

Money and Monetarism

9

Unit highlights:

- ⇒ Definition and types of inf
- ⇒ Definition of money
- ⇒ Determinants of money supply
- ⇒ Deposit expansion by Commercial Banks
- ⇒ Money supply process in

Lesson 1: Money and Monetary Aggregate

Lesson Objectives: After reading this lesson you would know the following:

- w What is money and what services money renders
- w Different types of monetary aggregates
- w Factors that affect money supply
- w The process of multiple expansion of deposits in commercial banks
- w Money supply process in Bangladesh

What is Money?

Anything that is generally accepted as a means of payment would qualify as money. Convention and the prevailing stage of economic development determine what would be regarded as money in a society. Money performs some basic functions: (1) it serves as a medium of exchange, (2) it is used as a store of value, (3) it serves as a unit of account and (4) it is a standard of deferred payment. For a society at a point of time fully developed money is that which, apart from being generally accepted as a means of payment, performs all those four functions. Being generally acceptable to all sellers who offer goods or services, money eliminates the problem of lack of double coincidence and difficulties of apportioning a unit of a good or service frequently met in a barter economy. A large variety of goods has served as a medium of exchange in different societies at different times. Money performs better as a medium of exchange when it has the following characteristics: (1) it is readily recognizable and acceptable, (2) it has a high value for its weight and volume, (3) it is divisible, and (4) it cannot easily be forged.

Money becomes a unit of account or standard of value as the magnitude of price of each commodity is expressed in terms of money- the medium of exchange. We need not remember relative price of one commodity in terms of each of the remaining commodities for the purpose of exchange – we need to know only the absolute prices of each of the commodities in terms of money.

We express the amount that has to be paid in future for present borrowing or purchase, in terms of money. A person can sell goods and services for money and save the whole or a part of that money to use later for buying goods and services. Money performs all those functions in a better way if the general price level remains stable. Of all the four functions stated above, serving as a medium of exchange is the essential function – since money is a universally accepted medium of

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exchange. Other three functions can be performed by other physical or financial assets – but such assets they do not have general acceptability in normal circumstances.

Types of Monetary Aggregates

Money is also construed to be an asset rendering some services in the sense that it saves time and resources for the holder of money. From the accounting point of view an asset gives its holders a claim and it implies an equivalent amount of liabilities for those against whom the claim is made. Notes are assets for the holders but they are liabilities of the central bank. Notes make the common component of money supply in many countries – same is the case with demand deposits (bearing no interest) which are assets to the depositors but liabilities to the commercial banks. Depositors write cheques against the deposits to settle accounts. While in some countries cheques (drawn against whatever type of deposit) are not generally accepted as a means of payment in some countries, money can be more readily withdrawn through writing of cheques, cash-on-line system or electronic transfer of funds from different type of deposits. Thus operationally, money can be defined as those liabilities of the central bank and of financial institutions (which may be privately owned), which people hold in order to obtain the services that money performs. Any liability of the central Bank or financial institutions, which can be used as means of payment in exchange for goods and services or can be converted into medium of exchange rapidly enough with minimum of transaction cost and danger of loss of capital value qualifies to be called money. But such liabilities truly become money if people use them quite frequently for significant volume of transactions. As types of liabilities and pattern of use of such liabilities change over time the operational definition of money and money supply also changes.

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For some countries money supply means only supply of notes and coins. In Bangladesh one taka notes and coins of different nominations are issued by the government. Notes of higher denominations are issued by Bangladesh Bank, the central bank of Bangladesh. These notes represent liability of Bangladesh Bank. In some countries including Bangladesh there still prevail some non-monetised sectors or activities. The most widely used measure of money is narrow money, M-1 which includes currency (notes and coins) held by public and non-interest bearing current or demand deposits of non-bank public in commercial banks. Cheques drawn against those deposits are not money. They represent devices by

