Capital flows across geographical boundaries have become focus of concern after the East-Asian crisis. Capital flows are the flow of funds, loans, debt and resource from the developed or industrial to developing countries. The flows of capital are both short term as well as long term in nature. The capital flows are the flows from the surplus economic units as developing countries to deficit economic unit as underdeveloped countries. In developing countries capital flows are more volatile in nature than developed countries. 

The total international capital flows is divided in two segments; one is Foreign Direct Investment (FDI) which include the NRI deposits as the major part and Foreign Portfolio Investment (FPI) which includes as the equity investment flows such as Foreign Institutional Investment (FII), American Depository Receipts (ADR), Global Depository Receipts (GDR), External Commercial Borrowings (ECB) and Overseas Corporate Bodies (OCB). FII is the major part of the foreign portfolio investment in India. Portfolio flows are rendering the financial markets more volatile through increased linkage between the domestic and foreign financial markets. Capital flows expose the potential vulnerability of the economy to sudden with drawls of foreign investors from the financial markets, which will affect liquidity and contribute the financial market volatility. From the various types of capital flows, Foreign Direct Investment (FDI) might be among most helpful in terms of boosting recipient countries economic growth. The composition of capital flows has also gone through a transformation over time in line with global trend. During the 10 years between 1990-91 and 1999-00, India has mobilized around US $ 40 billion in foreign investment.

Globalization and liberalization over the last two decades has led to the emergence of new capital market, flexible exchange rate regimes and the removal of controls on capital flows over the world. India has been no exception, with the introduction of a unified exchange rate system, openness of investment in equity and debt sectors by non-resident
Indians and foreign institutional investors, current account convertibility and financial innovations in internationally traded financial products.

Capital flows and economic growth in India are positively related to each other. High surge of capital flows influences the domestic saving, investment and productivity of the country. Impacts of international capital flows on economic growth during post liberalization into India are very significant. It is argument that whether capital flows influences growth or growth influences capital flows. After 1991, the capital flows into India are increasing. International capital flows make a direct contribution to economic growth. The capital flow both foreign direct investment and portfolio flows into during 1980’s was felt to be influenced by the internal as well as external factor relating to domestic economies. The potential benefits from the flows are realized from improving productivity, efficient growth in recipient economies, the factors that are responsible for the flows both internal and external. During 1992-93 and 1994-95 the investment/GDP ratio, increase 3.5 percent in the capital inflows period. International capital flows are the integral part of the development process in India. The process of economic development has been accompanied by international investment flows in India. The question that should is whether capita from abroad helped India overcome the constraint on the economy and grow at faster rate than the earlier decade. The growth rate in the Indian economy during 1990’s was marginally lower than the 1980’s in India. The period of capital inflows coincided with the marginally rise in the investment/GDP ratio and an increasing domestic saving rate in the first half of the 1990’s. In the 1996-2000 periods when the inflows rose above the first half of the decade, investment actually declined along with increase in private and Government consumption.

Economic growth in India is financed either by its domestic savings or foreign saving that flow into the country. We had to largely depend on domestic savings to give impetus to our growth, prior to financial sector reform in the country. Though, the foreign capital flows into the country in the form of aid, External Commercial Borrowing (ECB) and NRI deposits, it did not and was not expected to contribute much towards are capital formation or economic growth. After the 1993, when capital account was partially
liberalized, it was hoped that capital inflows would contribute towards our economic growth. But, those capital inflows have not contributed much towards industrial production or economic growth. There are two reasons for this, one the amount of capital inflows to the country has not been enough. Two the amount of capital that does flow in, is not utilized to its full potential (Mazumdar, 2005).

The analysis of the study focuses on the following objectives:

1. To analyze the trends and composition of capital flows into India
2. To examine the effect of private foreign capital inflows on macroeconomic variables such as exchange rate, money supply, export, import, foreign exchange reserve, rate of interest, index of industrial production and wholesale price index as consequence of economic reforms in India.
3. To examine the effect of volatility of international oil price and international interest rate on private foreign capital inflows in India.
4. The study also examines the impact of volatility of capital flows on exchange rate in India.
5. To examine the impact of international capital flows on India’s economic growth.

The econometric methodology used in this study is that of time series analysis, with multivariate cointegration techniques, pair wise cointegration, Granger causality test, and impulse response function and variance decomposition method. These techniques allow us to capture short-term and long-term effects. The Vector Autoregressive (VAR) analysis is also used to study certain aspects. Data for the Indian economy between 1995 to 2006 is used.

