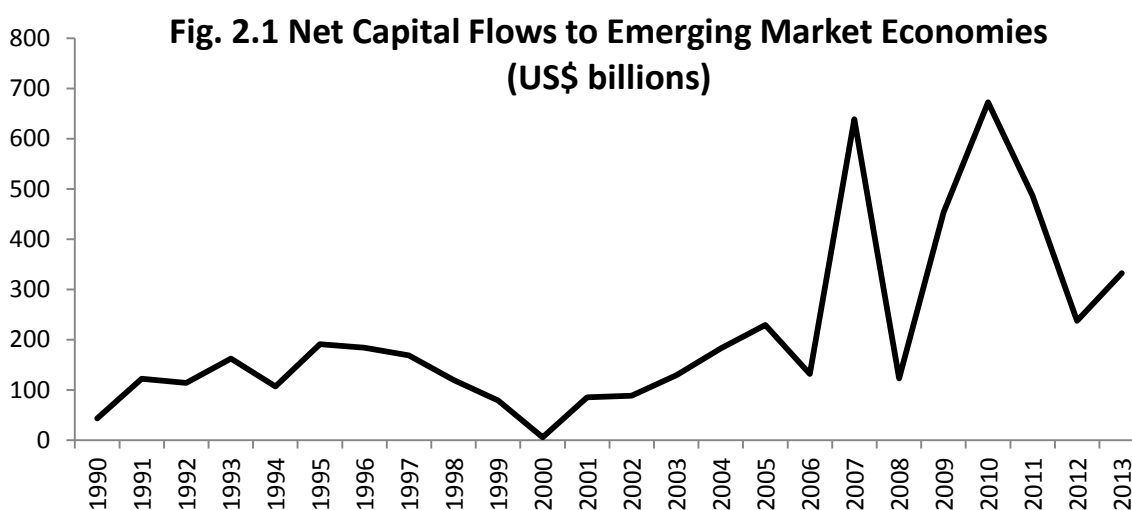


## Chapter 2: India's Experience with Capital Flows and their Importance

In this chapter the main stylized facts associated with the temporal dynamics of capital flows to India since the liberalization of the external sector in early 1990s along with the global context of capital inflows to emerging market economies is documented.

### 2.1 Global Scenario of the Capital Inflows to Emerging Market Economies (EMEs):

**2.1.1 Capital flows in 1990s:** After remaining stagnant in the second half of 1980s, the capital flows to emerging market economies grew rapidly since the early 1990s. Pull factors such as the overall improvement in macroeconomic management that had led to a stronger economic performance, macroeconomic stability accompanied with inflation stabilization along with opening of capital account in varying degrees and global push factors such as easing of monetary conditions in the advanced economies that had led to low interest rates, international search for yield due to perceived low returns in these economies and growing trend towards integration of world capital markets were important for this episode of surge in capital flows (Mohan, Kapur 2010). Fig 2.1 indicates the trend of net capital flows to all emerging and developing countries from 1990 onwards using the data on the World Economic Outlook Database of the IMF. The net capital flows to all emerging market economies and developing countries reached an annual average of US\$ 132 billion during 1990-96.



Source: IMF, World Economic Outlook Database, October 2013.

