CHAPTER - I

INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction

The first chapter covers introductory part of the research topic, importance of the study, brief history of macroeconomics development, researchable issues regarding present economic conditions and controversies among economists to choose particular policy. The Monetary and Fiscal policies are the two important measures to lead an economy in an optimum direction, monetary policy measures are taken by RBI in India, and fiscal policy implemented by Government of India. The fiscal and monetary policy have common objectives such as economic growth with stability while their ultimate vision is economic and human welfare of the country.

The history of modern macroeconomics starts in 1936, with the publication of Keynes’s “General Theory of Employment, Interest and Money.” Keynes’s contribution was synthesized with classical economics in the IS-LM* model by Hicks (1937) and Hansen (1949). The period from early 1940s to the early 1970s can be called the golden age of macroeconomics. Among the major developments were the development of the theories of consumption, investment, money demand and portfolio choice; the development of growth theory; and the development of large macro-econometric models. The main debate during the 1960s was between Keynesians and monetarists. Keynesians believed that the developments in macroeconomic theory allowed for better control of the economy. Monetarists, led by Milton Friedman, were more skeptical of the ability of governments to help stabilize the economy.

Note: IS-LM* where IS denotes Saving/Investment from goods market equilibrium that is also implies fiscal policy rule and LM denotes liquidity preference/money supply equilibrium that is also implies monetary policy rule (Blanchard, 2007)
In the 1970s, macroeconomics experienced a crisis. There were two reasons. One was the appearance of *stagflation* and other was theoretical attack led by Robert Lucas that is famously known as *Lucas Critique (1976)*. Lucas and his followers showed that when “rational expectations” were introduced, (1) Keynesian models could not be used to determine policy, (2) Keynesian models could not explain long-lasting deviations of output from its natural level, (3) the theory of policy needed to be redesigned, using the tools of game theory. Much of the 1970s and 1980s macroeconomists were spent integrating rational expectations into macroeconomics. Despite the differences, there exists a set of propositions on which most macroeconomists agree on two propositions, they are: *In the short run, shifts in aggregate demand affect output. In the medium run, output returns to its natural level.*

In an open economy, Keynesian economics and monetarist distinction highlighted by Mundell-Fleming model, that is integration of equilibrium exchange rate and policy influence to Balance of Payments. After collapse of Bretton woods system in 1970s, favored flexible exchange rate system and followed by many developed and developing countries but in reality, exchange rate has been managed by the monetary authority with certain provisions. During 1970s and 1980s, new theories like Kouri model (1976), Stein monetary model (1976), and Montiel model (1986) proved that the fluctuations in the exchange rate can’t be explained by monetary factors alone.

India transformed from different exchange rate regime since independence. However, opening of the economy through globalization is an important movement for forex management in Indian economy. India transited from a par value system of the Bretton Woods during the 1950s and 1960s to a basket-peg during 1970s-80s (Patnaik et al.2003) and dual exchange regime up to February 1993. Finally, India adopted market determined exchange rate with provision of central bank intervention during adverse
situation. Since 1993, foreign exchange market management is a major challenge to the monetary authority. Meanwhile, fiscal policy has been continued as leader in policy analysis while monetary policy is not yet independent in India compared to advanced economies especially the USA. Though, policy coordination is not justifiable manner in India during pre-reform period.

The thesis topic “Analysis of Fiscal and Monetary Policy Mix in Indian Economy” attempts to cover various sources from national and international policy analysis especially articles, working papers and thesis. The literature regarding monetary policy from neoclassical economists shows that monetary policy stressed more in developed countries while fiscal policy has been stressed more in developing economies. The changing economic policies and new trade regimes across the world caused a rise of optimum combination of fiscal and monetary policy in many countries. The macroeconomic dynamics and new trade policies have been changing due to uncertain business cycles, fiscal policy is still dominant in developing countries like India despite economic reforms since 1991. Simultaneously monetary policy is also playing major role in Indian economy especially inflation target.