which a transfer of a specific amount of money is made from the demand deposit of one party (an individual or a firm or government) to another party. For many years, currency and commercial bank demand deposits held by the public were the only assets that qualified as money according to narrow definition of money, M-1. In the 1970s some new type of accounts emerged in the financial institutions of the USA. Since 1980 M-1 has been renamed as M-1A. Deposits in Negotiable Order of Withdrawal Accounts (NOW accounts) at savings and loan associations and commercial banks, Automatic Transfer Service from savings to demand deposits account (ATS account), Credit Union Share Draft accounts, and Demand Deposits Accounts at mutual savings banks are now added to M-1A derive a broader concept of money supply called M-1B. Cheques can be drawn against those accounts either directly or indirectly. Still broader money supply, M-2 is obtained by adding savings deposits, small denomination (less than \$100,000) time deposits, overnight eurodollars, money market deposit accounts, overnight purchase agreements and money market neutral funds to M-1B. Another money stock measure, M-3 is obtained by adding to M-2 several other items, the most important of them being large denomination (\$100,000 or more) deposits at all depository institutions. In industrially advanced countries when one refers to the money supply without qualification, the M-1B concept of money supply is usually understood. But the growth of money market funds has blurred the distinction between M-1B and M-2.

In Bangladesh M-1 includes notes and coins in circulation and demand deposits. M-2 in Bangladesh is obtained by adding savings deposits and time deposits to M-1.

Supply of Money and Credit:

Determinants of Money Supply

In analyzing process and growth of money supply we will mostly stick to the concept of M-1A (previously called M-1). This is done partly for the sake of convenience. But it is essential that we pay attention to what is happenings to other measures of money supply i.e. M-1B, M-2 or M-3 in the context developed capitalist countries. For most of the countries especially the developing ones, we should only consider what is happening to M-1A.

We may recall that according to the narrow definition of money supply (referred to as M-1 or M-1A) the money supply (from now onward this will be represented by

M unless we move to a broader definition of money supply) is represented by equation(1).

$$M=C_{pub}+D_{pub} \dots \dots \dots (1)$$

$$\text{Where } C_{pub}=h.M \dots \dots \dots (2)$$

$$D_{pub}=(1-h).M \dots \dots \dots (3)$$

Furthermore,

$$RRe=z. D_{pub}=z.(1-h).M \dots \dots \dots (4)$$

Below we show what the symbols used above stand for:

- a) M=Money supply (narrow definition)
- b) C_{pub}= Currency held by public . Currency in bank vaults of commercial banks or central bank is not included. Notes and coins issued by government and Central Bank and held by the public are included.
- c) D_{pub} = Demand deposits held by public in the commercial banks.
- d) h = proportion of M held in the form of currency (notes & coins) by the public.
- e) (1-h) = proportion of M held in the form of deposit in commercial banks.
- f) z = proportion of demand deposits which must be kept in The Central bank by commercial banks and deposits
- g) RRe = Amount of deposit which must be kept as reserve in The Central bank by commercial banks.

Equations (2) and (3) respectively shows that (i) currency held by the public is h times M, and (ii) demand deposits held by public is (1-h) times M. Equation (4) shows amount of deposits held by public, which must be kept as reserve in central bank by commercial banks, RRe as a proportion of D_{pub} or as a proportion of M (narrow definition)

Amount of reserves provided by a Central bank includes two types of reserves: un-borrowed reserves (RU) and borrowed reserves (RB). Central bank provides RU through buying of securities issued by the government in the open market, while RB is provided through lending by the central bank to commercial banks by discounting bills of exchange at its disposal. These reserves are, however, used up in the following manner: Banks keep certain portion of the reserves obtained as required reserves (RRe), excess reserve, REx, and some of the RU will end up as currency in the hands of the public, C_{pub}. Hence we can write the following identity:

$$RU+RB = R = RRe+REx+C_{pub} \dots \dots \dots (5)$$

where R is total reserve.

Rearranging (5) we get an expression for unborrowed reserve, RU provided by the central bank:

$$RU = RRe + REx - RB + Cpub \dots \dots \dots (6)$$

Or $RU = RRe + RF + Cpub \dots \dots \dots (7)$

where RF is net free reserve.

We use equation (2) for Cpub and equation (4) for RRe in (7) to obtain the following expression of RU:

$$RU = z.(1-h).M + RF + h.M \dots \dots \dots (8)$$

Solving equation (8) for M we derive, through rearranging the resulting denominator,

$$M = [RU - RF] / [h + z(1-h)] \dots \dots \dots (9a)$$

Or $M = [RU - RF] / [z + h(1-z)] \dots \dots \dots (9b)$

As is evident from (9b), $(\partial M) / \partial RU > 0$. Both the partial derivatives, $(\partial M) / (\partial RF)$ and $(\partial M) / (\partial h)$ are negative. $\partial M / \partial z$ is negative too. Note that $RU > RF$, $h > 0$, $z < 1$, $(h-hz) > 0$ and $(z-h.z) > 0$.

