CHAPTER 8
SUMMARY, MAIN FINDINGS AND POLICY IMPLICATIONS

8.1 INTRODUCTION

This Chapter provides summary of the work done, main findings and their policy implications. It is divided into 4 sections. Section 2 summarizes the study. The main findings of the study are recapitulated in Section 3. Section 4 offers the policy implications of our findings. The final section relates the scope for further research.

8.2 SUMMARY

Fiscal deficits are like obesity. You can see your weight rising on the scale and your clothing size increasing, but there is no sense of urgency in dealing with the problem (Martin Feldstein). The impact of fiscal deficit on economic growth is one of the highly debated issues in all world economies. The target of achieving sustained growth and maintaining macroeconomic stability is the dream among many developed, developing and underdeveloped economies. The economic growth and stability of developing countries in recent times has brought the issues of fiscal deficit into sharp focus. Continuing high level of fiscal deficit, even after adoption of Fiscal Responsibility and Budget Management Act (FRBM), poses a serious danger to macroeconomic stability in India. The excessive fiscal deficit seems to be the major concern of academicians and policy makers in India. High levels of fiscal deficit relative to GDP tend not only to cause sharp increases in the debt-GDP ratio, but also adversely affect savings and investment, and consequently growth (Rangarajan and Srivastava, 2004). In addition, excessive fiscal deficit creates much disequilibrium in economy i.e. high rate of inflation, rise in interest rate, problem of current account deficit and crowding out of private capital. The macroeconomic impact of fiscal deficit broadly depends upon the mode of financing the deficit. It can be said that each major type of financing, if used excessively, results in specific macroeconomic imbalances. While excessive domestic borrowings can lead to
hardening of interest rates, too much of foreign borrowings can culminate in an external debt crisis. Printing money creates inflationary pressure (Lekha, 2003).

However, in this concern, four hypotheses are important. First view is the Neo classical view which asserts that increase in government spending crowds out private investment. This view advocates that public expenditure is less productive than private investment, hence increased output as a result government spending is less than crowding out effect of private investment on output, thus reducing GDP (Majumder, 2007).

The second hypothesis is based on Keynesian view that cut in the tax rate reduces the national saving by increasing private disposable income which leads to increase the domestic absorption and also increase in imports, causing deterioration of current account balance and affects all macro relationship between fiscal deficit and current account deficit. This results in twin deficit phenomenon. The third perspective is known as Ricardian Equivalence Hypothesis. In the perspective of Ricardian, fiscal deficits are viewed as neutral in terms of their impact on growth. The financing of budgets by deficits amounts only to postponement of taxes. The deficit in any current period is exactly equal to the present value of future taxation that is required to pay off the increment to debt resulting from the deficit. However, such fiscal deficits do not have an impact on aggregate demand. The fourth perspective in this regard is known as debt overhang theory. A situation of sharp rise in the level of public debt above a certain point is called debt overhang. The existence of huge debt overhang restricts government adoption for new programs and private investment in new business. These altogether dampen capital formation and repatriation of foreign capital from the country.

Some time large fiscal deficit can affect the country’s economic growth adversely. A higher fiscal deficit implies high government borrowing and high servicing which forces the government to cut back in spending on relevant sectors like health, education and infrastructure. This reduces growth in human and physical capital, both of which have a long term impact on economic growth. Large public borrowing can also lead to crowding out of private investment, inflation and exchange rate fluctuations. However, if productive public investments increase and
if public and private investments are complementary, then the negative impact of high public borrowings on private investments and economic growth may be offset. Fiscal deficit used for creating infrastructure and human capital will have a different impact than if it is used for financing ill-targeted subsidies and wasteful recurrent expenditure. Therefore the fear about high fiscal deficit is justified if the government incur deficit to finance its current expenditure rather than capital expenditure.

