will be the short-run effect of an unexpected increase in the money supply?

   A an appreciation of the foreign exchange rate

   B an increase in employment

   C an increase in real wages

   D an increase in the rate of interest

[N09/P3/Q17]

10. The government sells $1 million of bonds to the commercial banks. It uses the proceeds from the sale to provide subsidies to sugar producers who pay them into their bank accounts.

    Assuming that notes and coins in circulation remain unchanged, what will be the immediate effect on the assets and liabilities of the commercial banks?

	assets	liabilities
A	bonds +$1 million reserves –$1 million	unchanged
B	bonds +$1 million	deposits +$1 million
C	reserves –$1 million	deposits –$1 million
D	unchanged	unchanged

[N09/P3/Q22]

11. According to loanable funds theory, what will cause the rate of interest to rise?

    A an increase in the rate of investment

    B an increase in liquidity preference

    C an increase in the level of savings

    D an increase in the supply of money

[N09/P3/Q23]

HELPS to MCQ

4. A MV = PT
A 5% increase in M, while V is constant, must result in the same increase in PT (money value of NY) Since output (T) increases by 3% and money value of NY by 5%, therefore, price level must have increased by 2%.

5. C Higher credit creation results in an increase in money supply and people preferring to hold less cash reduces demand for money.

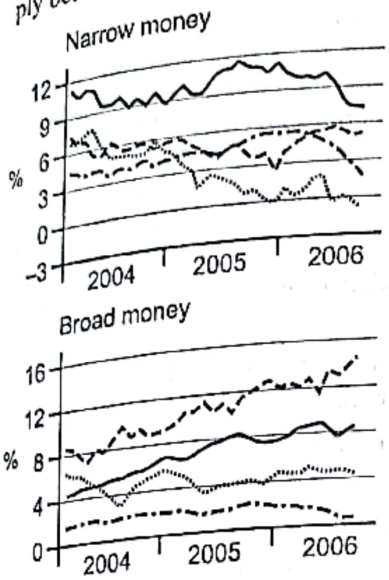
6. C Monetarist believe in a trade off between inflation and unemployment in the short run only. According to them no such trade off exists in the long run.

7. C Increase in real income or price level both result in an outward shift in demand for money whereas a decrease in interest rate causes people to prefer higher cash balances.

8. B M V = P Y
Change on left side of the equation is 8%. The combine change in PY on the right side of the equation must also be 8%. Thus if the change in P = 5% then change in real output (Y) must have been 3%.

9. B An increase in MS causes interest rate to fall and AD to rise, thus employment is likely to increase. Options A and D are the reverse of expected outcome. Option C is incorrect because increase in MS would increase both the money wages and price level.

12. The diagram shows changes in broad and narrow measures of money supply between 2004 and 2006.



Which is the only area to have experienced a contraction in either of its measures of money supply?

A Euro area
B Britain
C Japan
D United States

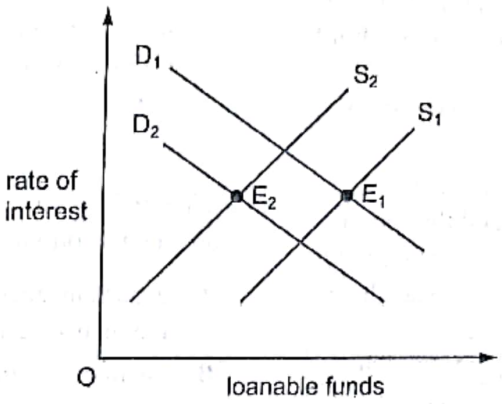
[J10/P3/Q15]

13. What is a central assertion of monetarist economics?

A Fiscal policy should be used for the continuous management of the economy.
B Major recessions can occur despite an unchanged money supply.
C The money supply is the main determinant of aggregate monetary expenditure.
D The velocity of circulation of money is unstable over time.

[J10/P3/Q16]

14. The diagram shows the demand curves and supply curves of loanable funds.



Which changes could cause the equilibrium in the market for loanable funds to move from E_1 to E_2?

A a decrease in bank lending combined with a decrease in business confidence
B a decrease in the money supply combined with an increase in the propensity to consume
C an increase in bank lending combined with an increase in the productivity of capital
D an increase in the money supply combined with a decrease in the productivity of labour

[J10/P3/Q21]

15. If the money supply is fixed, a decrease in economic activity

A increases interest rates.
B increases the transactions demand for money.
C raises the liquidity preference schedule.
D reduces the income velocity of circulation.

[J10/P3/Q22]

16. According to Keynesian theory, when will an increase in the money supply leave the level of output unchanged?

A when the liquidity trap is operative
B when the money supply increase was not anticipated

10. **B** Initially cash held by the commercial banks is replaced by bonds, so no change in total assets. Later when government gives subsidy the money goes into bank account that increases both cash (assets) and liabilities (deposits) of commercial banks by $1 million.

11. **A** A rise in the rate of investment increases demand for funds thus causes rate of interest to rise. Options **B** and **D** indicate Keynesian LP theory whereas option **C** would increase supply of funds hence driving the rate of interest down.

12. **D** Only US registered negative growth of narrow money supply. Euro area, Britain and Japan experienced positive growth of both broad and narrow money supply.

13. **C** Options **A** and **B** reflect Keynesian economics hence incorrect. Option **D** is incorrect because in monetarist economics velocity of circulation of money is assumed unstable only in the short run.

14. **A** A decrease in bank lending would shift S_1 to S_2 (fall in supply of funds) whereas a decrease in business confidence would shift D_1 to D_2 (fall in demand for funds). Decrease in MS and increase in MPC both will cause supply of funds to fall hence **B** is incorrect. An increase in bank lending will cause S to rise whereas an increase in productivity causes D to rise hence **C** is incorrect while increase in MS would increase S and a decrease in labour productivity would reduce D for funds.

C when there is a floating exchange rate

D when there is an immediate adjustment to expectations about future price levels

[N10/P3/Q17]

17. According to monetarist theory, what will be the short-run and the long-run effect of an unexpected increase in the money supply on the real wage level?

	short-run	long-run
A	decrease	increase
B	decrease	unchanged
C	unchanged	increase
D	unchanged	unchanged

[N10/P3/Q18]

18. An increase in the money supply leads to a fall in interest rates. What else will decrease as a result of these changes?

A the desire to hold idle money balances

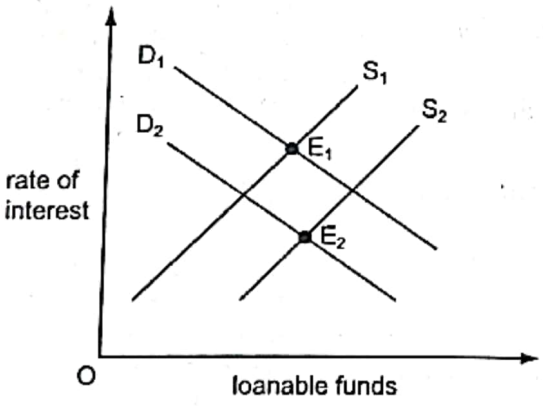
B the price of equities

C the price of government bonds

D the velocity of circulation of money

[N10/P3/Q22]

19. The diagram shows the market for loanable funds.



Which changes could cause the equilibrium to move from E_1 to E_2?

A a decline in business confidence and an increase in bank lending

B a decrease in bank lending and depletion of natural resources

C an increase in the propensity to save and the discovery of new mineral deposits

D improvements in technology and reduction in the propensity to save

[N10/P3/Q23]

20. What will expand the money supply in an open economy?

A a current account balance of payments deficit

B an increase in the cash reserve ratio of commercial banks

C government borrowing from domestic residents

D government intervention to prevent an appreciation in the foreign exchange value of domestic currency

[J11/P3/Q18]

21. According to Keynesian theory, in which circumstance will there always be an increase in the demand for money?

	real income	price level	interest rates
A	constant	decrease	increase
B	constant	increase	decrease
C	increase	decrease	decrease
D	increase	increase	increase

[J11/P3/Q19]

22. Despite a government budget deficit, a country's money supply remains unchanged.

What could explain this?

A The country has a balance of payments surplus equal to the government budget deficit.

B The country's foreign exchange rate is fixed.

C The government budget deficit is financed by borrowing from the central bank.

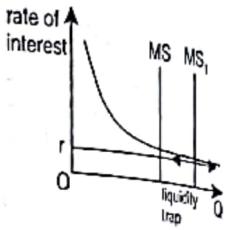
D The government budget deficit is financed by selling government bonds to members of the public.

[N11/P3/Q17]

HELPS to MCQ

15. D A decrease in economic activity would reduce both transactionary demand for money and LP thus reduces interest rate. Hence option A, B & C are incorrect. Lower economic activity would reduce the number of transactions therefore Y is expected to fall.

16. A



When the liquidity trap is operative a rise in MS would leave interest rate and hence output unchanged.

17. B Rising prices will reduce real wage in the short run but workers would not accept wage increase less than the inflation rate in the long run.

18. D Idle balance, prices of equities and government bonds are all inversely related to the rate of interest. Thus all three are expected to rise.

19. A Decline in business confidence reduces investment and hence demand for funds. While increase in bank lending increases the supply of funds.

20. D In order to prevent appreciation government will have to buy foreign currency and sell local currency in the foreign exchange market therefore, it will increase money supply. Option A and B suggest a fall in money supply While C will leave MS unchanged.

23. According to Keynesian analysis, what will be the result of a decrease in the money supply?

A The rate of interest will be reduced, thereby reducing the levels of investment and income.

B The rate of interest will be increased, thereby reducing the levels of investment and income.

C The level of income will be increased as a result of a lower rate of interest and a higher level of investment.

D The price level will fall by the same percentage change as the decrease in the money supply.

[N11/P3/Q22]

24. What will be the likely effects on interest rates and bond prices of an increase in the demand for money?

	interest rates	bond prices
A	fall	fall
B	fall	rise
C	rise	fall
D	rise	rise

[N11/P3/Q23]

25. According to monetarist theory, what will be the short-run effect of an unexpected increase in the money supply?

A an appreciation of the foreign exchange rate

B an increase in output

C an increase in real wages

D an increase in the rate of interest

[J12/P3/Q20]

26. What would result in an increase in the volume of bank deposits?

A an increase in the public's desire to hold cash

B an increase in government expenditure financed by borrowing from the central bank

C an increase in the proportion of their deposits that banks hold in cash

D an open market sale of securities by the central bank

[J12/P3/Q23]

27. In a banking system all banks maintain 10% of deposits as cash.

Customers withdraw $20 000 in cash.

Assuming no subsequent net change in notes and coins in circulation, by how much will the banks have to reduce their net loans?

