CHAPTER -II

MONETARY THEORY AND POLICY
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This chapter is intended to provide the theoretical background of the study. It covers areas such as, role of money, monetary theories, definition, objectives, targets and indicators of monetary policy, and a brief overview on the importance of monetary policy in economic activity.

2.1. ROLE OF MONEY IN ECONOMIC ACTIVITY

Role of money in its static form refers to the functions of money. In the dynamic form, money’s role explains the contributions it can make. To the economic agents like consumer, producer and distributor, money is the basic concept on which they play their role. The role of money is of extra-importance in the way of economic progress of a country.

2.1.1. The Narrow and Broad Definitions of Money

There has been lot of controversy and confusion over the meaning and nature of money. As pointed out by Scitovsky, “Money is a difficult concept to define, partly because it fulfills not one but three functions, each of them providing a criterion of moneyness….those of unit of account, a medium of exchange, and a store of value”.\(^1\) Moneyness means liquidity. All things which possess liquidity have moneyness.

Sir John Hicks functionally defines money as “money is what money does”.\(^2\)

Some economists define money in legal terms saying that “anything which the state declares as money is money.” A proper definition of money is one which signifies the various functions performed by it. From this point of view Crowther’s definition seems to be proper. He says, “For most purposes money can be defined as anything that is generally acceptable as a means of exchange (i.e. as a means of settling debts) and at the same time acts as a measure and as a store of value”.\(^3\)
Johnson (1969) distinguishes few main schools of thought over the definition of money. (4)

**The Traditional Definition of Money**

According to the traditional view (currency school), money is defined as currency and demand deposits, and its most important function is to act as a medium of exchange. Keynes in his general theory followed the traditional view. Hicks (1946) pointed out a threefold traditional classification of the nature of money: “to act as a unit of account (or measure of value as Wicksell put it), as a means of payment, and as a store of value”. (5)

The Keynesians place greater emphasis on the interest elasticity of the demand function for money (6). Empirically, they forged a link between the stock of money and output via the rate of interest. The Banking School criticized the traditional definition of money as arbitrary and narrow.

**Friedman’s Definition of Money**

The monetarist (or Chicago) view is associated with Prof. Friedman and his followers at the University of Chicago. By money Friedman means “literally the number of dollars people are carrying around their pockets, the number of dollars they have to their credit at banks in the form of demand deposits and commercial bank time deposits”. (7) Thus he defines money as “the sum of currency plus all adjusted deposits in commercial banks”. (8)

This was a narrow definition of money. Friedman gives two types of definitions of money, one on the theoretical basis and the other on empirical basis. He is, not rigid in his definition of money and takes a broader view which includes bank deposits, non-bank deposits and any other type of assets through which the monetary authority influences the future level of income, prices, employment or any other important macro variable.
The Radcliffe Committee’s Definition

The Radcliffe committee defined money as “note plus bank deposits” (9). It includes as money only those assets which are commonly used as media of exchange. Assets refer to liquid assets. This is interpreted widely to include credit. Thus the whole liquidity position is relevant to spending decisions. Spending is not limited to cash or money in the bank but the amount of money people think they can get hold of either by selling an asset or by borrowing or by receipts of income from say, sales.

The Gurley-Shaw Definition

Gurley and Shaw regard a substantiate volume of liquid assets held by financial intermediaries and the liabilities of non-bank intermediaries as close substitutes for money. Intermediaries provide substitutes for money as a store of value. Money which is defined as currency plus demand deposits is only one liquid asset. They have thus formulated a wider definition of money based upon liquidity which includes bonds, insurance reserves, pension funds, savings and loan shares. They believe in the velocity of the money stock which is influenced by non-bank intermediaries. Their view on the definition of money are based on their own and Goldsmith’s empirical findings. (10)

The Pesek and Saving Definition

According to Pesek and saving, money should include demand deposits of banks as well as money issued by Government. (11) They exclude time and saving deposits from bank money. They regard total money which includes demand deposits as net wealth of society. They contrast money with debt. Money does not pay interest but debt yields interest. Debt itself is not wealth because those who hold bank money consider it as an asset while banks consider it as an effective liability. Thus, Pesek-Saving follows a usable definition of money which consists of three conditions. First, they regard commodity money and fiat money as assets to their holders and liabilities to no one. Second, the Government grants monopoly rights to commercial banks to produce money who, in turn, exercise it by selling bank money for the private debts of individuals. Third, if it is costless to produce bank money and no interest payments are made on deposits, the net wealth of the bank remains unchanged because both assets
and liabilities increase by the same amount. This shows that the bank has zero net wealth.

Patinkin (12) finds some confusion in Pesek-saving analysis when they exclude time and saving deposits from bank money. Pesek-Saving has also been criticized for double counting bank money in defining social wealth. Despite these criticisms, the views of Pesek and saving on money are important because they study net wealth which accrues to commercial banks. (13)

2.1.2. Functions of Money

Money performs a number of primary, secondary, contingent and other functions which not only remove the difficulties of barter but oils the wheels of trade and industry in the present day world.

A. Primary Functions

1. Money as a medium of exchange

This is the primary function of money because it is out of this function that its other functions developed. When money acts as a medium of exchange, money acts as an intermediary and it means that it is generally acceptable.

2. Money as Unit of Value

The second primary function of money is to act as a unit of value. Money is the standard for measuring value just as the yard or meter is the standard for measuring length. The monetary unit measures and expresses the values of all goods and services. In fact, the monetary unit expresses the value of each good or service in terms of price and money as a unit of value also facilities accounting.

B. Secondary Functions

1. Money as a Standard of Deferred Payments

The third function of money is that it acts as a standard of deferred or postponed payments. All debts are taken in money. Money links the present values with
those of the future. It simplifies credit transactions. Money helps in capital formation and thus helps in the growth of the economy.

2. **Money as a Store of Value**

   Another important function of money is that it acts as a store of value. Money is a bridge from the present to the future. It is a form in which wealth can be kept intact from one year to the next. Money as a store of value is meant to meet unforeseen emergencies and to pay debts. Newlyn calls this the asset function of money. Keynes placed much emphasis on this function of money.

3. **Money as a Transfer of Value**

   Since money is a generally acceptable means of payment and acts as a store of value, it keeps on transferring values from person to person and from place to place. A person who holds money in cash or assets can transfer that to any other person at any time.

C. **Contingent Functions**

   Money also performs certain contingent or incidental functions.

1. **Money as the most Liquid of all liquid Assets**

   People hold wealth in currency, demand deposits, time deposits, savings, bonds, treasury bills, short-term government securities, long-term government securities, debentures, preference shares, ordinary shares, stock of consumer goods and productive equipment. All these are liquid forms of wealth which can be converted into money and vice-versa.

2. **Basis of the Credit System**

   Money is the basis of the credit system. Business transactions are either in cash or in credit. Credit economizes the use of money. But money is at the back of all credit.

3. **Equalizer of Marginal Utilities and Productivities**

   Money acts as an equalizer of marginal utilities for the consumer. Since prices of consumer goods indicates their marginal utilities and are expressed in money,
money helps in equalizing the marginal utilities of various goods. This happens when the ratios of the marginal utilities and prices of various goods are equal. The main aim of the producer is to maximize his profits. For this, he equalizes the marginal productivity of each factor with its price. The price of each factor is nothing but the money it receives for its work.

4. **Measurement of National Income**

   Money helps in measuring national income.

5. **Distribution of National Income**

   Rewards of factors of production in the form of wages, rent, interest and profit are determined and paid in terms of money.

D. **Other Functions**

1. **Helpful in making decisions**

2. **Money as a Basis of Adjustment**

   The adjustments between money market and capital market, adjustments in foreign exchange and international payments etc… are done through money.

   It is on the basis of these functions that money guarantees the solvency of the payer and provides options to the holder of money to use it any way, he likes.

2.1.3. **Social Significance of Money**

   Money is of vital importance to an economy due to its static and dynamic roles. Its static role emerges from its static or traditional functions. In its dynamic role, money plays an important part in the life of every citizen and in the economic system as a whole.

A. **Static Role of Money**

   In its static role, the importance of money lies in removing the difficulties of barter in the following ways.
1. By serving as a medium of exchange, money removes the need for double coincidence of wants and the inconveniences and difficulties associated with barter.

2. By acting as a unit of account, money becomes a common measure of value.

3. Money acts as a standard of deferred payments. Money has simplified both taking and repayment of loans because the unit of account is durable. It also overcomes the difficulty of indivisibility of commodities.

4. By acting as a store of value, money removes the problem of storing of commodities under barter.

5. Under barter, it was difficult to transfer value. Money removes this difficulty of barter. A person can transfer his money through draft, bill of exchange etc.

B. **Dynamic role of Money**

In its dynamic role, money plays an important part in the daily life of a person whether he is a consumer, a producer, a businessman or an administrator. Besides, it influences the economy in a number of ways.

1. **To the Consumer**

   Money possesses much significance for the consumer. It enables a consumer to make a rational distribution of his income on various commodities of his choice.

2. **To the Producer**

   Money is of equal importance to the producer. He keeps his accounts of the values of inputs and outputs in money.

3. **In Specialization and Division of Labor**

   Money plays an important role in large scale specialization and division of labor in modern production.

4. **As the Basis of Credit**

   The entire modern business is based on credit and credit is based on money.
5. **As a means to capital formation**

   By transforming savings into investment, money acts as a means to capital formation.

6. **As an index of Economic Growth**

   Money is also an index of economic growth. The various indicators of growth are national income, per capita income and economic welfare.

7. **In the distribution and Calculation of income**

8. **In National and International Trade**

9. **In solving the Central Problems of an Economy**

10. **To the Government, money is of immense importance**

11. **To the Society**

   Money confers many social advantages.

   Thus money is the pivot round which the whole science of economics clusters.

**2.1.4. Near Money**

   Money consists of currency and bank deposits. Coins and currency notes issued by the central bank of a country and cheques of commercial banks are liquid assets. In fact, cheques and bank drafts are almost perfect substitutes for money. This is because they perform the medium of exchange function of money. But cheques and drafts can be issued at a short notice only in the case of demand deposits. This is not the case with time deposits. Thus, time deposits are not ‘real’ money and for them to become money they must be converted into cash or demand deposits. However, they are near money for they can be converted into real money in a short period without any loss. Thus, near money assets serve the store of value function of money temporarily and are convertible into a medium of exchange in a short time without loss in their face value.

   Besides time deposits, other near money assets are bonds, securities, debentures, bills of exchange, treasury bills, insurance policies etc. All these types of assets have a
market and are negotiable so that they can be converted into real money within a short time.

Money and near money can now be distinguished. Money is a legal-tender and gives the possessor liquidity in hand. It performs the medium of exchange function. On the other hand, near money assets do not have any legal status. They possess moneyness or liquidity but not ready liquidity like money. They are almost perfect substitutes for money as a store of value. They are superior to money because they yield income. They also economize the use of money properly and tend to reduce the quantity of money used by the people as a medium of exchange, as a medium of deferred payments and as a store of value.

Despite the fact that near money assets do not possess ready liquidity, they are preferred by individuals. According to Prof. A.G. Hart, near money is preferred to cash by individuals because it serves as a margin of safety motive. Prof. Dean points out that 80 percent of near money in the USA is held by individuals.

According to the Radcliffe Committee Report, “spending …is related to the amount of money people think they can get hold of whether by receipt of income, …by disposal of capital assets or by borrowing.”

The first Committee to Review the Working of the Monetary System under the chairmanship of Sukhamoy Chakrabarty made several recommendations in 1985, for the development of the money market. As a follow-up, RBI initiated a number of measures in 1980s to widen and deepen the money market. The main initiatives were:

1. In order to impart liquidity to money market instruments and help the development of the secondary market in such instruments, the Discount and Finance House of India (DFHI) was set up in 1988 as a money market institution.

2. To increase the range of money market instruments, commercial paper (CP), certificates of deposit (CDs), and inter-bank participation certificates were introduced in 1988-89.
3. Interest rate ceiling was freed in 1988 and was completely withdrawn in 1989.  

2.1.5. Importance of Money

Money is of vital importance in an economy due to its static and dynamic roles. Its static role emerges from its static or traditional functions. In its dynamic role, money plays an important part in the life of every citizen and in the economic system as a whole.

A. Role of Money in a Capitalist economy

A capitalist economy is one in which each individual in his capacity as a consumer; producer and resource owner is engaged in economic activity with a large measure of economic freedom. Such an economy is essentially a money economy where money plays an important role in its functioning. In fact, there is a circular flow of money in such an economy.

The most significant role of money lies in the functioning of the price mechanism. The price system functions through prices of goods and services. Since prices are expressed in money, the price mechanism under capitalism cannot function without money.

The central problems of a capitalist economy such as what, how much, how and for whom to produce, are solved through the price mechanism. The price mechanism operates automatically without any direction and control by the Government.

Under Capitalism, the consumer is the king who buys only those commodities which give him the maximum satisfaction with a given money income. Money is equally important for the producer who buys and sells inputs and outputs with money. It is in fact, competition between consumers and producers which equalizes the demand for and supply of both goods and services in a capitalist economy.

In fact, money is the very basis of the capitalist production. By facilitating the purchase of inputs and by increasing specialization and division of labor, money helps
in the growth of research in a capitalist economy. The entire capitalist system of production is based on credit. The amount of credit is determined by the interest rate which is expressed in terms of money. The very basis of capitalism is the capital and money is the most liquid form of capital.

Money establishes a link between the present and future through the freedom of enterprise and freedom of consumption under capitalism. Besides these apparent merits of money in a capitalist economy, it has one serious defect in that an excess of money leads to inflation and its shortage leads to deflation. In fact, money plays a crucial role in the functioning of a capitalist economy.

B. Role of money in a Socialist Economy

In a socialist economy, the central authority owns and controls the means of production and distribution. Therefore, the pricing process in a socialist economy does not operate freely but works under the control and regulation of the central planning authority.

Marx believed that money had no role to play in a socialist economy because it led to the exploitation of labor at the hands of capitalists. Theoretically, the role of money in a socialist economy is different from that in a capitalist economy.

The price mechanism has little relevance in a socialist economy because it is regarded as a distinguishing feature of a free market economy. In a socialist state, it is the central planning authority that performs the functions of the market. The prices of commodities and the problem of how to produce are also decided by the planning authority.

Besides, capital accumulation is possible through money. It is money that provides liquidity and mobility required for capital accumulation. In a socialist economy the sources of investment funds are basically the same as under a capitalist economy. The turn over tax, planned profits of public enterprises and taxation are all expressed in money and help in capital accumulation. Besides, being members of the World Bank and IMF, they make payments in monetary terms in their international trade relations. There is also circular flow of money in a socialist economy.
To conclude, the role of money in a socialist economy may be less important as compared to a capitalist economy due to state regulation and control. Nevertheless, it helps in fixing prices, wages, incomes and profits. It guides a socialist economy in determining the allocation of its resources equitably, in capital accumulation and flow of resources within and outside the economy.

