CHAPTER 1

INTRODUCTION

1.1Background.

The "Twin deficit" debate was a common policy issue during the 1980s and the early 1990s and the term was initially emerged to describe the co-movement between the budget deficit and the current account deficit in the United States[1] . Afterwards, researchers began practicing it to other countries. Ever since, it has become an area of interest for researchers to carry out the causal link between the two deficits and the direction of causality. The simultaneous growth of budget deficit and the current account deficits for most countries mainly in the United States (US) during the mid-1980s led to identify this phenomenon as the "twin deficits" issue as both economic theory and empirical observation suggested a link between the two deficits. Thus, the twin deficit hypothesis has come to be contemplating as one of the important relationships among aggregate economic variables. Over the years, there has however been recommence interest in understanding the relationship between the budget and current account deficit.

The association between current account deficits (CAD) and budget deficits (BD) are now at the center of international macroeconomics literature especially with the recent experience of large imbalances in the number of countries including the U.S. India has been experiencing twin deficits since 1980-81. The fiscal deficit of the central government has remained at 5.8percent on an average during the period 1980-2010. The main reason behind the financial crisis of 1991 was the inability to finance the high current account deficit via capital inflows leading to BOP crisis. There is a growing body of empirical literature testing the validity of the twin deficits for a number of developed and developing countries. As the CAD is the sum of public and private sector deficits (investment-saving gaps), in the absence of a private sector deficits adjustment, an increase in the BD may be expected to move the CAD in the same direction. Nevertheless, this simple accounting ignores some important alteration mechanisms and relationships between CAD and BD. Hypothetically, there may be at least four different relationships between CAD

[1] The so-called 'twin deficits hypothesis' that emerged in the 1980s is characterized by an unusual shift in current account and budget deficits. Another feature is the strong appreciation of the dollar.

and BD. The Mundell-Flemming model based on the traditional Keynesian structure, budget deficits generate current account deficits. In this twin deficits framework, increases in budget deficits in an open economy tend to increase the domestic interest rate stimulates a capital inflow and causing a real exchange rate appreciation. The real admiration of the domestic currency in turn, worsens the current account deficits, and consequently BD causes CAD. However, under certain situations, the causality may be from CAD to BD rather than the reverse. High current account deficits are a foremost key element leads to a financial crisis may lead to higher budget deficits due to the higher crises of fiscal cost and contingent liabilities.

The recent global economic melt-down and the resultant phenomenon of current account and budget imbalances in many countries, which have attracted serious attention from academics and policymakers in both developed and developing countries. According to OECD (2011), the global current account imbalances widened markedly in the years preceding the global economic crisis. The crisis itself brought in its wake a renewed depth of fiscal sin across the developed and developing nations alike. The concern is centered on the extent to which fiscal adjustment can contribute to resolving external imbalances, especially when it is unrelenting. In most developing countries it is common practice that larger budget deficits normally coincide with extravagantly government disbursement, large bureaucracies, and other counterproductive economic policies. The international lending and economic aid-giving agencies such as the World Bank (WB) and the International Monetary Fund (IMF) have urged the least developed countries' (LDCs) governments to reform their economic policies by cutting careless spending, reducing deficits, privatizing, and opening up their economies. Such measures have been demanded as a prerequisite for obtaining credit or other kinds of assistance.

In recent years, the Indian economy has been characterized by rising fiscal deficits and worsening current balances. Fiscal deficit occur when government spending is higher than tax revenue. It constitutes a negative value in national saving, which will reduce the whole value of national saving and raise the real interest rate and inspires foreigners to invest in the domestic economy, prime to exchange rate appreciation. This makes domestic goods and services more expensive relative to foreign goods. So the country imports more and exports less, which causes the trade deficit.

Many analysts suspects that the fiscal deficit and current account balance are closely and maybe even causally related. Indeed, national income accounting character guarantee that fiscal deficit must create either an excess of private saving over investment or an excess of imports over exports. It is recommended by Standard economic reasoning that government borrowing decreases the domestic supply of funds available to finance new investment, which creates an inflow of funds from abroad. According to the hypothesis called as a twin or double deficits hypothesis, fiscal deficit lead to the current account deficit. On the other hand, according to the reverse hypothesis of twin deficits, the current account imbalance leads to the fiscal deficit.
India's First and Second Five-Year Plans (1951-61) focused on rapid import-substitution which mainly leads Indian current account position in a deficit and leads to a substantial fiscal deficit (FD) with the main aim of achieving economic self-sufficiency. The objective also manifested itself in the country foreign trade where import were strictly controlled through comprehensive exchange rates control and an extremely complex system of quantitative import restriction, which were supplemented by a composite tariff structure and differentiated rates across industries.