1.2 Importance of the Study

“Lack of money is the root of all evil”

George Bernard Shaw

“The love of money is the root of all evil”

The New Testament

These statements are the archetype of the debate over Monetary and Fiscal Policy in an economy. Keynes (1936) had emphasized fiscal rather than monetary policy as the key to fighting recessions and this had remained as revolution in macroeconomics.
Keynes argued that the IS curve is steep during recession and more steep during depression hence, changes in the interest rate had little effect on aggregate demand and output. Thus the monetary policy did not work very well. Fiscal policy can affect demand directly and affect output faster and more reliably. Friedman (1963) strongly challenged Keynes perception on fiscal policy and role of government intervention. Again the neo-Keynesian economists like Joan Robinson, Nicholas Kaldor, Luigi Pasinetti, Piero Sraffa and Michal Kalecki strongly defended Keynesian ideology with slight difference.

Monetarism is the name given to the movement by Friedman (1963) and his colleagues at Chicago School of thoughts and few others like Don Patinkin who laid emphasis upon the influence of money on the economic system. These economists, with a strong faith in the quantity theory have been persistent at work since 1950 and they succeeded in restoring the prestige of monetary theory and policy. Monetarism although based on the traditional quantity theory of money and it is much wider in scope than the former. To the theologian, “money may be the root of all evils” but to the Monetarist perspective, money is the cause of all changes in the economy. “Money does matter”, is the central theme of Monetarism.

Samuelson (Federal Reserve Bank of Boston, 1969) states that, “Monetarism is the central issue that is debated these days in connection with macroeconomic aggregate demand – whether there will be unemployment, whether there will be inflation- is money, M1 or M2 and more specifically, perhaps it’s various rates of change.” One of the fundamental hypotheses of Monetarists is that money supply is the Key variable for avoiding inflations and for preventing severe depression.

Monetarism and Keynesianism are two dominant schools of thought in explaining the macro behavior of economies. They have significance from the view point of policy
formulations, because the supporters of these schools of thought are to be found among the persons responsible for framing the economic policies of Governments of the different countries and as such, the economic policies are greatly influenced by these schools of thought. The objective of the present study is to examine how far these viewpoints have relevance for a developing economy like India. The study is mainly divided into two parts. The first part presents the main ingredients and assumptions of monetarism and Keynesianism. The second part deals with the relevance of the policy mix of these two schools in the Indian condition.

In 2004, the economists Finn E. Kydland of Carnegie-Mellon University and Edward Prescott of Arizona State University were awarded the Nobel Prize in economics for a fascinating contribution to the “Rules-Versus-Discretion” debate. They argued (Kydland and Prescott, 1977) that monetary policy makers face a time inconsistency problem. However, in the recent years especially in 2007, subprime crisis in the USA and subsequent effect on global economic recession raised the concern and relevance of Keynesian fiscal policy implications.

In case of India, there is need to address the coordination between fiscal and monetary policy which would help to off-set macroeconomic imbalances in the economy. Since independence of India (Ahuwalia et.al pp. 275), the government determines the goals of monetary policy, after obtaining parliamentary endorsement and the RBI has independence regarding use of monetary instruments to meet those goals. Hence, fiscal policy has been ruling over monetary policy. An IMF survey (Ahuwalia et.al pp. 276) of the eighty-eight constitutions of different countries worldwide showed that there are some safe guards for the central bank in thirty constitutions; therefore, there is need of research regarding rules and regulations for fiscal responsibility and independent monetary policy.
1.3 Research Issues and Gaps

Based on literature review, there are number of researchable issues such as: short-run and long-run relation between monetary policy and fiscal policy; convergence between fiscal and monetary policy; effectiveness of fiscal and monetary policies during different business cycle; policy in an open economy; policy in a small economy; optimum monetary policy and economic growth.

There is need to address the dynamic macroeconomic problems like stagflation, exchange rate volatility, fiscal discipline etc. Hence, the present study tries to amalgamate important macroeconomic variables with the help of macroeconomic aggregates.