A $2000 B $18 000

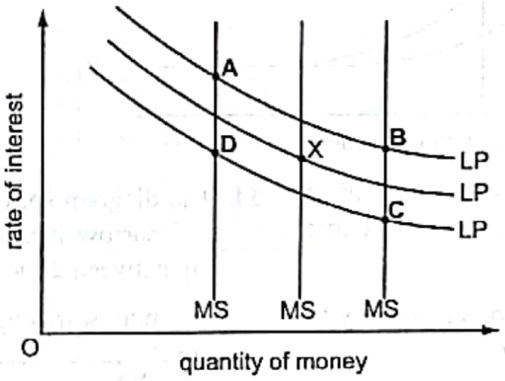
C $180 000 D $220 000

[J12/P3/Q24]

28. The diagram shows three different levels of money supply (MS) and three different demand curves for holding money balances (LP). The initial equilibrium is at point X.

Banks create more credit and people decide to hold more money as a precaution against emergencies.

What is the new equilibrium point?



[N12/P3/Q21]

29. A country's central bank engages in a policy of quantitative easing (open market purchase of securities).

How is this policy meant to affect the quantity of narrow money and the quantity of broad money?

	effect on narrow money	effect on broad money
A	increase	increase
B	increase	decrease
C	decrease	increase
D	decrease	decrease

[J13/P3/Q18]

HELPS to MCQ

21. B A rise in the price level will cause transactionary demand for money and subsequently the overall demand for money to rise. While a decrease in interest rate reduces the opportunity cost of holding cash and therefore will increase the quantity demanded of money.

22. D A budget deficit financed by borrowing from general public does not affect money supply. Options A & C are likely to increase money supply while B is irrelevant in this context.

23. B A decrease in MS causes rate of interest to rise and therefore results in a fall in investment expenditure and hence income.

24. C An increase in demand for money results in an increase in the rate of interest and hence causes a fall in bond prices because bond prices are inversely related to the rate of interest.

25. B An increase in MS is likely to increase AD, therefore output is expected to rise in the short run only.

26. B It will increase money supply and thus bank deposits.

27. C Money multiplier

$\left(10 = \frac{1}{0.1}\right)$ thus

$\$20\,000 \times 10 = \$200\,000.$

$200\,000 \times \frac{10}{100} = 20\,000$

$200\,000 - 20\,000$

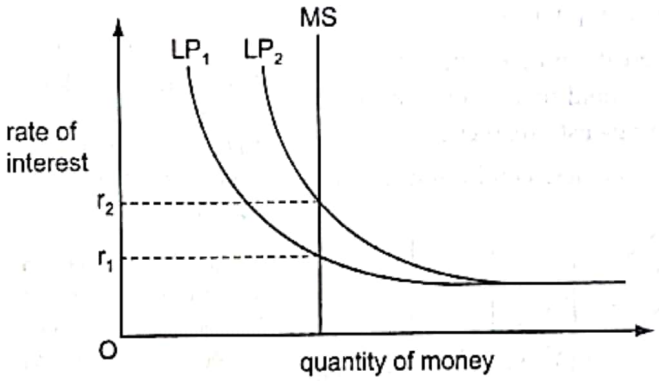
$= 180\,000$

30. According to monetarist theory, what will be the short-run effect on the level of output and on the price level of an unanticipated increase in the money supply?

	effect on output	effect on the price level
A	increase	increase
B	increase	no change
C	no change	increase
D	no change	no change

[J13/P3/Q19]

31. The diagram shows the determination of the rate of interest in an economy where MS represents the money supply and LP represents liquidity preference.



The rate of interest rises as a result of a shift in the liquidity preference curve from LP_1 to LP_2.

Which policy might be used to try to maintain the rate at r_1?

A increased government expenditure

B increases in indirect taxes

C reductions in income tax rates

D the purchase of bonds in the open market

[J13/P3/Q22]

32. Other things remaining unchanged, what is likely to be a consequence of an increase in net cash withdrawals from the commercial banks?

A an inflationary spiral

B an increase in the cash reserves of the commercial banks

C an increase in the liquidity of the commercial banks

D a restriction in the ability of the commercial banks to lend

[J13/P3/Q21]

33. Which assertion could be described as monetarist rather than Keynesian?

A The interest elasticity of investment expenditure is close to zero.

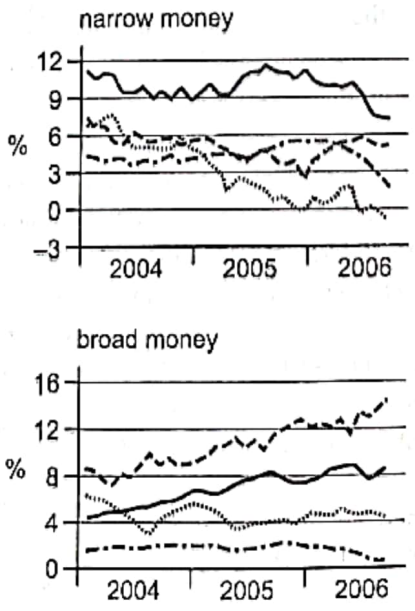
B The money supply is the main determinant of aggregate monetary expenditure.

C The money supply is the main determinant of output in the long-run.

D The velocity of circulation of money is unstable over time.

[N13/P3/Q19]

34. The diagram shows changes in broad and narrow measures of money supply between 2004 and 2006.



HELPS to MCQ

28. B More credit creation increases MS thus MS shifts rightwards while people increasing cash holdings increases LP.

29. A Narrow money includes only notes and coins circulating in an economy while broad money includes narrow money + bank deposits etc. Open market purchase will increase MS leading to an increase in both.

30. A Monetarists believe that in the short run an increase in MS could increase both output and price level. However in the long run output does not change therefore increases only the P level.

31. D Purchase of bonds increases MS and, therefore, maintains the rate at r_1. Options A & C will increase income leading to a further increase in LP and hence interest rate. Option B will cause price level to rise again increasing the LP and interest rate.

32. D It will reduce the amount of deposits and hence the ability of banks to lend thus options B & C are incorrect while A is irrelevant.

Which is the only area to have experienced a contraction in either one of its measures of money supply?

A Euro area
B Britain
C Japan
D United States

[N13/P3/Q18]

35. According to loanable funds theory, what will cause the rate of interest to rise?

A a decrease in the demand for money
B an increase in the level of savings
C an increase in the rate of investment
D an increase in the supply of money

[N13/P3/Q21]

36. Over a given period, money income in an economy increased by 6%. Over the same period, prices rose on average by 4%.

What can be deduced from this?

A Real income increased by 2%.
B The income velocity of circulation decreased by 2%.
C The money supply increased by 10%.
D The volume of output decreased by 2%.

[J14/P3/Q16]

37. A closed economy has a banking system consisting of a single bank. The bank operates with a cash ratio of 10%.

Customers deposit $20 000 in cash.

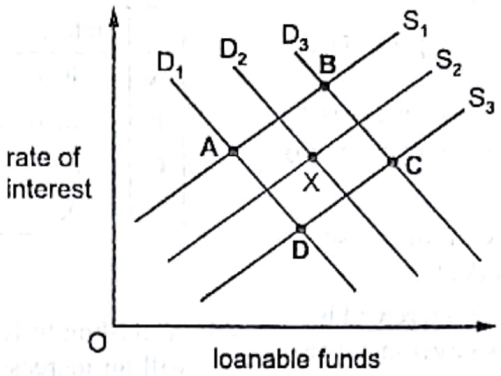
Assuming subsequent net withdrawals of cash from the banking system are zero, what is the maximum amount of loans that the bank can create?

A $2000
B $18 000
C $180 000
D $200 000

[J14/P3/Q17]

38. The diagram shows the market for loanable funds. The market is in equilibrium at point X.

What could be the new equilibrium point if there was a decline in business confidence and an increase in bank lending?



[J14/P3/Q21]

39. According to monetarist theory, if there is an unanticipated increase in the money supply what will be the short-run effect on money wages, real wages and the level of employment?

	money wages	real wages	employment
A	decrease	decrease	increase
B	decrease	increase	decrease
C	increase	decrease	increase
D	increase	increase	decrease

[N14/P3/Q22]

40. Other things being equal, the money supply in an open economy will increase if

A domestic banks increase their lending to foreign borrowers.
B the central bank buys foreign currency in the foreign exchange market.
C the government sells bonds to domestic residents.
D there is an increase in the volume of imports to the economy.

[J15/P3/Q18]

HELPS to MCQ

33. B Monetarists believe that MS is the main source of aggregate monetary demand—a basic assumption of monetarist theory.

34. D Diagrams reflect a percentage change in growth of money supply and only US experienced negative growth in narrow money supply during 2006. Others experienced positive growth in MS throughout the period.

35. C A rise in investment increases the demand for funds that drives the rate of interest up. Option B will reduce it while A & D refer to liquidity preference.

36. A % Δ money income – % Δ price level = % Δ real income

37. C

(i) Credit multiplier $= \frac{1}{\text{cash ratio}}$

i.e. $(10 = \frac{1}{0.1})$

(ii) Change in total deposits = initial deposit × credit multiplier

(20,000 × 10 = 200,000)

(iii) Change in total deposits – cash ratio = amount of loans (200,000 – 20,000 = 180,000)

38. D A decline in business confidence reduces the demand for funds, therefore, it causes a shift from D_2 to D_1, while increase in bank lending increases the supply of funds, therefore, it causes a shift from S_2 to S_3.

41. Assuming a constant income velocity of circulation of money, if the price level increases by 5% and the money supply grows by 2%, what will be the approximate change in real output (transactions)?

A –3% **B** –2.5%
C +3% **D** +7%

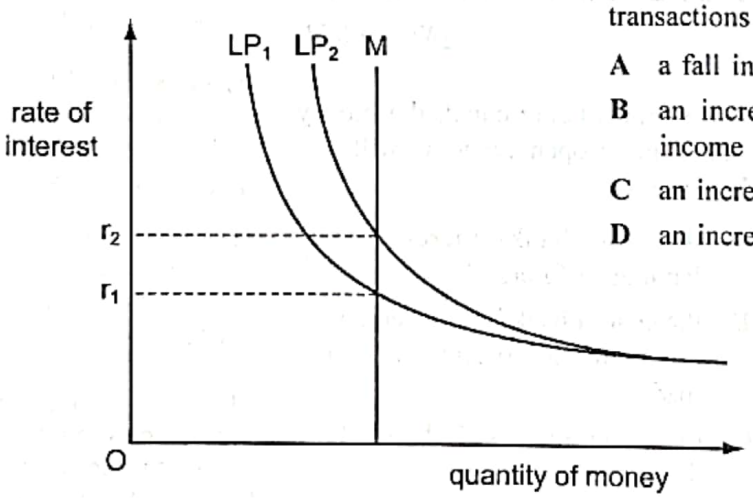
[J15/P3/Q22]

42. Why will an inflationary process be brought to a halt if the money supply is held constant?

A Consumption will decrease as money incomes decline.
B Government expenditure will have to be reduced as government revenues decline.
C The rate of interest will rise as more money is required for transactions purposes.
D The stimulus to invest will decline as the real burden of company debt rises.