The extensive protection reduced competition drastically, causes inefficiency in domestic industries and generated monopoly rent, which resulted in a distinct anti-export bias. With the export performance remain poor, India's trade deficit widened and current account deficit increased to 2.4 per cent of gross domestic product (GDP) as the surplus of invisible account also narrowed in 1966-67. This situation was further aggravated by a high fiscal deficit of 9.7 per cent of GDP for the same period.

The high and constant fiscal deficit remains the main cause of worry for the economy. The government has introduction the number of export promotional schemes, including the devaluation of Indian rupee in June 1996 the rupee devaluated from Rs 4.7 to Rs 7.5 per dollar. The devaluation was accompanied by some liberalization of import licensing and cuts in import tariffs, and introduction of export subsidies for approximately a year. Improved export performance due to expansion of world's total trade and export incentives led to an improvement in India's current account position during the late 1960s and early 1970s. While this moderation

was not permanently reversed in the aftermath of oil prices shock of 1973 a tightening of import control generous external assistant and fiscal conservation quickly brought import down.

In late 1970s a combination of high domestic inflation a large fiscal deficit 7.1 per cent of GDP in 1977, second world's oil price hike of 1979 and a pegged exchange rate generated: low exports, more imports, a wider current account deficit (1.1 per cent of GDP in 1977), and nearby exhaustion of reserves. As reserves felt critically low India under took an International Monetary Fund (IMF) program in 1981. However in first half of the 1970s no significant current account adjustment followed. With a large macroeconomic imbalance's developing in the second half of 1980s particularly a large fiscal deficit of 9.1 per cent of GDP in 1987, growing public debt , high external debit, and their expansionary influences on money supply and high rate of inflation, the current account deficit flourish up to 3 per cent of GDP in 1990-91. While the current account deficit remained in 2.5 to 3 per cent of GDP range, the surplus of invisible account narrowed and moved into a small deficit during the same period. The economic demolition of Indian economy made borrowings difficult in international markets.

In 1991, the massive dose of paradigm shift in external liberalization which aimed to reduce current account deficit and budget deficit. The measures include: (a) the currency should be devaluated (b) the brought down to maximum 55 percent from up to 355 percent of celling on custom duties peak tariff rates (c) restriction on all tradable except consumer goods by removal of non-tariff barriers (d) promotion programs for sector market/export (e) removal of foreign exchange. Before a decade the current account deficit came to surplus in 2003-04 but after few years it further widened to -4.7 percent of GDP in 2012-13. The fiscal deficit always remains always negative and reached 9.6 percent of GDP during the same period.

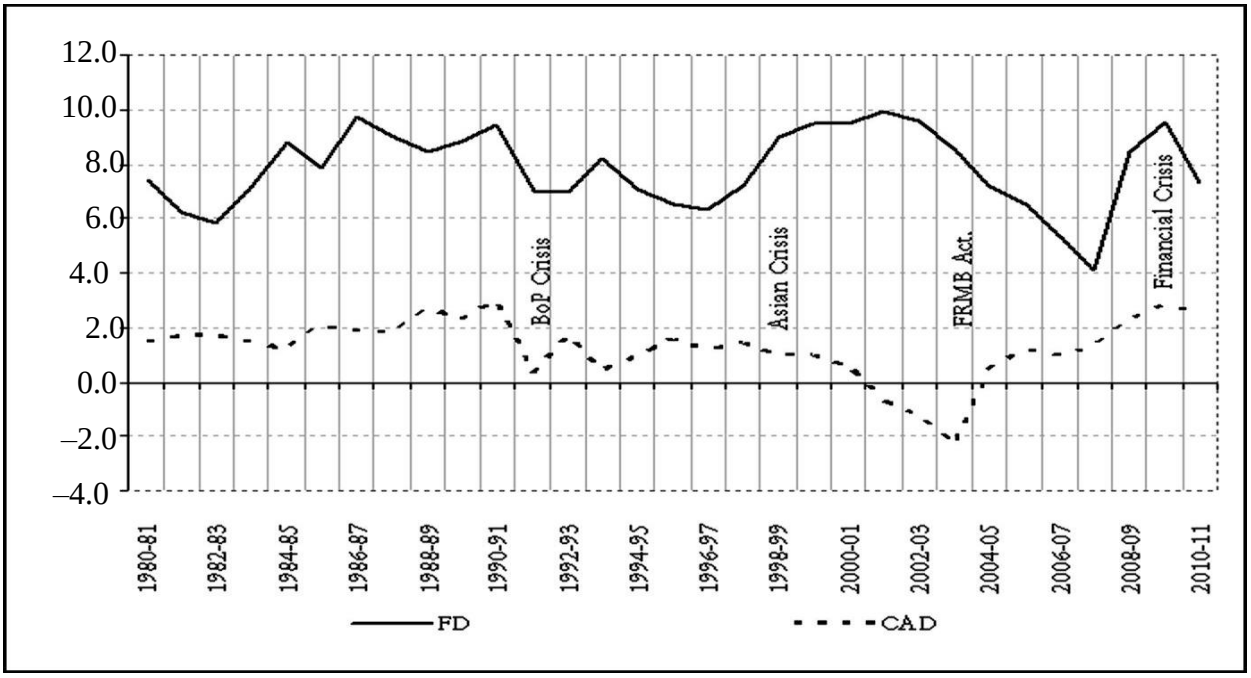
The debate on international macroeconomic policy has centered on the large current account imbalances accompanied by fiscal deficits experienced by a number of countries. The implications of fiscal adjustments for current account developments generated further interest in the context of restoring strong, sustainable and balanced growth in the global economy as the effects of the 2007–08 crisis gradually abated. India's twin deficits too have again become a matter of concern in the aftermath of the recent financial crisis which disrupted global trade and