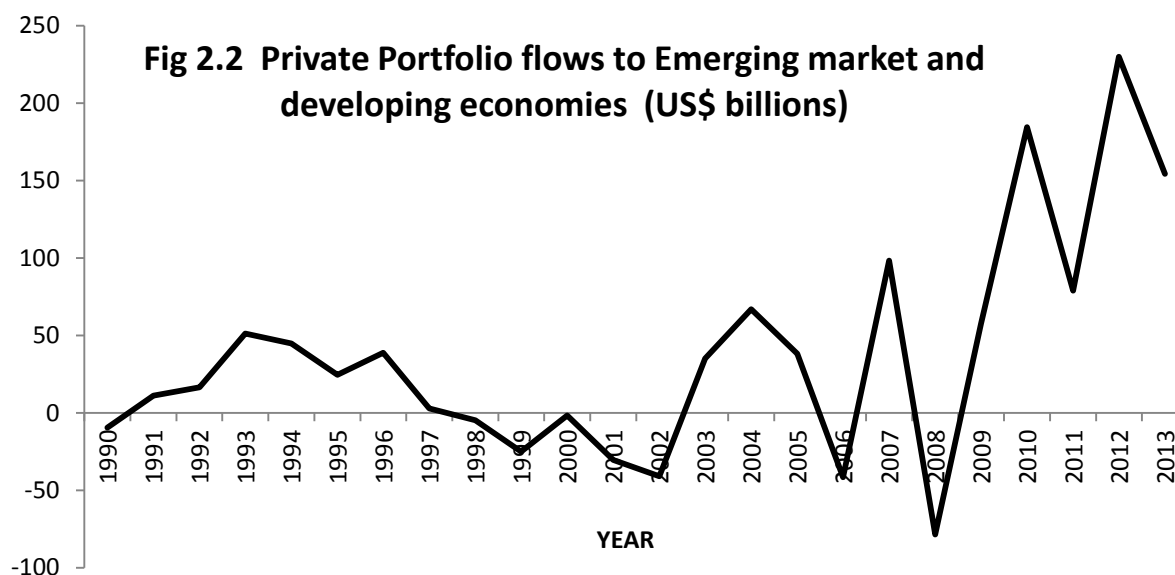
This episode of expansion in capital flows suffered a setback in the Mexican crisis at the end of 1994 and it really came to an end with the onset of the Asian and Russian crisis in 1997-98. Total private capital flows fell to an annual average of US \$ 93 billion during 1997-2000. The crisis exposed the vulnerability of countries with weak banking systems and underdeveloped capital markets to the volatility and sudden reversal in capital flows (CGFS, 2009).

**2.1.2 Capital flows in 2000s:** Beginning in 2003, a renewed up swing set in with the capital flows to emerging market economies rising strongly in the face of a lower interest rate regime in the US and other major advanced economies and the concomitant search for yield. The net capital inflows rose three-fold to an annual average of US \$ 262 billion during 2003-07 reaching a high of US \$ 639 billion in 2007. Reduced reliance on short term foreign currency denominated debt flows and avoidance of currency mismatches made these flows more sustainable and reduced their tendency to provoke external financial crisis as compared to the past (CGFS 2009). Over the period, the domestic financial system in emerging market economies had become more resilient, equity markets had deepened, domestic financial firms had become stronger and long term currency, debt markets had developed. The large surpluses in capital account of emerging market countries in this period were accompanied with the substantial surpluses in the current account balances of these countries in contrast to the modest deficits in the previous years. These surpluses had led to increasing foreign exchange reserves in these countries, besides creating significant new challenges for macroeconomic management and financial stability. The sharp expansion from 2003 onwards in the volume of net capital flows has been characterized by a significant growth in gross inflows and gross out flows. Another notable development has been that the emerging market economies as a whole have become an important capital exporter in the form of direct investment and portfolio debt investments. However, as experienced in the past, this boom period in capital flows was followed by a sudden reversal in 2008 and 2009 in the aftermath of the global financial crisis. Such reversals resulted in declining foreign exchange reserves in these countries which in turn led to balance of payment and macro economic crises (Mohan and Kapur, 2010).

**2.1.3 Recent Episodes of Capital flows:** After ebbing of the 2008 global financial crisis, capital flows to emerging market economies rebounded in late 2009 and 2010. In several countries the net inflows reached close to all time highs. By the second half of 2011, however, amid a worsening global economic outlook capital flows receded rapidly, eliminating much of

accumulated currency gains and leaving emerging markets struggling with sharply depreciating currencies in their wake.