High fiscal deficit has been one of the reasons for problems like current account deficit, inflation, high interest rate, crowding-out of private investment, and sluggish economic growth. Relationship between fiscal deficit and macroeconomic activity is among the highly debated issue in the recent years. A number of questions have been frequently addressed are whether deficits are (a) Inflationary (b) Expansionary or Economic Growth (c) Change the composition of national output from investment and net exports (d) neutral or do not have any impact of macroeconomic environment (Boskin, 1988). The sources of borrowing to finance fiscal deficit play a critical role. Further, the kind of government expenditure also matter in this regard. Moreover, rise in the development expenditure stimulate private investment in the country. Thus poor fiscal management could be the reason for problems like current account deficit, high interest rate, crowding-out of private investment, inflation, and slow economic growth. Thus, there is a need to investigate the impact of fiscal deficit on other macroeconomic variables.

One of the major problems facing the Indian economy is its large fiscal deficit and the resulting high level of national debt. Fiscal deficits pose various trade-offs for the economy. Such trade-offs involve securing growth and price stability, on the one hand, and maintaining internal and external balances, on the other. Fiscal deficit, as a means to promote growth, has been well recognized in the literature. Its efficacy to do so, however, depends on what happens to various intermediate variables such as prices, interest rate, credit, investment and external leakages such as imports, which are influence by the fiscal deficit. When deficit is financed by money creation, the trade-off becomes sharper in terms of higher level of domestic absorption which can trigger an increase in imports and widening of
current account deficit in the balance of payments. In this study, the specific objectives of the study were:

a) To find the trends and patterns of fiscal deficit and other macroeconomic variables in India.
b) To examine the relationship between fiscal deficit, government expenditures and economic growth.
c) To investigate relationship between fiscal deficit and current account deficit.
d) To explore the relationship between fiscal deficit and interest rates.
e) To investigate the relationship between fiscal deficit and crowd-in and crowd-out of private investment.
f) To investigate the relationship between fiscal deficit and inflation.
g) To suggest policy recommendations.

The study was empirical and quantitative in nature. It used descriptive cum exploratory research design. The analysis was undertaken for the country at large. The study was primarily based on secondary data available from various national and international sources. The main sources of data were taken from (1) Handbook of Indian Statistics, Reserve Bank of India (2) Public Finance Statistics, Government of India (3) Economic Surveys since from 1980-81, Ministry of Finance, Government of India (4) Data from World Bank (5) Data from Ministry of Finance, Government of India (6) Centre for Monitoring Indian Economy (7) National Statistics, National Portal of India.

For analyzing the information, we have used different standards mathematical and statistical tools. Our methods of analysis comprise of: (i) Unit Root Test (ii) ARDL Model (iii) Vector Error Correction Model (iv) Diagnostics Test like for a) Serial Correlation: Breusch-Godfrey Serial Correlation LM test was adopted to check for serial correlation. b) Heteroscedasticity: Breusch-Pagan-Godfrey is used to check Heteroskedasticity in the time series data. c) Auto correlation: Durbin Watson test is used to check the problem of autocorrelation in the series. d)
R Square: $R^2$ check the proportion of total variation in the dependent variables explained by the independent variables in the model. It is also known as coefficient of determination. e) Adjusted R square: The adjusted R-squared is a modified version of R-squared that has been adjusted for the number of predictors in the model (v) Granger Causality Test (vi) Cusum and Cusum square test.

The data was analyzed with the help of Excel & E-Views 9 software.

**8.3 MAIN FINDINGS**

The main findings of the study are summarized below:

The study investigated the macroeconomic impact of fiscal deficit on Indian economy in last three and a half decades. The main findings of the study are summarized below:

I. The trend and pattern of fiscal deficit and different macroeconomic variables like rate of interest, inflation, current account deficit, money supply and gross capital formation has been demonstrated in Chapter 2. The gross fiscal deficit as the percentage of GDP showed a declining trend while revenue deficit as the percentage of GDP showed upward trend. Government’s dependence has been more on internal financing than on external financing. Gross primary deficit as the percentage of GDP was 3.81 in 1980-81 which came down to 0.81 in 2014-15. The ratio of revenue deficit as per cent of GDP since 1980-81 continued to increase and rose to 3.17 percent of GDP in 1990-91. It reached to a very high level of 3.71 in 1998-99. However, after 2003-04(FRBM Act, 2003), good progress was made in reducing large revenue deficits which is being exhibited by its declining trend till 2007-08 and reached at the lowest level to 1.05 percent of GDP. But it showed an increasing trend and reached at 2.94 percent of GDP in 2014-15. The share of development expenditure was higher than non development expenditure till 1994-95 except the year 1993-94. However, from 1995-96 the share of non development expenditure in total government outlay was higher than development expenditure. This trend continued till economic crises of 2007-
08. The share of external financing declined to 6.63 in 1985-86 from 15.44 in 1980-81. The share of external finance tended to reach a peak of 14.92 in 1991-92 and 13.24 in 1992-93. Since then, it showed a declining trend and was gradually brought down to 0.53 in 1995-96 but sharply increased in 1996-97 to 4.48 and then exhibited a considerable decline in 1999-00. It has no particular trend thereafter. But its share in financing of fiscal deficit after economic crisis of 2008-09, increased to 6.31 percent in 2010-11. Since then it has been showing declining trend. Apart from analyzing the movement of fiscal deficit and its component, Chapter 2 also depicted the movement of Current account deficit, inflation, real interest rate and money supply. All macroeconomic variables mentioned in the chapter 2 had shown wide fluctuation in the last three and half decades. After economic reforms, ratio of current account deficit (CAD) to GDP showed declining trend. India has current account surplus in consecutive three years i.e. 2001-02 to 2003-04. CAD as the percentage of GDP increased after economic crisis of 2008. Rising oil and coal import bills and reduced iron ore export earnings were the main reason for high current account deficit in India. But in the recent years, CAD declined sharply from a record high of 4.7 percent in 2012 to 1.7 percent in 2013-14(Economic Survey, 2013-14). Inflation (deflator) was 10.8 percent in 1980-81. It increased to 9 percent in 2009-10 and came down to 6.3 percent in 2012-13. The study also highlighted that real interest rate was 5.1 percent in 1980-81, that increased to 9.1 percent 1985-86. It decreased to 3.6 percent in 1990-91 but increased to 9.1 percent in 1991-92. In 2007-08, real interest rate decreased to 4.3 percent and came down to 3.8 percent in 2012-13.

II. The analysis of long run relationship between fiscal deficit and economic growth is reported in Chapter 3. High level of fiscal deficit affects economic growth and capital formation of the country, both by reducing private sector investment through an increase in interest rate and also through reduction in public sector's own investment vacuum by increasing the share of interest payment in total government expenditure. We specified an ARDL model by
taking fiscal deficit, development expenditure and non development expenditure as explanatory variables. The analysis showed that there is a long-run relationship between fiscal deficit, development expenditures and economic growth. The results showed that 1 percent increase in fiscal deficit will raise the economic growth by 0.31 percent. In addition, elasticity of economic growth with respect to development expenditure is 0.07 percent. The results also demonstrate that non-development expenditures do not contribute significantly to economic growth in long run. In addition, there is short run unidirectional causality running from fiscal deficit, development expenditure and non-development expenditures to economic growth. Thus, the study indicates that high level of fiscal deficit is not bad for economic growth in India. Further, the results support the Keynes view that government expenditures stimulate economic growth.

III. Chapter 4 looked into the relationship between fiscal deficit and current account deficit in India. The study demonstrated that fiscal deficit, gross domestic capital formation and money supply are positively related with current account deficit in long run. The results showed that 1 percent increase in fiscal deficit will lead to increase the current account deficit by 0.43 percent. Further, bound test results showed that calculated value of F statistics is 5.45277 is greater than its corresponding critical value of upper bound at 5 percent level of significance. Hence, confirms the long run relationship among variables and supports the twin deficit hypothesis. Furthermore, the results of error correction model reports that error correction term is negative and significant that shows the speed of adjustment towards long run equilibrium. The results suggest that following a shock, around 65 percent adjustment will be completed after one year. Growing current account deficit may not necessarily be the cause of concern mainly for a growing economy, but current account deficit coupled with high fiscal deficit could lower the country’s rating and could be the reason for capital flight and depreciation of rupee.
The impact of fiscal deficit on real interest rate is analyzed in Chapter 5. Keynes theory with IS-LM framework is used to explain the association between fiscal deficit and interest rate. The study highlighted that prime lending interest rate is very high in India in comparison to other largest economies of the world. High interest rate in India makes fiscal and monetary policy less effective; hence crowd-out private investment. The study found that fiscal deficit and rate of interest are positively related with each other in long-run as well as in short-run and 1 percent increase in the fiscal deficit will increase the real interest rate by 0.33 percent. Money supply and inflation (at level) have negative relationship with rate of interest both in short run and in long run. Further, the error correction term indicates that 57 percent disequilibrium in rate of interest will be offset each year by short run adjustment of explanatory variables.