2.1.6. Changes in Money and Income

Money, in the sense of means of payment has two components, demand deposits and currency. These two components are not, however, perfect substitutes—they are held, by and large, by different kinds of spending units; demand for them responds in different ways to different stimuli; and, because they are subject to markedly different reserves requirements, shifts between them alter the total amount of credit that can be supplied by the financial system. They are best regarded as two different financial assets and treated as such.

The quantities of currency and demand deposits held by the public are generally agreed to be endogenous variables determined in a general equilibrium setting along with the prices and quantities of other financial and real assets.

In a highly sophisticated financial system such as ours, in which new financial instruments and practices are constantly being introduced it seems highly improbable that the demand for monetary assets are simple and stable functions of a few unchanging variables. The reasons are many:

First, an expansionary monetary policy that stimulated increased spending and income through port folio effects, wealth effects and credit availability effects would bring in its wake an increase in supplies of demand deposits and currency.

Second, a rise in income caused by fiscal policy or by an autonomous shift of private demand, with the monetary dials unchanged, would react back on the money supply in three different ways:
1. The rise in interest rates caused by the rise in income would cause the banks to increase their borrowings from the central bank and perhaps to economize on excess reserves.

2. The rise in market interest rates would cause investors to shift funds from time deposits and similar claims into securities if, as is likely, the interest rates on these claims did not rise fully in pace with market rates.

3. If banks and related institutions raised rates on time-deposit type claims, some holders of non-interest bearing demand deposits would be induced to shift funds to time accounts.

To the extent that issuers of these claims held cash reserves against them, the amount of reserves available to support demand deposits would be reduced, requiring a contraction in these deposits.

Effects (1) and (2) would cause money supply to increase while effect (3) would cause it to fall. It seems likely that (1) and (2) would outweigh (3) leading to an increase in the supply of monetary assets.

Third, under the rubric of “meeting the needs of trade” or “leaning against the wind”, the central bank has, at times adjusted the supply of reserves to accommodate or partially accommodate, changes in the demand for money brought about by changes in income there by creating a third chain of causation running from income to money supply.

A response to the criticisms of existing monetary policy methods was naturally to be expected and is welcomed.

Some economists reject the monetarist thesis that monetary impulses are the chief factor determining variations in economic activity, and they contend that cyclical fluctuations of monetary growth cannot be attributed to the behavior of the authorities. These fluctuations are claimed to result priority from the behavior of commercial banks and the public.
2.1.7. Money Market in India

The money market is a market for short-term funds, i.e. up to one-year maturity, and covers money and financial assets that are close substitutes for money.

The functions of the money market are the following:

1. Equilibrates demand for and supply of short-term funds.

2. Provides the central bank intervention adequate facility for influencing liquidity and the general level of interest rates in the economy and

3. Satisfies borrowing and investment needs in the economy at an efficient market clearing price.

The RBI is the most important constituent of the money market. The money market comes within the direct purview of RBI regulation. The primary aim of the RBI’s operations in the money market is to ensure that the liquidity and short-term interest rates are maintained at levels consistent with the monetary policy objectives of maintaining price stability, ensuring exchange rate stability and supplying adequate credit in the economy.

The RBI influences liquidity and interest rates through a number of operating instruments, viz, cash reserve requirements of banks, operation of refinance schemes, conduct of open market operations, repo transactions, changes in the bank rate and at times through foreign exchange swap operations.

In line with the deregulation and liberalization policies of the 1990s, financial sector reforms were undertaken in our country early in the reform cycle. Naturally, reform in the money market has formed part of the reform process.

A. The call money market

The call money market was predominantly an inter bank market until 1990.
The RBI’s policy relating to entry into the call money market was gradually liberalized to widen and provide more liquidity, although the Vaghul Committee had recommended that the call and notice money market should be restricted to banks. (19)

**B. The term money market**

The term money market in India until recently has been somewhat dormant. While there has been some activity in the term money market in the recent period, after the foregoing reforms, the volumes have not yet become significant.

**Commercial Paper (CP)**

CP is a money market instrument, issued in the form of a promissory note, by highly rated corporate for a fixed maturity in a discounted form. CP was introduced in India in 1990 to enable highly rated corporate borrowers to diversify their sources of short-term borrowing and also to provide an additional instrument to investors. The terms and conditions for issuing CP such as eligibility modes of issue, maturity periods are stipulated by the Reserve Bank. There are no interest rate restrictions on CP. It is significant to note that there is no lock-in period for CP. The issuance of CP has been generally observed to be related inversely to the money market rates.

**Certificate of Deposit (CD)**

While deposits kept with banks are not ordinarily tradable, CDs essentially represent securitized and tradable term deposits. In India, CDs were first introduced in 1989. Due to its high cost liability, banks resort to this source generally when the deposit growth is sluggish but credit demand is high. The terms and conditions for issuing CDs are stipulated by the Reserve Bank.

**Treasury Bills**

Treasury bills are instruments of short-term borrowing of the Government and play a vital role in cash management of the Government. The Treasury bill market has been the most preferred by central banks for market interventions to influence liquidity and short-term interest rates, generally combined with repos/ reverse repos. Hence, development of this market is very crucial for effective open market operations.
The 182-day Treasury bill was replaced by the introduction of 364-day Bills on a fortnightly auction since April 1992 as part of reform measures. Subsequently, 91-day Bills were introduced on auction in January 1993. The parallel existence of 91-day Top Treasury Bills and Ad hoc Treasury Bills continued till March 1997. To enable final cash management of the Government and to provide an alternative avenue for state Government and some foreign central banks to invest surplus funds, 14-day intermediate Treasury bills were introduced in April 1997.

The Treasury bill issues now consist of weekly 14-day and 91-day bill auctions and 364-day Bill auctions on a fortnightly basis combined with 14-day intermediate Bills available for state Governments and foreign central banks. There have been recently, very significant initiatives by the RBI in this area. A uniform price auction for 91-day Bills has been introduced as an experimental measure. In brief, development of the Treasury bill market is at the heart of money market development and hence the Reserve Bank has been paying special attention and continuously reviewing the development of the Treasury bill market.

As in the case of other instruments, the demand for Treasury bill is also inversely related to call money market rates. The supply is adjusted taking into account the demand conditions as also the short-term needs of the central Government. In 1998-99, the availability of fixed rate repos at 8 per cent (since August 1998) caused some disinterest in Treasury Bills, with the auction rates more aligned with the market recently, the interest in Treasury Bills has been significantly revived.

**Money Market Mutual Funds (MMMFs)**

Money market mutual Funds were introduced in India in April 1991 to provide an additional short- term avenue to investors and to bring money market instruments within the reach of individuals.

The port folio MMMFs consist of short-term money market instruments. Investment in such funds provides an opportunity to investors to obtain a yield close to short-term money market rates coupled with adequate liquidity.
The RBI has been making several modifications to the scheme to make it more flexible and attractive to banks and financial institutions. It appears that growth in MMMFs can really occur when the money market grows in volume and acquires depth — for which a number of initiatives will have to be taken.

2.1.8. The Narasimham Committee Report

The Narasimham committee on Banking Sector Reform (1998) has provided a framework for reform in the money market also. The RBI has already acted on many of them, like the minimum maturity for term deposits, minimum lock-in-period for CDs and units of MMMFs etc…

Suggestions of Narasimham Committee (1998)

1. Restriction of the call money market to banks and PDs.

2. Imposing prudential limits for individual bank’s reliance on call money borrowings.

3. Introduction of one-day repos by the RBI.

4. Withdrawal of the RBI from the primary market in 91-day T-bills.

5. Access to foreign institutional investors in the T-bills market.

6. RBI support to the market through the liquidity adjustment facility (LAF)

7. Free access to bill rediscouts, CP, CDs and MMMFs to non-bank parties.

8. Reduction in the minimum period of fixed deposits to 15 days as also a similar minimum lock-in-period for money market instruments.

The other recommendations of the Narasimham Committee, especially those relating to the call money market, LAF etc, have considerable implications for the market and the participants and the conduct of monetary policy and will have to be implemented gradually. Most importantly, implementation will have to be designed and
phased in such a manner that existing players will have the flexibility to adjust their asset-liability structures.

To advise us on the development of the money market, a standing committee on the money market was setup by the RBI in 1997. The committee’s membership includes representation from financial institutions, Indian and foreign banks, public and private sector mutual funds and economists, apart from RBI officials. All major issues were discussed in the meetings of the standing committee.

The call or notice money market is an inter-bank market the world over and the Narasimham Committee recommended that we adopt the same. The standing committee on the money market was also of the same view.

It was announced in the October 1998 review of monetary policy, that the call, notice and term money market should purely be an inter-bank market with additional access only to PDs. Of course, the RBI has to ensure that the exposure of banks and PDs in the call money market is within prudential limits.

Non-bank players have to be encouraged to deploy their short-term surpluses in other money market instruments. For instance, they can be permitted to borrow and lend freely through repos in both Government and non-Government securities before they are phased out of the call/term money markets.

Compared to the earlier period, there are more instruments now in the money market. The inter-bank repo market in Government securities has also been picking up.

In brief phasing out of non-bank participants from the call/term money market should go hand-in-hand with the development of the repo market as also the market for other money market instruments.

**Liquidity Adjustment Facility**

The Narasimham Committee has observed that the RBI support to the market should be through a liquidity adjustment facility (LAF) under which the RBI would periodically, if necessary daily reset its repo and reverse repo rates which would in a sense, provide a reasonable corridor for market play.
**Inter-Bank Term Money Market**

There is a continuous demand that a prerequisite for the development of a healthy and vibrant term money market in India is the removal of the minimum statutory reserve requirements on inter-bank borrowings. There is a convincing view that the inhibiting factor is not merely the reserve requirements. Currently, inter-bank borrowings are exempt from CRR and SLR, subject to maintenance of the statutory minimum on the total net demand and time liabilities.

It is widely accepted that the banking sector needs a deep and liquid term money market for managing its liquidity and asset-liability mismatches. There is no clearly defined inter-bank term money yield structure in India beyond the overnight rates.

In fact, at times, long-term investment decisions are based on the call money rates. Hence, as recommended by the Narasimham Committee, it is essential to place clearly defined prudential limits for bank’s reliance on the call money market. With the introduction of good asset-liability guidelines already circulated to banks, prudential limits on exposure to the call market and online connectivity between major branches of public sector banks, the stage is expected to be set for the emergence of an inter-bank term money market.

**Repo Market**

Repo refers to a transaction in which a participant acquires funds immediately by selling securities and simultaneously agreeing to a repurchase of the same or similar securities after a specified time at a given price. It is collateral based lending. The terms of contract are in terms of ‘repo rate’ representing the money market borrowing/lending rate. As in the case of other instruments, repos also help equilibrating between demand and supply of short-term funds.

Just as we have a standing committee on the money market, we also have a Technical Advisory Committee on the Government securities Market. An internal subgroup of this committee is looking into various aspects of expansion of the repo
market, including issues comprising legal status, regulatory framework and standardization of accounting practices.

Further, repos among eligible participants are currently permitted only in Mumbai and the RBI also conducts repo operations only in that city. Eventually, it is proposed to extend this to other centers also, which is dependent on the establishment of VSAT network and connectivity of all public debt offices of the RBI.

**Suggestions for Development**

A number of suggestions have been received by the RBI towards further development of the market.

1. The RBI, at present, does not permit underwriting of CP. The CP market has been witnessing ups and downs, depending primarily on the conditions in the call money market. Suggestions have been received regarding the introduction of CP with a revolving underwriting facility (RVF) which is a popular financing facility available abroad. Thus, while CP with the RVF is a good treasury product, issues such as the mechanism for rating of underlying instruments and the number of time it revolves, have to be carefully examined before the product can be introduced.

2. There is a suggestion that floating rate CDs could be considered for introduction in our market. Currently, CD is a discount instrument. Floating rate CD would imply that CD is an interest-bearing instrument.

3. It has also been held that brokers could be permitted in the money market to improve liquidity. The authorities have to examine this in the light of the role played currently by primary dealers in the market.

4. Yet another idea was to rationalize the tenor for issue of CDs of financial institutions from three months to three years. Now it is one year to three years. Ideally, this could be examined in the light of harmonization of roles between banks and financial institutions.
Interest Rate Swaps

The monetary policy of October 1998 had announced the intention to introduce interest rate swaps to further deepen the money market as also to enable market participants to hedge interest rate risks. This was, in fact, the main item of the agenda in the meeting of the standing committee on the money market, conducted in 3rd February 1999.

Securities Contracts (Regulation) Act

There is a proposal to amend the securities contracts (Regulation) Act, to add an enabling provision to give powers to the Government to provide jurisdiction to the RBI also in the regulation, say, of the money and debt markets. When this amendment is approved, the respective regulatory roles of the SEBI and the RBI in the money and debt markets could be formally delineated by the Government.

Stamp Duty Reform

Although the state Governments claims the right to levy stamp duty, exemption of financial instruments from such duty is advocated in the interest of the development of efficient financial markets.

This is a matter of crucial importance and exemption of the money market and debt instruments from stamp duty or alternatively, rationalization of the procedures by imposing a flat fee would go a long way increasing secondary market activity and liquidity in the money market and debt instruments.

Electronic Dealing Systems

Electronic dealing systems certainly lend transparency and efficiency to market operations. Ideally, the screen could cover OTC deals in money market instruments such as call and notice money, term money, repos and also Government securities including Treasury Bills. Besides banks, PDs, financial institutions and other market participants, the RBI could use the screen in the conduct of its open market operations as also for monitoring money/ securities market activity.
2.1.9. The Financial Sector Reforms in India

The objectives of the financial sector reform process in India initiated in the early 1990s were the following:

1. Removal of financial repression that existed earlier.
2. Creation of an efficient, productive and profitable financial sector industry.
3. Enabling price discovery, particularly by the market determination of interest rates that then help in efficient allocation of resources.
4. Providing operational and functional autonomy to institutions.
5. Preparing the financial system for increasing international competition.
6. Opening the external sector in a calibrated fashion and
7. Promoting the maintenance of financial stability even in the face of domestic and external shocks.

As pointed out by former RBI governor YV Reddy, the approach towards financial sector reforms in India is based on ‘pancha-sutra’ or five principles viz,

1. Cautious and appropriate sequencing of reform measures.
2. Introduction of norms that are mutually reinforcing
3. Introduction of complementary reforms across sectors (most importantly, monetary, fiscal and external sector).
4. Development of financial institutions and

The conduct of the Reserve Bank of India’s monetary policy in the 1990s has shaped and in turn, been shaped by the program of financial sector reforms. The operating procedure of monetary policy had to be comprehensively recast to enable the
shift from direct to indirect monetary policy instruments in consonance with the increasing market orientation of the economy. In the wake of financial sector reforms, we find that a regime switching has taken place in the RBI’s asset size as well as in the size of its surplus. Moreover, the RBI balance sheet has become more transparent in line with international accounting standards.

Since the introduction of financial sector reforms, CRR and SLR rates have been cut considerably in a sequenced manner. SLR has been reduced to the statutory minimum or 25 percent, while CRR is currently at 6 percent.

2.2. THEORETICAL UNDERSTANDING OF MONETARY PHENOMENA

The literature of monetary theory overlaps virtually with every other branch of economic analysis. Money plays a critical role in actual life, but its position in accepted monetary theory is anything but transparent.