financial flows as also India's progress towards fiscal consolidation. This prompts us to take a look at the nature of inter-linkages between the government budget balance and the external balance for India and some of the possible channels promoting such inter-linkage in the Indian economy, taking into account the theoretical and empirically testable hypotheses that relate the twin deficits.

Figure 1, which traces the behavior of India's two deficits over the years, shows both current account and fiscal deficits (CAD and FD as percentage of GDP) expanding during the 1980s, ultimately leading to the Balance of Payments crisis of 1991. Since the corrective measures taken then, the CAD has remained in a comfortable zone. However, as the global crisis erupted in 2008, India's CAD jumped from 1.3 per cent in 2007–08 to 2.3 per cent the next year and to 2.8 per cent by 2009–10. The two deficits are clearly seen to run in opposite directions since the mid-1990s; the fiscal deficit had been trending higher since the mid-1990 still 2004–05, when the government started to significantly reduce its budget deficit by implementing the Fiscal Responsibility and Budget Management (FRBM) Act, 2003. The current account deficit, on the other hand, had been trending lower (the current account balance improving) since the mid-1990s till 2004–05, when it was again driven up by escalating global oil prices, as oil prices moved from US$29 per barrel to US$124 per barrel between Q2 of 2003–04 and Q2 of 2007–08. At present economy the twin deficit hypothesis still prevails, India still has 7.6 percent of budget deficit and 4.7 percent of current account deficit in the year 2012-13. Though both the deficits are seen to have their own short-run spikes, they have been on a particularly high trajectory during the past few years after the advent of the global crisis. The crisis not only led to a deterioration in the current account balance as India's exports declined more than imports, it adversely affected the fiscal deficit as well because of the necessity to provide effective fiscal stimulus during the peak crisis period. Given the existence of several different theoretical postulates that relate the two deficits (balances), such occasionally concurrent and divergent behavior of the two series needs to be examined in detail to see if indeed a long-term relationship can empirically be established between the two. If such a relationship does exist it is worth making an attempt to identify which other variables mediate such a relation, with the help of empirical tools that allow for mapping of the direction of causality flows between a set of interlinked variables.

FIGURE 1

India's Current Account Deficit and Fiscal Deficit as percentage of GDP over 1980–81 to 2010–11



Source: RBI's Database on the Indian Economy

This in turn would indicate which of the two deficits needs to be the primary target variable for policy making purposes.

The pioneering work of twin-deficit hypothesis revolves around the Mundell-Fleming is that the increase in budget deficit will induce upwards shift in interest rates, which will induce the capital inflow movements and leads the appreciation of exchange rate of domestic currency. The ultimate outcome will increase rapidly current account deficit. To finance the deficit by increasing debt by government, the private savings would not be affected because they will their wealth increases by the increase in public debt. The rise in budget deficit will not affect the interest rates, if inflow of capital is highly restricted, and fiscal shocks will not crowd domestic private investments.

On the other side domestic currency exchange rate will get appreciated by inflow of capital movements. The cause of inflow will hike nominal exchange rate in case when country adopts fixed exchange rate regime (Fleming, 1962; Mundell, 1963).