If the central bank wants to increase the money supply it may increase RU through purchase of government securities from commercial banks. Commercial banks may, in order to make new loans and create new deposits, sell such securities if it does not have any excess reserve or if wants to lend a bigger amount and create deposits more than its excess reserve permits. The same purpose of the central bank is served if (1) it lowers discount rate so that RB increases and RF falls provided that REx lowers, or remains constant or does not rise as much as RB rises; and (2) central bank lowers z so that commercial banks can lend more to the public and create demand deposits if it is willing to do so. On the other hand, commercial banks and non-bank public together, on their own, can expand money supply through (1) public's having greater preference for demand deposits vis-a-vis cash in hand, and (2) drawing down free reserve (RF) either through using excess reserve or borrowing more from the central bank through having their bills of exchange discounted by the central bank. So measures taken by one party (central bank or commercial banks or non-bank public) to change money supply can be supported or resisted by the other for their own reasons. So money supply cannot be treated as a purely exogenous phenomenon.

Multiple Expansion of Deposits by Commercial Banks

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Suppose the Central Bank buys Tk. 1000 worth of government bonds from an individual X. The central bank pays the individual by issuing a cheque drawn on the central bank for Tk.1000. The seller deposits the cheque in his/her checking account at commercial bank A. His/her deposit with A increases by Tk. 1000 and the commercial bank's liability to public increases by Tk. 1000 also. A's deposit with the central bank increases by Tk. 1000 also. If legal reserve ratio is 20% bank A can lend Tk. 800 to another individual and credit the amount to the borrower's deposit account on which the borrower can write cheques. Suppose this new borrower deposits his/her cheque in the account of a new bank B. So his/her deposit with B will increase by Tk. 800 and, up to this point, deposit in commercial banks will rise by Tk. 1000 + 800. What was done by bank A can be repeated by bank B who may lend Tk. 640 to still another person. This action may end up by increase of deposit by Tk. 640 held by still another bank C. This process may continue if no borrower uses cheques and cash to meet transaction demand. Deposits created in successive rounds are Tk. 1000, 800, 640, 512, The sum of these deposits would be $1000X[1-(4/5)^n]/[1-(4/5)]$ where n represents number of rounds. If n is sufficiently large, sum of created deposits would be Tk. 5000 which is five times the proceeds obtained from sale of government securities. Expansion of credit to such a scale, off course, depends upon some stringent conditions:

- (1) There should not be any excess reserve at any point,
- (2) The borrowers should always use cheques and whoever receives payment in cheques from the borrower also uses cheques for transaction purposes so that there is no leakage in favour of currency,
- (3) While 20% of the new deposit is kept as legal reserve all of the remaining 80% of the deposit would be used to lend to private borrowers,
- (4) There are people willing to borrow money from the commercial bank at the prevailing rate of interest, and
- (5) The central bank would not change the reserve ratio requirement.

Money Supply Process in Bangladesh

The monetary authorities (Bangladesh Bank and Scheduled Banks) in Bangladesh use the following balance sheet approach to obtain so called monetary aggregate, M-2 [cash in circulation (C) + demand deposit (D) + time deposits (T)]

The balance sheet identity for Bangladesh Bank is:

$$NFA^{bb} + DC^{bb} + OA^{bb} = C \dots \dots \dots (1)$$

where $DC^{bb} = CG^{bb} + C_{pub}^{bb}$; and that for scheduled bank is

$$NFA^{sb} + DC^{sb} + OA^{sb} = D + T \dots \dots \dots (2)$$

where $DC^{sb} = CG^{sb} + C_{pub}^{sb} + C_{pr}^{sb}$

Putting together (1) and (2) we get the identity for so called M-2

$$NFA + NDA = C + D + T = M-2$$

Symbols used above represent the following:

NFA=Net foreign asset, bb=Bangladesh Bank, DC= Domestic Credit, OA= Other assets, CG = Credit to Government, C_{pub}= Credit to Public Sector, C_{pr}= Credit to Private Sector, and sb= Scheduled Banks.