In every money economy, there are fairly precise rules, goods buy money and money buys goods- but goods do not buy goods in any organized market. An essential feature of a money economy is the existence of institutional arrangements whereby at least one commodity becomes universally acceptable in exchange for all other commodities.

Possession of money commodities is, so a passport for entry into the organized market sector of the economy. The institution of money is a valuable social resource, fully on par with the most advanced machines of modern industry or the richest of natural resource endowments. Since it has a legal value, arbitrary manipulation of these, in form or quantity, clearly cannot add significantly to the welfare of society.

We can observe that the market for money is surely the least thin of all markets, because the market for money consists of the set of all markets for other commodities. So money is the ultimate in liquidity. Secondly, money must be a store of value, because one of its functions is to enable individuals to delay transactions, hence it must serve as a temporary abode of purchasing power. But these characteristics, as
also the characteristic of being a unit of account, are incidental to its third and primary function, which is to give effect to institutional arrangements for organized trading. All exchangeable commodities are media of exchange by virtue of the fact that they serve to pay for at least one other commodity, but only money commodities are means of payment for all other commodities. Money differs from other commodities in being universally acceptable as an exchange intermediary by virtue not of individual choice but rather by virtue of social contrivance.

In all descriptive accounts of monetary exchange, it is taken for granted that money commodities play a peculiar role as media of exchange - that money commodities are, in principle, distinguishable from other commodities by virtue of this role. No such distinction is logically admissible, however, within the framework of established price theory. On the contrary, the analytical content of the most general of modern statements of value and monetary theory, namely, Don Patinkin’s ‘Money, Interest and prices, is logically indistinguishable from that of the most traditional theory of a barter economy. (22)

Individuals acquire money commodities not because such commodities are directly useful but because they can later be used to purchase other commodities that are desired for their own sake. By virtue of these devices, practical effect is given to the institution of money; the establishment of organized markets enables individuals to channel into productive activity, labor and other resources that would otherwise be devoted to search and bargaining activities. But money, as money, need not be intrinsically valuable, for what matters are not the particular commodities that serve as money, but rather the existence of social institutions that make monetary transactions feasible and efficient.

The unimportance of the ‘stuff’ of which money is made is obvious enough to people who live in a world of fiat currencies; but what is obvious today was not so clear to people whose money consisted largely of gold, silver and other intrinsically valuable materials. In those circumstances, many if not most people were easily persuaded to believe that money was wealth in the same sense as, say, a cow, a field or a piece of machinery. Therefore, we find that the earliest formal analysis of monetary phenomena
is directed at dispelling this illusion by examining the consequences of an once-over change in the quantity of money commodities.

In an essay by David Hume entitled ‘of money’, Hume provides a nicely balanced account of what has since become known as the quantity theory of money.\(^{(23)}\) Later writers have not always stated or interpreted the theory so judiciously. It underlines what today is referred to as the naive quantity theory, the central proposition of which is that the total quantity of means of payment governs the absolute scale of money prices but does not affect real rates of exchange among other commodities. On this reckoning, the determination of real rates of exchange, and of quantities traded, is the business not of monetary but of value theory.

The dichotomy thus established between monetary and value theory ultimately produced two relatively distinct breeds of economists to which some wag later assigned the descriptive labels ‘curve tenders’ and ‘curve stretchers’. The traditional monetary theory sketches the story of this dichotomy from its origin up to very recent times. The end of the story is unfolded in the selections appearing in contemporary theory, i.e. in monetary and Keynesian Economics.

Until the appearance of John Maynard Keynes’ ‘General Theory of Employment, interest and Money’ in 1936 most professional economists took it for granted that all economic problems of any practical importance could be adequately handled using established techniques of demand-and-supply analysis, there by presupposing that money was as much a ‘veil’ in the short run as it was in long –for at no stage in pre-Keynesian economics was any serious attempt made to build peculiarly monetary assumptions into the micro-foundations of economic analysis.\(^{(24)}\)

The closest approach to such an attempt was initiated by Leon Walras in his pioneering treatment of general equilibrium analysis, but it involved little more than a mechanical application of quantity theory ideas to a conceptual model, the analytical structure of which precluded assignment of a specialized role to money as a means of payment.\(^{(25)}\) A less formal, but ultimately more influential attack on the same problem was later under taken by Hicks in his famous ‘suggestions for simplifying the theory of money’, the central theme of which was that money could be assigned a natural place in
established demand-and supply analysis by treating it as a special kind of asset.\(^{(26)}\) The effect of both attempts was to strengthen the already prevalent notion that economics could do without a separate theory to describe short-run price and quantity behavior in a money economy. However, Keynes’ General Theory temporarily dispelled this illusion.

As concerns monetary theory, in particular, contemporary opinion appears strongly to favor what might be described as a ‘neo-Walrasian quantity theory’ to the effect that money matters only slightly in the short run and not at all in the long run. No other conclusion is possible, indeed, if one adopts the conception of a money economy implicit in recent statements of the general equilibrium theory of money and prices.

Such is the stage that monetary theory had reached by 1960. What is not yet clear, however, is how the shortcomings of accepted theory can be remedied. The literature on monetary growth has considerable intellectual appeal, and it may even afford some useful insights in to the working of inflationary and deflationary processes.

2.2.1. Traditional Monetary theory

The notion that there is a simple and direct relation between the quantity of money and the general level of commodity prices has intrigued thoughtful men for centuries. But the precise nature of the relation has yet to be established.\(^{(27)}\)

There appears to be no middle ground between brute empiricism and full scale theoretical specification of dynamic interrelations between monetary magnitudes and other aspects of economic activity. What Senior had to say on the subject more than a century ago is nearly as penetrating as anything that has been written since. Indeed, the difficulty of asserting anything that is both interesting and non-obvious runs like a red thread through the whole of the literature on the quantity theory of money, becoming especially prominent in those writings that attempt to assign money an independent role as a casual factor in economic fluctuations. The essay of Professor Friedman is particularly instructive in the latter respect.\(^{(28)}\) Marshall speaks with a firmer voice only because he carefully omits all but incidental reference to dynamic complications.\(^{(29)}\) As
matters presently stand, the quantity theory of money is interesting more for doctrinal than for substantive reasons.

1. The Demand for money

The classical economists did not explicitly formulate demand for money theory but their views are inherent in the quantity theory of money. They emphasized the transactions demand for money in terms of the velocity of circulation of money. This is because money acts as a medium of exchange and facilitates the exchange of goods and services.

In Fisher’s ‘Equation of Exchange’, $MV=PT$ where M is the total quantity of money, V is its velocity of circulation, P is the price level, and T is the total amount of goods and services exchanged for money, PT represents the demand for money and MV represents the supply of money.\(^{(30)}\)

The transactions demand for money, is determined by the level of full employment income. This is because the classical economists believed in Say’s Law Whereby supply created its own demand, assuming the full employment level of income.

Thus, the demand for money in Fisher’s approach is a constant proportion of the level of transactions, which in turn, bears a constant relationship to the level of national income. Further, the demand for money is linked to the volume of trade going on in an economy at any time. The most important thing about money in Fisher’s theory is that it is transferable. But it does not explain fully why people hold money.

2. Value of Money

By value of money we mean the purchasing power of money. What a rupee can buy in India represents the value of the rupee. The relation between the value of money and price level is an inverse one. If V presents the value of money and P the price level, then $V=1/p$. when the price level rises, the value of money falls and vice versa. Thus in order to measure the value of money, we have to find out the general price level.
The value of money is of two types: the internal value of money and external value of money. The internal value of money refers to the purchasing power of money over domestic goods and services. The external value of money refers to the purchasing power of money over foreign goods and services.

It was the Cambridge Cash Balance Approach which raised a further question: why do people actually want to hold their assets in the form of money?

With larger incomes people want to make larger volumes of transactions and so larger cash balances will be demanded. The Cambridge demand equation for money is

\[ Md = kpy \]

where \( Md \) is the demand for money which must equal the supply of money (\( Ms \)) in equilibrium in the economy, \( k \) is the fraction of the real money income (\( Py \)) which people wish to hold in cash and demand deposits.

This approach includes time and saving deposits and other convertible funds in the demand for money. It also stresses the importance of factors that make money more or less useful, such as the costs of holding it, uncertainty about the future and so on. One of its major criticisms arises from the neglect of store of value function of money. Thus the neglect of the asset function of money was the major weakness of classical approach to the demand for money which Keynes remedied. \(^{(31)}\)

N.W. Senior, in his Lecture, ‘on the quantity and value of money’, has mentioned the following: “The general doctrine is, that the value of money depends partly on its quantity, and partly on the rapidity of its circulation”. \(^{(32)}\)

According to J.S. Mill, it is not difficult to perceive that it is the total amount of the money in any country which determines what portion of that quantity shall exchange for a certain portion of the goods or commodities of that country. \(^{(33)}\)

As each piece of the money is equal in value to that which it exchanges for, if each performs ten different exchanges to effect one exchange of all the goods, the value of all the goods in the country is equal to ten times the value of all the money.

This, it is evident, is a proposition universally true. Whenever the value of money has either risen or fallen, (the quantity of goods against which it is exchanged,
and the rapidity of circulation, remaining the same) the change must be owing to a corresponding diminution or increase of the quantity, and can be owing to nothing else. If the quantity of goods diminishes while the quantity of money remains the same, it is the same thing as if the quantity of money had been increased; and if the quantity of goods be increased while the quantity of money remains unaltered, it is the same thing as if the quantity of money had been diminished. Similar changes are produced by any alteration in the rapidity of circulation. By rapidity of circulation is meant, of course, the number of time the money must change hands to effect one sale of all the commodities.

3. Supply of Money

Money is the medium of exchange ordinarily used in transactions. In addition, money serves as a unit of value, a standard of deferred payment, and a store of value. Inflation complicates the use of money as a standard of deferred payment and as a store of value. When inflation is foreseen, people may be able to protect money’s role in these two functions.

Money supply consists of commodity money, fiat money, and bank money. Commodity money’s value as a commodity is as great as its value as money. Fiat money’s value as a commodity is less than its value as money. Bank money consists of checking deposits.

People demand money for transactions purposes, for precautionary motives, and for speculative motives. Interest rates measure the opportunity costs of holding money. Statistical demand for money studies are example of ‘individual experiments’, as distinguished from ‘market experiments’.

Supply and demand analysis suggests that when money supply increases more rapidly than money demand, the value of money should fall. When money supply growth exceeds the growth of money demand, excess monetary growth occurs. The value of money falls when prices rise. A rise in the overall price level is inflation.

The quantity theory of money is the simplest theory of macro economics. The classical quantity theory of money suggests that changes in money supply and price
level will be strictly proportional. This conclusion follows from the equation of exchange (MV=PQ) and from the assumptions that velocity and output are fixed. When inflation is steady, the conditions of the classical quantity theory are most likely to be met.

Modern theorists argue that unanticipated inflation can affect real output and employment, but more so in the short run than in the long run. The major effects of money on employment and output occur when people have not correctly anticipated inflation.

Supply of money is a stock at a particular point of time, though it conveys the idea of a flow over time. The term ‘the supply of money’ is synonymous with such terms as ‘money stock’, ‘quantity of money’ and ‘money supply’. The supply of money at any moment is the total amount of money in the economy.

According to the Keynesian view, money supply is defined as currency with the public and demand deposits with commercial banks. Demand deposits with commercial banks plus currency with the public are together denoted as M1, the money supply. The second definition is broader and is associated with modern quantity theorists headed by Friedman. His definition includes M1 plus time deposits of commercial banks in the supply of money. This wider definition is characterized as M2 in America and M3 in Britain and India. It stresses the store of value function of money or what Friedman says as ‘temporary purchasing power’.

The third definition is the broadest and is associated with Gurley and Shaw. They include in the supply of money, M2, deposits of savings banks, building societies loan associations and deposits of other credit and financial institutions. The first definition of money supply may be analytically better because M1 is a sure medium of exchange.

**Determinants of Money Supply**

There are two theories of the determination of the money supply. According to the first view, money supply is determined exogenously by the central bank. The
second view holds that money supply is determined endogenously by changes in the economic activity which affects people’s desire to hold currency relative to deposits, the rate of interest etc…

Thus, the determinants of money supply are both exogenous and endogenous which can be described broadly as: the minimum cash reserve ratio, the level of bank reserves and the desire of the people to hold currency relative to deposits. The last two determinants together are called the monetary base or the high powered money.

A. The Required Reserve Ratio

The required reserve ratio (or the minimum cash reserve ratio or the reserve deposit ratio) is an important determinant of the money supply. An increase in the required reserve ratio reduces the supply of money with commercial banks and a decrease in required reserve ratio increases the money supply. The RRR is the ratio of cash to current and time deposit liabilities which is determined by law. Every commercial bank is required to keep a certain percentage of these liabilities in the form of deposits with the central bank of the country. But notes or cash held by commercial banks in their bills are not included in the minimum required reserve ratio.

In India, the statutory liquidity ratio (SLR) has been fixed by law as an additional measure to determine the money supply. The SLR is called secondary reserve ratio in other countries while the required reserve ratio is referred to as the primary ratio. The raising of the SLR has the effect of reducing the money supply with commercial banks for lending purposes and vice versa.

B. The Level of Bank Reserves

The level of bank reserves is another determinant of the money supply. Commercial bank reserves consist of reserves on deposits with the central bank and currency in their bills or vaults. It is the central bank of the country that influences the reserves of commercial banks in order to determine the supply of money. The central bank requires all commercial banks to hold reserves equal to a fixed percentage of both time and demand deposits. These are legal minimum or required reserves. Required reserves (RR) are determined by the required reserve ratio (RRRr) and the level of
deposits (D) of a commercial bank: \( RR = RRr \times D \). If deposit amount is Rs. 80 lakhs and required reserve ratio is 20%, then the required reserves will be \( 20\% \times 80 = Rs.16 \) lakhs. Thus the higher the reserve ratio, the higher the required reserves to be kept by a bank, and vice versa. But it is the excess reserves (ER) which are important for the determination of the money supply. Excess reserves are the difference between total reserves (TR) and required reserves (RR): \( ER = TR - RR \). In our example, it is Rs. 80-16lakhs=Rs.64 lakhs.

It is the excess reserves of a commercial bank which influences the size of its deposit liabilities. A commercial bank advances loans equal to its excess reserves which are an important component of the money supply. To determine the supply of money with a commercial bank, the central bank influences its reserves by adopting open market operations and discount rate policy.

Open market operations refer to the purchase and sale of Government securities and other types of assets like bills, securities, bonds, etc, both government and private in the open market. When the central bank buys or sells securities in the open market, the level of bank reserves expands or contracts.

The discount rate policy affects the money supply by influencing the cost and supply of bank credit to commercial banks. The discount rate, known as the bank rate in India, is the interest rate at which commercial banks borrow from the central bank. A high discount rate means that commercial banks get fewer amounts by selling securities to the central bank. The commercial banks in turn raise their lending rates to the public and there will be contraction of credit.

It should be noted that commercial bank reserves are affected significantly only when open market operations and discount rate policy supplement each other. Otherwise, their effectiveness as determinants of bank reserves and consequently of money supply is limited.

