CHAPTER-1

INTRODUCTION

1.1 Introduction

Inflation is always and everywhere a monetary phenomenon (Milton Friedman, 1970). Inflation is a rise in the general price level of goods and services in an economy over a period of time. Stimulus of changes in money supply over price level is an area of controversy. Despite several decades of research in understanding the precise nature of relationship between money supply and prices, there seems to be no final conclusion that can be relied upon for policy formulation. Change in inflation may stimulate unpredictable policy responses monetary authorities, which may lead to more uncertainty about the future inflation (Friedman, 1977). Inflation uncertainty leads to in-efficiencies in resources allocation and the misrepresent the price mechanisms. It reduces the level of investment and influences the nominal contracts that cause the costly real effects. Inflation imposes significant economic costs on society through increased inflation uncertainty (Evans, 1991). Higher inflation in current period itself is a driving factor for greater un-certainty about the future path of inflation rates (Okuns, 1971). Ball (1992) using the game theoretic frame work, provide a formal justification to Friedman's insight. Higher inflation uncertainty leads to an increase in the inflation rate as it provides an incentive to the policy makers to create an inflation surprise to stimulate output growth and hence the direction of causality runs from inflation uncertainty to inflation. Coulborn states that "too much money chasing too few goods".

1.2 Sense of Inflation in India

Inflation is a permanent characteristic of Indian economy. After the second world war, there has been a strong inflationary pressure on the economy due to high demand of goods and services and low supply, Because of the rapid growing of Indian population, rising money incomes, expansion in money supply and liquidity in the country, using volume of black money and continuous rise in demand for goods and services caused by rapid economic development, inflation in India became inevitable.

1.3 Post war Inflation in India

The post war period saw the political crisis, partition of the country, social up heals and huge massacres, cause an inflationary trend which has remained repressed during this period From (1949 to1969).This phase marks the nationalization of 14 commercial banks. This period inherited a strong inflationary pressure because of the wars and the devaluation of Indian rupee. The situation of the inflation was further aggregated by the Korean War in the year 1950-51 but was stabilized in the coming years because of the bumper agriculture production in the country thus the period experienced a moderate inflation rate during the period, From (1969-1991).This was the period of inflation and economy landing into the balance of payment crisis and forced to adopt for reaching economic reforms covering various sectors of the economy .The four years period from 1971-72 and 1974-75 was the period of hyperinflation in the country with inflation rate touching at 15.25% but government measures brought back the high inflation on track but again in the year 1970 inflation was 9 percent due to poor agriculture output and crude oil prices .The decade 1980 also experienced the period of inflation compared to the last decade more or less it was approx. 7.5 percent but the next decade moved a step further in this direction and rate of inflation in 1990-91 was 10 percent. From (1991-2009). Liberalization of the imports, adoption of the flexible exchange rate system, convertibility of the rupee, deregulation of the interest rate, assistance of the public sector, abolition of the industrial licensing and the restrictive provision of the MRTP Act reduction in fiscal and revenues deficit etc were some of the important reforms introduced since 1990s and they have changed the entire Indian economy. Because of the various measures taken during the period, in the initial years the inflation rate was 10 percent. The second half of the 1990s saw a significant outcome of the average inflation rate during this period declined from 10% in the first half to 5.08%.

The factors responsible for this were.

1) RBI policy

2) Cooling of global inflation

3) Depreciation of rupee slowed down

4) Large buffer of food grains Inflation after 2009.

Inflation rate in India is reported by the Ministry of Commerce and Industry of India. The wholesale price index (WPI) is the main measure of inflation .The WPI measures the price of a representative basket of wholesale goods.

1.4 Inflation as a Monetary Phenomenon (The Monetary View)

In the long-run the relationship between inflation and money growth depends on the demand for money and money supply. Central banks affect the money supply through their policy actions such as buying and selling government securities, changing reserve requirements, or changing the interest rate at which the central bank provides reserves to financial intermediaries. The public's demand for money is another important part of the relationship between money growth and inflation. If M is the nominal quantity of money and P is the price level, the real quantity of money is M/P. The price level commonly is measured by general price indexes such as the consumer price index and the gross domestic product deflator. Monetarism has three essential features Firstly monetarism is the reincarnation of classical macroeconomics, with its focus on the long-run properties of the economy rather than short-run dynamics. Second, monetarism focuses less on the structure of the economy and this is related to the attitude towards doubting the truth about our ability to understand or to adequately quantify the structural linkages and dynamics. Third, monetarists are skeptical of the ability to use monetary policy for short-run stabilization, despite the fact that they believe short-run variations in money growth do affect aggregate demand and hence output. As a result, they favor rules that focus on achieving a rate of money growth consistent with price stability in the long run (Meyer, 2001). Noted economist A.Meltzer (1998) said most working economists, most central bank staffs, and market practitioners do not use money growth to predict inflation. Many rely on the Phillips' curve or theoretical relations. Although in the long-run there is strong correlation between money growth and inflation, monetary policy makers do not use long-run relationship because this relationship disappears in the short-run.