In the current decade credit to private sector plays the most important role in contributing to money supply followed by net foreign assets, credit to public sector and credit to government. During 1997/98 credit to private sector, credit to government, net foreign asset and credit to public sector contributed about 72%, 17%, 12% and 11% of M-2. Net other assets was negative. In absolute terms it comprised about 12% of M-2. Credit to government and public sector together account for 28% of M-2. in the 1970s and early 1980s (1972/73-1982/83) loans to public sector was most important followed by loans to government and loans to private sector. Net foreign assets and net other assets were negative during that period.

Lesson 2: Demand, Impact and Role of Money in Economy

Lesson Objectives:

After studying this lesson you will understand the following

- w Purposes of holding money and determinants of demand for money held for different purposes
- w Impact of money on output in different situations
- w Views of different schools of economists including the monetarists on the role of money in economy

Demand for Money

Transaction demand, precautionary demand and speculative demand for money together constitute total demand for money.

Transaction demand for money arises due to lack of synchronization between income receipts and expenditure payments.

Transaction Demand for Money

Transaction demand for money arises due to lack of synchronization between income receipts and expenditure payments. Households and firms are assumed to know precisely the amount and timing of such receipts and payments. If all transactions were certain and perfectly synchronized there would be no need to hold money for transaction purposes. A person (or firm) receiving his (its) income would spend the income immediately so that need for transaction balance would not arise. Even in the case of non-synchronization, people could have used assets which are close substitutes of money, to meet the transaction demand had such assets been costlessly and instantaneously convertible into money.

Transaction demand for money, as is obvious, is positively related with level of income. A person (or an economy) with higher level of income (GNP or GDP) will have higher level of transaction balance. Reduction of length of pay period, other things remaining the same, reduces the transaction balance as apportion nominal GNP or GDP. Higher degree of business integration (horizontal or vertical) will also reduce the demand for transaction balance. People may keep a part of the amount of money which they require for transaction in a period in the form of interest bearing asset. Some transaction, for instance, occur during the first quarter, some during the second quarter, some during the third and some during the fourth quarter of the pay period. A person may improve his lot or reduce the cost due to foregone return from income earning assets by keeping a part of the transaction balance in the form of interest bearing liquid assets — such assets can be held for varying span of time ranging from one quarter to three quarters. The

individual should not only consider the rate of return on such assets but also the cost of converting these assets into cash while considering the optimum volume of transaction balance and number of sub periods within a pay period. These considerations lead us to square root formulae for optimum transaction balance and number of sub periods in a pay period presented below:

$$m_t = \sqrt{[by/2r]} \dots \dots \dots (1) \text{ and}$$

$$n = \sqrt{[ry/2b]} \dots \dots \dots (2)$$

where m_t = optimum transaction balance, b = cost of converting assets into cash, y = income, and r = rate of return on assets, n = number of optimum sub periods.

As shown above both optimum transaction balance and number of sub-periods is positively related with income. besides, transaction demand is also positively related with b and negatively related with r . Equation (1) also shows that as income rises, transaction demand as a proportion of income will keep falling.

Precautionary Demand of Money

Precautionally demand for money arises when there is uncertainly about the timing and amount of income or receipt, and expenditure. A fixed income earner may face situation like sudden breakdown of some essential consumer durables, incidence of major disease, invitation to a marriage ceremony, death of a close relative etc. A firm may face a sudden slump or a very profitable investment opportunity involving a big fund. The amount of money that households a firms wish to hold as a precaution against such contingencies is called the precautionary demand for money.

Precautionally demand for money arises when there is uncertainly about the timing and amount of income or receipt, and expenditure.

A person is in a trade-off situation when he takes decision about how much money should be kept aside to meet precautionary demand. The less money an individual holds, the more likely he or she is to incur the costs of illiquidity. But the more money such a person holds, the more interest he or she is foregoing. The person must strike a balance between this two opposing goals of minimising the cost of illiquidity and the cost due to interest earning foregone.

Expected cost due to precautionary balance can be represented by the following expression

$$EC_{pb} = q(Md_p, u, Y)b + iMd_p \dots \dots \dots (3)$$

where EC_{pb} = Expected cost of holding precautionary balance, Md_p in a given period. q is the probability of remaining illiquid and is a function of Md_p , degree of uncertainty as to timing and discrepancy between unforeseen expenditure and receipts, u and level of income, Y . b represents the cost of being illiquid and i is the market rate of interest. For the sake of convenience i is assumed to remain constant over time. As income rises and there is a greater demand for precautionary balance. As higher precautionary balance is kept, probability of being illiquid declines. Marginal cost of holding precautionary balance is the rate of interest foregone. It is represented by a horizontal straight in a two dimensional space (see figure 9.1) where the horizontal axis represents amount of precautionary balance held and the vertical axis represents both marginal cost and marginal benefit of precautionary balance.