C. Public’s Desire to Hold Currency and Deposits

People’s desire to hold currency (or cash) relative to deposits in commercial banks also determines the money supply. If people are in the habit of keeping less in
cash and more in deposits with the commercial banks, the money supply will be large and vice versa.

High-powered money is the sum of commercial bank reserves and currency (notes and coins) held by the public. High powered money is the base for the money supply. The supply of money varies directly with changes in the monetary base, and inversely with the currency and reserve ratios.

**D. Other Factors**

The money supply is a function not only of the high-powered money determined by the monetary authorities, but of interest rates, income and other factors. The latter factors change the proportion of money balances that the public holds as cash. Changes in business activity can change the behavior of banks and the public and thus affect the money supply. Hence, the money supply is not only an exogenously controllable item but also an endogenously determined item.

We have discussed above the factors which determine money supply through the creation of bank credit. But money supply and bank credit are indirectly related to each other. When money supply increases, a part of it is saved in banks depending upon the depositor’s propensity to save. These savings become deposits of commercial banks who, in turn, lend after meeting the statutory reserve requirements. Thus with every increase in the money supply, the bank credit goes up. But it may not happen in exactly the same proportion due to the following factors.

a) The marginal propensity to save does not remain constant. It varies from time to time depending on changes in income levels, prices, and subjective factors.

b) Banks may also create more or less credit due to the operation of leakages in the credit creation process.

c) The velocity of circulation of money also affects the money supply. If the velocity of money circulation increases, the bank credit may not fall even after a decrease in the money supply. The central bank has little control over the velocity of money which may adversely affect bank credit.
The money supply (M) consists of deposits of commercial banks (D) and currency(C) held by the public. Thus supply of money M = D+C. High powered money (H) (or monetary base) consists of currency held by the public (C) plus required reserves (RR) and excess reserves of commercial banks. Thus high-powered money H = C+RR+ER. The relation between M and H can be expressed as the ratio of M to H, i.e., by dividing the equation M by H, i.e., M/H.

4. Transmission Mechanism

The transmission mechanism refers to the channels through which changes in money supply affect aggregate expenditure (or aggregate demand), prices, income and other real variables of the economy.

In the classical monetary transmission mechanism, a change in the money supply does not affect the real variables like output, employment and income. Money is neutral in its effects on the economy. This analysis is based on a direct and mechanical relationship between money and prices. If the quantity of money is raised, the price level will also rise in the same proportion, and vice versa. Such a relationship is based on the Quantity Theory Equation.

\[ MV = PT \] or \[ M/P = VT \]

where M is the total quantity of money, P is the price level of commodities traded, \( V \) is the velocity of circulation of M, and T is the volume of transactions of goods. The equation shows that the supply of real cash balances (\( M/P \)) must equal the demand for real cash balances (\( VT \)). The classical economists specified two channels through which monetary changes are transmitted to the real sector of the economy. They are the direct mechanism and the indirect mechanism which are discussed below.

The Direct Mechanism

The direct mechanism is based on the long run equilibrium of the demand for and supply of money. Suppose the money supply is increased. This leads to the increase in the supply of actual money balances (\( M/P \)) of the public which now exceed the demand for them. Now the actual money holdings are more than those desired by the...
people relative to their expenditure and wealth. These, in turn, increase the demand for goods and services. As a result, the price level rises which reduces the supply of real cash balances \( (M/P) \) until the actual money balances are equal to those people desire to hold. In this way, the equilibrium is restored in the money market.

**Indirect Mechanism**

The indirect mechanism operates through the money rate of interest and involves the commercial banking system. Suppose the central bank makes open market purchases of government securities which increase the reserves, of commercial banks with excess reserves, the banks lend more which lowers the money rate of interest.

**Criticisms**

The classical monetary transmission mechanism shows that money is neutral in equilibrium and it does not affect real aggregate demand, output, employment and income. But it is non-neutral in the transition period when it affects the real magnitudes. In the long, run only nominal magnitudes are affected when the money supply changes and money is neutral.

Patinkin has criticized the classical transmission mechanism for its failure to analyze the stability of equilibrium in both the goods and money markets through the operation of the real balance effect. This has resulted in the classical dichotomy between the real sector and monetary sector.\(^{(38)}\)

Classical dichotomy means the separate and independent determination of relative and absolute prices in classical and neo-classical economics. Besides removing the classical dichotomy and integrating the monetary and value theory through the real balance effect, Patinkin also validates the quantity theory conclusion. According to Patinkin, the real balance implies that people do not suffer from ‘money illusion’.

5. **Neutrality of Money**

Neutrality of money means that money is neutral in its effect on the economy. A change in the money stock can have no long-run influences on the level of real output,
employment, rate of interest, or the composition of the final output. The only lasting impact of a change in the money stock is to alter the general price level.

Patinkin explains the neutrality of money as a situation when “a uniformly introduced increase in the quantity of money causes a proportionate increase in the equilibrium price of commodities and leaves the equilibrium rate of interest unaffected”, provided there is absence of money illusion and distribution effects. According to Gurley and Shaw, money is neutral if money is either entirely of the ‘outside’ variety, or entirely of the ‘inside’ variety. They define neutrality of money as the “inability of changes in the nominal stock of money to affect the rate of interest, output and wealth, and other variables.”

In other words, money is neutral if it does not affect relative prices and leaves the interest rate unaffected. All prices move equi-proportionally. If there is a time lag, there is long-run neutrality. The quantity of money determines only absolute prices and their level does not affect the level of income, interest, rate of capital formation and employment. It is in this sense that money is neutral in its effects on the working of the economy.

In the classical system, money is neutral in its effect on the economy. It plays no role in the determination of employment, income and output. Rather, they are determined by labor, capital stock, state of technology, availability of natural resources, saving habits of the people, and so on. In the classical system, the main function of money is to act as a medium of exchange. It is to determine the general level of prices at which goods and services will be exchanged. The quantity theory of money states that price level is a function of the supply of money. Algebraically, $MV = PT$. The equation tells that the total money supply, $MV$, equals the total value of output, $PT$, in the economy. The result of an increase in money is to raise money wages and prices in equal proportion, leaving output, employment and the real wage rate unaffected. It is in this sense that money is neutral in the long run in the classical system.

Conditions or assumptions which must be met to establish the neutrality of money are:
1) There must be wage and price flexibility

2) Absence of Money Illusion

3) Absence of Distribution effects

4) Static (inelastic) expectations

5) Absence of Government Debt or Open Market Operations

6) Absence of a combination of inside and outside Money and

7) Perfect information.

6. Milton Friedman's Quantity Theory

Following the publication of Keynes’ ‘the General theory of Employment, Interest and money’ in 1936; economists discarded the traditional quantity theory of money. At Chicago, Milton Friedman, Henry Simons, Lloyd Mints, Frank Knight and Jacob Viner taught and developed ‘a more subtle and relevant version’ of the quantity theory of money in its theoretical form “in which the quantity theory was connected and integrated with general price theory.” The foremost exponent of the Chicago version of the quantity theory of money who led to the so-called ‘monetarist Revolution’ is Professor Friedman. He, in his essay ‘The quantity Theory of money – A Restatement’, published in 1956, set down a particular model of quantity theory of money. (40)

In his reformulation of the quantity theory, Friedman asserts that “the quantity theory is in the first instance a theory of the demand for money. It is not a theory of output, or of money income, or of price level.” Thus, money is an asset or capital good. Hence, the demand for money forms part of capital or wealth theory.

For ultimately wealth holders, the demand for money, in real terms, may be expected to be a function primarily of the following variables:
A. Total Wealth

The total wealth is the analogue of the budget constraint. In practice, estimates of total wealth are seldom available. Instead, income may serve as an index of wealth.

B. The division of wealth between Human and Non-Human Forms

Friedman calls the ratio of non-human to human wealth or the ratio of wealth to income as wealth.

C. The Expected Rates of Return on Money and other Assets

These rates of return are the counterparts of the prices of a commodity and its substitutes and complements in the theory of consumer demand.

D. Other Variables

These variables such as liquidity, the tastes and preferences of wealth holders etc., also determine the demand function for money along with other forms of wealth. Such variables are noted as by Friedman.

Broadly, total wealth includes all sources of income or consumable services. It is capitalized income. By income, Friedman means ‘permanent income’ which is the average expected yield on wealth during its life time.

Wealth can be held in five different forms: Money, bonds, equities, physical goods and human capital. Each form of wealth has a unique characteristic of its own and a different yield.

1. Money is taken in the broadest sense to include currency, demand deposits and time deposits which yield interest on deposits. Thus, money is a luxury good.

2. Bonds are defined as claim to a time stream of payments that are fixed in nominal units.

3. Equities are defined as a claim to a time stream of payments that are fixed in real units.
4. Physical goods or non-human goods are inventories of producer and consumer durables.

5. Human capital is the productive capacity of human beings.

Thus, each form of wealth has a unique characteristic of its own and a different yield either explicitly in the form of interest, dividends, labor income etc., or implicitly in the form of services of money measured in terms of P and inventories. \( W \), the current value of wealth is given as \( W = \frac{Y}{r} \) where, \( Y \) is the total flow of expected income from the five forms of wealth and \( r \) is the interest rate.

The individual demand function for money is given as \( \frac{M}{P} \) where \( M \) is the total stock of money demanded and \( P \) is the price level. The demand function for business is roughly similar. The aggregate demand function for money is the summation of individual demand functions. We get the conclusion that a rise in expected yields on different assets reduces the amount of money demanded by a wealth holder and that an increase in wealth raises the demand for money.

In Friedman’s restatement of the quantity theory of money, the supply of money is independent of the demand for money. The supply of money is unstable due to the actions of monetary authorities. On the other hand, the demand for money is stable. It means that money which people want to hold in cash or bank deposits is related in a fixed way to their permanent income.

According to Friedman, a change in the supply of money causes a proportionate change in the price level or income or in both. Given the demand for money, it is possible to predict the effects of changes in the supply of money in total expenditure and income. If the economy is operating at less than full employment level, an increase in the supply of money will raise output and employment with a rise in total expenditure. But this is only possible in the short run.
Friedman’s quantity theory of money is explained in terms of Chart II.1 where income (y) is measured on the vertical axis and the demand for and the supply of money is measured on the horizontal axis. MD is the demand for money curve which varies with income. Ms is the money supply curve which is perfectly inelastic to changes in income. The two curves intersect at E and determine the equilibrium income OY. If the money supply rises, the Ms Curve shifts to the right to M1S1. As a result, the money supply is greater than the demand for money which raises total expenditure until new equilibrium is established at E1 between MD and M1S1. The income rises to OY1.

Thus, Friedman presents the quantity theory as the theory of the demand for money and the demand for money is assumed to depend on asset prices or relative returns and wealth or income. He shows how a theory of the stable demand for money becomes a theory of prices and output.
Some of the criticisms leveled against the theory are discussed as under.

1. Very Broad Definition of Money: - Friedman has been criticized for using the broad definition of money.

2. Money not a Luxury Good: - Friedman regards money as a luxury good.

3. More importance to wealth variables.

4. Money supply not Exogenous: - The supply of money is varied by the monetary authorities in an exogenous manner in Friedman’s system.

5. Ignores the effect of other variables on money supply.


7. No positive correlation between money supply and money GNP – Money supply and Money GNP has been found to be positively correlated in Friedman’s findings.

Despite these criticisms, Friedman’s theory is probably the most important development in monetary theory since Keynes’ General Theory. Its theoretical significance lies in the conceptual integration of wealth and income as influences on behavior.

The Quantity Theory of Money: A Critique

M.L. Burstein, in his book, ‘The quantity theory of money’, has pointed out the following.

“The quantity theory of money can be viewed as a set of predictions of how observed prices and incomes will react over varying lengths of time to changes in monetary variables; or as a theorem on the comparative static of certain models. Unqualified earlier formulations of the quantity theory as an empirical law have not held up. Neo-quantity theorists have made more qualified predictions. Here too the verdict is negative: quantity theorists offer a trivial theorem in the context of simple models; it is incorrect in more complex models”.
“An irregular simple empirical relationship between the stock of money and
nominal GNP, for example, is not necessarily adverse for monetary policy if various
exogenous and predetermined variables can be controlled or predicted. But a quantity
type theory of money does not emerge”. (41)

7. The total Currency Needed by a Country

In his book ‘Money, Credit and Commerce’, A. Marshall discussed the
following aspects. (42)

“In early times it was commonly said that the values of gold and silver are
‘artificial’. But in fact they are governed on the side of supply by cost of attainment and
on the side of demand by the needs of people for ready purchasing power based on gold
and silver, together with the demand for these metals for the purposes of industry and
display.

The total value of a country’s currency, multiplied into the average number of
times of its changing hands for business purposes in a year, is of course equal to the
total amount of business transacted in that country by direct payments of currency in
that year. But this identical statement does not indicate the causes that govern the
rapidity of circulation of currency: to discover them we must look to the amounts of
purchasing power which the people of that country elect to keep in the form of
currency.

Although the purchasing power of a unit of a currency varies, other things being
equal, inversely with the number of the units, yet an increased issue of inconvertible
paper currency may lower its credit and therefore lessen the amount of ready
purchasing power which the people care to hold. That is, it may lower the value of each
of the units more than in proportion to the increase of their number.

Currency differs from other things in that an increase in its quantity exerts no
direct influence on the amount of the service it renders.”
2.2.2. Contemporary Monetary Theory

1. Patinkin’s Monetary Model

Don Patinkin in his monumental work ‘Money, Interest and Prices’ criticizes the Cambridge economists for the homogeneity postulate and the dichotomization of goods and money markets and then reconciles the two markets through the real balance effect.\(^{(43)}\)

The homogeneity postulate states that the demand and supply of goods are affected only by relative prices. It means that a doubling of money prices will have no effect on the demand and supply of goods. Patinkin criticizes this postulate for its failure to have any determinate theory of money and prices.

Another closely related assumption which Patinkin criticizes is the dichotomization of the goods and money market in the neo-classical analysis. This dichotomization means that the relative price level is determined by the demand and supply of goods, and the absolute price level is determined by the demand and supply of money. Like the homogeneity postulate, this assumption also implies that the price level has absolutely no effect on the monetary sector of the economy, and the level of monetary prices, in turn, has no effect on the real sector of the economy.

Patinkin integrates the money market and the goods market of the economy which depend not only on relative price but also on real balance. Real balance means the real purchasing power of the stock of cash holding of the people. When the price level changes, it affects the purchasing power of the people’s cash holding which, in turn, affects the demand and supply of goods. This is the real balance effect. Patinkin denies the existence of the homogeneity postulate and the dichotomization assumption though this effect.

The demand for a commodity depends upon real balance as well as relative prices. Now if the price level rises, this will reduce the real balances (purchasing power) of the people who will spend less than before. This implies a fall in the demand for goods and the consequent fall in price and wages. With sufficiently large fall in wages and prices, the full employment level of output and income will be restored.
Finally, even if there is the ‘liquidity trap’, the expansion of the money supply will increase money balances and full employment can be restored through the operation of the real balance effect. According to Patinkin, “This is the crucial point. The dynamic grouping of the absolute price-level towards its equilibrium value will-through the real balance effect- react on the commodity markets and hence on relative prices”.