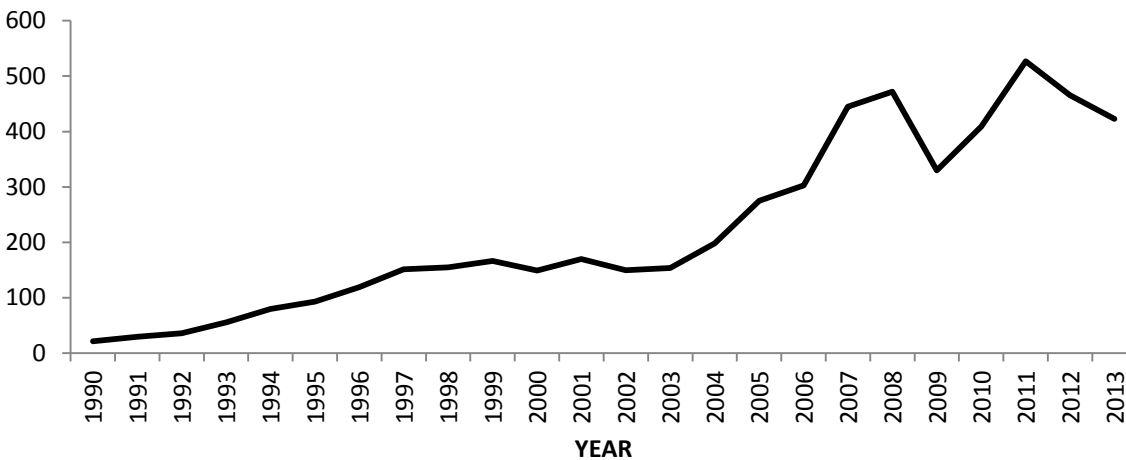
**2.1.4 Changing composition of capital inflows:** The composition of capital flows to emerging market countries has changed significantly during the 1990s and 2000s. While the volume of capital flows in the 1980s comprised more of debt flows, in 1990s equity inflows surged to catch up with the debt inflows. Following the Asian crisis in 1997, debt flows reversed sharply but equity flows witnessed slight expansion in the subsequent years. However, debt flows started to recover in the early 2000s leading to a more balanced pattern of capital flows (CGFS, 2009). Fig 2.2 indicates the trend of net portfolio flows to emerging market economies since 1990. As can be seen, portfolio flows to EMEs have exhibited substantial volatility reflecting the role of both the domestic and the global factors.



*Source: IMF, World Economic Outlook Database, October 2013*

Over the last two decades, Foreign Direct Investment (FDI) to EMEs has witnessed a steady increase as indicated in Fig 2.3.

**Fig 2.3 Net Direct Investment to emerging market and developing economies (US\$ billions)**



*Source: IMF, World Economic Outlook Database, October 2013*

In the period 1990-2007, Direct Investment continued to be the dominant form of capital flows to EMEs. However, the surge in capital flows subsequent to the 2008 global financial crisis has been dominated by volatile portfolio inflows, which account for almost one half of the inflows much more than in the previous wave. Direct investment and cross-border bank lending have been less predominant this time. Another feature of capital flows in the last few years is the rapid increase in FDI outflows from major emerging market economies driven by mergers and acquisitions activity by many emerging market companies in other developing countries and developed countries following strong growth. In addition, net private portfolio flows abroad from these countries also indicated a stronger trend vis-a-vis the gross portfolio inflows (CGFS, 2009).

**2.1.5 Volatility of capital flows:** Another important characteristic of the capital flows to emerging market economies in the 1990s and 2000s has been the increasing volatility over time. The volatility of capital flows is often a symptom of the underlying global and domestic factors (CGFS 2009). Financial or monetary shocks in investor countries, sharp changes in expectations, contagion (a shock in one emerging market country leading to a indiscriminate panic among foreign investors in other countries), over which emerging market countries have little control, are known to destabilize capital movements in these economies. International experience shows that the boom periods in capital flows have frequently been followed by periods of reversal of these flows. Historically, while FDI has been regularly the most stable

form of capital flows, portfolio investment flows tend to be more volatile and procyclical. Cross border bank lending too has been an unstable source of finance. The recent resurgence of capital flows to emerging market economies, subsequent to the global crisis in 2008, is characterized by a predominance of portfolio flows. This shift towards portfolio flows implies that higher inflow volume may be accompanied by increased volatility. Large swings/fluctuations in capital flows in a short period often impose heavy costs on the real and financial sectors of the economy and pose serious challenges for macroeconomic management (Mohan and Kapur, 2010). Development of domestic stock markets and banking systems tends to reduce the volatility of portfolio and banking flows (Broto et al, 2008).

## **2.2 Evolution of openness to External Capital Flows in India:**

In broad terms, India's approach towards liberalization of external capital flows can be divided into three main phases (Shah and Patnaik, 2011).

**2.2.1 In the first phase** spanning up to first four decades after independence (until the 1980s), the economic policies of Indian Government were characterized by planning, control and regulation (Mohan, 2008). The development strategy was focused on self-reliance and import substitution. Capital mobility was restricted by administrative controls and India had a closed capital account. The controls were largely influenced by balance of payments situation. International capital flows during this period were mainly dominated by official assistance in the form of multilateral and bilateral concessional finance. In the context of a widening current account deficit this traditional external source of funds was subsequently supplemented with external commercial loans, including short term borrowings and deposits from Non Resident Indians (NRIs). This resulted in a significant increase in the proportion of short term debt in India's total external debt by the late 1980s.