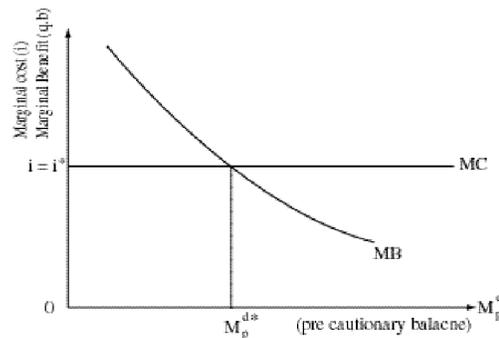


Figure 9.1: Determination of Optimum Precautionary Balance

Marginal benefit from holding precautionary balance is represented by the amount by which expected costs of illiquidity declines as one extra unit of precautionary balance is held. In the figure Marginal Cost Curve, MC (horizontal line) and Marginal Benefit Curve intersect at optimum precautionary balance. Md_p^* stands for optimum precautionary balance.

Speculative demand for money emphasises the store of value function of money. So M1B and M2 have to be considered in determining the speculative demand of money.

The Speculative Demand for Money

Two types of balance mentioned earlier actually highlight the demand for money as a medium of exchange and hence are directly more relevant for M-1A (or M-1 as called earlier in developed countries or still called so in this part of the world). Precautionary demand goes to certain length in explaining part of the saving deposits or other deposits and assets less liquid than demand deposits. They are part of M-1B or M-2. Speculative demand for money emphasises the store of value function of money. Those deposits and assets have to be considered in determining the speculative demand of money.

Money is a safe asset in the sense that its nominal value is known with certainty. Real value of money balance (i.e real balance) may fall or rise depending on whether general price level rises or falls. An individual who has wealth may hold it in the form of different assets. Return on most assets is uncertain. A prudent risk-averse investor keeps a diversified portfolio of assets ranging from assets with high expected return but high degree of risk as well, to money with zero return under stable prices and no risk.

If risk or aversion to risk increases the demand for safe assets like savings or time deposits will increase while demand for bonds will fall. So there will be a positive impact on M-1B or M-2 rather than on M-1 or M-1A. This happens because returns on those two types of deposits are always greater than return on currency or demand deposits (which is zero) under stable prices while all of them are safe. If returns on bonds increase while risks associated with those remain the same people may reduce the amount deposited in saving or time account and increase bond holding– the outcome will be reduction of M-1B or M-2. If return on deposits other than demand deposits as well as bonds increase, there will be a reduction of M-1 or M-1A. If only income rises while other things remain the same, there is likely to be a positive impact on demand for different types of monetary aggregates as well as non-money assets.

Impact of Money on Output:

Money in Classical Macroeconomic Model

In the classical macroeconomic model money cannot affect real output and employment. Classical model based on the premises of perfect flexibility of prices of goods, services and factors of production, and perfect competition portrays the economy as always operating at full employment or at its potential output level.

Any increase in money supply in such a model will shift the aggregate demand curve to the right. Price level would rise as a consequence but there would be no lasting impact on output or employment as wage will adjust upward so that old real wage as well as output and employment will be restored. Aggregate Supply curve is vertical – so that rightward shift of aggregate demand curve would ultimately raise the prices but not output or employment level as shown in figure 9.2

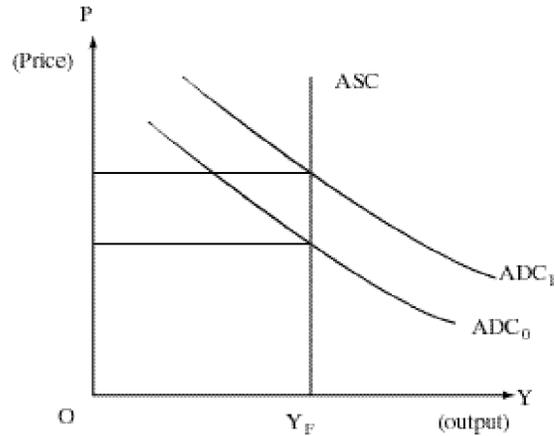


Figure 9.2: Impact of Money Supply on Output.