[J15/P3/Q23]

43. The diagram shows the determination of the rate of interest in the economy, where M represents the money supply and LP represents liquidity preference.



What could cause the rise in the rate of interest from r_1 to r_2?

A an increase in national income
B an increase in the money supply
C a reduction in investment expenditure
D a reduction in the loans made by the private sector

[J15/P3/Q24]

44. What is likely to be the effect on interest rates and the supply of money of a purchase of government securities by a central bank?

	interest rates	money supply
A	increase	increase
B	increase	decrease
C	decrease	decrease
D	decrease	increase

[N15/P3/Q21]

45. According to Keynesian theory, when will an increase in the money supply leave the level of output unchanged?

A when the liquidity trap is operative
B when the money supply increase was not anticipated
C when there is a floating exchange rate
D when there is an immediate adjustment to expectations about future price levels

[J16/P3/Q25]

46. What would cause an increase in the transactions demand for money?

A a fall in the price of bonds
B an increase in nominal national income
C an increase in the rate of interest
D an increase in unemployment

[N16/P3/Q26]

HELPS to MCQ

39. C An increase in MS is likely to increase money income, and real wages in the short run. While increase in money wages could reduce employment. However real income falls due to increase in price level.

40. B Buying foreign currency involves selling local currency thus MS rises. All other options result in money supply to fall as they suggest outflow of money from the economy.

41. A MV = PY, so if M rises by 2% and V is constant then the total effect on the left hand side is 2%. On the right hand side P rises by 5% but the overall effect should be 2%, therefore, Y must have decreased by 3%.

42. C A rise in price level causes transactionary demand for money to increase that results in an increase in interest rate and with no change in MS the interest rate will remain high that should help reduce inflation by lowering AD.

43. A A rise in NY causes MD to increase. Increase in MS causes interest rate to fall thus B is incorrect while C & D are not related.

44. D Central bank making payments to people will increase money supply leading to a fall in interest rate.

45. A A liquidity trap exists when demand for money becomes infinite elastic, therefore a change in MS fails to bring a change in interest rate and hence the output.

46. B A rise in NY causes a rise in transactions demand for money. Options A & C will affect speculative demand for money while D is likely to reduce transactions demand for money.

47. What is a part of Keynesian economic analysis?

A a liquidity trap below which interest rates are ineffective

B an equilibrium price that always clears the market

C a small value for the government expenditure multiplier

D a vertical short-run aggregate supply curve

[J18/P3/Q24]

48. In Keynesian monetary theory, when will an increase in the supply of money not cause a fall in interest rates?

A if bond prices are expected to rise

B if investment demand is interest-inelastic

C if the liquidity preference schedule is perfectly elastic

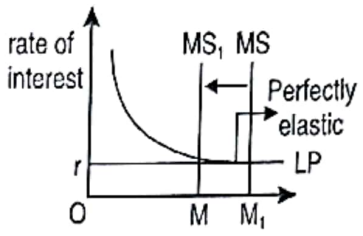
D if the velocity of circulation of money increases

[N18/P3/Q27]

HELPS to MCQ

47. A By definition. Other options are not related to Keynesian economics.

48. C



A change in MS fails to bring changes in interest rate.

TOPIC 3.3

Money Supply (theory)
Keynesian and Monetarist Schools
The Demand for Money and Interest Rate Determination

ESSAY Section

LIST OF QUESTIONS

Q1 (J08/P4/Q7)

(a) For what purposes do people demand money? [10]

(b) Discuss the effect of an increase in the supply of money on interest rates and national income. [15]

Q2 (N09/P4/Q4)

(a) Explain what is meant by the transactions, precautionary and speculative demands for money. [10]

(b) An employee moves to another job because it pays more. However, the old job was paid weekly and the new job is paid monthly. At the same time interest rates are increased.

Discuss how these changes would affect the employee's transactions, precautionary and speculative demands for money. [15]

Q3 (J10/P4/Q6)

(b) Explain what is meant by liquidity preference and discuss how it might be affected by an increase in unemployment. [13]

Q4 (N11/P4/Q6)

(a) For what purposes do people demand money? [12]

(b) Assess, using the concept of liquidity preference, the possible links between an increase in the supply of money, the rate of interest and investment. [13]

Q5 (N12/P4/Q7)

(a) For what purposes do people demand money? [10]

Q6 (N14/P4/Q6)

(a) Use liquidity preference theory to explain why there is a demand for money. [12]

Q7 (N15/P4/Q4)

(a) Explain the motives for the demand for money according to the Keynesian liquidity preference theory. [12]

(b) A worker is a weekly paid shop assistant. She is then promoted to a manager in a larger store on a higher monthly salary. At the same time interest rates fall.

Discuss how these changes would affect the worker's demand for money. [13]

Q8 (J17/P4/Q4)

(a) Explain why people demand money according to the liquidity preference theory. [12]

Q9 (J17/P4/Q5)

Economic models have little practical relevance.

Discuss whether this is true of the analysis of how a fall in interest rates might affect an economy's GDP. [25]

Question 1

(a) For what purposes do people demand money? [10]

(b) Discuss the effect of an increase in the supply of money on interest rates and national income. [15]

[J08/P4/Q7]

Essay

(a) The demand for money refers to the amount of wealth everyone in the economy wishes to hold in the form of money balances. In the Keynesian analysis of the rate of interest, the demand for money is not based purely on the demand for new capital goods. In fact, Keynes argued that there are three distinct motives for preferring to hold wealth in the form of money as opposed to holding either non-money financial assets or physical assets.

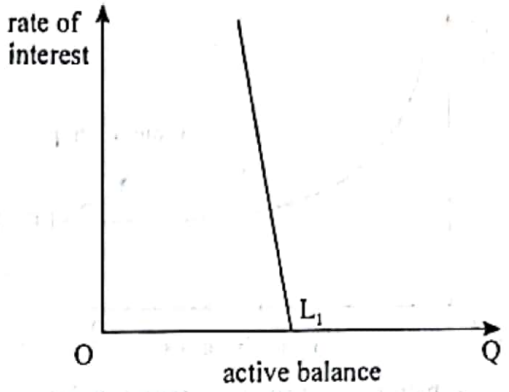
The transactions demand for money

Individuals need to hold money in order to meet daily transactions such as buying petrol, paying for groceries or purchasing a newspaper. Everyone will hold a certain amount of money since they are normally paid weekly or monthly whereas their expenditure is spread over the whole period. The average amount held for transactions purposes depends upon the level of money income, the price level and the frequency of pay days. In terms of money income, the higher the money income, the more likely the individual is to purchase more goods and services, and therefore require extra transactions balances. If the price level increases the demand for money for transactions purposes will be higher. In the case of the frequency of pay days, the more frequent, the lower the transactions demand for money.

The precautionary demand for money

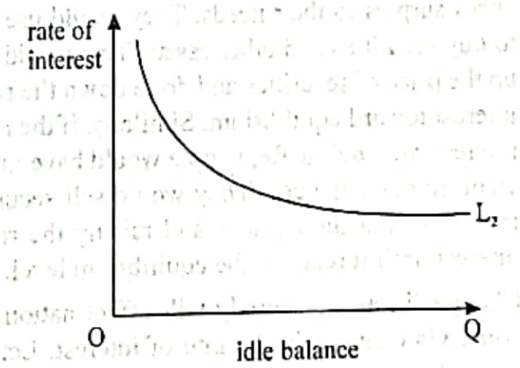
The demand for money is also based on the desire to provide for the unexpected. The precautionary demand for money allows the individual to cover unforeseen events, such as the car breaking down, a lengthy period off work through illness, or an unexpected redundancy. It is likely to be the case that as the rate of interest increases, the precautionary demand for money will fall as individuals place their money in interest-bearing assets, i.e. the cost of 'holding' money has increased.

Money balances held for these two purposes is called active balances (L_1) i.e. money to be used as a medium of exchange.

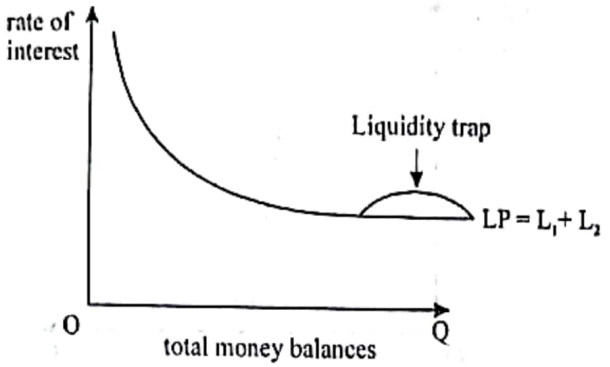


The speculative demand for money

Speculative demand for money is based on the expectation of making a speculative gain or avoiding a loss. Money balances held for this purpose are called idle balances (L_2). Keynes outlined the speculative demand for money in terms of the desire to hold money or fixed income bonds. It is important to note that the price of bonds and the rate of interest are inversely related. When the rate of interest is perceived to be unduly high by individuals they will assume that the next move is in a downward direction. As stated, when the rate of interest falls the price of bonds increases and so there are capital gains to be made. This being so, when the rate of interest is high there will be a substantial demand for bonds and hence a low speculative demand to hold money. If, however, the rate of interest is perceived to be unduly low then individuals will assume that the next move is upwards, resulting in a fall in bond prices and, therefore, a capital loss for those who own bonds. If this is the case, the demand for bonds is likely to be low and those owning bonds will be looking to sell them before the price falls. In this situation the speculative demand for money will be high as shown in the graph below:

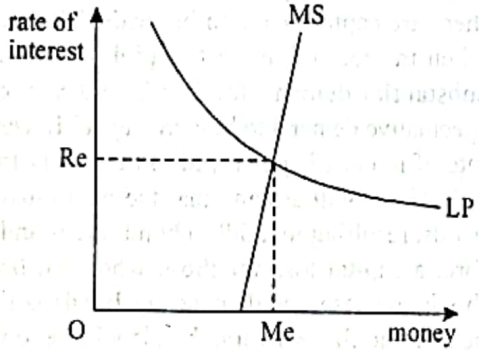


The total demand for money LP is plotted against the rate of interest (r). This is found by the horizontal addition of curves L_1 and L_2.



Any factor other than a change in interest rates, that causes the demand for money to rise will shift the LP curve to the right. For example, a rise in national income or price level will cause L_1 to increase, and thus LP will shift to the right.