**2.2.2 The Second Phase of capital flows liberalization** was characterized by the initiation of the economic reforms process in the external sector following the Balance of Payment (BoP) crisis of 1991. An inappropriate exchange rate regime, unsustainable current account deficit and significant increase in proportion of short term debt in India's total external debt were identified amongst the key contributing factors of the BoP crisis (Mohan, 2008). In the aftermath of the

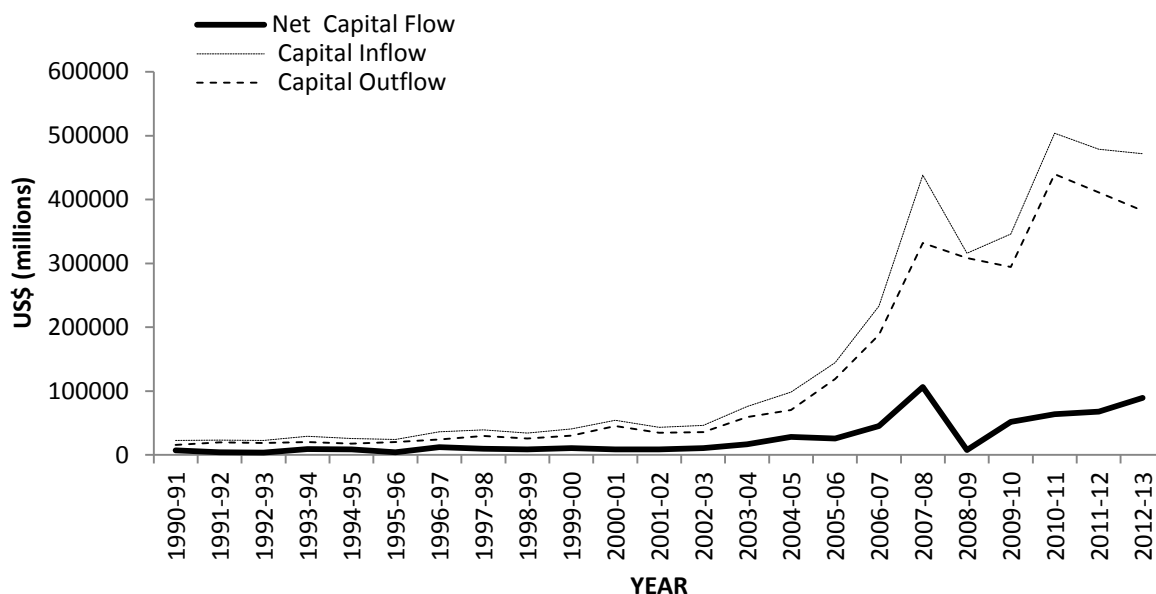
crisis an IMF structural adjustment programme, and a process of economic reforms and liberalization of the current and capital accounts were initiated. The reforms process taken up by the Indian Government aimed at transforming the controlled Indian economy into a market driven one and rectifying the deficiencies that had led to the payment in balances crisis in 1991. The significant institutional, regulatory and policy changes that were made to impact the external environment during this period were : a swift transition to market determined exchange rate regime, removal of restrictions on trade, full convertibility of the current account and a gradual opening of the capital account (Mohan, 2008). The BoP crisis had shown that debt flows, especially short term could lead to BoP difficulties if a country with inflexible exchange rate faced macroeconomic imbalances. Learning from this experience, the policy makers were cautious about opening of the economy to debt flows. As a result, while liberalizing private capital flows, the emphasis was on a compositional shift from debt to non-debt creating flows, strict regulation of external commercial borrowings especially short term debt and discouragement of volatile elements of flows from NRIs (Mohan, 2008). The emphasis was therefore on private equity flows of foreign investment -both FDI and portfolio investment. The specific measures to attract foreign investment focused on elimination of entry barriers such as enhancing foreign investment limits and removal of technology transfer requirements, simplification of procedures, financial market development and integration. Direct investment flows were first to be liberalized followed by portfolio flows within a year (Sept 1992). FDI was permitted through a dual route i.e., automatic and discretionary with the scope of the automatic route being progressively enlarged to almost all the sectors. This has been accompanied with gradual increase in the limits on the share of firm ownership in every sector. Portfolio investments into listed equities were opened up through Foreign Institutional Investors' (FII) framework. There are no limitations on participation by global firms in Indian equity markets. Once registered with the Indian securities regulator (SEBI), FIIs can buy shares in Indian equity market with quantitative restrictions or constraints on repatriation. A strong reform effort aimed at fundamental transformation of the equity market was initiated in December 1993. The changes in the equity market helped to increase liquidity and increase the number of investors and trades in the market. The portfolio investments by FIIs that were initially restricted to equity were subsequently relaxed to include debt instruments in 1997 and government bonds in 1998. Corporate bonds were allowed to be held by FIIs after 2004 (Shah and Patnaik, 2011).