Chapter 6 analyzed the crowding-in /out effect of fiscal deficit. Based on IS-LM model, we have analyzed the financial crowding-out and real crowding-out effect of fiscal deficit. The results of financial crowding out indicated that fiscal deficit, money supply and real interest rate have negative and significant relationship with gross domestic private capital formation in India over the time period of 1980-81 to 2013-14. The results support Neo-Classical view of crowding out which advocates that an increase in government spending crowd out private investment. This results supports various studies of Blejer and Khan (1984), Cebula (1978), Shafik (1992), Parker (1995), Ostrosky (1979), Tun Wai and Wong (1982), Sunderrajan and Takur (1980), Pradhan, et al. (1990), Krishnamurty (1985), Kulkarni and Balders (1998), and Alesenia, et al. (2002). They found that high level of fiscal deficit crowd-out private investments. Private investment in India is interest rate sensitive and there is negative relationship between private investment and interest rate. Further, private investment also has negative relationship with money supply. Because, increase in money supply in India increases aggregate demand in short run but causes inflation in long run. Inflation will reduce demand in future leads to decrease the investment of
private players. The results do not find any evidence of short-run relationship with money supply. Finally, error correction term (ECT) is -0.88 meaning that in every year 88 per cent of the divergence between the short-run price levels from its long-run path is eliminated. The results of real crowding-out indicate that there is a negative relationship between gross domestic private capital formation and fiscal deficit. The results also reveal negative relationship between private investment and one year lag value of non development expenditure at five percent level of significance.

VI. Chapter 7 investigated the relationship between fiscal deficit and inflation. The study found that there is negative relationship between inflation and food production index which means that increase in the food production will reduce inflation in long-run. Further, positive coefficient of household consumption expenditure indicates that increase in household consumption expenditure will also increase the inflation in long-run. However, fiscal deficit is found insignificant at five percent level. In addition, the negative coefficient of error correction term (-0.98) indicate that any disequilibrium in the long-run will be corrected with the speed of 98 percent per year. India is a developing country, so fiscal policy does not affect price level directly. The overwhelming conclusion drawn from the results is that increase in the household consumption expenditure as a result of government expansionary fiscal and monetary policy, raises inflation in India.

8.4 POLICY IMPLICATIONS

The study recommends that for the purpose of macroeconomic stability, this is not the right time to reduce expenditure side when economy is facing infrastructure bottlenecks, poverty, technology bottlenecks and supply side constraint. The better composition of government expenditure has a longer impact on the society. Government expenditure for productive purpose will enhance domestic production and employment which will further enhance the volume of exports. The only solution to improve current account deficit is to frame economic policies that will
improve productivity of manufacturing sector and attract foreign direct investments. Therefore, increase in government revenue helps in reducing fiscal deficit one side and on the other hand problem of large current account deficit would be tackled due to increase in the volume of exports. Major policy implications are summarized below:

- Instead of focusing on cutting expenditure to meet deficit target, the government needs to look at different ways to raise revenue especially through taxes. Government should focus more on reducing revenue deficit. The rising trend of revenue deficit indicates that government should quickly reduce it to meet the target of zero revenue deficits till 2023 (as per FRBM guidelines). In addition, government should make proper fiscal consolidation to control over interest payment. Government must control on non-development expenditure. The capital outlay must be increased to enhance the rate of economic growth. As India’s growth engine is mainly driven by import of oil, capital goods and machinery, transport equipment, and electronics, hence putting limit over the import is not the right way to reduce the current account deficit (Raja Gopal, 2013). The only way is to increase export by providing more facilities to exporters and opening special economic zone in rural areas.