Thus absolute prices play a crucial role not only in the money market but also in the real sector of the economy. Patinkin further pointed out that “once the real and monetary data of an economy with outside money are specified, the equilibrium values of relative prices, the rate of interest and the absolute price level are simultaneously determined by all the markets of the economy”. In this way, Patinkin also introduces the real balance effect in the general equilibrium analysis.

Patinkin also validates the quantity theory conclusion. According to Patinkin, the real balance effect implies that people do not suffer from ‘money illusion’. They are interested only in the real value of their cash holdings. In other words, they hold money for ‘what it will buy’. This means that a doubling of the quantity of money will lead to a doubling of the price level, but relative prices and the real balances will remain constant and the equilibrium of the economy will not be changed.

Thus, the real balance effect demonstrates three theoretical points: first, it eliminates the classical dichotomy between value and monetary theory; second, it validates the conclusions of the quantity theory that in equilibrium, money is neutral and the interest rate is independent of the quantity of money through the real balance effect; and third, the wage-price flexibility leads to full employment in the long-run and the Keynesian under employment equilibrium is a disequilibrium situation.

Patinkin’s analysis of the real balance effect has been severely criticized by Johnson, Archibald and Lipsey, Lloyd and other economists on the following grounds.

1. Not applicable in equilibrium situations

2. Conceptually inadequate.

3. Price stability without Real Balance Effect is possible.
4. Failure to explain increase in monetary wealth.

Both the terms ‘Pigou Effect’ and ‘Real balance Effect’ have been coined by Patinkin. But they are not the same. Rather, they are quite different. The Pigou effect is a static analysis which consists of the effect of a wage-price deflation on consumption, given the constant stock of money or what Gurley and Shaw Call ‘Outside money’ which includes gold, government securities and fiat paper money. It shows that when consumption increases as a result of wage-price deflation, the IS curve shifts to the right so that it intersects a given LM function and automatic full employment is attained in the economy.

The real balance effect is a modified version of the Pigou effect given by Patinkin. It is a dynamic analysis which comprises both the Pigou effect and the Keynes effect. The operation of the Keynes effect shifts only the LM function to the right and that of the Pigou effect only the IS function to the right. But in the real balance effect both the LM and IS functions are shifted to the right till they intersect at the level of full employment. In the real balance effect, elasticities of the IS and LM functions are irrelevant. The LM curve may be perfectly elastic i.e. in the Keynesian liquidity trap region or the IS curve may be perfectly inelastic, when the level of full employment is automatically attained.

2. Monetary Theory of R. W. Clower

R.W. Clower in his article ‘A reconsideration of the micro foundations of monetary theory,’ shows that the conception of a money economy implicit in the work is empirically and analytically vacuous, and he proposes an alternative micro foundation for the pure theory of a money economy.

Market excess demands are defined in terms of individual demand functions for goods. Consider an economy in which all transactions but one have a violent aversion to hold money balances. Starting from any initial distribution of money balances, market trading over one or more periods will ultimately yield a situation in which the entire stock of money is held by a single individual. Changes in initial endowments of goods or in the stock of money will generate precisely the same qualitative effects in
this model as world occur in a system where all transactions were willing to hold money balances in full equilibrium; hence the model differs in no essential respect from models discussed by Patinkin and other writers. But our model is so defined that, in equilibrium money is not used in any exchange transactions. Here, goods are indistinguishable from money as sources of effective demand.

The tasks that Clower sets in his paper were: Firstly, to demonstrate that the conception of money economy implicit in modern accounts of the general equilibrium theory of money and prices is formally equivalent to the classical conception of a barter economy; secondly, to propose a reformulation of established micro economic analysis suitable as a foundation for explicit analysis of the working of a money economy. The first of these tasks has been carried through to completion. The second is obviously unfinished. A model that is immune to the specific criticism that can be leveled at established micro economic analysis— a model where, in sharp contrast with established theory, money commodities play peculiar and central role in shaping prevailing forces of excess demand, is exhibited here. (44)

The natural point of departure for a theory of monetary phenomena is a precise distinction between money and non money commodities. In this connection, it is important to observe that such a distinction is possible only if we assign a special role to certain commodities as means of payment. For any commodity may serve as a unit of account and standard of differed payment: and every asset is, by its very nature, a potential store of value. If money is to be distinguished by the functions it performs, therefore, it is to the medium of exchange function that we must address our attention. The only difficulty is to express analytically what is meant when we assert that a certain commodity serves as a medium of exchange.

A barter economy is one in which all commodities are money commodities. More precisely, we now define a money economy as a system involving at least one money commodity put a non-transitive exchange relation.

In general, the exchange relation of a money economy may contain numerous barter subsets (trade credit, blocked currencies, credit cards, demand deposits, etc.) Such non-pure money economies seriously complicate the task of defining relevant
choice alternatives for transactions. Pure money economy is one in which one and only one commodity can be traded directly for any other commodity.

A commodity is regarded as money for our purposes if and only if it can be traded directly for all other commodities in the economy. Correspondingly, a money economy is one in which not all commodities are money. The distinction between money and other commodities is thus a matter not of degree but of kind.

Money buys goods and goods buy money; but goods do not buy goods. This restriction is the central theme of the theory of a money economy. This aphorism automatically rules out standard budget constraints of neo-Walrasian equilibrium analysis.

Analytically, there is a clear separation between goods demanded for purchase (offers to sell money) and goods offered for sale (offers to buy money). This condition may be met most easily by dichotomizing the budget constraint into two branches, the first representing a constraint on money expenditure, the second representing a constraint on money income. It follows that the total value of goods demanded cannot in any circumstances exceed the amount of money held by the transactor at the outset of the period. Our definition of choice alternatives thereby captures the essential meaning of the traditional contention that demand in a money economy is effective only if it involves a combination of desire with money purchasing power.

Unlike established theory, changes in initial endowments of goods have no ‘income' effect on commodities that are demanded for purchase; i.e. supply of goods does not create demand for other goods. All of these results are obvious consequences of dichotomizing budget constraints into separate expenditure and income branches.

Demand (and excess-demand) function in a money economy are thus subject to much more severe restrictions than are those of a barter economy- the latter category being interpreted to include all neo-Walrasian models of money and prices.

A full statement of the implications of Clower’s micro foundations for monetary theory cannot be given here. For present purposes, it is sufficient to observe that the results given above ensure that the responds of transactions to changes in prices or
initial endowments of goods or money will differ qualitatively from findings suggested by established theory. Correspondingly, the response of market prices and quantities traded to changes in tastes, initial endowments, or in the aggregate stock of money will differ qualitatively from findings associated with established doctrines.

2.2.3. Keynesian Monetary Theory

Keynes’ ‘General theory of Employment, Interest and Money’ is a theory of the actual working of a money economy. Unfortunately, Keynes expressed his ideas in language and relations that too easily lend themselves to interpretation within the formal framework of neo-classical equilibrium analysis. Partly for this reason, partly because the actual working of a monetary economy is inherently difficult to portray analytically, economic theorists are still arguing about the precise nature of the so-called Keynesian revolution, or the precise difference between money and a barter economy. There is a vast literature on this subject, most of it having some bearing on monetary theory.

1. Demand for Money

The demand for money arises from two important functions of money. The first is that money acts as a medium of exchange and the second is that it is a store of value. Thus individuals and business wish to hold money partly in cash and partly in the form of assets.

The demand for money is directly related to the income level. The higher the income level, the greater will be the demand for money. When alternative assets like bonds become unattractive due to fall in interest rates, people prefer to keep their assets in cash and the demand for money has been split into the transactions demand, the precautionary demand and the speculative demand.

Liquidity Preference

Keynes in his General Theory used a new term ‘Liquidity Preference’ for the demand for money. Keynes suggested three motives which lead to the demand for money in an economy.
1. The transactions demand
2. The precautionary demand and
3. The speculative demand.

**The Transactions Demand for Money**

The transactions demand for money arises from the medium of exchange function of money in making regular payments for goods and services. It depends upon the level of income, the interest rate, the business turn over, the normal period between the receipt and disbursement of income etc. Thus the transaction demand for money is a direct proportional and positive function of the level of income and is expressed as \( LT = KY \), where \( Y \) is the income, \( LT \) is the transactions demand for money and \( K \) is the proportion of income which is kept for transactions purposes. If \( Y = \text{Rs. } 1200\text{cr} \) and \( k = \frac{1}{4} \) then \( LT = \text{Rs. } 300 \text{ crores} \).

Regarding the rate of interest as the determinant of the transactions demand for money Keynes made the \( LT \) function interest inelastic. In recent years, two post-Keynesian economists William J Baumol \(^{46}\) and James Tobin \(^{47}\) have shown that the rate of interest is an important determinant of transactions demand for money. They have also pointed out that the relationship between transactions demand for money and income is not linear and proportional. Rather, changes in income lead to proportionately smaller changes in transactions demand.

The modern view is that the transactions demand for money is a function of both income and interest rates which can be expressed as \( LT = f(y, r) \). The transactions demand for money varies directly with the level of income and inversely with the rate of interest.

**The precautionary Demand for money**

Both individuals and businessmen keep cash in reserve to meet unexpected needs. Therefore, money held under the precautionary motive is rather like water kept in reserve in a water tank. Keynes held that the precautionary demand for money, like transactions demand, was a function of the level of income. But the post-Keynesian
economists believe that like transactions demand, it is inversely related to high interest rates. Since precautionary demand, like transaction demand is a function of income and interest rates, the demand for money for these purposes is expressed in the single equation \( LT = f(Y,r) \)

**The Speculative Demand for Money**

The speculative (or asset) demand for money is for “securing profit from knowing better than the market that what the future will bring forth”.

Bond prices and the rate of interest are inversely related to each other. Low bond prices are indicative of high interest rates, and high bond prices reflect low interest rates.

This can be worked out with the help of the equation \( V = R/r \) where \( V \) is the current market value of a bond, \( R \) is the annual return on the bond and \( r \) is the rate of return currently earned or the market rate of interest.

According to Keynes, it is expectations about changes in bond prices or in the current market rate of interest that determine the speculative demand for money. Thus the speculative demand for money is a decreasing function of the rate of interest. The higher the rate of interest, the lower the speculative demand for money and the lower the rate of interest, the higher the speculative demand for money.

2. **Neutrality of Money: Liquidity Trap**

In the entire Keynesian system, there are two situations in which money is neutral. The first is the situation of full employment and the second is the special case of liquidity trap.

Keynes visualized conditions in which the speculative demand for money would be highly or even totally elastic so that changes in the quantity of money would be fully absorbed into speculative balances. This is the famous Keynesian liquidity trap. In this case, changes in the quantity of money have no effects at all on prices or income. According to Keynes, this is likely to happen when the market interest rate is very low so that the yields on bond, equities, and other securities will also be low.
At a very low rate of interest, such as r2, the LS curve becomes perfectly elastic and the speculative demand for money is infinitely elastic. This portion of the LS curve is known as the liquidity trap. At such a low rate, people prefer to keep money in cash rather than invest in bonds because purchasing bonds will mean a definite loss. Thus the lower the interest rate, the smaller the earnings from bonds and therefore, the greater the demand for cash holdings. Consequently, the LS curve will become perfectly elastic.

The phenomenon of liquidity trap possesses certain important implications. First, the monetary authority cannot influence the rate of interest even by following a cheap money policy. An increase in the quantity of money cannot lead to a further decline in the rate of interest in a liquidity trap situation. Second, the rate of interest cannot fall to zero. Third, the policy of a general wage cut cannot be effective in the face of a perfectly elastic liquidity preference curve.

No doubt, a policy of general wage cut would lower wages and prices, and thus release money from transactions to speculative purpose, the rate of interest would remain unaffected because people would hold money due to the prevalent uncertainty in the money market. Last, if new money is created, it instantly goes into speculative balances and is put into bank vaults or cash boxes instead of being invested. Thus, monetary changes have a weak effect on economic activity under conditions of absolute liquidity preference.

3. Total Demand for money

According to Keynes, money held for transactions and precautionary purposes is primarily a function of the level of income, LT=f(y), and the speculative demand for money is a function of the rate of interest, LS=f(r). Thus, the total demand for money is a function of both income and the interest rate:

\[ LT + Ls = f(y) + f(r) \quad \text{or} \]

\[ L = f(y) + f(r) \quad \text{or} \]

\[ L = f(y, r), \] where L represents the total demand for money.
Thus, the total demand for money can be derived by the lateral summation of the demand function for transactions and precautionary purposes and the demand function for speculative purposes.

4. The Post-Keynesian Approach

Keynes believed that the transactions demand for money was primarily interest inelastic. Prof. Baumol has analyzed the interest elasticity of the transactions demand for money on the basis of his inventory theoretical approach. Further, in the Keynesian analysis the speculative demand for money is analyzed in relation to uncertainty in the market. Prof. Tobin has given an alternative theory which explains liquidity preference as behavior towards risk. The third important Post-Keynesian development has been Friedman’s formulation that the demand for money is not merely a function of income and rate of interest, but also of the total wealth.

5. Supply of Money

According to the Keynesian view, money supply is defined as currency with the public and demand deposits with commercial banks. Demand deposits with commercial banks plus currency with the public are together denoted as M1, the money supply.

6. Keynesian Transmission Mechanism

The transmission mechanism in the Keynesian theory is indirect via the interest rate. It is based on the existence of unemployment equilibrium in the economy and on the assumption of short run. In the Keynesian analysis, there are three motives for holding money: precautionary, transactions and speculative motive is determined by the interest rate, while the demand for precautionary and transactions motives is determined primarily by the level of income. Given the level of national income, the demand for money is a decreasing function of the rate of interest rate, the lower the demand for money and vice versa. This negative relationship between the interest rate and the demand for money provides a link between changes in the money supply and the aggregate variables of the economy.
The Keynesians further believe that money and financial assets (bonds) are good substitutes. They are highly liquid and yield interest. So even small changes in interest rates may lead to substitution between money and financial assets. A fall in the interest rate will mean a rise in the price of bonds (or securities) which will induce people to sell bonds and hold more money for speculative purposes. Given these main elements of the Keynesian theory, its transmission mechanism is explained below.

In the Keynesian transmission mechanism, changes in the money supply affect aggregate expenditure, output, employment and income indirectly through changes in the interest rate. Suppose the central bank increases the money supply by open market purchases of Government bonds. It lowers the interest rate which, in turn, increases investment and expenditure, thereby raising the national income.

The mechanism by which changes in the money supply are transmitted into the income level is the asset effect. With income level unchanged, when the money supply is increased, it causes people to spend their excess holding of money on bonds. This means an increase in the demand for bonds and a rise in their prices. A rise in the prices of bonds brings down the money interest rate. This, in turn, increases the speculative demand for money. People prefer to keep money in cash rather than lend it at a low interest rate. This is called the liquidity effect. This is the first stage in the Keynesian transmission mechanism.

In the next stage, the fall in the interest rate and an increase in the speculative demand for money stimulate investment. Businessmen prefer to invest in capital goods rather than hold money in cash for speculative purposes.