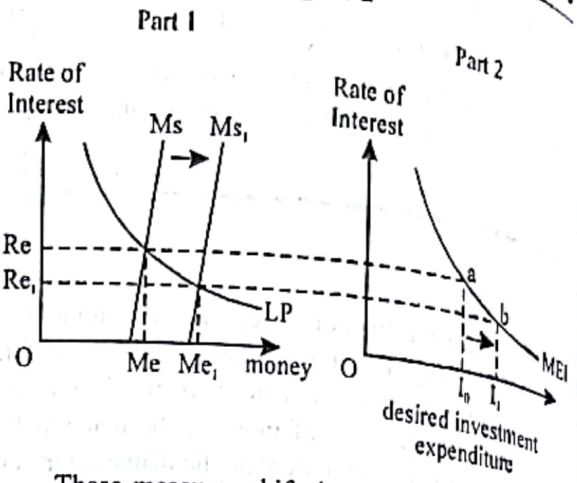
(b) In the money market the condition for monetary equilibrium is that the rate of interest will be such that everyone is just willing to hold the existing supply of money, i.e. interest rate does the job of equating the quantity of money demanded to the available supply and hence produces monetary equilibrium. In the figure below, we see how the interest rate produces monetary equilibrium.



Equilibrium is achieved with a rate of interest Re and the quantity of money Me. If the rate of interest were above Re, people would have money balances surplus to their needs. They would use these to buy securities and other assets. This would drive up the price of securities and drive down the rate of interest toward equilibrium. Similarly, if the rate of interest were below Re, people would have insufficient money balances. They would sell securities, thus lowering their prices and raising the rate of interest until it reached the equilibrium level.

Changes in money supply will affect national income via changes in the rate of interest. Let's assume that monetary authorities seek to adopt easy monetary measures and attempt to increase money supply, say, by lowering liquidity ratio of commercial banks.

Figure 2



These measures shift the supply curve of money from MS to MS_1 as shown in the first part of the graph. Consequently, there is excess supply of money at the existing rate of interest Re. People still wish to hold only Me of money balances, but Me_1 is now available. In order to eliminate their excess holdings of money, People attempt to buy bonds and securities. This attempt of buying bonds and other financial assets increases their price and subsequently lowers the rate of interest. When interest has fallen to Re_1 the quantity of money demanded will have risen to equal the available supply of Me_1. Monetary equilibrium is, thus re-established, though at a lower rate of interest.

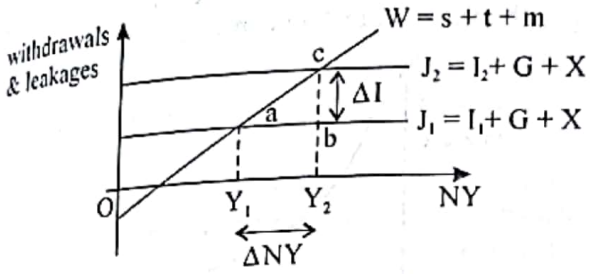
The curve in the other part of the graph is called a marginal efficiency of investment curve (or just a demand for investment curve). MEI curve shows the relation between planned investment and the rate of interest, assuming all other things are equal. It is derived from prospective yield of one more unit of investment and the cost of obtaining it. Firms make their investment decisions by comparing MEI with the rate of interest. For instance, if the expected real net rate of return on an individual project (MEI) is greater than the real rate of interest, investment is profitable and hence is undertaken. Thus investment demand curve shows that the lower the rate of interest, the larger will be the number of investment opportunities that will show a profit and, hence, the larger the volume of investment expenditure that firms wish to undertake.

Note that, because both parts of the Figure above have the interest rate on the vertical axis, the interest rate can be compared between the two parts. Both parts show an initial equilibrium with the quantity of money of Ms and an interest rate of Re. When this equilibrium is disturbed by an increase in the money supply to Ms_1, the rate of interest

falls to Re_1. Part (ii) of the Figure tells us that the fall in the interest rate from Re to Re_1 increases desired investment expenditure from I_1 to I_2.

So far, we have seen that an increase in the money supply leads to a fall in the interest rate which, in turn, results in an increase in desired investment expenditure. We extend our analysis to finally figure out how these changes subsequently affect NY.

Fig. 3



Equilibrium NY can be found by W = J. The withdrawals function is the vertical sum of the net savings, net taxes and import functions. Similarly, total injection is the vertical addition of the investment, government expenditure and export functions.

Initially, the equilibrium can be located at point a, indicating Y_1 as the equilibrium level of NY. A rise in investment expenditure shifts the J function upwards and will cause NY to increase ($Y_1 - Y_2$) by more than the increase in investment (b c). The number of times that the increase in income (ΔY) is greater than the increase in investment is known as the multiplier (k).

So what causes the multiplier effect? The answer is that, any increase in injection into the economy will produce a stream of new incomes through additional spending. For example, if firms to invest more, this will lead to more people being employed and hence more incomes being paid to households. Households will then spend part of this increased income on domestically produced goods (the remainder will be withdrawn). This increased consumption will encourage firms to produce more goods to meet the demand. Firms will thus employ more people and other factors of production. This leads to even more incomes being paid out to households. Consumption will thus increase yet again, and so the process continues.

Since multiplier is not infinite, therefore, an increase in injections would not cause national income to go on rising forever. Each time people receive extra income they will save some of it, pay some of it in taxes and spend some of it on imports. Eventually, as income goes on rising, all the extra injections will have leaked away into the three withdrawals. At that point the multiplier process will have ceased; a new equilibrium Y_2 will have been reached.

Note that in this simple Keynesian theory we are assuming that prices are constant (i.e. that there is no inflation) and hence that any increase in income is a real increase in income matched by extra production. So when we talk about extra injections into the economy causing extra spending, it is the extra output that this spending generates that we are concerned with. But if the economy is already operating at full employment and no extra resources available to produce output to match with the rising demand for both capital goods and consumer goods then increase in MS results in an increase in price level and no change in real NY.

In conclusion, increase in money supply causes interest rate to fall and real national income to rise via increase in desired investment expenditure. But the effect on real national income depends on the ability of the economy to increase output in response to increase in both consumer spending and investment expenditure.

Question 2

(a) Explain what is meant by the transactions, precautionary and speculative demands for money. [10]

(b) An employee moves to another job because it pays more. However, the old job was paid weekly and the new job is paid monthly. At the same time interest rates are increased.

Discuss how these changes would affect the employee's transactions, precautionary and speculative demands for money. [15]

[N09/P4/Q4]

Essay

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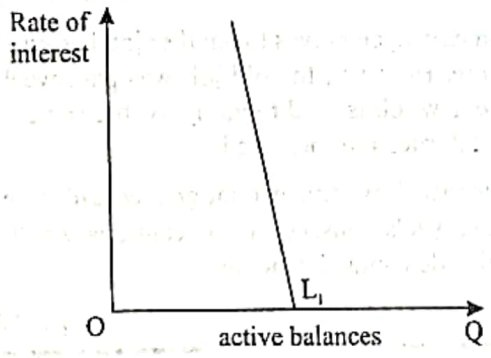

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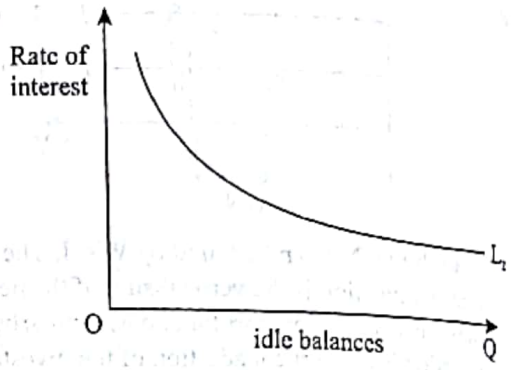

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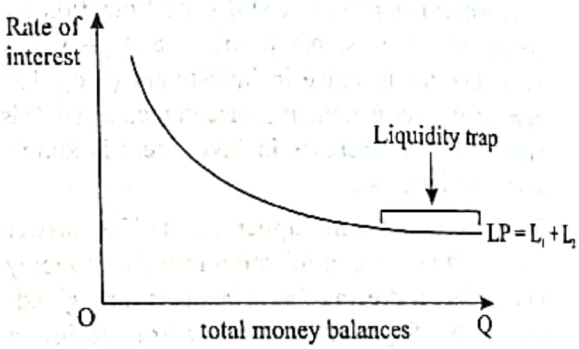


Any factor other than a change in interest rates, that causes the demand for money to rise will shift the LP curve to the right. For example, a rise in national income or price level will cause L_1 to increase, and thus LP will shift to the right and vice versa. A change in interest rate causes movement along the demand for money curve upward or downward.

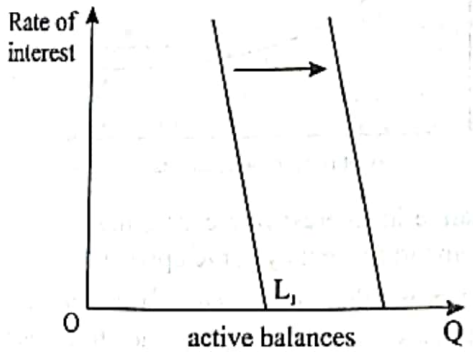
(b) The transaction demand for money varies directly with the money income. Thus the employee moving to another job because it pays more will increase his cash balances because more money income will lead to higher consumption and hence higher demand for money for transactions purpose. The precautionary demand for money, like the transactions motive, causes the demand for money to vary positively with the rise in money income.

The frequency with which people are paid also affects demand for money. The less frequently they are paid, the greater the level of money balances they will tend to hold. Since the new job will pay monthly, unlike old job which was paid weekly, therefore it is expected to result in a rise in cash balances held for transactions purpose. For example, if the individual earned £100 per week and his expenditure were spread evenly over the week and he spent all the £100 by the end of the week, would have roughly £50 (in the bank or in cash) on average: that is, midway between pay days. Now if he is being paid £500 per month he will have roughly £250 on average: that is, mid-month. Thus he will have a much higher demand for transactions purpose.

However the increased use of credit cards 'in recent years has reduced both the transactions and precautionary demands. Paying once a month for goods requires less money on average than paying separately for each item purchased. Also the possession of a credit card reduces or even eliminates the need to hold precautionary balances for many people.

At high rates of interest, people may choose to spend less and save more of their income. The higher rate of interest might encourage some minor reduction in transactions demand on a temporary basis. The effect is likely to be bigger on the precautionary demand: a higher interest rate may encourage people to risk tying up their money. If precautionary demand is for unexpected expenditure there will be no change, assuming expectations are the same.

The effects on transaction and precautionary demand for money is shown in the graph below:



A rise in money income and increase in the interval with which the employee is paid is expected to shift transactions and precautionary demand for money curve (L_1) rightward. However there is minimal effect of rise in the rate of interest on these two types of demand for money.

So far as the speculative demand for money is concerned it mainly depends on the rate of interest. People who possess wealth have to decide the best form in which to hold wealth, for instance, cash or financial and physical assets. Assets can be compared according to the liquidity and possibility of earning income. Cash is totally liquid to the holder but it earns no interest. Stocks and shares, on the other hand, are not very liquid but they have the potential of earning quite a high income for the holder. There is therefore an opportunity cost to a household if it holds £300 in cash. It could instead buy shares, and receive dividends and possibly capital gains, Hence the price of holding money is the benefits foregone from holding another type of asset. The higher the interest rate the higher the opportunity cost of holding cash. Therefore if the rate of interest is high, to take advantage of the high rate of return people buy bonds and securities instead of holding on to their money. Hence cash holding for speculative motive is going to decrease. Similarly if the rate of interest is low people hold larger cash balances for speculative motive because the opportunity of holding cash is low. Thus at high rate the employ's cash balances for speculative motive is expected to be lower as compared to the cash holding at low rate of interest.