1.5 Measurement of Inflation in India

Percentage change in year to year in the general level which is effect in the several types of price is called as inflation, and the persistent component of inflation is termed as "Core Inflation". It has a combined of short to medium-run effect and long-run effect. Assignment of weights for constructing the general price index normally reflects the relative importance of WPI, consumer price index, and implicit GDP deflator. Headline inflation declined to significantly low levels during 2016-17, and projected in the October 2016 MPR.

1.6 Calculation of Inflation in India

The inflation in India is calculated by the Wholesale Price Index (WPI), out of 676 commodities chosen and divided in three categories like primary articles, fuel and power and manufactured products. The drafting of inflation in India is the variation of demand and supply. The inflation is caused by, when an increase in demand is not matched with the increase in supply in the economy.

1.7 Causes of Inflation in India

- **Population growth: -** According the 2011 census of India has been 17.64 %. The essential commodities and goods like food, oil and land etc., are not matching our population growth, which is caused by increase in the cost of productions in the country, and thats cause of inflation at some point of time.

- **Increase money supply growth:-** In last some few years the rate of increase in the money supply is varies between 15 to 18 percent and the national output is increased just as the annually average of the rate of 4 percent. Since the rate of increase in the output has not been sufficient to covered the increasing quantity of money in the economy and which is caused as the inflation.

- **Deficit Financing:** When the Govt. is unable to raise the adequate revenue for full filling its expenditure, it caused a deficit financing. In the sixth and seventh plan period there is a massive deficit financing had been occurred, it was Rs.15,684 Cr in 6th and Rs.36,000 Cr in 7th plan. So it increase the inflation in this time.

- **Increase government expenditure:** In India Government expenditure is rising during some of the recent years very firstly. There is more distributing activities proportion of non-development expenditure is being increased about 40 per cent of total government expenditure. Non-development expenditure does not create any real goods; it only creates purchasing power and which creates inflation in the economy. Not only the Demand side create inflation, but also the Supply side creates inflation.

- **Inadequate agricultural and industrial growth:** Agricultural and industrial growth in our country is below what we have targeted for. Over the four decades period, food grains output has increased of 3.2 per cent per annum. Some of the years of crop is failure due to droughts, scarcity of food grains not only the prices of food articles increased, but also the general price level rise. Failure of crops always encouraged big wholesale dealers to inculcate the experience of hoarding which is created the scarcity conditions and increased up the price level of the economy.

- **Rise in administered prices:** In our economy a large part of the market is organized by the government. So number of important commodities, both agricultural and industrial, for which the price level is fixed by the government. The government manage the price from time to time to cover up losses in the public sector. Which leads to cost-push inflation. The upward increased of managed prices of coal, iron, steel, electricity and fertilizers are made at regular intervals. Once the administered prices are raised, it is a signal for other price to go up.
- **Rising import prices:** Inflation has a global phenomenon. International trade gets imported into the other country through major commodities like fertilizers, edible oil, steel, cement, chemicals, and machinery. Increase in the import price of petroleum which has been caused as a spectacular and its contribution to domestic price rise is very high.
- **Rising Taxes:** To increase the additional financial resources, the government is depending up on more and more on indirect taxes like excise duties and sales tax. Which tentatively increase the taxes and that taxes increased the price level high ultimately.
- **Unbalanced of economic growth:-** The Indian economy is vastly growing day by day in last few years. But the economic growth has not been balanced. The contribution of economic growth from primary (agriculture), secondary (industry), tertiary (services) are 17.2%, 26.4% and 56.4% respectively. The primary part has been less than the average .Due to this we are required to import a good quantity of basic goods and commodities for consumption. The weak of India national rupee has not helped in this regard. The prices of imported goods and commodities also to rise due to a weak INR.