The study makes use of variety of econometric models to carry out the empirical analysis. At the outset, in order to show the effects of private foreign capital inflows on macroeconomic variables namely, wholesale price index, exchange rate, money supply, export, import, foreign exchange reserve, rate of interest, index of industrial production, Vector Autoregressive (VAR) method and cointegration technique are employed. In particular, generalized impulse response function and variance decomposition models are used to
examine the short-term dynamics and casual relationship between variables. To examine
the effect of volatility of international oil price and international interest rate, the study
makes use of regression analysis generating volatility series through Generalized
Autoregressive Conditional Heteroskedasticity (GARCH 1 1) process and simple
variance model generating the volatility series through ten year rolling standard deviation
process. Also, to examine impact of volatility of capital flows on exchange rates,
regression analysis generating volatility series through Generalized Autoregressive
Conditional Heteroskedasticity (GARCH 1 1) process and simple variance model
generating the volatility series through ten year rolling standard deviation process have
been used. Finally to test impact of capital flows on economic growth, Engel-Granger
two-step cointegration procedure (1987) and pair-wise Granger causality test (1969) are
used

This study, therefore, made a modest attempt to analyze the dynamics of some
major macroeconomic variables during the post-reform period in India. The main focus
of this study lies in analyzing the behaviour of some selected macroeconomic indicators in
relation to the surge in inflows of private foreign capital in India since 1995, the year in
which several major reform programmes were initiated. A review of the analytical
literature shows that macroeconomic consequences of financial liberalization are the
results of the combined effect of money supply, interest rate, inflation, and exchange
rate policies followed by the government of a country.

In the second chapter, we review both theoretical and empirical existing literature in
relation between private foreign capital inflows and economic growth. The study
found that capital flows between the countries reduce the cost of capital, increase
investment and raise output. Free capital flows promote faster long term economic
growth in developing countries. Correlation between domestic and foreign financial
market affects the liquidity and market volatility by international capital flows. Financial
liberalization significantly raises the incomes of liberalizing economies by reducing the
cost of capital. The positive effects on financial sector development are likely to enhance
economic growth. Entry of international capital flows helps to provide greater depth to
the domestic capital market and reduce the systematic risk of the economy. Large capitals inflows allow the developing countries to continue high growth despite current deficit, and then well developed financial market promote growth.

In the third chapter, we examined capital flows to developing countries, the recent trend and prospects. We found that foreign financial inflows into the developing world rose significantly. The magnitude of the surge of inflows in the 1990s was found to be similar to that in the pre-debt crises period in the late 1970s/early 1980s, in scaled terms. Total capital flows into all developing countries, both in absolute and scaled terms, rose sharply in the 1990s and 2000s compared to inflows in the 1980s, when developing economies lost access to international capital markets in the aftermath of the debt crises in Latin American economies. So, the surge in 1990s can be viewed as a recovery to the levels of capital flows prevailing prior to the debt crises of 1980s.

In the fourth chapter, we theoretically examined the capital flows and their macroeconomic effect in India. We found that the composition of capital flows in India makes a significant both in terms of impact and smooth management. Portfolio flows are more volatile than direct investment flows and because of their short term in nature. Direct investment flows, on the other hand, are long term in nature and for that reason it is less volatile. It is significant that the distribution of capital flows between portfolio and Foreign Direct Investment (FDI) flows into India tilts distinctly towards the former in most years after liberalization. FDI does not reveal a stable trend so far. The trends of total international capital flows into India are positive, where portfolio investment flows are negative in the year of 1998-99. The Foreign Direct Investment (FDI) does not reveal stable trend so far in India.

Finally in sixth chapter, we empirically examined private foreign capital inflows and macroeconomic variables such as exchange rate, money supply, and foreign exchange reserve and interest rates, inflation rate, export and import in India. Followings are the major empirical findings given below:
Firstly, we have examined the dynamic relationship between private foreign capital inflows with macroeconomic variables including growth. As far as the literature is concerned, it suggests the existence of dynamic relationship among all macroeconomic variables with private foreign capital inflows. However, our empirical findings strongly show that there is dynamic short and long equilibrium relationship between few macroeconomic variables like exchange rate (EXR), foreign exchange reserve (FOREX), index of industrial production (IIP) and money supply (M3) with private foreign capital inflows (FINV) during the study period since 1995:04 to 2006:07.

Secondly, we have examined the effects of volatility of international oil price and international interest rate on private foreign capital inflows. The huge number of literature suggests that the volatility of international oil price and international interest rate affect the private foreign capital inflows. However, the empirical analysis shows that there is no effect of volatility of international oil price and international interest rate on private foreign capital inflows. These results have opened up some interesting issues for policy makers, financial economist and researcher.

Thirdly, we have examined the impact of private foreign capital inflows on economic growth using pair wise cointegration test and pair wise Granger causality test. Both the test suggests short and long run equilibrium relationship between the variables like economic growth and foreign direct investment and economic growth and foreign portfolio investment and vice versa. We find private foreign capital inflows have positive and direct impact in economic growth. In other way, the sound economic growth of the country attracts more private foreign capital inflows.