The Keynesian absorption theory is the main construct of budget deficit (BD) and current account deficit (CAD) and so called Feldstein chain construct. In the absorption theory the increase in budget deficit will induce imports by domestic absorption. So it is common that imports will influence the current account worsening.

The chain model lays more prominence on the relationship between short run capital, exchange rate and interest rate; the capital movements will be free. The fiscal shock will reduce national savings, in order to regain national savings the interest rates will be increased which attracts capital from abroad and inflow of capital will increase, which will boast up domestic assets and decline in exports trigger up domestic interest rate due to budget deficit, thus begin significant inflow of capital movements. Normally current account deficit (CAD) will be increased due to appreciation of currency of the country (Feldstein, 1992).

The second model that analyses the link between budget deficit and current account deficit is the Ricardian Equivalence Hypothesis (REH), in contrast to the Mundell- Fleming model which supports the twin deficits hypothesis, the (REH) postulates that an expansionary fiscal policy will not have impact on the current account balance, as the increase in disposable incomes resulting from the reduction in government saving "the increase in budget deficit" will not be interpreted as an increase in aggregate demand, but rational households will save these additional transitory incomes to be able to pay taxes in the future, as they expect that the increase in government expenditure or a tax cut today means higher taxes in the future; hence private saving will increase by an amount which is equivalent to the reduction in government saving. That's why government expenditures will have no effect on the real interest rate, exchange rate, or the current account balance.

Under the Ricardian Equivalence Hypothesis (REH) based on Permanent-Income-Life-Cycle Hypothesis, there prevails no relationship among current account deficit and fiscal deficit. An increase in government deficit will not affect the lifetime income of the household sector. Thereby, there will be no change in equilibrium levels of current account, interest rates,

consumption and investment. Barro's Debt Neutrality Hypothesis claims that rise in government deficit will be fully offset by the rise in private savings leading to no change in national savings (Barro, 1988).

1.2 Statement of Research Problem

Twin deficit is a burning issue and root cause of all economic ills in developing countries, like India. So there is a dire need to explore the relationship between budget deficit and current account deficit. In recent decades, many developing countries have embarked on major structural reforms in order to reduce fiscal deficits, reduce inflation and create an enabling macroeconomic environment conducive for growth. Despite these reforms, positive fiscal and external balances remain elusive because governments in many developing countries continued to run deficits. The recent fiscal expansion due to the global financial crisis in 1991 has made it timely to revisit the twin deficit phenomenon for India and examine the direction of causality. The apparent similar movement in both the budget and current account deficits gave rise to the idea that there might be a relationship between the two deficits. It has also been established in economic theory and empirical observation that there exists a link between the two deficits. For India, there have been persistent and rising budget deficits most especially from the 1970s.

In twin deficits framework, rise in fiscal deficit in an economy will induce the domestic rate of interest to rise above the world rate of interest causing capital inflows into the domestic economy. Hence, the exchange rate will get appreciated leading to trade deficit and current account deficit. However, in many situations, Current account deficit causes fiscal deficit. Current account deficit of high magnitude leads to financial crisis in the economy. Hence, in order to come back out of this crisis, the government opts for expansionary fiscal policy leading to fiscal deficit. This may again further lead to current account deficit implying a bi-directional causality among the variables.

According to Robson Mandishekwa et.al 2014), growing budget deficits are reflected in growing current account deficits. This makes it important to know to what extent fiscal balances can be used to achieve adjustment in the current account balanceThus, the problem lies in a country running the two deficits simultaneously known as twin deficit. This have important implications for the economy as it can affect the country's external rating in the global economy and foreign

direct investment into the country. As it is believed in open economy macroeconomics that budget deficit leads to deterioration of the current account balance. There is also need to examine the direction of causality and its effects on macroeconomic variables. This study will focus on the direction of twin deficit in developing countries with reference to India.

In other words, a better understanding of the causal linkages is important in the formulation and implementation of macroeconomic policies necessary for removing the twin deficits, which have been considered as a precondition for the economy to thrive. Once the underlying link is confirmed, policymakers might effectively put the twin deficits under control and keep economic growth sustainable.