Money can affect real output and employment if wages are rigid downward in classical model.

Money can affect real output and employment if wages are rigid downward. Suppose that wage is not allowed to fall below W_1 either by a decree of government or trade union pressure while a lower wage level W_0 can clear the labour market. In such a situation the level of real wage and general price level will be higher than that compatible with equilibrium in labour market and money market. There will prevail some involuntary unemployment of magnitude N_1N_2 (see figure 9.3). If money supply is increased, price will rise and equilibrium real wage and full employment output can be achieved.

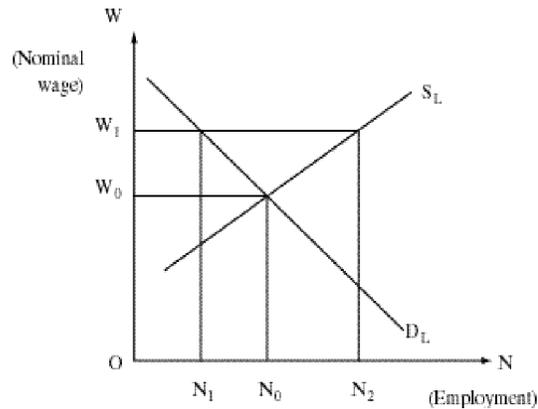


Figure 9.3: Wage Rigidity as a course of low level of Employment and Output

Change in money supply is likely to affect output more at a higher level of output and rate of interest as speculative demand for money is highly elastic at low rate of

An improvement in the technology may bring about a prospect of higher real wages, employment, output but lower money wages and general price level. Downward rigidity of money wages deprives the economy of higher output and the workers of higher real wage and employment. Through increase of money supply, employment and output can be positively affected in such a situation.

Money in Keynesian Macro-Model

The Keynesian approach insists on wage-price inflexibility and a flat or positively sloped aggregate supply curve as shown in figure 9.4. An increase in money supply is likely to shift aggregate demand curve to the right except in a liquidity trap situation. Such a rightward shift causes increases in output and employment alone (in case of a horizontal aggregate supply curve) or accompanied by price rise (in case of an upward sloping supply curve).

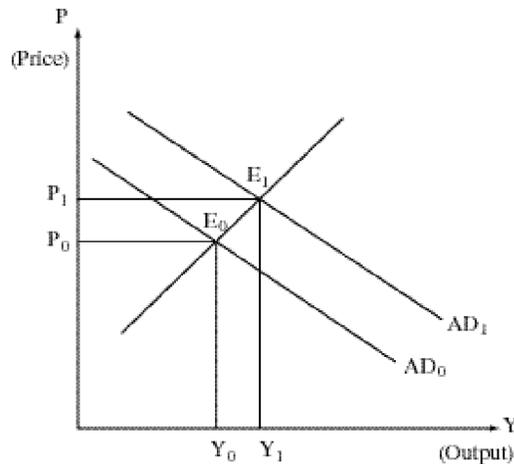


Figure 9.4: Impact of Shift of Aggregate Demand Curve.

Note: Shift of Aggregate Demand Curve may occur due to a host of reasons including change of money supply.

A positively sloped aggregate supply curve permitting increase in output due to increase in money supply, is possible even if wages are flexible. In such a situation it is necessary that actual rate of wage increase (decrease) is exceeded by actual rate of price increase (decrease). Change in money supply is likely to affect output more at a higher level of output and rate of interest as speculative demand for money is highly elastic at low rate of interest.

Monetarists and Others

While monetarists, like Keynesians, lay more emphasis on aggregate demand, they focus money supply as the primary determinant of short run movements in real and nominal aggregate output as well as long run movements in aggregate output. Such importance attached to quantity of money stems mainly from the empirical stability as well as predictability of income velocity of money. While monetarist agree that wages and prices may not be perfectly flexible as Classicalists assumed they also hold the view that such wages and prices are not as rigid as Keynesians think. Hence they come up with an ASC which is much steeper than the ASC based on Keynesian notions. Keynesians prescribe changes in government

activities to eliminate instability believed to be usually caused by private sector. Monetarists, on the other hand, hold the view that the private sector, if not interrupted by government is usually stable – rather government actions are responsible for creating fluctuations in nominal GNP. From ideological points of view monetarists are adherents to laissez faire or at least, anti-big government policy. Furthermore monetarists believe that money affects output only after long and variable lags. Governments should, hence, be entrusted with the task of using monetary policy for fine tuning the economy. In view of the above mentioned findings and views, monetarists prescribe that government should, as a rule, let the money supply grow at a fixed rate ranging between 3%-5% annually instead of using discretionary policy.