To further explain the changes in speculative cash balances let's assume that the only alternative to holding money is to hold bonds. Since price of bonds is inversely related to the rate of interest, therefore it is possible to make a capital gain by buying bonds when their prices are low and selling them when they are higher. Hence the employee will buy bonds when interest rates are high hoping that interest rates will fall and therefore bond prices will rise. Bonds will be bought with money. So a high demand for bonds means a low speculative demand for money.

Question 3

Explain what is meant by liquidity preference and discuss how it might be affected by an increase in unemployment. [13]

[J10/P4/Q6 (b)]

Essay

The demand for money refers to the amount of wealth everyone in the economy wishes to hold in the form of money balances. In the Keynesian

analysis of the rate of interest, demand for money is not based purely on the demand for new capital goods. In fact, Keynes argued that there are three distinct motives for preferring to hold wealth in the form of money as opposed to holding either non-money financial assets or physical assets.

Individuals need to hold money in order to meet daily transactions such as buying petrol, paying for groceries or purchasing a newspaper. Money balances held for this purpose is called transaction demand for money. Everyone will hold a certain amount of money since they are normally paid weekly or monthly whereas their expenditure is spread over the whole period. The average amount held for transactions purposes depends upon the level of money income, the price level, the time of the year and the frequency of paydays. In terms of money income, the higher the money income, the more likely the individual is to purchase more goods and services, and therefore require extra transactions balances. If the price level increases the demand for money for transactions purposes will be higher. In the case of the frequency of pay days, the more frequent, the lower the transactions demand for money.

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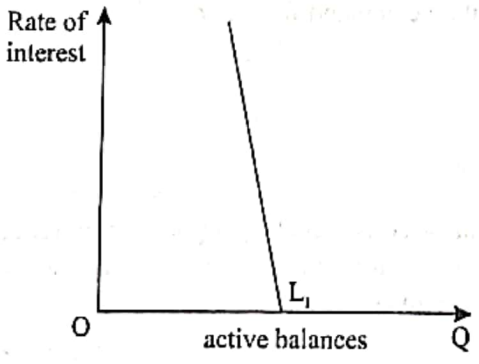
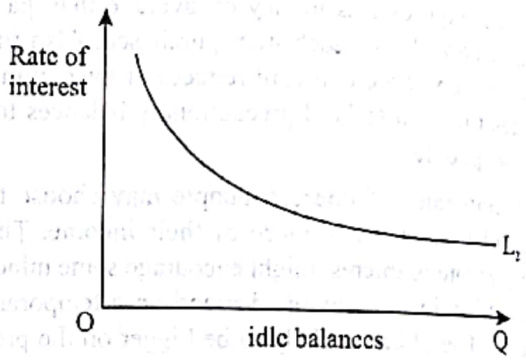


Speculative demand for money is based on the expectation of making a speculative gain or avoiding a loss. Money balances held for this purpose are called idle balances (L_2). Keynes outlined the speculative demand for money in terms of the desire to hold money or fixed income bonds. It is important to note that the price of bonds and the rate of interest are inversely related. When the rate of interest is perceived to be unduly high by individuals they will assume that the next move is in a downward direction. As stated, when the rate of interest falls the price of bonds increases and so there are capital gains to be made. This being so, when the rate of interest is high there will be a substantial demand for bonds and hence a low speculative demand to hold money. If, however, the rate of interest is perceived to be unduly low then individuals will assume that the next move is upwards, resulting in a fall in bond prices and, therefore, a capital loss for those who own bonds. If this is the case, the demand for bonds is likely to be low and those owning bonds will be looking to sell them before the price falls. In this situation the speculative demand for money will be high as shown in the graph below:



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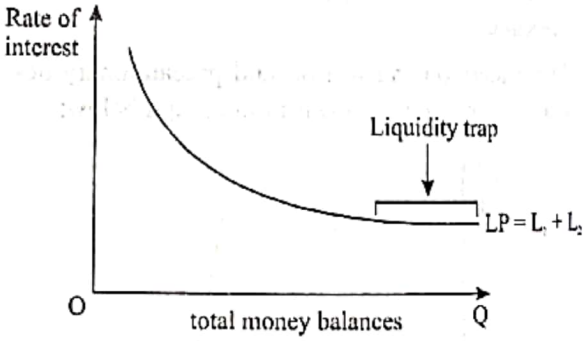

A change in interest rate causes movement along the demand for money curve upward or downward.

Any factor other than a change in interest rates, that causes the demand for money to change will shift the LP curve to the rightward or leftward. For example, a rise in national income or price level will cause L_1 to increase, and thus LP will shift to the right and vice versa.

An increase in unemployment is likely to decrease output and national income subsequently resulting

in a fall in transaction demand for money as unemployed would be forced to cut back their spending. This possible reduction in consumer spending would affect firms' receipts and their liquidity hence it is expected to result in a fall in demand for money.

However, there may be offsetting changes in the economy which would prevent demand for money from falling. Government actins in terms of providing increasing unemployment benefit can lead to a stable demand for money or else credit availability in terms of greater use of credit cards can also compensate for a fall in incomes resulting from unemployment. Besides this some unemployment, e.g. seasonal, could be already accounted for in the determinants of liquidity preference hence would not affect liquidity preference.

Thus a rise in unemployment is expected to affect liquidity preference only in the absence of compensating factors.

Question 4

(a) For what purposes do people demand money? [12]

(b) Assess, using the concept of liquidity preference, the possible links between an increase in the supply of money, the rate of interest and investment. [13]

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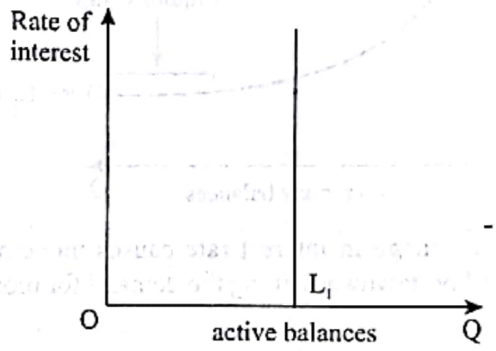

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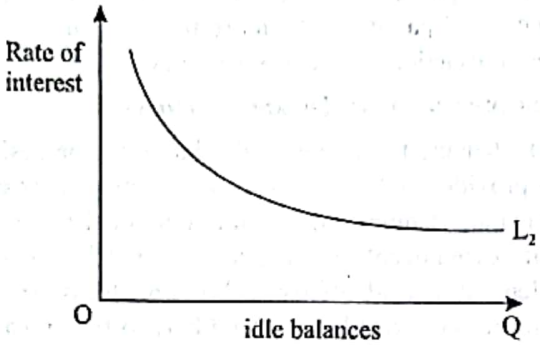

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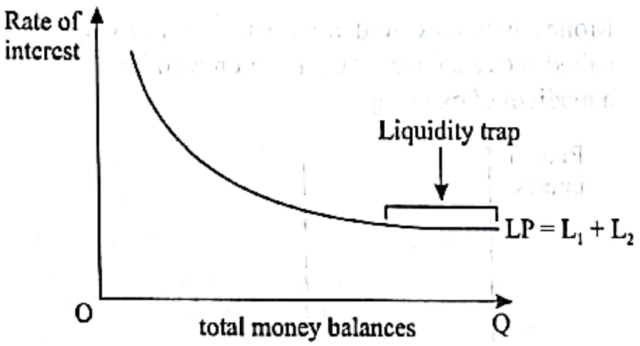
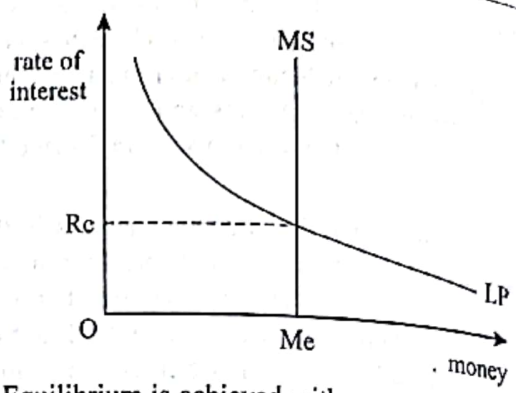


Thus a change in interest rate causes movement upward or downward along the demand for money curve.

While a change in other determinants such as national income, price level and frequency with which people receive their incomes will result in a shift in the LP function. A rise in national income or price level, for instance will cause L_1, and thus LP curve to shift to the right and vice versa.

(b) In the money market the condition for monetary equilibrium is that the rate of interest will be such that everyone is just willing to hold the existing supply of money, i.e. interest rate does the job of equating the quantity of money demanded to the available supply and hence produces monetary equilibrium. In the figure below, we see how the interest rate produces monetary equilibrium.



Equilibrium is achieved with a rate of interest Re and the quantity of money Me. If the rate of interest were above Re, people would have money balances surplus to their needs. They would use these to buy securities and other assets. This would drive up the price of securities and drive down the rate of interest toward equilibrium. Similarly, if the rate of interest were below Re, people would have insufficient money balances. They would sell securities, thus lowering their prices and raising the rate of interest until it reached the equilibrium level.

An increase in money supply will affect national income via changes in the rate of interest. Let's assume that monetary authorities seek to adopt easy monetary measures and attempt to increase money supply, say, by lowering liquidity ratio of commercial banks or buying securities through open market operation.

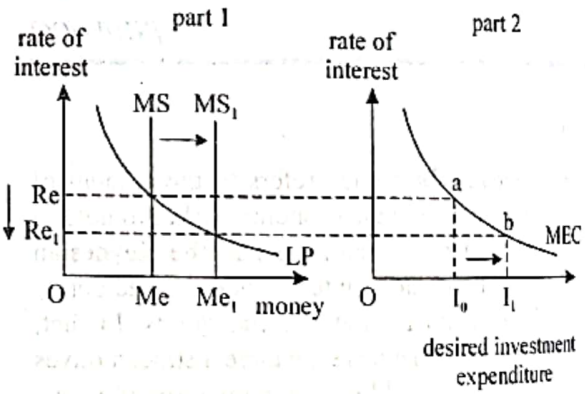


Figure 2

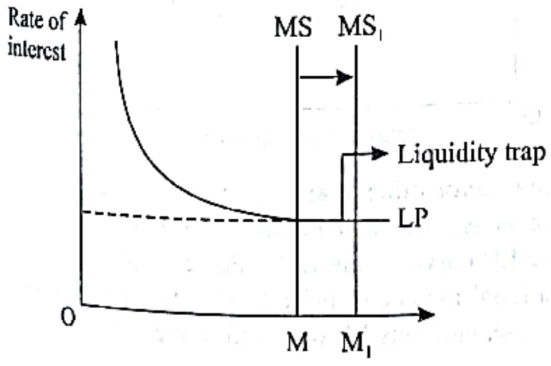
These measures shift the supply curve of money from MS to MS_1 as shown in the first part of the graph. Consequently, there is excess supply of money at the existing rate of interest Re. People still wish to hold only Me of money balances, but Me_1 is now available. In order to eliminate their excess holdings of money, people attempt to buy bonds and securities. This attempt of buying bonds or any other financial assets increases their prices and subsequently lowers the rate of interest. When interest has fallen to Re_1 the quantity of money demanded will have risen to equal the avail-

able supply of Me_1. Monetary equilibrium is, thus re-established, though at a lower rate of interest.