- **Increase in spending capacity:-** The spending power of the people is also increasing usually. People employed in private sectors are large and their earnings are more, so it indicates that the standard of living of the people advanced, but which not matched with their increase in output prices.

The unlike matured economies, do not need to maintain the high growth rates, which is require the infusion of money in to the economy and leads the increase in the money supply. There would always be some inflation.

1.8 Money Supply in India.

M1 money supply in India is increasing in India, which shows the different sources of money are coming from different level. Money Supply M1 in India increased to 21060.20 INR Billion in January from 20004.60 INR Billion in December of 2016. Money Supply M1 in India averaged 5207.55 INR Billion from 1972 until 2017, reaching an all-time high of 28420.20 INR Billion in September of 2016 and a record low of 80.15 INR Billion in January of 1972.There is some money supply growth in India in recent most year showing in the given table no -1.

Table No 1.1.1 Money Supply and Growth of Money Supply

SL.No	Years	Money Supply in(Billion)	Growth in Money Supply in (%)
1	2016	28420.2	24.01
2	2015	22916.8	11.53
3	2014	20547	8.28
4	2013	18975.3	9.22

5	2012	17373.9	6.05
6	2011	16383.5	10.01

Source: Database on Indian Economy: RBI
https://dbie.rbi.org.in/DBIE/dbie.rbi?site=statistics

1.9 Money Supply M2.

Money Supply M2 in India increased to 24161.72 INR Billion in March from 22546.50 INR Billion in February of 2017. Money Supply M2 in India averaged 9246.46 INR Billion from 1991 until 2017, reaching an all-time high of 29134.50 INR Billion in September of 2016 and a record low of 1127.49 INR Billion in November of 1991.

1.10 Money Supply M3

Money Supply M3 in India increased to 124308.20 INR Billion in March from 122993.39 INR Billion in February of 2017. Money Supply M3 in India averaged 21448.13 INR Billion from 1972 until 2017, reaching an all-time high of 124308.20 INR Billion in March of 2017 and a record low of 123.52 INR Billion in January of 1972 due to Interest rate in Indian money market.

1.11 Indian Central Bank Balance Sheet.

Central Bank Balance Sheet in India decreased to 20766.24 INR Billions in February from 22648.03 INR Billions in January of 2017. Central Bank Balance Sheet in India averaged 7357.03 INR Billions from 2001 until 2017, reaching an all-time high of 23419.03 INR Billions in December of 2016 and a record low of 1624.31 INR Billions in August of 2001.

1.12 Money Supply and Inflation Relationship

The key is the relative relationship between money supply growth and economic growth. The reason for rapid price increases in the last decades of years is the same as the one for price increases in the 1970's. Central banks have been faces up the money supply in the face of a declining economy. So even though money supply growth hasn't been huge, it has been excessive relative to the underlying economy and has led to price inflation. In monetary inflation is a situation increase in the country depending up on the factors like public expectations, and the state development of the economy and the transmission mechanism which is caused monetary inflation.. How much of the velocity of money affect the relationship which is the best target and tools in the monetary policy.J.M.Keynes belived that the central bank can assess the economic variables and circumstances in real time in order to control the monetary policy. By the Monetary School think that Keynesian monetary policy is lot of overshooting, time lag errors and un-wanted affects .By Austrian School of economics defines that either the return of free markets in money, free banking or a 100% gold standard and abolition of central banks. In modern monetary theory, the supply of money is largely depend up on the endogenous one and the exogenous is like the Govt. surpluses and deficits play a important role to allow the Govt. settings the inflation targets in the economy.

1.13 The Positive of Money

The power of money is to be used for the public interest, in a democratic, transparent and accountable path, rather than by the same banks that cause financial crisis. There is a popular conception of money which is created from nothing by commercial bank but also money is created by the banking system (Mervyn King wrote in his book "In the United Kingdom").Then the Bank of England published a paper clearly mention that how the private banks create the money, in wrongly that the deposited money first and then banks lend it out. Those money movement for a country in the banking system that works for the society and not the against of it.

1.14 The Link between Money Supply and Inflation

The basic thing is that the velocity of circulation of money or change with the hand with the time, the state of the economy and the growth in productivity capacity in the long run aggregate supply.