- Indian government should implement sound monetary and fiscal policy to create optimistic environment among private business. Therefore, it is imperative for policy makers to reduce the fiscal deficit to enhance private investment or control over high interest rate. A major portion of government spending is used for non development expenditure like subsidies, interest payments and defence which reduces the resources available for private players. Hence crowd-out private investments. Government should focus more on core developmental schemes. Simultaneously, measures to enhance the tax and non-tax revenues should be taken to increase the effectiveness of fiscal policy. Heavy dependence on market borrowing to finance fiscal deficit is also responsible for ineffectiveness of fiscal policy. In order to reap
the full benefits of government spending, government should take measures to enhance capital investments and control the growth in non-plan consumptive expenditure. In order to combat with financial crowding out, proper combination of fiscal and monetary policy should be formulated.

- High fiscal deficit is the reason of high interest rates in India and also the reason for slow growth of private sector specially manufacturing sector. So government must reduce fiscal deficit.

- Fiscal policy plays an important role for reducing price fluctuation by contractionary and expansionary fiscal policy. India is facing recession now a days due to depreciation of rupee, high interest payment on borrowings, increase in oil and petrol prices in the international market. Because of these problems industrial production came down which create unemployment, inflation and further reduce demand. So this is the time to apply expansionary fiscal policy by reduction of taxes for manufacturing sector and making investment in infrastructure, electricity, education, health etc to boost the demand which will induce private player to produce more and more. This action will have long term stabilization affect on the economy. It will increase production results in increasing purchasing power by providing them employment, reduce inflationary pressure by reducing demand and supply mismatch, thus helpful in curbing inflation.

- The study recommends that the dogmatic aversion for fiscal deficits may be risky in India. Government of India should reduce non-development expenditures like subsidies and should focus on development expenditures by providing better quality of roads, rural banking facilities, infrastructure development, research and development and should bring electricity, broadband and better education to villages. These initiatives by the government help in attracting the private players as well as foreign investments to achieve the potential growth. These key measures of government will act as an engine of economic growth for the macroeconomic stability by increasing manufacturing growth. Altogether, this will increase employment opportunity to unemployed youth of the country, consequently
push the aggregate demand in the economy and will stimulate economic growth. In addition, it is imperative that government should focus on proper mixture of development and non-development expenditures which have a huge impact on economic growth of a country like India.

- Most significantly, it shows that government needs to be aware of the fact that proper implementation of fiscal and monetary policy need to be carried out carefully. High fiscal deficit is the reason for high interest rates in India and also the reason for slow growth of private sector specially manufacturing sector. Government must control over non development expenditure to reduce fiscal deficit. Market borrowings of government are very high in India and a most important part of revenue is used for interest payment which should be controlled by increasing revenue from taxes. Hence, government should increase its tax base to meet its expenditure. It will reduce government’s borrowings and therefore, more resources will be available for private investments to grow up. Further, the growth of private sector will enhance the revenue from private players in terms of taxes in coming years which results in bringing down fiscal deficit. In addition, Prime lending rates in India are very high in comparison of largest economies of the world, is a big obstacle for manufacturing sector; hence crowd out private investment. Monetary authority should make policy to control over rate of interest and inflation. Based on the findings, it is suggested that proper fiscal consolidation is required to control high fiscal deficit and burgeoning interest rate in India.

- Based on the findings of Chapter 7 it is recommended that India’s inflation is a combination of demand and supply side factors so it should be tackled jointly. Fertilizers and fuel subsidies must be brought down which will have short term effect on customers by decrease in demand. These actions will reduce inflation and fiscal deficit in long run. On the supply side food inflation must be managed by proper management of buffer stocks. The other thing that government must do is to increase in development expenditures in infrastructure, health, education, research & development and irrigation etc
which will have long run effect on the development. More and more foreign
direct investment should be welcomed in retail sector to avoid supply side
problem. It will increase the rate of inflation in coming years which put the
government in to vicious circle of fiscal deficit. So government should not
use it for political benefit rather it should be used for benefit of the country.

8.5 SCOPE FOR FURTHER RESEARCH
The study assessed the impact of fiscal deficit on selected macro-economic
variables in India. The study is basically at country level. Fiscal health of
states could be assessed separately for more precise results. More
macroeconomic indicators at state and country level could be used to
investigate the impact of fiscal deficit on economic growth. Further, the work
could be enhanced by using different components of development and non-
development expenditure and its impact on economic growth.