The curve in the other part of the graph is called a marginal efficiency of investment curve (or just a demand for investment curve). MEC curve shows the relation between planned investment and the rate of interest, assuming all other things are equal. It is derived from prospective yield of one more unit of investment and the cost of obtaining it. Firms make their investment decisions by comparing MEC with the rate of interest. If, for instance, the expected real net rate of return on an individual project (MEC) is greater than the real rate of interest, investment is profitable and hence is undertaken. Thus investment demand curve shows that the lower the rate of interest, the larger will be the number of investment opportunities that will show a profit and, hence, the larger the volume of investment expenditure that firms wish to undertake.

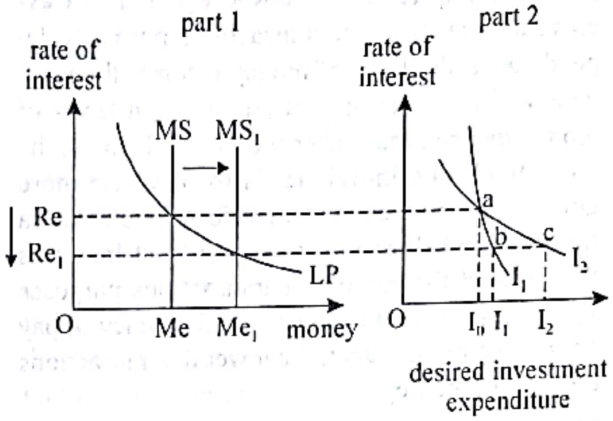
Note that, because both parts, in the above figure, have the interest rate on the vertical axis, the interest rate can be compared between the two parts. Both parts show an initial equilibrium with the quantity of money of Me and an interest rate of Re. But when the equilibrium is disturbed, say due to an increase in the money supply to MS_1, the rate of interest falls to Re_1. Part (ii) of the Figure tells us that the fall in the interest rate from Re to Re_1 increases desired investment expenditure from I_1 to I_2.

So far, we have seen that an increase in the money supply leads to a fall in the interest rate which, subsequently results in an increase in desired investment expenditure. However, the extent to which a rise in money supply causes the rate of interest to fall and investment to increase depends on the elasticity of the LP curve and the sensitivity of investment to a change in the rate of interest. If, for instance, economy operates at the horizontal part of LP i.e. liquidity trap, then increase in MS fails to bring a fall in interest rate and hence would not affect planned investment at all. This is illustrated in the graph below.



At very low rate of interest, speculators may expect that the rate of interest cannot fall any further. Thus LP curve becomes horizontal i.e. demand for money is perfectly interest elastic. No one wants to buy bonds when interest rate is so low and is expected to rise in future. Thus if monetary authorities increase MS, this would simply add to speculative balances and the rate of interest would remain unchanged, thus increase in MS is unable to stimulate investment.

Similarly a monetary stimulus would fail to achieve the desired results if investment is interest inelastic. Consider the graph below.



The graph above shows that the extent to which a rise in MS stimulates the level of investment depends on interest elasticity of the investment curve. An interest inelastic investment function (I_1) would result in a proportionately smaller rise in investment due to a given fall in interest rate. On the contrary, an interest elastic investment function (I_2) would produce a proportionately larger rise in investment than the given fall in interest rate.

Thus we conclude that a rise in MS is expected to reduce interest rate and investment to rise. However, the extent of changes in both the interest rate and then investment depends on the elasticity of demand for money and interest sensitivity of investment.

Question 5

For what purposes do people demand money? [10]

[N12/P4/Q7(a)]

Essay

The demand for money refers to the amount of wealth everyone in the economy wishes to hold in the form of money balances. In the Keynesian

analysis of the rate of interest, unlike the loanable funds theory, the demand for money is not based purely on the demand for new capital goods. In fact, Keynes argued that there are three distinct motives for preferring to hold wealth in the form of money as opposed to holding either non-money financial assets or physical assets.

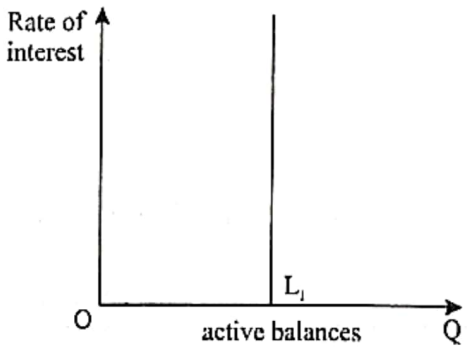
The transactions demand for money

Individuals need to hold money in order to meet daily transactions such as buying petrol, paying for groceries or purchasing a newspaper. Everyone will hold a certain amount of money since they are normally paid weekly or monthly whereas their expenditure is spread over the whole period. The average amount held for transactions purposes depends upon the level of money income, the price level and the frequency of pay days. In terms of money income, the higher the money income, the more likely the individual is to purchase more goods and services, and therefore require extra transactions balances. If the price level increases the demand for money for transactions purposes will be higher. In the case of the frequency of pay days, the more frequent, the lower the transactions demand for money.

The precautionary demand for money

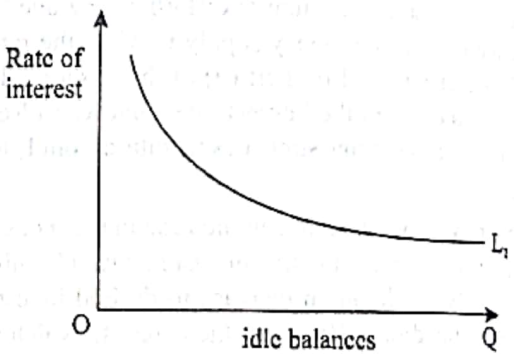
The demand for money is also based on the desire to provide for the unex-pected. The precautionary demand for money allows the individual to cover unforeseen events, such as the car breaking down, a lengthy period off work through illness, or an unexpected redundancy. It is likely to be the case that as the rate of interest increases, the precautionary demand for money will fall as individuals place their money in interest-bearing assets, i.e. the cost of 'holding' money has increased.

Money balances held for these two purposes is called active balances (L_1) i.e. money to be used as a medium of exchange.

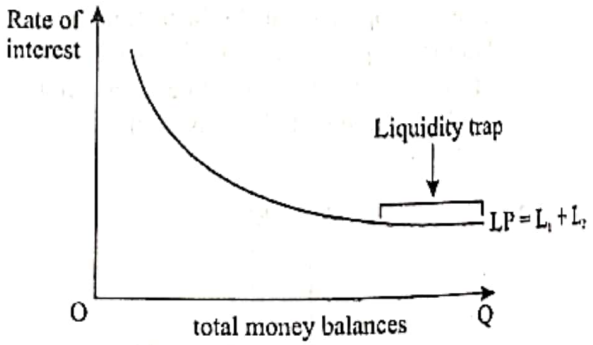


The speculative demand for money

Speculative demand for money is based on the expectation of making a speculative gain or avoiding a loss. Money balances held for this purpose are called idle balances (L_2). Keynes outlined the speculative demand for money in terms of the desire to hold money or fixed income bonds. It is important to note that the price of bonds and the rate of interest are inversely related. When the rate of interest is perceived to be unduly high by individuals they will assume that the next move is in a downward direction. As stated, when the rate of interest falls the price of bonds increases and so there are capital gains to be made. This being so, when the rate of interest is high there will be a substantial demand for bonds and hence a low speculative demand to hold money. If, however, the rate of interest is perceived to be unduly low then individuals will assume that the next move is upwards, resulting in a fall in bond prices and, there-fore, a capital loss for those who own bonds. If this is the case, the demand for bonds is likely to be low and those owning bonds will be looking to sell them before the price falls. In this situation the speculative demand for money will be high as shown in the graph below:



The total demand for money LP is plotted against the rate of interest (r). This is found by the horizontal addition of curves L_1 and L_2.



Any factor other than a change in interest rates, that causes the demand for money to rise will shift the LP curve to the right. For example, a rise in national income or price level will cause L_1 to increase, and thus LP will shift to the right.

Question 6

Use liquidity preference theory to explain why there is a demand for money. [12]

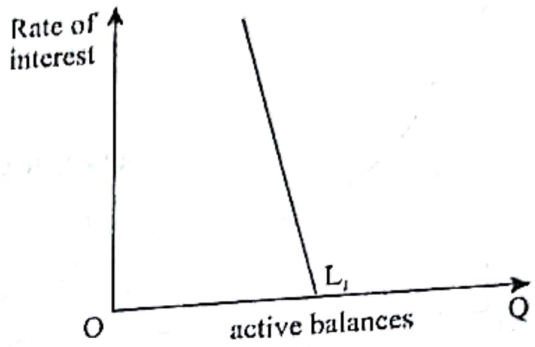
[N14/P4/Q6(a)]

Essay

The demand for money refers to the amount of wealth everyone in the economy wishes to hold in the form of money balances. In the Keynesian analysis of the rate of interest, demand for money is not based purely on the demand for new capital goods. In fact, Keynes argued that there are three distinct motives for preferring to hold wealth in the form of money as opposed to holding either non-money financial assets or physical assets.

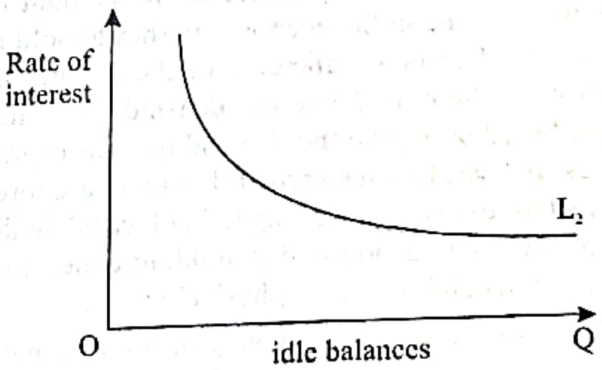
Individuals need to hold money in order to meet daily transactions such as buying petrol, paying for groceries or purchasing a newspaper. Money balances held for this purpose is called transaction demand for money. Everyone will hold a certain amount of money since they are normally paid weekly or monthly whereas their expenditure is spread over the whole period. The average amount held for transactions purposes depends upon the level of money income, the price level, the time of the year and the frequency of pay days. In terms of money income, the higher the money income the more likely the individ-ual is to purchase more goods and services, and therefore require extra transactions balances. If the price level increases the demand for money for transactions purposes will be higher. In the case of the frequency of pay days, the more frequent, the lower the transactions demand for money.