Finally, we have examined the volatility of capital flows on exchange rate. As the earlier literature and theory suggests, there is effects of capital flows volatility on exchange rate. However, empirical findings support the literature on in one way as capital flows volatility has the effects on exchange rate only but not in nominal effective exchange rate and real effective exchange rate with export based.
The impact of total capital flows on economic growth is positive in India. The Foreign Direct Investment (FDI) that has huge contribution to influence the economic behaviour is also positively affecting the economic growth. The Foreign Portfolio Investment (FPI) is indirectly affecting the economic growth, which has less impact on economy. The Foreign Institutional Investment (FII) has negative impact on growth, but it is very negligible. These are the following conclusions emerge from this study.

Some Policy Implications

The analysis and above mentioned results have in our judgement, important implication for policy and regulation. The experience with liberalization of controls on inward capital flows in India shows close similarities with other liberalizing economies. A striking difference between in India and these economies is that magnitude of capital flows has not been very large in India, so as to cause intensive macro and micro management problems. As such the challenges faced by India, both in terms of upon important economic variables such as macro economic management, have been far less.

Portfolio capital flows are invariably short term and speculative and are often not related to economic fundamentals but rather to whims and fads prevalent in international financial markets. There are three-policy implications, which emerge from this analysis. First India should move to influence both the size and composition of capital flows. Second India should focus on strengthening they’re banking system rather than promoting financial markets. Banks can provide the surest vehicle for promoting long-term growth and industrialization. Third, since financial markets in India are here to stay, Government should try to shield the real economy from their vagaries.

Capital inflows into India are associated with real appreciation, an area where conflicting policy choices are bound to rise. A more realistic response could be the continued use of capital controls, particularly in the short inflows. There is no doubt, particularly in the aftermath of the currency crisis that capital controls have reemerged as a self protection device to safeguard against heavy capital flow pressures. Finally, in managing capital flows, so far sterilization has been regularly used to limit the flows.
There are several possible policy responses if some of the effects of the sudden surges in the capital flows are to be neutralized. Most often, central bank intervene foreign currency markets and buy foreign currency in order to prevent a nominal exchange rate appreciation in India. The subsequent policy responses can be of two types sterilized and non-sterilized. While non-sterilized responses will allow the monetary impact to filter through the system. The build up of foreign exchange reserves creates a cushion, which is available when there is a reversal of capital flows. Sterilization has certain other consequences. A tight monetary policy might help domestic interest rates high, making the capital inflows even more attractive. Thus, it has been found in the case of some countries, which have witnessed sudden surges of capital inflows that sterilization effects have witnessed that sterilization effects have tapered of alter the first two years. The removal of trade restriction and liberalizing capital outflows are possible approached to counter balance the effects of capital flows.

The existing policies of the government are being continuously changed in favour of foreign capital in India. What it is present now is merely some of the major changes. But, thousands of other minor changes are taking place each week in some sector of the economy or the other, creating a vast network of incentives for FDIs that help it grow in both depth and extent. The pace of its growth in India, at both the Central and State levels, shows quite clearly that policy is now fully dictated by the imperialists.

The policy responses of the RBI supplement by encouraging capital outflows to reduce pressure on the rupee in the foreign exchange market and also to check declines in earnings of the exporters. If the RBI failed to intervene in the foreign exchange market, and the exchange rate regime is a pure float. From the 1995 onwards the RBI has typically absorbed about 50 % of net capital inflows into international reserve. The RBI has limited choice in sterilizing the monetary impact of capital inflows and private sector credit contraction and the Cash Reserve Requirement (CRR) of the commercial bank. The RBI sells Government securities from its asset portfolio to soak up the excess liquidity.
We believe the results on the whole are interesting and may throw more light on current debates. We have attempted to use up-to-date and appropriate data and methodology. However, the study is not without its limitations. The analysis and conclusions presented in the study on dynamic short and long-term equilibrium relationship of macroeconomic variables with private capital inflows in India are subject to certain limitations. The study is constrained due to the unavailability of data after the liberalization period 1991. The models had to be reformulated in order to make them compatible with the data available. Certain variables had to be dropped on account of non-available of reliable data.

**Scope for Further Research**

This study focuses on the effect of private foreign capital inflows on macroeconomic variables and economic growth in India. Many studies have been carried out on this topic, but few for developing countries including India. There is not much consensus between the studies, whether for developed or developing countries. Most of the studies contain highly ambiguous and contradictory/inconsistent theoretical and empirical results. India has also not escaped from the debate or from the ambiguity of the answers. This leaves room for one more study.

Further research is also necessary in order to examine the effect of private foreign capital inflows on macroeconomic variables as well as possible regime changes that characterize the nature of the transition process in the Indian economy.