In the final stage of the transmission mechanism, the increase in investment raises the level of income through the multiplier process. The increased income generates additional savings equal to the increase in investment and equilibrium will prevail in the commodity market. On the other hand, the rise in real income or output brings diminishing returns to labor, there by raising per unit labor cost and price level.

The Keynesian transmission mechanism consisting of three stages is called the cost of capital channel and is summarized thus: Money → Interest Rate → Investment →
Income; where with the increase in the money supply, interest rate falls and investment and income rise. The rise in price level raises nominal income that leads to an increase in the transactions and precautionary demand for money, there by bringing a ‘feedback effect’ on the economy. The increase in transactions and precautionary balances, in turn, reduces the speculative balances. The latter raise the interest rate, and bring a fall in investment and income, and lead to a further feedback effect. Friedman calls the feedback effect the income effect.

It is criticized that the velocity of money is not assumed as stable in the Keynesian theory. The transmission mechanism also does not operate smoothly by the expectations of money holders over future interest rates. Another factor which inhibits the smooth operation of the Keynesian transmission mechanism is the interest rate elasticity of investment. The less elastic is the investment curve, the less is the increase in investment as a result of a fall in the interest rate, and vice versa.

7. Neo-Keynesian Transmission Mechanism

The Neo-Keynesians discuss the monetary transmission mechanism through the portfolio adjustment process. When the supply of money changes, it sets in motion wealth effect, substitution effects, and availability effects.

8. Monetarism Vs Keynesianism

Monetarism refers to the followers of Milton Friedman who hold that ‘only money matters’ and as such monetary policy is a more potent instrument than fiscal policy in economic stabilization. On the other hand, Keynesianism refers to the followers of Keynes who believe that ‘money does not matter’, and for economic stabilization fiscal policy is a more powerful tool than monetary policy. The adherents of monetarism are known as the monetarists and of Keynesianism as the Fiscalists. We discuss below the views of the monetarists and Fiscalists about the causes of changes in national income and the roles of monetary and fiscal policies in economic stabilization.

The monetarists emphasize the role of money in explaining short-term changes in national income. They argue that the role of money has been neglected by Keynesians, if not by Keynes himself. Friedman and Schwartz have shown that changes
in the money supply cause changes in national income. Monetarists believe that all recessions and depressions are caused by severe contraction of money and credit, and booms and inflations by excessive increases in the money supply. The Keynesians reject the monetarist’s view that changes in national income are caused solely by changes in the money supply. Rather they hold that changes in national income cause changes in the supply of money. The moderate Keynesians still believe like monetarists that hyper-inflations are caused by excessive money supply. On the other hand, the extreme Keynesians hold that non-monetary factors like investment cause depressions and booms.

**Policy Differences**

Another point of difference between the monetarists and the Keynesians is over the policy prescriptions. According to the monetarists, monetary policy has a greater influence on economic activity than fiscal policy, and fiscal policy is important only in making changes in the money supply. On the other hand, the Keynesians emphasize the importance of both fiscal and monetary policy in influencing the economy but they attach more importance to the former than to the latter. First, we study the monetarist view on monetary and fiscal policy and then the Keynesians’ view.

As already analyzed above, the monetarists hold that changes in the money supply have a direct influence on aggregate expenditure and thus on income. Let us analyze an expansionary monetary policy followed by monetarists. To begin, suppose the central bank purchased securities in the open market. It raises the price of securities and lowers the rate of interest. People will therefore start selling securities and hold more money. People spend their excess money balances on financial assets and durable consumer goods. Others attracted by low interest rates borrow from banks for expenditure on houses, durable consumer goods, plants and equipments, etc. These forces tend to increase aggregate expenditure and income.

In contrast to the monetarists, the Keynesians regard monetary policy relatively less effective because of the relative interest inelasticity of aggregate expenditure. To illustrate, consider an expansionary monetary policy. Suppose, the central bank purchases securities in the open market. As a result, the price of securities rises and the
interest rate falls. People will, therefore, start selling securities in order to hold more money. As the demand for money is highly interest elastic in the Keynesian system, even a small fall in the rate of interest will induce people to sell securities and hold more money.

The above analysis about monetarism and Keynesianism reveals that both hold almost the opposite views. The monetarists argue that only money matters, and that economic recessions and expansions are caused by decreases and increases of the money supply. They therefore advocate control of the money supply to stabilize cyclical fluctuations. They emphasize that the growth rate of money is the principal determinant of the behavior of national income. This view is based on a number of historical studies carried out by Friedman and Schwartz, Friedman and Meiselman and Anderson and Jordan of the Federal Reserve Bank of St. Louis. These studies reveal that there is a very close relation between money supply and national income than between national income and any of the Keynesian variables like aggregate expenditure.

Though the monetarists have tried to enforce their position on the basis of empirical studies yet they are themselves skeptical about the success of monetary policy in contrast to fiscal policy. They agree that as economic stabilizer, monetary policy may do more harm than good because of the operation lag. The operation lag refers to the time elapsing between the taking of action and the effective impact of that action on the economic situation. On the average, it takes a long time for a change in the money supply to affect national income, so the operation lag is long. Friedman himself admits that the time lag involved is so large that contra-cyclical monetary policy might actually have a destabilizing effect on the economy. The monetarists, therefore, hold that the economy is basically stable and when disturbed by some change in basic conditions, will quickly revert to its long-run growth path. That is why; they advocate an annual fixed percentage growth in the money supply and an end to discretion in monetary policy. Friedman, therefore, believes that fiscal policy does not have any potent influence on the economy except that it affects the behavior of money.
On the other hand, the Keynesians are not diehards like the monetarists. They take a more realistic view of monetary and fiscal policy in contrast to the latter. They do not regard the two as competitive but complimentary to each other. They do not deny that money does matter, for they believe that monetary policy does influence national income but via changes in the interest rate. But they find monetary policy ineffective in controlling severe depressions and therefore depend upon fiscal policy for this. On the other hand, they combine monetary policy with fiscal policy for controlling booms and inflations.

9. Keynes’ General Theory

Keynes concludes his ‘general theory of employment, interest and money’ as follows: “The orthodox theory assumes that we have knowledge of the future of a kind quite different from that which we actually possess. This false realization follows the lines of the Benthamite calculus. The hypothesis of a calculable future leads to a wrong interpretation of the principles of behavior which the need for action compels us to adopt, and to an under estimation of the concealed factors of utter doubt, precariousness, hope and fear. The result has been a mistaken theory of the rate of interest. It is true that the necessity of equalizing the advantages of the choice between owning loans and assets requires that the rate of interest should be equal to the marginal efficiency of capital. But this does not tell us at what level the equality will be effective. The orthodox theory regards the marginal efficiency of capital as setting the pace. But the marginal efficiency of capital depends on the price of capital assets; and since this price determines the rate of new investment it is consistent in equilibrium with only one given level of money income. Thus the marginal efficiency of capital is not determined, unless the level of money income is given. In a system in which the level of money income is capable of fluctuating, the orthodox theory is one equation short of what is required to give a solution. Undoubtedly, the reason why the orthodox system has failed to discover this discrepancy is because it has always tacitly assumed that income is given, namely, at the level corresponding to the employment of all the available resources. In other words, it is tacitly assuming that the monetary policy is such as to maintain the rate of interest at that level which is compatible with full employment. It is therefore, incapable of dealing with the general case where
employment is liable to fluctuate. Thus, instead of the marginal efficiency of capital
determining the rate of interest, it is true (though not a full statement of the case) to say
that it is the rate of interest which determines the marginal efficiency of capital.

The orthodox theory would by now have discovered the above defect, if it had
ignored the need for a theory of the supply and demand of output as a whole. I doubt if
many modern economists really accept say’s law that supply creates its own demand.
But they have not been aware that they were tacitly assuming it. Thus, the
psychological law underlying the multiplier has escaped notice. It has not been
observed that the amount of consumption goods which it pays entrepreneurs to produce
is a function of the amount of investment goods which it pays them to produce. The
explanation is to be found, I suppose, in the tacit assumption that every individual
spends the whole of his income either on consumption or on buying, directly or
indirectly, newly produced capital goods. But here again while the older economists
expressly believed this, I doubt if many contemporary economists really do believe it.
They have discarded these older ideas, without becoming aware of the consequences”.

general evaluation of the Keynesian Revolution.

“As a theory for dealing with problems of employment, inflation and economic
planning, it constitutes, in my opinion, a great and pervasive advance, the essence of
which is to look at the relations between aggregate demand for and availability of
resources, rather than at the quantity of money. In monetary theory, its main
contribution has been to emphasis the function of money as an asset, alternative to
other assets and to break the quantity-theory assumption that there is a direct
connection between money quantity and aggregate demand. On the other hand, the
theory as Keynes presented it is misleading in many ways, and needs much adaptation
to fit non-depression conditions; and the Keynesian approach does tend to play down
the influence of monetary conditions, much may at times be very important”.

R.W. Clower, in his paper, ‘The Keynesian counter- revolution a theoretical
appraisal’, clarifies the formal basis of the Keynesian revolution as follows. “Keynesian
economics brings current transactions into price theory whereas traditional analysis
explicitly leaves them out. Alternately, we may say that Keynesian economics is price theory without Walras’ law and price theory with Walras’ law is just a special case of Keynesian economics. The bearing of my argument on the Keynesian counter-revolution is correspondingly plain: contemporary general equilibrium theories can be maintained intact only if we are willing to barter Keynes for orthodoxy.

No one can deny that general equilibrium analysis as presently constituted is a useful instrument for thinking about abstract economic problems and this would hardly be so if it did not omit many realistic frills. The danger in using this instrument to think about practical problems is that, having schooled ourselves so thoroughly in the virtues of elegant simplicity, we may refuse to recognize the crucial relevance of complications that do not fit our theoretical preconceptions”.(49)

2.2.4. Growth and Monetary Theory

The neutrality of money in comparative static- that is, the long-run invariance of the demand for real money balances with respect to changes in the nominal quantity of money-is a familiar characteristic of all accepted models of the monetary mechanism. It is tempting to carry this same characteristic over into models that deal with economic growth; to argue that per capita real balances will be invariant with respect to changes in the rate of increase in the nominal stock of money in an economy where factor supplies are increasing at a constant exponential rate. However, some attempts to introduce money explicitly into standard growth models suggest that money is anything but neutral in these circumstances.

Holding the quantity of money constant in Von-Neumann (50) like growth models would automatically reduce the money rate of interest to zero. In these models, constant returns prevail and the supply of labor is infinitely elastic at a given level of the real wage rate. The rate of fall of prices is equal to the rate of growth of output which is equal, in turn, to the net productivity of capital (the natural rate of interest).

Many such models are investigated in order to determine whether money is neutral. The basic result is that the greater the variety of financial assets in the community, the greater is the scope for changes in the quantity of money to vary the
ratios among financial assets in the public’s portfolios and thereby permanently to influence the real variables in the economy.

H.G. Johnson, in his ‘Essays in Monetary Economics’ points out the role of money in a Neo-classical One-Sector Growth Model.\(^{(51)}\)

“The main emphasis of the analysis is placed on two related problems: the neutrality of money in the context of economic growth and the possibility of using monetary policy to influence the growth of the economy. In all three models, money is by assumption ‘neutral’ in the comparative-static sense that a once-for-all change in the quantity of money, superimposed on a trend rate of growth of the money supply maintained by the monetary authority, would produce a once-for-all change in the price level with no real effects on the economy.

In the context of growth theory, however, the question arises whether money is ‘neutral’ in the more relevant sense that a difference in the rate of change of the money supply maintained by the monetary authority would make no difference to the speed with which the economy approaches its equilibrium growth path and most fundamentally that a difference in the rate of change of the money supply would make no difference to the output and consumption per head characteristic of the equilibrium growth path. If money is not neutral in the former sense, monetary policy can accelerate or retard the economy’s approach to long-run equilibrium growth and if it is not neutral in the latter sense, monetary policy can influence the characteristics of equilibrium growth.

For analytical simplicity, the monetary authority is assumed, not to fix the rate of growth of the money supply, but to govern the rate of increase of the money supply so as to achieve a target rate of price inflation or deflation a higher rate of inflation or a lower rate of deflation requiring a higher rate of monetary expansion, ceteris paribus. This assumption implies that if the economy starts below its long-run equilibrium ratio of capital to output, the money supply is expanded at a declining rate as capital accumulates, the rate of expansion converging on the rate of growth of population plus the monetary authority’s target rate of price change (which may be negative). Also the policy question of whether the monetary authority can influence the characteristics of
the equilibrium growth path is cast in terms of whether it can shift the economy towards the golden rule path. Though, or previously argued, there is no real justification for regarding such an objective as desirable, this formulation of the problem seems consistent with the spirit of growth theory.

What is basically responsible for the non-neutrality of money in the models analyzed is the assumption that money is a non-interest bearing asset (or, more generally, an asset with a return fixed in nominal terms, which return has for convenience been equated to zero in this analysis). This assumption stems in part from the current institutional arrangements for the provision of the supply of money, the wisdom of which is questioned in the preceding paragraph, but more importantly from the convenience to the classical tradition of monetary analysis of the outside money concept, so useful in demonstrating the neutrality of money under static-equilibrium conditions. For the construction of models of growth incorporating money, it might be preferable to employ an assumption about money that, instead of ensuring non-neutrality by accepting existing monetary institutional arrangements as defining money ensured neutrality by re-defining institutional arrangements for supplying money. Specifically, neutrality would be assured by assuming that monetary arrangements guarantee holders of money a rate of return on their real balances equal to the rate of return available on real investment”.

2.3. DEFINITION OF MONETARY POLICY

Monetary policy may either be defined in a broad or in a narrow sense. Defined in a broader sense, monetary policy not only includes monetary measures but also non-monetary measures which have monetary effects. In this sense, monetary policy covers a wide range of policies and measures. It includes not only monetary measures which influence the cost and availability of money but also those non-monetary measures which influence monetary situations. Thus, non-monetary measures such as control of prices or wages, physical control, budgetary measures, income policy measures, etc. would be included within the scope of monetary policy defined in broader sense in so far as their primary aim is to influence the monetary situation.
But, defined in a narrow sense, monetary policy comprises only those decisions and measures of the state and of the monetary authority which affect the volume of money and the level of interest rates. Thus, monetary policy is defined as comprising of such measures which lead to influencing the cost, volume and availability of money and credit so as to achieve certain set objectives.

Monetary policy refers to the credit control measures adopted by the central bank of a country. This is a very narrow definition.

But, besides the policies of the central bank, the Government policies relating to the monetary standard and the statutory reserves for the issue of currency as also operations and policies regarding exchange rates and foreign transactions also constitute important aspects of monetary policy. Hence, monetary policy is the name given to the principles whereby the Government and the central bank of a country fulfill the general objectives of the country’s economic policy. This is as it should be since all the various policies that are normally thought of viz, fiscal policy, commercial policy and monetary policy are different aspects of the same single entity called the economic policy.

Johnson defines monetary policy “as policy employing central bank’s control of the supply of money as an instrument for achieving the objectives of general economic policy”. (52)

According to Paul Einzig, “Monetary policy includes all monetary decisions and measures irrespective of whether their aims are monetary or non-monetary and all non-monetary decisions and measures that aim at affecting the monetary system”. (53)

Obviously, Paul Einzig’s definition of monetary policy is too broad as it also includes non-monetary measures and is not, therefore, very helpful for the purpose of circumscribing the scope of monetary policy.