The demand for money is also based on the desire to provide for the unex-pected. The precautionary demand for money allows the individual to cover unforeseen events, such as the car breaking down, a lengthy period off work through illness, or an unexpected redundancy. It is likely to be the case that as the rate of interest increases, the precautionary demand for money will fall as individuals place their money in interest-bearing assets, i.e. the cost of 'holding' money has increased.

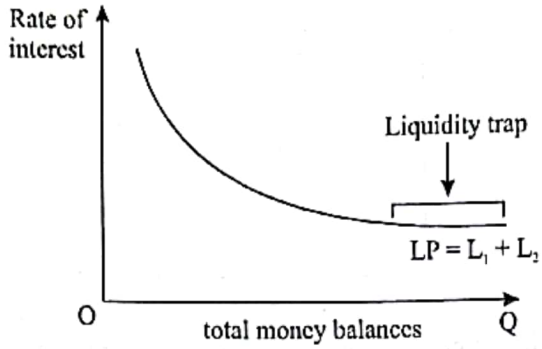


Money balances held for these two purposes is called active balances (L_1) i.e. money to be used as a medium of exchange.

Speculative demand for money is based on the expectation of making a speculative gain or avoiding a loss. Money balances held for this purpose are called idle balances (L2). Keynes outlined the speculative demand for money in terms of the desire to hold money or fixed income bonds. It is important to note that the price of bonds and the rate of interest are inversely related. When the rate of interest is perceived to be unduly high by individuals they will assume that the next move is in a downward direction. As stated, when the rate of interest falls the price of bonds increases and so there are capital gains to be made. This being so, when the rate of interest is high there will be a substantial demand for bonds and hence a low specula e demand to hold money. If, however, the rate of interest is perceived to be unduly low then individuals will assume that the next move is upwards, resulting in a fall in bond prices and, there-fore, a capital loss for those who own bonds. If this is the case, the demand for bonds is likely to be low and those owning bonds will be looking to sell them before the price falls. In this situation the speculative demand for money will be high as shown in the graph below:



The total demand for money LP is plotted against the rate of interest (r). This is found by the horizontal addition of curves L_1 and L_2.



A change in interest rate causes movement along the demand for money curve upward or downward.

Any factor other than a change in interest rates that causes the demand for money to change will shift the LP curve to the rightward or leftward. For example, a rise in national income or price level will cause L_1 to increase, and thus LP will shift to the right and vice versa.

Question 7

(a) Explain the motives for the demand for money according to the Keynesian liquidity preference theory. [12]

(b) A worker is a weekly paid shop assistant. She is then promoted to a manager in a larger store on a higher monthly salary. At the same time interest rates fall.

Discuss how these changes would affect the worker's demand for money. [13]

[N15/P4/Q4]

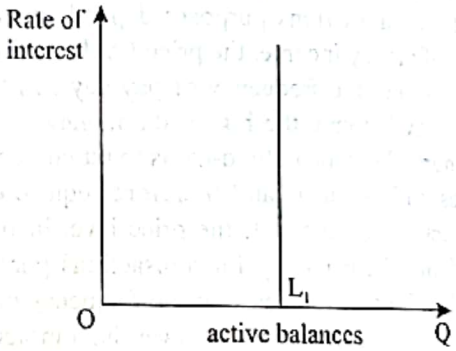
Essay

(a) The demand for money refers to the amount of wealth everyone in the economy wishes to hold in the form of money balances. In the Keynesian analysis of the rate of interest, demand for money is not based purely on the demand for new capital goods. In fact, Keynes argued that there are three distinct motives for preferring to hold wealth in the form of money as opposed to holding either non-money financial assets or physical assets.

Individuals need to hold money in order to meet daily transactions such as buying petrol, paying for groceries or purchasing a newspaper. Money balances held for this purpose is called transaction demand for money. Everyone will hold a certain amount of money since they are normally paid weekly or monthly whereas their expenditure is spread over the whole period. The average amount held for transactions purposes depends upon the level of money income, the price level, the time of the year and the frequency of pay days. In terms of money income, the higher the money income, the more likely the individual is to purchase more goods and services, and therefore require extra transactions balances. If the price level increases the demand for money for transactions purposes will be higher. In the case of the frequency of pay days, the more frequent, the lower the transactions demand for money.

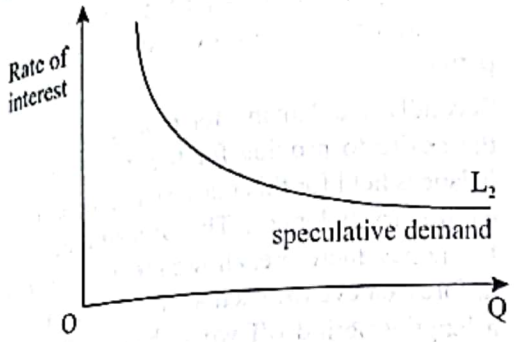
The demand for money is also based on the desire to provide for the unexpected. The precautionary demand for money allows the individual to cover unforeseen events, such as the car breaking down, a lengthy period off work through illness, or an unexpected redundancy. It is likely to be the case that as the rate of interest increases, the precautionary demand for money will fall as individuals place their money in interest-bearing assets, i.e. the cost of 'holding' money has increased.

Money balances held for these two purposes is called active balances (L_1) i.e. money to be used as a medium of exchange.

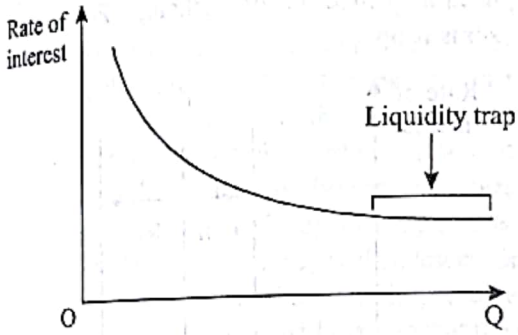


Speculative demand for money is based on the expectation of making a speculative gain or avoiding a loss. Money balances held for this purpose are called idle balances (L_2). Keynes outlined the speculative demand for money in terms of the desire to hold money or fixed income bonds. It is important to note that the price of bonds and the rate of interest are inversely related. When the rate of interest is perceived to be unduly high by individuals they will assume that the next move is in a downward direction. As stated, when the rate of interest falls the price of bonds increases and so there are capital gains to be made. This being so, when the rate of interest is high there will be a substantial demand for bonds and hence a low speculative demand to hold money. If, however, the rate of interest is perceived to be unduly low then individuals will assume that the next move is upwards, resulting in a fall in bond prices and, there-fore, a capital loss for those who own bonds.

If this is the case, the demand for bonds is likely to be low and those owning bonds will be looking to sell them before the price falls. In this situation the speculative demand for money will be high as shown in the graph below:



The total demand for money LP is plotted against the rate of interest (r). This is found by the horizontal addition of curves L_1 and L_2.



A change in interest rate causes movement along the demand for money curve upward or downward.

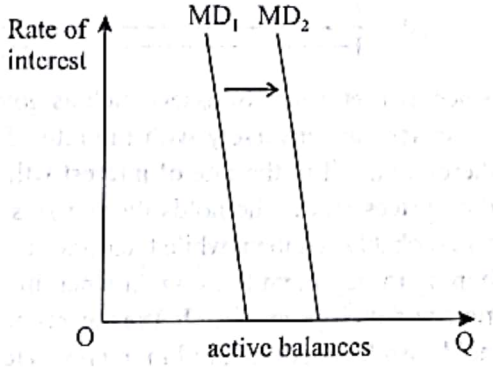
Any factor other than a change in interest rates, that causes the demand for money to change will shift the LP curve to the rightward or leftward. For example, a rise in national income or price level will cause L_1 to increase, and thus LP will shift to the right and vice versa.

(b) A worker is a weekly paid shop assistant. She is then promoted to a manager in a larger store on a higher monthly salary. At the same time interest rates fall.

Discuss how these changes would affect the worker's demand for money.

According to the theory of liquidity preference the transactionary demand for money is affected by the frequency with which people are paid and the level of income they earn. The higher the income they earn the more they are likely to spend and therefore the higher is their transactionary demand for money. Similarly the less frequently they are paid, the greater the level of money balances they will tend to hold.

In the given situation the worker has been promoted from the shop assistant to a manager in a large store and she is entitled to receive monthly salary as opposed to weekly wages therefore her transactionary demand for money is expected to increase as shown in the graph below;

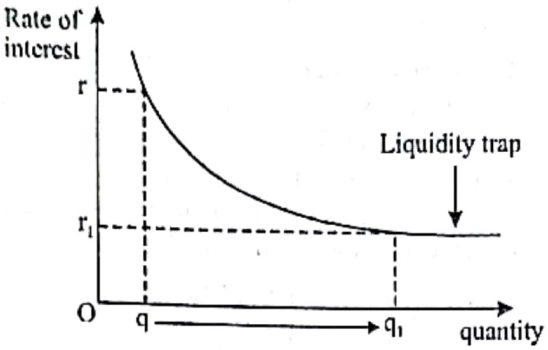


If, for example, she was paid $200 per week and she was spending all $200 by the end of week and her expenditure were spread evenly over the week then on average she was holding roughly $100 in cash; that is midway between pay days. Now she is paid a higher monthly income say $1000, therefore she will have roughly $500 cash on average; that is mid-month. This increase in her cash balances is reflected in a rightward shift in the MD curve and it has resulted partly due to an increase in her income and partly due to the longer interval with which she will be paid as a manger.

The effect, however may be opposite if her income now allows her to obtain facilities such as debit or credit cards. This is because paying once a month for goods requires less money on average than paying separately for each item purchased. Also it may reduce or eliminate the need to hold cash for precautionary motive. So if she uses these banking instruments more frequently than her cash holding my actually decline.

A fall in interest rate is also likely to affect her active cash balance, albeit rather small. At lower rate she may choose to spend more and save less of her income. Also this may encourage her to borrow and spend more.

A fall in interest rate, however would affect her speculative demand for money. Speculative demand for money refers to holding cash with the purpose to buy financial assets such as bonds, shares or foreign currencies and is referred to as idle balances.



Since market prices of assets such as government securities vary inversely with the rate of interest, therefore a fall in the rate of interest will increase their prices and if she holds these assets then she will probably sell them while their prices are higher, hoping to buy them back again when interest rate rises and their prices fall. In the meantime she will hold cash balances. So, fall in interest rate is likely to increase her demand for money for speculative motive.

If she is living in an open economy where large-scale movement of currencies across the foreign exchange takes place, expectations about changes in exchange rates is a major determinant of the speculative demand for money. A fall in interest rate will result in outflow of capital therefore it will drive the exchange rate down. This will increase speculative demand for the country's currency hoping that when interest rate rises in future the currency will appreciate in value.