- ❖ **Growth of real output: -** Suppose the money supply increased 4% which would lead the aggregate demand in the same percentage. If the aggregate supply is just static there would be no increase in real output only the inflation will arise. If the increase in aggregate demand of 4% is matched with the increase in aggregate supply, there would be no inflation but just an increase in real output. In the words of money supply which can grow at the same as real output to maintain the price level. If the money supply grows at faster than the real output, it will cause inflation in the economy, but in the real world there would be different reason why an increase in the money supply does not lead to an increase in inflation.
- ❖ **Hard to measure Money supply: -** The money supply is taking a hard task to calculate only for the constantly is changing. So much increase in the money supply are often to changes in the way of people hold money, for an increase in credit card use may cause an increase in broad money M4.
- ❖ **Velocity of money circulation: -** MV =PY .The quantity theory of money shows that an increase in M causes an increase in P and this assumes that the V is constant and Y is constant. Since there is always a variations in the velocity of circulation.
- ❖ **Keynesian View with the liquidity trap:-**The theory says that in the recession time the money supply is increased which cause inflation. In a liquidity trap, interest rate fall

to zero which does not prevail the people to saving, in this situation which is sharp decrease in the velocity of circulation and an caused of deflation. As far as concerned is that there is increasing the money supply will not cause inflation.

In normal economic situation in the economy the money supply grows faster than the real output it will cause inflation in the economy. In the depressed situation of the economy this correlation breaks down the fall in the velocity of circulation of money. The central banks can increase the money supply without causing the inflation.

1.15 Rationale of the Study

Money supply is the complex result of the instruction of central bank, banks and financial institutions. This study will assess the relationship between the money supply and inflation in India from two different perspectives, viz., main stream and Post-Keynesian. It will analyze the different components of money supply and inflation functions. The present study will be based on the monetary aggregates in India because it analyzes the interest rate has increased over the years, which measures of money components within each monetary aggregates and that will be helpful for monetary conditions than the current aggregates in the country. Empirical data shows the disposable high powered money is a major contributor to the change in both the monetary aggregates and there is no significant relationship between the structural break even after the post-liberalization period. This study will focus both present and also future because it has a strong impact on foreign exchange intervention, claims on Govt. fund and more powerful to influence the reserve money. Money supply is not only fully control over the RBI, expansion of financial system, effective requirement of monetary management; more focus on Open Market Operation (OMO), effective monetary policy tool, high fluctuation in Govt. balance with RBI avoided the sound public expenditure management, losing control on money supply. RBI needs to think about the monetary policy framework, currently based on monetary aggregates into interest rate targeting. In this context, the present study will provide a clear picture of the trend, pattern and relationship between money supply and inflation in India which will be helpful for the researchers, experts and policy makers.

1.16 Statement of the Problems:

Indian economy is going towards inflation in some of the years, which have a greater obstacle in the growth path if it is not bearable. Government and economists should have focus to give a better policies for a new built of a nation in recent most.

1.17 Objectives of the Study

1. To examine variation in money supply, prices, interest rate and GDP at market price in India.

2. To analyze the relationship between money supply and inflation in India.

1.18 Major Hypotheses:

H0: There is a no statistical significant relationship between money supply and inflation.

H0: There is a statistical significant relationship between money supply and inflation.

1.19 Data and Methodology

This paper involves the secondary data. Data source are the publication of RBI bulletin(2014-15 edition), IMF report, Monetary Policy Committee report, Ministry of finance report, hand book of India in different years as per the requirement of the dissertation work. The sample period ranges from 1970-71 to 2015-16. As the marginal increase in the money supply in previous year, it has a good linkage to the market and the industrial output as well as the price level of the economy. The estimation procedure elaborate in the research methodology chapter.

1.20 Expected outcome of the study

We construct the monetary aggregates in India with each component M1, M3, WPI, income velocity of money, and GDP at MP with a large panel data set, weighting each type deposited according to the transaction services offered by them. A measure of money appears to have some leading indicators properties for predicting both nominal output and inflation. So it is a better measure of money than the other monetary aggregates. It will give a light on the extent of the implementation of money supply and its actual condition in India. It will focus on the transformation of technology, electronic payment and a greater move in the digital concern, providing a quite satisfactory background of money supply and inflation in India. Indian rupee will be the number one position to tackle the dollar in some of the period that is our target.

1.21 Chapter layout

Organized the chapterization in detail**.**

1. The first is introduction chapter.

2. The second is brief review of literature.

3. Research methodology.

4. To examine the variation in money supply, prices and GDP at market price in India.

5. The relationship between money supply and inflation in India.

6. Findings, Conclusions, Policy implications and Limitation of the study.