1.3 Significance of the Study

In the last decade, twin deficit hypothesis argument that fiscal deficit stimulates current account deficit has been reversed to the forefront of policy debate. The plea first emerged in the 1980,s when significant deterioration in the US current account balance accompanied a sharp rise in the federal budget deficit. Indian economy is facing twin deficit because Indian imports are continuously pushed upwards especially petroleum import bills moved to a new much higher position which badly affect the budget deficit. As share of GDP Indian current account deficit reached higher level of above 3 percent of GDP and fiscal deficit of 8.5 percent in the year 1991.
In current globalization environment it is important for a large democratic and rapid growing country like India not to be unaware of any emerging balance of payment crises. Therefore it is important to understand the direction and causality between CAD and BD for the implementation of effective policies.
According to twin deficit hypothesis when government increases its fiscal deficit for instance by cutting taxes, domestic resident use some of income to boast consumption causing national (private and public) savings to decline, the decline in savings requires the country either to borrow abroad or reduce its foreign lending unless domestic investments decrease enough to offset the saving shortfall. Thus a wider fiscal deficit typically should be accompanied by a wider current account deficit.

1.4 Scope of the Study

The study re-examines the relationship and direction of causality between budget deficit and current account deficit for the Indian economy by applying theoretical consideration of the twin deficit hypothesis using annual data covering from period 1990 to 2013, which is a period of 24 years. The data for this study will be sourced from Reserve Bank of India (RBI) Statistical Bulletin (2013 edition) and the World Bank Developmental Indicators (WDI) database for the 2013.

1.5 Objectives of the Study

The overall objective is to assess the interaction between the Budget deficit and current account deficit in India. The specific objectives are as follows:

- To investigate the direction of causality that exists between the budget deficits and the current account deficit in India.
- To study the long run and short run relationship between budget deficits and the current account deficits.

- To evaluate and quantify the relationship of budget deficit and current account deficit with macro-economic variables.

1.6 Hypothesis of the Study

Empirical studies on the twin deficit phenomenon often have three testable hypotheses. So, this study attempts to test four hypotheses. The hypotheses are as follows:

Hypothesis 1

H_0: There is no significant long run relationship between budget deficit and current account deficit.

H_1: There is a significant long run relationship between budget deficit and current account deficit.

Hypothesis 2

H_0: Budget deficit does not significantly cause current account deficit.

H_1: Budget deficit significantly causes current account deficit.

Hypothesis 3

H_0: Current account deficit does not significantly cause budget deficit.

H_1: Current account deficit significantly causes budget deficit.

Hypothesis 4

H_0: Budget deficit and Current account deficit does not significantly impact on Macro economic variables.

H_1: Budget deficit Current account deficit significantly cause impact on Macro economic variables.

1.7 Method of Research.

This involves the method employed in carrying out the research which is based on the theoretical background from empirical literature in most of the papers and articles on relationship between budget deficit and current account deficit. The methodology commonly applied includes, unit root test, co-integration test, Multivariate granger causality test, vector error correction model (VECM), vector auto regression model (VAR) and impulse response technique.

The application of these methods is to help identify the type of relationship that exists between the twin deficits, the direction of causality and establish if the twin deficit hypothesis is valid

either in the short-run or long-run for India. However, this study will employ the Johansen multivariate co-integration approach and the Vector Error Correction Model (VECM) in establishing the equilibrium long run relationship between the budget and current account deficits. Also, the study examines the direction of causality between the twin deficits within the multivariate Granger causality framework rather than the conventional bivariate framework. This is an improvement over the bivariate framework and helps to assess the relationship among the variables and not just in one direction. Also, distortion of the causality inferences is avoided which could be due to omission of relevant variables (Chang and Hsu, 2009).

The model employed is based on the formulation of the national income accounting identity. This is considered in empirical literature to be the starting point for assessing the causal link between the two deficits. Also, data used for this study is sourced from the Reserve Bank of India (RBI) Statistical Bulletin (2013 edition) and the World Bank Developmental Indicators (WDI) for the period from 1990 to 2013 on variables such as current account deficit as a percentage of GDP (CAD), Gross fiscal deficit as a proxy of budget deficits as a percentage of GDP (BD), inflation on the basis of WPI, interest rate on the basis of Call money rate and exchange rate.

1.8 Organization of Study.

This study is organized into five chapters. Chapter one basically shows introduction to the study and comprises of the background of study, statement of research problem, scope of study, research objectives, research hypotheses, research questions, data sources and method of research. In chapter two, a review of the literature pertaining to this study is discussed. This includes the origin of the twin deficit issue, some stylized facts on the twin deficit phenomenon for India, channels of transmission, theoretical, methodological and empirical review and a summary of empirical studies.

Chapter three comprises of the theoretical framework, method of research, technique of estimation, data measurement and description of variables. In chapter four, results of estimation is presented and the chapter five shows summary of findings, recommendations and conclusion.