So when interest rate falls not only she will hold money in anticipation of a fall in securities prices, but she will also hold higher speculative balances in anticipation of an appreciation of the exchange rate.

Question 8

Explain why people demand money according to the liquidity preference theory. [12]

[J17/P4/Q4(a)]

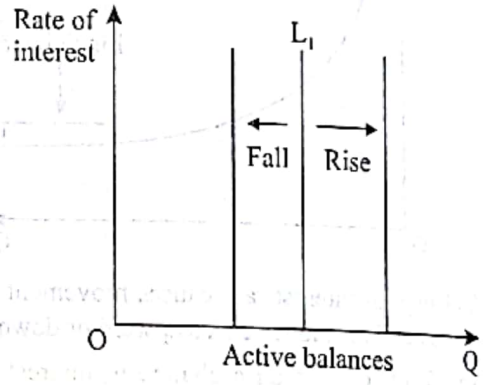
Essay

Demand for money refers to the amount of wealth everyone in the economy wishes to hold in the form of money balances. Keynes argued that there are three distinct motives for preferring to hold wealth in the form of money as opposed to holding either non-money financial assets or physical assets.

Firstly, Individuals need to hold money in order to meet daily transactions such as buying petrol, paying for groceries or purchasing a newspaper. This is identified as transactionary demand for money. Everyone will hold a certain amount of money since they are normally paid weekly or monthly whereas their expenditure is spread over the whole period.

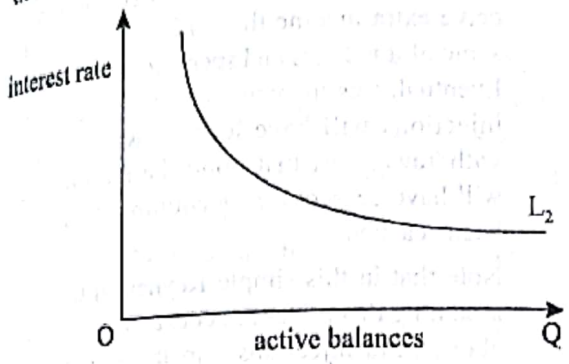
Secondly, the demand for money is also based on the desire to provide for the unexpected. Money balances held for this purpose are identified as precautionary balances. The precautionary demand for money, therefore, allows the individual to cover unforeseen events, such as the car breaking down, a lengthy period off work through illness, or an unexpected redundancy.

Money balances held for these two purposes are known as active balances (L_1) i.e. money to be used as a medium of exchange. Following graph sums it up.

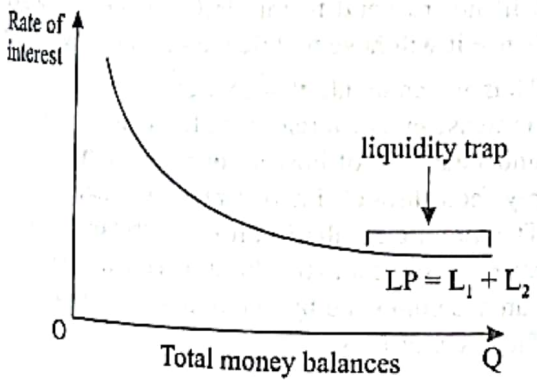


Though active balances remain independent of interest rate as indicated by the curve L_1, but any changes in other factors could shift L_1. A rightward shift suggests that households and firms prefer to hold more cash or otherwise it can shift leftward. Non-interest factors include the changes in level of money income, the price level, the time of the year, the frequency of pay days and the use of credit or debit cards. In terms of money income, the higher the money income, the more likely the individual is to purchase more goods and services, and therefore require extra transactions balances thus shifting L_1 rightwards. If the price level increases the demand for money for transactions purposes will also be higher. In case of frequency of pay days, the more frequent, the lower the transactions demand for money. Certain time of the year when people need more cash L_1 rises. Also when people start using more banking instruments for transactions they need to hold less cash, demand for active balances, therefore, falls.

Speculative demand for money is the third motive for holding money. It is based on the expectation of making a speculative gain or avoiding a loss. Keynes outlined the speculative demand for money in terms of the desire to hold money or fixed income bonds. Relationship between speculative demand for money and interest rate is explained on the following graph.



It is important to note that the price of bonds and the rate of interest are inversely related. When, for instance, the rate of interest is perceived to be unduly high by individuals they will assume that the next move is in a downward direction that will result in higher prices of bonds. So there are capital gains to be made by buying bonds and speculative demand for money will be lower. On the contrary when the rate of interest is perceived to be unduly low individuals will assume that the next move is upwards that will drive prices of bonds down and there may be a capital loss for those who own bonds. If this is the case, the demand for bonds is likely to be low and those owning bonds will be looking to sell them before their prices fall. In this situation the speculative demand for money will be high. The total demand for money (LP) is plotted against the rate of interest (r). This is found by the horizontal addition of curves L_1 and L_2.



Thus a change in interest rate causes movement upward or downward along the demand for money curve. While a change in other determinants such as national income, price level and frequency with which people receive their incomes will result in a shift in the LP function. A rise in national income or price level, for instance will cause L_1, and thus LP curve to shift to the right and vice versa.

Question 9

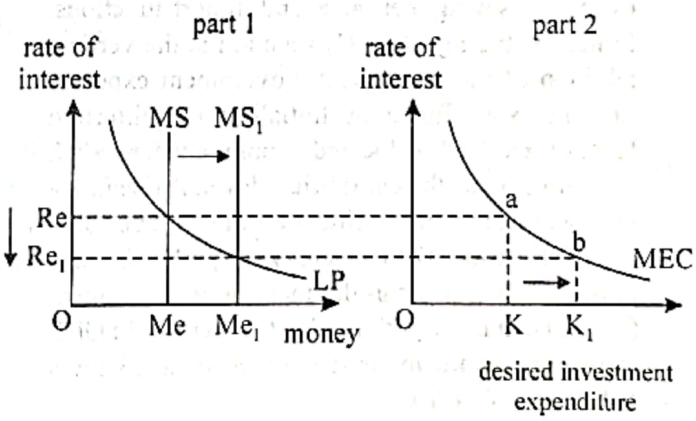
Economic models have little practical relevance.

Discuss whether this is true of the analysis of how a fall in interest rates might affect an economy's GDP. [25]

[J17/P4/Q5]

Essay

(a) In the money market interest rate does the job of equating the quantity of money demanded to the available supply and hence produces a monetary equilibrium. However an increase in money supply will affect GDP via changes in the rate of interest. Let's assume that monetary authorities seek to adopt easy monetary measures and attempt to increase money supply and interest rate to fall, say, by lowering liquidity ratio of commercial banks or buying securities through open market operation.

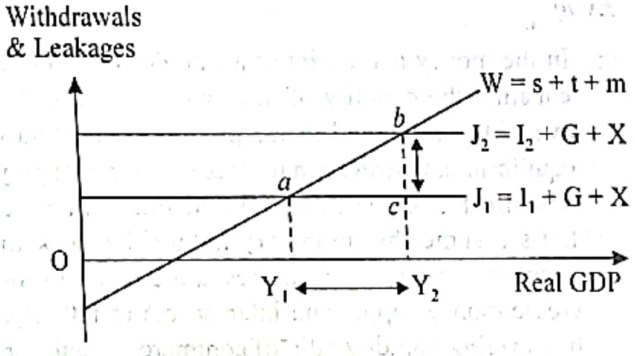


These measures shift the supply curve of money from MS to MS_1 as shown in the first panal of the graph. Consequently, there is excess supply of money at the existing rate of interest Re. People wish to hold only Me, but Me_1 is now available to them. In order to use their excess holdings of money, people attempt to buy bonds and securities. This increases bond prices and subsequently lowers the rate of interest. When interest has fallen

to Re_1 the quantity of money demanded will have risen to equal the available supply Me_1. Monetary equilibrium is, thus re-established, though at a lower rate of interest.

The curve in panal 2 of the graph shows investment function. It is derived from prospective yield of one more unit of investment and the cost of obtaining it. Firms make their investment decisions by comparing yield with the rate of interest. When the real net rate of return on an individual project is higher than the real rate of interest, investment is profitable and hence is undertaken. Thus investment demand curve shows that the lower the rate of interest, the larger will be the number of investment opportunities that will show a profit and, hence, the larger the volume of investment expenditure that firms wish to undertake.

In this case a fall in interest rate from Re to Re_1 increases planned investment from K to K_1. Now we see how these changes eventually affect GDP. Consider the graph below.



The withdrawals (W) function is the vertical sum of the net saving, net taxes and import functions. Similarly, the injection (J) function is the vertical addition of the investment, government expenditure and export functions. Initially, the equilibrium level of real GDP is located at point a where W=J, indicating Y_1 as the equilibrium level. A rise in investment expenditure shifts the J function upwards and will cause GDP to increase ($Y_1 - Y_2$) by proportionately more than the increase in investment (b-c). The number of times that the increase in GDP is greater than the increase in investment is known as the multiplier (k).

So what causes the multiplier effect? The answer is that, any increase in injection into the economy will produce a stream of new incomes through additional spending. For example, if firms to invest more, this will lead to more people are being employed and hence more incomes are being paid to house-holds. Households will then spend part of this increased income on domestically produced goods and the remainder will be withdrawn. This increased consumption will encourage firms to produce more goods to meet the demand. Firms will thus employ more people and other factors of production. This leads to even more incomes being paid out to households. Consumption will thus increase yet again, and so the process continues.

Since multiplier is not infinite, therefore, an increase in injections would not cause national income to go on rising forever. Each time people receive extra income they will save some of it, pay some of it in taxes and spend some of it on imports. Eventually, as income goes on rising, all the extra injections will have leaked away into the three withdrawals. At that point the multiplier process will have ceased; a new equilibrium Y_2 will have been reached.

Note that in this simple Keynesian theory we are assuming that prices are constant. So when we talk about extra injections into the economy causing extra spending, it is the extra output that this spending generates that we are concerned with. But if the economy is already operating at full employment and no extra resources available to produce output to match with the rising demand for both capital goods and consumer goods then this fall in interest rate would result in increase in price level and no change in real GDP.

Also, the extent to which a rise in money supply causes the rate of interest to fall and investment and consumption expenditure to increase depends on the sensitivity of investment and consumption expenditure to a change in the rate of interest. If, for instance, interest rate falls to the level where economy operates at the horizontal part of LP i.e. liquidity trap, it will only encourage people to hold their wealth in cash. This is because the lowest possible interest rate means highest prices of all assets and in future if interest rate rises it will bring those asset prices down. Investment, therefore, will not respond to this fall in interest rate and hence it will have no effect on the country's GDP.

Thus we conclude that this economic model has immense practical relevance for it provides a good understanding of how an increase in money supply feed through interest rate and increases AD. The varying results in different economies, however, are subject to the differing conditions that we can accommodate by modifying the model to suit those conditions.