1.4 Statement of the Problem

The following speech by Y.V. Reddy (Ex-governor, RBI) sums up the policy interaction in India for the period 1950-1980 (Arora, 2011). It expels the friction between monetary and fiscal policy in India.

“As a central bank, we are generally sensitive to the fiscal situation. It is not true that the RBI was not aware of the implications of what was happening on the fiscal front during the first three decades (1950 to 1980). Given the institutional arrangement, the RBI’s primary objective is to maintain monetary stability. It was clear that the fiscal situation was something that was decided and determined by the sovereign. Once the fiscal situation was decided and determined by the sovereign, it was the central bank’s responsibility to ensure that monetary stability was maintained and the government’s borrowing programme was managed with minimum disruptions, in terms of stability. Some argue that accommodating the fiscal pressure through monetary action is like, what some people call, a soft-budget constraint.”
The core focus in this study is policy mix of monetary and fiscal policy to control macroeconomic instability in Indian economy, such as price instability, unemployment, distortions in foreign exchange market, trade deficit and economic growth (GDP). Earlier studies are limited to economies of developed and partial analysis of either fiscal policy or monetary policy and there are few studies on combination of fiscal and monetary policy in Indian context. Moreover, there is need to address pre-and post-reforms period with analytical and time series econometrics analysis will be used to quantify all those affecting variables from different approach. The gist of study is “Need of Optimum Policy Mix to offset Macroeconomic Instabilities in the Indian Economy.”

1.5 Objectives
The objectives of the Study as follows:

- To analyze macroeconomic trends and patterns in India.
- To examine the efficacy of Indian fiscal and monetary policy during the post reform period
- To examine the effect of monetary variables in India for inflation targeting
- To evaluate the effect of fiscal measures on output gap
- To examine the relevance of Philips curve and Okun’s law to India
- To analyze the complementarity between fiscal and monetary policies in India
- To assess the policy lag-effects and its implications on Indian macro economy
1.6 Hypotheses

The study seeks to test the following hypothesizes

 ✓ Philips curve is not applicable to India

 ✓ Okun’s law is not evident in India

 ✓ The monetary policy has become less dominant vis-à-vis fiscal policy

 ✓ There is no coordination between monetary and fiscal policies in India

 ✓ There is no short run causality among monetary variables

 ✓ There is no short run causality among fiscal variables

1.7 Research Methodology

1.7.1 Scope of the Study & Data Sources

1.7.2 Variables

For monetary policy rule, call money rate is the dependent variable and the inflation rate, M3 (Broad Money Supply), exchange rate, output gap are independent variables. All monetary policy rule variables are quarterly from second quarter of 1994 to fourth quarter of 2015 (1994Q2-2015Q4). The exchange rate and M3 (Broad Money Supply) are quarterly average and log transformed and X-12 ARIMA method used to deseasonalize the series. After removing seasonal influence in the series of exchange rate and M3 found to be non-stationary but became stationary after first difference. The inflation and output-gap are not transformed to log due to negative values while inflation and output gap are stationary at level. The output gap is derived from removing seasonal influence from X12-ARIMA deseasonalizing method and its trend removed from Hodrick–Prescott filter (also known as Hodrick–Prescott decomposition and in short H-P filter). The output gap variable is used in both fiscal policy and monetary policy rules. Monetary policy variables are used after deseasonalizing and detrending data for analysis.

For fiscal policy rule, dependent variable is tax revenue and the independent variables are output gap, outstanding debt, and total expenditure. The total tax revenue, total outstanding debt, total expenditure (All are Central government) and output gap are quarterly data from second quarter of 1994 to fourth quarter of 2015 (1994Q2-2015Q4). Except output gap which has negative values, all other fiscal policy variables are transformed to log then removed seasonality from the data series through X-12 ARIMA deseasonalizing method. Total expenditure and output gap variables become stationary after removing seasonal influence, while total outstanding debt becomes stationary at first difference. The total tax revenue series becomes stationary after detrending from Hodrick–Prescott filter (H-P filter) and at first difference. Then all fiscal policy variables used for analysis. For VAR model of fiscal policy variables found to be stationary at first
difference and differenced series were used for fiscal policy rule while deseasonalized and detrended data used in the VAR model for monetary policy rule.