G.K. Shaw defines it as “any conscious action undertaken by the monetary authorities to change the quantity, availability or cost of money”. (54)
For Reserve Bank of India (RBI) monetary policy refers to the use of instruments within the control of central bank to influence the level of aggregate demand for goods and services. Central banking instruments of control operate through varying the cost and availability of credit, those producing desired changes in the asset pattern of credit institutions primarily the commercial banks. Thus, RBI is relatively more explicit in defining the monetary policy. For it, monetary policy operates through influencing the cost, volume and availability of credit and money. It seeks to influence aggregate demand indirectly through influencing the credit position of commercial banks.

In the present study, the concept of monetary policy has been defined in the sense as has been defined by the Reserve Bank.

2.4. OBJECTIVES OF MONETARY POLICY

Monetary policies have varied as a result of changing economic priorities and views about the economic stability of the Indian economy. So the issue of objectives has become important because of the need to provide clear guidance to monetary policy makers. Indeed, this aspect has assumed added significance in the context of the increasing stress on autonomy of central banks. While autonomy has to go with accountability, accountability itself requires a clear specification of goals.

In a broader framework, the objectives of monetary policy in India continue to be price stability and growth. These are pursued, by ensuring credit availability, with stability in the external value of the rupee as well as overall financial stability.

In the transitional phase, however, given the exchange market imperfections, the exchange rate objective may occasionally predominate due to emphasis on the avoidance of undue volatility. In fact, sometimes, it could be the most dominant reason for short-term monetary policy adjustments.

Thus, the main objectives or goals of monetary policy are:-

(1) Price stability
(2) Economic growth

(3) Full employment and

(4) Maintenance of balance of payments equilibrium

However, the relative emphasis on any one of the objectives is governed by the prevailing circumstances.

**Price Stability**

One of the policy objectives of monetary authority is to stabilize the price level. Both economists and laymen favor this policy because fluctuations in prices bring about uncertainty and instability in the economy. Rising and falling prices are both bad because they bring unnecessary loss to some and undue advantage to others. Again they are associated with business cycles. So a policy of price stability keeps the value of money stable, eliminates cyclical fluctuations, brings economic stability, helps in reducing inequalities of income and wealth, secures social justice and promotes economic welfare.

However, there are certain difficulties in pursuing a policy of stable price level. The first problem relates to the type of price level to be stabilized. Should the relative or general price level be stabilized, the wholesale or retail, of consumer goods or producer goods? There is no specific criterion with regard to the choice of a price level. Second, innovations may reduce the cost of production but a policy of stable prices may bring larger profits to producers at the cost of consumers and wage earners. Again, in an open economy which imports raw materials and other intermediate products at high prices, the cost of production of domestic goods will be high.

But a policy of stable prices will reduce profits and retard further investment. Under these circumstances a policy of stable price is not only inequitable but also conflicts with economic progress.

Despite these drawbacks, the majority of economists favor a policy of stable prices. But the problem is one of defining price stability. Price stability does not mean that prices remain unchanged indefinitely. Price changes are essential for allocating
resources in the market economy. So price stability means stability of some appropriate price index in the sense that we can detect no definite upward trend in the index after making proper allowance for the upward bias inherent in all price indexes.

Price stability can be maintained by following a counter-cyclical monetary policy, that is easy monetary policy during a recession and dear monetary policy during a boom.

**Economic Growth**

One of the most important objectives of monetary policy in recent years has been rapid economic growth of an economy. Economic growth is defined as “the process whereby the real per capita income of a country increases over a long period of time”. Economic growth is measured by the increase in the amount of goods and services produced in a country. A growing economy produces more goods and services in each successive time period. In its wider aspect, economic growth implies raising the standard of living of the people, and reducing inequalities of income distribution.

All agree that economic growth is a desirable goal for a country. But there is no agreement over ‘the magic number’, i.e. the annual growth rate which an economy should attain.

Generally, economists believe in the possibility of continual growth. However, policy makers do not take into consideration the costs of growth. Growth is not limitless because resources are scarce in every economy. All factors have opportunity cost. Moreover, rapid growth leads to urbanization and industrialization with their adverse effects on the pattern of living and environment.

The main problem is to what extent monetary policy can lead to the growth of the economy. It is difficult to say anything definite on this issue. The monetary authority may influence growth by controlling the real interest rate through its effect on the level of investment. By following an easy credit policy and lowering interest rates, the level of investment can be raised which promotes economic growth. Monetary policy may also contribute towards growth by helping to maintain stability of income and prices. By moderating economic fluctuations and avoiding deep depressions,
monetary policy helps in achieving the growth objective. Since rapid and variable rates of inflation discourage investment and adversely affect growth, monetary policy helps in controlling hyper inflation. Similarly, by a judicious monetary policy which encourages investment, growth can be promoted. For example, tight monetary policy affects small firms more than large firms and higher interest rates have a greater impact on small investments than on large industrial investments. So monetary policy should be such that encourages investment and at the same time controls hyper-inflation so as to promote growth and control economic fluctuations.

**Full employment**

Full employment has been ranked among the foremost objectives of monetary policy. It is an important goal not only because unemployment leads to wastage of potential output, but also because of the loss of social standing and self respect. Moreover, it breeds poverty.

According to Keynes, full employment means the absence of involuntary unemployment.\(^{(56)}\) In other words, full employment is a situation in which everybody who wants to work gets work. To achieve full employment, Keynes advocated increase in effective demand.

According to the Burnner (1961), “Full employment is a situation where all qualified persons who want jobs at current wage rate find full time jobs.”\(^{(57)}\)

It is now agreed that full employment stands for 96 to 97 percent employment with 3 to 4 percent unemployment existing in the economy due to frictional factors. Full employment can be achieved in an economy by following an expansionary monetary policy.

**Balance of payment’s Equilibrium**

Another objective of monetary policy since the 1950s has been to maintain equilibrium in the balance of payments. The achievement of this goal has been necessitated by the phenomenal growth in the world trade as against the growth of international liquidity. It is also recognized that deficit in the balance of payments will
retard the attainment of other objectives. This is because a deficit in the balance of payments leads to a sizeable outflow of gold. But it is not clear what constitutes a satisfactory balance of payments position.

Again, what is the balance of payment target of a country? It is where imports equal exports. So the attainment of a balance of payment equilibrium becomes an imperative goal of monetary policy in a country. How can monetary policy achieve it?

A balance of payments deficit reflects excessive money supply in the economy. As a result, people exchange their excess money holdings for foreign goods and securities. Under a system of fixed exchange rates, the central bank will have to sell foreign exchange reserves and buy the domestic currency for eliminating excess supply of domestic currency. This is how equilibrium will be restored in the balance of payments.

On the other hand, if the money supply is below the existing demand for money at the given exchange rate, there will be a surplus in the balance of payments. Consequently, people acquire the domestic currency by selling goods and securities to foreigners. They will also seek to acquire additional money balances by restricting their expenditure relatively to their income. The central bank, on its part, will buy excess foreign currency in exchange for domestic currency in order to eliminate the shortage of domestic currency.

2.4.1. Trade-off in monetary goals

The four objectives of monetary policy discussed above are not complimentary to each other. Rather, they conflict with one another. If a government tries to fulfill one goal, some other goal moves away. It has to sacrifice one in order to attain the other. It is, therefore, not possible to fulfill these entire objectives simultaneously. We discuss below conflicts or trade-offs between different objectives.
**Full Employment and Economic Growth**

The majority of economists hold the view that there is no inherent conflict between full employment and economic growth. Periods of high growth are associated with low level of unemployment, and periods of low growth with rising unemployment.

In 1961, Arthur Okun established a relationship between real GNP and changes in the unemployment rate. This relationship has come to be known as Okun’s Law. This law states that for every three percentage point’s growth in real GNP, unemployment rate declines by one percentage point every year.\(^{(58)}\)

However, certain economists argue that the unemployment rate increases as the growth rate rises. Economic growth leads to reallocation of resources in the economy whereby there is change in the type and quantity of labor demanded. Under the circumstances, the government should adopt such monetary policy which should increase their overall demand in the economy.

**Economic growth and Price stability**

There is conflict between the goals of economic growth and price stability. The rise in prices is inherent in the growth process. The demand for goods and services rises as a result of stepping up of investments on a large scale and consequent increase in incomes. This leads to inflationary rise in prices, especially when the level of full employment is reached. In the long run, when new resources are developed and growth leads to the production of more commodities, the inflationary rise in prices will be checked. But the rise in prices will be there with the growth of the economy and it will be moderate and gradual.

**Full employment and price stability**

One of the objectives of monetary policy in the 1950s was to have full employment with price stability. But the studies of Philips, Samuelson, Solow and others in the 1960s, established a conflict between the two objectives. These findings are explained in terms of the Philips curve. They suggest that full employment can be attained by having more inflation and that price stability can be achieved by having
unemployment to the extent of 5 to 6%. Economists do not find any conflict between unemployment and price stability. They hold that so long as there are unemployed resources, there will be price stability. Prices start rising only when there is full employment of resources.

**Full employment and Balance of payments**

There is a major policy conflict between full employment and balance of payments. Full employment is always related to balance of payments deficit. In fact, the problem is one of maintaining either internal balance or external balance. If there is a balance of payments deficit, then a policy of reducing expenditure will reduce imports but it will lead to increase in unemployment in the country. If the Government raises aggregate expenditure in order to increase employment, it will increase the demand for imports thereby creating disequilibrium in the balance of payments. It is only when the government adopts expenditure switching policies such as devaluation that this conflict can be avoided but that too temporarily.

**Price stability and Balance of payments**

There appears to be no conflict between the objectives of price stability and balance of payments in a country. Monetary policy aims at controlling inflation to discourage imports and encourage exports and thus it helps in attaining balance of payments equilibrium. However, if the Government tries to remove unemployment and allows some inflation within the economy, there appears a conflict between these two objectives. For a rise in the price level will discourage exports and encourage imports, thereby leading to disequilibrium in the balance of payments. But this may not happen if prices also rise by the same rate in other countries of the world.

**2.4.2. Policy Objectives in India**

Should all the goals of economic policy be the goals of monetary policy?

Since the five year plans the broad objective of India’s economic policy have been to achieve a faster rate of economic growth and to ensure a reasonable degree of
price stability along with distributive justice in the economy. In India, the monetary policy has also emphasized these broad objectives of our economy.

It is important to recognize the fact that all the objectives cannot be effectively pursued by any single arm of economic policy. For effective implementation of the economic policy, there should be equality in the number of policy instruments and objectives if all objectives are to be fulfilled. Moreover, assigning to each instrument the most appropriate target or objective, especially when there is multiple objectives of equal relevance is a difficult problem.

It is a proved fact that, among various policy objectives, monetary policy is best suited to achieve the goal of price stability in the economy.

However, developments in the recent years have shown that it is not very easy to contain the inflationary pressures on the economy, while maintaining a sustained improvement in growth.

Keynes regarded price stabilization as the ultimate goal of the central Bank’s credit control policy. After the great depression, there have been many economists and financial experts who expounded the view that price stabilization is to be preferred to the stabilization of exchange rates, on the ground that the former would be most conducive to the national economic welfare.

Variations in the price level cause important changes and disturbances in the economic relationships within a country. Price stabilization, if accompanied by adjustments in exchange rates, not only avoids such disturbances but also helps the country to be independent of the monetary policy of other countries. Hence, modern central Banks regard price stabilization as a major objective.

Elimination of business cycle which creates cyclical fluctuations in income, production and prices is an important objective of monetary policy. This economic stabilization is more important than price stability to some economists because, they focus on national economic welfare.
For ensuring price stability, central bank may require a consistent policy over a long period of time. This argument may makes the central bankers unpopular even though will provide them greater autonomy.

After the economic reforms, in India, the role and content of monetary policy have evoked greater attention. In fact, this increased attention is not unique to our country. The world over there has been a renewed interest in the conduct of monetary policy and in maintaining price stability with a reasonable rate of inflation.

When the RBI intervenes in the foreign exchange market and in the process, buys US dollars (being the intervention currency of the RBI) it adds to its foreign currency assets as also to the money supply. The reverse happens when it sells US dollars.

Intervention in the foreign exchange market impacts the RBI’s balance sheet in as much as the RBI buys or sells out right spot US dollars or enters into swaps or undertakes forward purchase or sale. These transactions result in a change in the composition of Net Financial Assets (NFAs) and Net Domestic Assets (NDAs).

Far-reaching changes have been witnessed in the external sector of the Indian economy in recent years.

Substantial elimination of quantitative controls on imports, reduction in tariffs, market determined exchange rate system, convertibility on the current account, encouragement to foreign direct investment and greater access to external capital market have all contributed to a closer link between the domestic markets and external markets and made the traditional transmission channels more complex to operate.

This is especially because the exchange rate is now determined by demand for and supply of foreign currency in the market.

The RBI intervention in the market is limited, to reducing rate volatility and ensuring that the market rate is not too divergent from what the economic fundamentals dictate. Besides, greater access to international capital markets also means that the corporate are able to access funds at rates lower than the domestic interest rates.
This new set of factors arising out of external sector liberalization would need to be reckoned with, in the working out of the desired rate of expansion of money and credit as well as the optimal level of interest rates.

According to Dr. C.Rangarajan, “Monetary economics is not a settled science. There are continuing debates on several issues connected with monetary policy”. (59)

2.5. TARGETS OF MONETARY POLICY

The choice of a target for monetary policy is determined by the mechanism through which money affects growth, employment and prices. Since none of the monetary authority’s policy tools works directly on these policy variables, the policy makers rely on intermediate targets that they feel they can control tolerably well with the instruments at their disposal, and that are closely linked through transmission mechanism to the ultimate targets of production, employment and price level.

There are three target variables for monetary policy. They are the money supply, availability of credit and interest rates.

1. **Money Supply** - So far as money supply is concerned, the central bank cannot directly control output and prices. So it selects the growth rate of money supply as an intermediate target. Friedman suggests that the money supply should be allowed to grow steadily at the rate of 3 to 4 % per year for a smooth growth of the economy and to avoid inflationary and recessionary tendencies.

2. **Availability of Credit and Interest Rates** – Availability of credit and interest rates are the other two target variables of monetary policy. Economists call them as “money market conditions” which refer to short-term interest rates and the banking systems’ “free reserves” (i.e. excess reserves minus borrowed reserves).

   The monetary authority can influence the short-term interest rates. It can change credit conditions and affect economic activity by rationing of credit or other means. The monetary authority influences economic activity by following an easy or expansionary monetary policy through low and / or falling short-term interest
rates and a tight or contractionary monetary policy through high and/or rising short-term rates.

**Limitations**

(1) No doubt interest rates and the supply of credit influence spending, but it cannot be predicted with definiteness about the size and timing of the effects of any change in them.

(2) So far as interest rates are concerned, it is the real interest rate that matters and not the nominal interest rate. It is possible to control and observe the movements in the nominal interest rate and not in the real interest rate because it is difficult to measure the expected rate of price inflation. Thus, the nominal interest rate is not a good target of monetary policy.