Application of monetarists doctrine in the USA in the 1970s and early 1980s led to, first increasing instability of income velocity of narrow money. As a consequence Federal Reserve Bank of America switched to broad money income velocity which again started deviating from the trend since 1992.

New classical economics shares with monetarists the anti-big government stand but comes up with the result that monetary policy is ineffective to raise output and employment level in the short run, using classical premise of perfect wage-price flexibility and rational expectation hypothesis. Critics of new classical macroeconomic use rational expectation hypothesis along with imperfect competition and argue that prices and wages are inflexible in the short run. The neo Keynesians present various theories like menu costs theory, implicit contract theory, insider-outsider theory and efficiency wage hypothesis to explain wage-price rigidity. They also emphasize the problem of asymmetric information and the consequent market failure. Some economists on the other hand, have pointed out that people may rationally choose not have rational expectations. It costs enormously high in terms of real resources to collect, distill and disseminate information and there are good reasons why the market for information is far from perfect.

Concept for Review

Medium of Exchange	Required Reserve
Unit of Account	Borrowed Reserve
Store of Value	Unborrowed Reserve
Narrow Money	Free Reserve
Broad Money	Excess Reserve
	Multiple Expansion of Bank Deposits
Transaction Demand	Classical Model
Spectlative Demand	Keynesians
Precautionary Demand	Monetarists

Real Balances

New Classical Economics

Neo Keynesians

Excercise

1. Put tick (✓) marks in the appropriate boxes to identify the following statements as true or false. If a particular statement is found to be false, correct the statement:
 - a. Value of money is stable
True False
 - b. Narrow money includes only notes and coins.
True False
 - c. Note are liabilities of central bank and demand deposits are liabilities of commercial banks.
True False
 - d. Central bank alone determines the supply of narrow money, M-1
True False
 - e. From the view point of holders of money broad money contains relatively more liquid assets than narrow money.
True False
 - f. Higher volume of demand deposits can be created if the central bank increases reserve ratio requirement of commercial banks who keep excess reserves.
True False
 - g. Transaction demand for money depends both on rate of interest and income.
True False
 - h. A person while taking a decision about how much money to be kept aside to meet precautionary demand must strike a balance between two opposing goals of minimising the cost of illiquidity and the cost due to interest earning foregone.
True False
 - i. Speculative demand for money would fall if general price level keeps falling, other things remaining the same.
True False
 - j. In a classical model money can effect real output and employment if wages are rigid downwards.
True False
 - k. Monetarists hold the view that government actions are mainly responsible for fluctuations in nominal GNP.
True False

- l. Keynesians believe that speculative demand for money is inelastic at low rate of Interest.
True False
- m. Monetarists prescribe that government should let the money supply grow at a fixed rate instead of using discretion.
True False
- n. Cheques are money.
True False
- o. A prudent risk - averse investor keeps a diversified portfolio of assets.
True False
- p. If risk or aversion to risk increases demand M-1B or M-2 would rise.
True False

2. Short Questions

- (i) What characteristics does good money possess?
- (ii) Distinguish between M-1, M-1B and M-2.
- (iii) Explain briefly the process of multiple expansion of deposits in commercial banks.
- (iv) Show why transaction demand for money is negatively related with the level of rate of interest.
- (v) Why can we not treat money supply as solely determined by the central bank?
- (vi) How is optimum precautionary balance determined?
- (vii) Examine the impact of increase in risk or risk aversion on speculative demand for money.
- (viii) Why is money found to have no impact on output and employment in the static classical model?
- (ix) What is the shape of Aggregate Supply Curve as envisaged by the Keynesians? Why is the curve vertical in the classical model?
- (x) What make monetarists prescribe that government should, as a rule, let the money supply grow at a fixed rate annually instead of using discretion?
- (xi) Why do Keynesians assign more active role for government in the economy?
- (xii) Find the difference between views held by new classical economists and neo Keynesians with respect to effectiveness of government policy.
- (xiii) Present a brief account of money supply process in Bangladesh.