1.7.3 Models

Majority of past study used non-linearity test such as BDS test (after the initials of W. A. Brock, W. Dechert and J. Scheinkman, 1987) and results also supported incorporating non-linear time series econometric model. The literature on fiscal and monetary policy Arora (2011), Hutchison (2013), Kumawat and Bhanumurthy (2016) showed the Markov Regime Switching Model is more acceptable model for fiscal and monetary policy in India. The present study used Markov Regime Switching model for identifying active and passive policy mix analysis in post reform period in India. Along these econometric tools, Taylor rule (1993) regarding monetary policy used as base for monetary policy rule in India. The study extends non-linear model to linear time series econometrics model such as unstructured VAR (Vector Autoregression) model for understanding the exogenous effect in the policy variables of monetary and fiscal policy. The short run analysis of VAR model help to identify short run causality through granger causality test and impulse response functions are examined to analyze the shocks in macroeconomic variables.

1.8 Proposed Chapter Scheme

The first chapter covers introductory part of the fiscal and monetary policy, importance of the fiscal and monetary policy in India, brief history of macroeconomics development, researchable issues regarding present economic conditions and views among economists to choose particular policy and role of complementary policy coordination. The second chapter reviews that the theoretical frame work of fiscal and monetary policy. It discusses the literature focusing on the methodological issues
especially linear and non-linear time series econometric models for fiscal and monetary policy at global and national level. The fiscal and monetary policy implications with econometric model are reviewed with relevance to the present context of India. The third chapter examines the macroeconomic trends at global and national level during post reform period. It analyzes the external and internal macroeconomic performance in India. Third chapter reviews the trends and pattern of monetary aggregates during reform period.

Since the repo and reverse repo rate were introduced first time in 2000, the trend analysis in monetary aggregates were classified into two periods from 1991 to 2000 and 2001 to 2016. It considers the trends and pattern of fiscal consolidation in India during reform period, especially with respect to FRBM act (Fiscal Responsibility and Budgetary Management Act, 2003). Third chapter attempts to support fiscal and monetary policy through empirical evidence of macroeconomic trends in India. The fourth chapter attempts to measure effectiveness of fiscal and monetary policy in India during post reform period. It examines the complementarity of fiscal policy & monetary policy in India with specific goals of both policies and with many offers common goals for nation building. The fourth chapter covers the Markov Regime Switching model for understanding policy effectiveness of fiscal and monetary policy in India during post reform period and evaluated the complementarity of fiscal and monetary policy for economic growth with stability in India. Fifth chapter extends non-linear econometrics analysis to linear modelling through VAR. It examines, how shock in each endogenous variable effect on the system of equations and short run causality between monetary and fiscal policy variables. Sixth and final chapter outlines the findings and policy implications of fiscal and monetary policy in India and how both fiscal policy and monetary policy are complementary to each other.
1.9 Conclusion

The foregoing chapter overviews the macroeconomic developments during post great depression period 1930s and development of Keynesian macroeconomics. It examined the development of IS-LM model by Hicks and Hansen which was the combination of classical economist’s monetary policy and Keynesian fiscal policy for macroeconomic stabilization in an economy. It covered the historical development of policy effectiveness of monetary and fiscal policy from different schools of thought, specifically Chicago school on monetary policy and fiscal policy from Post-Keynesian school of thoughts. It reviewed the latest developments in macroeconomic theories. It examined the significance of the study regarding need of fiscal and monetary policy in the twenty first century regarding Indian economy. The first chapter also covers the research design of the thesis.