(3) The use of credit availability as a monetary target is not helpful in monetary policy. Suppose there is a reduction in the availability of credit, it may be offset by credit flows through NBFIs. Moreover, it is difficult to predict the amount of reduction or increase in the availability of credit.

**Intermediate Targets**

Money supply and interest rate are intermediate targets of monetary policy. In fact, they are competing targets. The central bank can either aim at a certain rate of increase in the money supply or at a certain level of interest rate. It cannot adopt both the targets at the same time. The money supply target means loss of control over the interest rate, while the interest rate target means loss of control over the money supply.

Of the two targets, money supply and interest rate, the monetarists prefer a monetary target for various reasons. First, the money supply is measurable, while there are a variety of interest rates. Second, the money supply linkage with nominal GNP is more direct and predictable than the interest linkage with nominal GNP.
**Market yield on Equity**

Tobin suggests the market yield on equity as a target variable for monetary policy. According to him, the monetary authority should try to equate this yield with the real return expected from investment in physical capital.\(^{(60)}\)

Of the various targets of monetary policy, it is advisable for the monetary authority not to rely on any single target. It should select the targets according to the prevailing economic and financial conditions. The interest rate is more suitable during the short run. But in the long run, the credit availability and money supply should be relied upon by the monetary authority. The target of market yield on equity is unacceptable to economists.

### 2.6. INDICATORS OF MONETARY POLICY

Money supply, bank credit and interest rate which serve as targets are also employed as indicators of monetary policy.

1. **Money supply**

   If the central bank is solely responsible for changes in the money supply, it is a good indicator of monetary policy. According to the monetarists, it is open market operations and changes in reserve requirements that are the main cause of movements in the money supply. It is the money supply which is the most important determinant of both the level of output and the price level in the short run and of the price level and the nominal aggregate demand in the long run. The changes in money supply affect aggregate demand through effects on a wide range of assets.

   The Keynesians involve a narrow transmission mechanism between money supply and changes in aggregate demand. When the money supply increases it will be spent on bonds, thereby lowering interest rates and ultimately leading to an increase in investment.
But according to the monetarists, an increase in money supply will lead to spending on a much broader range of assets than on bonds only. Even if the demand for financial assets expands, interest rates will fall but only temporarily.

Thus interest rates may be either lower or higher after an expansionary monetary policy, depending on the speed and strength of the change in GNP and on the expectations regarding prices. Similarly, interest rates may either be higher or lower after a contractionary monetary policy begins, depending on the same factors.

2. **Bank credit and interest rate**

So far as interest rate as an indicator of monetary policy is concerned, there are vast differences in the views of the Keynesians and the monetarists. The monetarists downgrade interest rate as indicator of monetary policy because it is not under the firm control of the central bank. The same view is held by the Keynesians. But the differences arise in the transmission mechanisms. According to the Keynesians, the increase in money supply reduces the interest rate provided the demand for money does not become perfectly elastic (the liquidity traps case). Second the reduction in the interest rate increases investment provided it is not inelastic to the interest rate. Interest rates will stay down so long as the money supply continues to increase.

The monetarists do not agree with this view. To them, the increase in money supply affects interest rate in the following manner. Suppose the money supply increases through open market purchases of securities by the central bank. This will bring down interest rate by increasing the reserves of commercial banks which expand their loans. This is the liquidity effect which causes a short-run reduction in interest rate. The low interest rate will encourage investment in new capital formation, inventories, construction activities, etc. As a result, prices of investment goods will rise and the demand for financial and real assets will increase and raise their prices. The rise in production and demand for money will bid up the interest rate. This is the output effect.

Finally, there is the price expectation effect because lenders expect prices to rise and they buy interest bearing securities and other goods. Thus after the initial fall,
interest rate will rise again and settle at a new rate. The new rate will depend on the rate of inflation generated by the increase in money supply. So interest rate as an indicator of monetary policy shows that when increases in the money supply lead to increases in interest rate, this will be like an expansionary easy money policy. Friedman, therefore, argues that the monetary authority should concentrate on controlling the money supply rather than manipulating the interest rate.

Economists do not agree over the use of money supply, bank credit and interest rate as indicators of monetary policy. Brunner and Metzler are of the view that both the money supply and interest rate would have identical effects on the economy. It is changes in the real interest rate that affect economic activity. But, in reality, it is only changes in nominal interest rate that are measured. The measurement of real interest rate depends on expected price changes. This is both conceptually and empirically a difficult process and subject to errors. Thus to evaluate monetary policy during inflation or deflation by looking at nominal interest rate is misleading. But this problem does not arise in the case of the money supply because it is nominal values of money which influence nominal values of economic activity. Therefore, interest rate is not a reliable and predictable indicator of monetary policy whereas the money supply is.

To select an appropriate indicator of monetary policy requires certain issues which are to be tackled. The first issue concerns the nature of money supply and its control. Friedman includes M2 that is currency, and demand and time deposits in the money supply. But the problem is to what extent the money supply will respond to changes in a predictable manner. The second issue concerns the extent to which the money supply affects economic activity. Third, there is the important issue of "the proposed indicator’s exogeneity with respect to the economic variables that policy makers are attempting to influence."

2.7. MONETARY POLICY AND ECONOMIC ACTIVITY – AN OVERVIEW

Money moves the wheels of the economy. If money supply is tight (i.e. the government restricts the issue of new notes and reduces the possibility of lending) the
amount of money available in the economy is reduced and thus may reduce spending and investment. On the contrary, when the spending is encouraged, it leads to a higher level of growth. Money supply should be effectively managed according to the situations and what the time demands, in order to maintain the smooth running of the economy. This calls for an effective monetary policy.

There is wide agreement about the major goals of economic policy: high employment, stable prices, and rapid growth. There is less agreement that these goals are mutually compatible or among those who regard them as incompatible, about the terms at which they can and should be substituted for one another. There is least agreement about the role that various instruments of policy can and should play in achieving the several goals.

It comes to be widely believed that new era had arrived in which business cycles had been rendered obsolete by advances in monetary technology. The great contraction destroyed this naive attitude.

Monetary policy was a string. You could pull on it to stop inflation but you could not push on it to halt recession. You could lead a horse to water but you could not make him drink.

Keynes offered simultaneously an explanation for the presumed impotence of monetary policy to stem the depression, a non-monetary interpretation of the depression, and an alternative to monetary policy for meeting the depression and his offering was widely accepted.

If liquidity preference is absolute or nearly so – as Keynes believed likely in times of heavy unemployment – interest rates cannot be lowered by monetary measures.

If investment and consumption are little affected by interest rates– lower interest rates, even if they could be achieved, would do little good.

Monetary policy is twice damned. The contraction, set in train, on this view, by a collapse of investment or by a shortage of investment opportunities or by stubborn
thriftiness, could not, it was argued have been stopped by monetary measures. But there 
was availability of an alternative fiscal policy. Government spending could make up for 
insufficient private investment. Tax reductions could undermine stubborn thriftiness.

For two decades monetary policy was believed by all as an unimportant one. Money 
did not matter. Its only role was the minor one of keeping interest rates low, in order 
to hold down interest payments in the Government budget. These views produced 
a widespread adoption of cheap money policies after the war. And they received a rude 
shock when these policies failed in country after country.

Inflation, stimulated by cheap money policies, not the widely heralded postwar 
depression, burned out to be order of the day. The result was the beginning of a revival 
of belief in the potency of monetary policy.

This revival was strongly fostered among economists by the theoretical 
developments initiated by Haberler but named for Pigou that pointed out a channel-
namely, changes in wealth – whereby changes in the real quantity of money can affect 
aggregate demand even if they do not alter interest rates. These theoretical 
developments did not undermine Keynes’ argument against the potency of orthodox 
monetary measures when liquidity preference is absolute since under such 
circumstances the usual monetary operations involve simply substituting money for 
other assets without changing total wealth.

In his contribution, John. H. Williams not only Professor at Harvard but also a 
long-time adviser to the New York Federal Reserve Bank—wrote, ―I can see no prospect 
of revival of a general monetary control in the post war period‖. (62)

A survey of contemporary Economics, edited by Howard Ellis (63) and published 
in 1948, was an ‘official’ attempt to modify the state of economic thought of the time. 
In his contribution, Arthur smithies wrote, “In the field of compensatory action, I 
believe fiscal policy must shoulder most of the load. Its chief rival, monetary policy 
seems to be disqualified on institutional grounds. This country appears to be committed 
to something like the present low level of interest rates on a long term basis.”(64)
There are, of course, many differences between then and now, less in the potency assigned to it and the criteria by which the profession believes monetary policy should be guided. Then, the chief roles assigned to monetary policy were to promote price stability and to preserve the gold standard; the chief criteria of monetary policy were the state of the ‘money market’, the extent of ‘speculation’ and the movement of gold.

In the 18\textsuperscript{th} and early 19\textsuperscript{th} centuries, the thinkers who had the most influence on the subsequent development of monetary theory, i.e. David Hume, Adam Smith and David Ricardo, placed emphasis on money as a reflector rather than regulator, of levels of economic activity which in turn, were deemed to be determined by non-monetary factors.

Among the classical economists, Adam Smith emphasized the role of a ‘properly regulated’ banking system, which in his view would provide the appropriate amount of money endogenously through the expansion and contraction of credit.

Both Smith and Hume argued that the quantity of money does not influence the level of interest rates, which according to them, was determined by the level of profit rates in the economy, and not by an abundance of the money commodity.

Both Ricardo and Say believed that money is purely a medium of exchange for commodities against each other, and thus, has no independent role in determining economic activity: money is a veil.

In the early part of the 20\textsuperscript{th} century, Irving Fisher took this line of thinking further.

While in the short run a change in the quantity of money or velocity might have some impact on the level of economic activity in the society, in the long run the whole adjustment would be made in the prices of commodities. This thinking dominated the focus of central banking policies for quite sometime.

The Keynesian vision of the economic system was not that of a self-regulating entity, but of a complex set of causal linkages that a policy maker seeks to guide.
Keynes emphasized that the liabilities of the central bank may or may not be convertible into a money commodity. Deviating from the classical economists, Keynes thus deemphasized convertibility as a limit on the operations of the central bank. He explicitly introduced bonds and equities as competing monetary assets and argued that the rates of return on bonds and equities must adjust until wealth holders are content to hold them and deposits in the proportions in which they are being supplied to the public.

Keynes suggested that the relationship between money demand, interest rates and the level of economic activity was volatile, subject to sharp changes depending on the mood of wealth holders and their expectations and fears about the future.\(^{(65)}\)

Later, after the second world war, the Keynesian orthodoxy took the position that ‘money does not matter,’ i.e. spending decisions of consumers and firms move largely independent of asset rates of return and are more responsive to expecting variables. Any attempt to restrict economic activity by limiting the expansion of bank reserves, it was argued, could be circumvented by the substitution of other liabilities. This extreme non-monetary interpretation of Keynes became the conventional wisdom for central bankers.

In the first two decades after the Second World War, the fiscal policy came to the centre stage of policy affairs while monetary policy was relegated to the back stage.

The typical policy response to the oil shock of 1973-74 comprising expansionary fiscal policies coupled with accommodating monetary policy stance could not generate lasting gains in terms of economic growth. It was recognized that there is essentially no long-run trade-off between inflation and unemployment since anticipated inflation adjusts fully to actual inflation, with the long-run Philip’s curve becoming almost vertical at the ‘natural’ rate of unemployment. These developments paved the way for a more determined fight against inflation. Professional response to these developments was characterized by a significant polarization in favor of the so-called monetarism.
Milton Friedman, the eloquent champion of monetarism, was deemed to be a heretic then.\footnote{66}

The debate between monetarists and neo-Keynesians had major implications. Neo-Keynesians, in general, diluted their earlier position that money does not matter at all. Monetarists, on the other hand, went to the extreme of suggesting that “inflation is always and everywhere a monetary phenomenon.”

Monetarists and neo-Keynesians both agreed subsequently that monetary policy actions will have a substantial effect on output and prices. The difference between them concerned not whether monetary policy can affect output and prices but regarding how it should be used for economic stabilization.

Economist has long recognized that variations in the stock of money influence the economy.

There has been less universal agreement on precisely what in the economy money affects, how the effects are transmitted, the strength of the effects, the length of time before the effects are observed, and the stability of the relationship.

Some writers had recognized that money had an influence on real income, and some believed that there is an influence of changes in the supply of money on only the price level.

Alternative non monetary proposals for stabilization, particularly those derived from Keynes’ General Theory, were accepted as a replacement for monetary policy. These policies were tried not because they had been proven successful but because monetary policy was considered to have been tried to its fullest extent without success.

The large volume of excess bank reserves concomitant with a decline in the supply of money and low interest rates accompanied by a low level of investment were considered evidence of the impotency of monetary policy.

Clark Warburton, during 1940s and a decade later Milton Friedman and his associates began to generate an almost continuous stream of evidence supporting the
close and regular relationship between money, income, and prices throughout the world.\(^{(67)}\)

Many forces other than economic policy affect the economy. If executed with perfection, policy would reinforce some of these forces and offset others so that the economy would operate at optimum levels at all times. In simple models, this would be reflected by high correlations between the policy variables and the goal variables, when policy reinforces the other influences on the economy and low correlations between the two when policy offsets such influences. Hence, evaluating the effectiveness of policy only by the strength of the correlation may yield a misleading image of the effectiveness of a particular policy.

Both monetary and fiscal policies influence activity significantly, although monetary policy does so with a reasonably long lag.

While Friedman concedes that changes in money can affect real variables in the short run, he argues that in the long run they affect primarily prices and that real variables such as employment and output are affected primarily by non monetary forces such as technology, population, resource endowment, and education.

“Monetary policy has relevance….” pointed out Dr. Bimal Jalan, former Governor of the Reserve Bank, recently, “as long as there is money.”\(^{(68)}\)

As a matter of fact, global thinking on monetary policy, and by implication, that on central banking, has evolved over time in accordance with the changing perceptions regarding the role of money in economic activity.

Recent advances in monetary economics have differed somewhat from past developments in that they have been primarily empirical. Alternative hypotheses of monetary behavior have been subjected to vigorous empirical analysis using scientific methods of testing hypothesis and new statistical techniques. Prof. Milton Friedman has noted that “the basis differences among economists are empirical, not theoretical.”\(^{(69)}\)

By monetary policy, we mean primarily central bank actions designed to affect the tightness and easiness of credit conditions, and the behavior of the total supply of
money and money substitutes (i.e. the supply of currency, checkable bank deposits, various categories of time deposits, and other liquid instruments.)

Interest in monetary economics and policy has intensified greatly in recent years for a number of reasons, including an increasing dissatisfaction with the performance of fiscal policy for economic stabilization and the generation of a substantial stream of evidence relating money importantly and in a predictable fashion to income, output and prices.

The increase in interest has been accompanied by a rapid growth both in the number of articles written on monetary economics and in the number of professional journals devoted in whole or in part to monetary economics, policy and institutions.

The monetary developments have not been without controversy, and this work attempts to capture both the highlights and the spirit of the period.

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