**2.2.3 The Third phase of capital account liberalization** involved relaxing the ceilings on capital outflow to facilitate direct overseas investment by Indian companies through joint ventures and wholly owned subsidiaries and through financial support to exports especially project exports. The limits on outbound investment by individuals were also eased. The main objective of opening up outward equity investment by Indian firms was to enable them to establish production, marketing and distribution networks, to improve their access to new technology, new markets and natural resources with a view to increase their global outreach and competitiveness (Shah and Patnaik, 2008). India's overseas investment policy that was liberalized in 1992 was further liberalized in 1995. Since 2004 Indian firms have been permitted to invest in foreign entities up to 200% of their net worth each year. Outbound FDI flows from India have risen sharply since 2004. Capital controls in the recent years have also been eased on outbound portfolio flow. Individuals are now permitted to take \$200,000 per person per year out of the country. This has improved international portfolio diversification opportunities for the Indian investors.

### **2.3 The Trend & Magnitude of Capital Flows to India:**

**2.3.1** Fig. 2.4 indicates the trend pattern of the net capital flows to India since 1991. Net capital flows increased from \$ 7.1 billion in 1990-91 to \$ 8.85 billion in 2000-01 and further to \$ 89.30 billion during 2012-13. Gross volume of capital inflows amounted to \$ 22.77 billion in 1990-91 and \$471.70 billion in 2011-12 against an outflow of US \$ 15.71 billion and US \$ 382.40 billion respectively.

**Fig 2.4 Net Capital Flows to India**



Source of Data: Reserve Bank of India Handbook of Statistics

Expressed in percentage of GDP, the net capital flow increased from 2.2% of GDP in 1990-91 to around 3.63 % in 2010-11 and further to 4.84 % in 2012-13. Gross capital flows as a percentage of GDP, which reflect the true magnitude of capital flows into India, have undergone an increase from 7 % in 1990-91 to 29.38 % in 2010-2011 and further to 25.60 % in 2012-13. Much of the increase has been offset by corresponding capital outflow largely on account of Foreign Institutional Investors' (FIIs) portfolio investment transactions, India's investment abroad and repayment of external debt. Capital outflow increased from 4.8 % of GDP in 1990-91 to 25.64 % of GDP in 2010-11 and to 20.76% of GDP in 2012-13. The trend of Net Capital flows indicates stagnation at roughly 2.5% of GDP from the period 1990-91 to 2000-01 and large consistent rise to 4.84 % of GDP in 2012-13 from 2002-03 onwards. The trends indicate that due to policy gradualism and the institutional changes that had to be implemented as part of the reform process introduced in the early 1990s, capital account liberalization showed substantial impact from 2002 onwards. As a proportion of GDP net capital flows to India were much higher than Asian and most other EMEs in the period 2003-2007. In 2007 India was a clear outlier amongst EMEs with exceptionally large net capital flows of US \$ 108 billion (9.2% of GDP) (Mohan and Kapur, 2010). Strong capital flows to India in the recent period reflect the growing confidence in the



Indian economy. The rise in net flows suffered a brief setback in the wake of the global financial crisis in 2008 but resumed thereafter to again level off in 2010 because of global factors.

**2.3.2. Composition of Capital Flows:** The composition of capital flows to India since 1990s reflects a shift towards non-debt creating foreign investment flows in keeping with the policy emphasis subsequent to the BOP crisis on encouragement to non-debt crediting flows and discouragement to short term debt flows. External aid as a significant contributor to the capital account declined steadily since 1990's and the official flows were replaced by the private capital flows in the form of portfolio investment, foreign direct investment and external commercial borrowings. This trend is clearly indicated in Table 2.1 that gives a profile of the capital flows to India since 1990-91.

**Table 2.1 CAPITAL FLOWS TO INDIA (US \$ million)**

YEAR / ITEM		1990-91	2000-01	2010-11	2012-13
Net Capital Flows	Net	7056	8840	63739	89300
Foreign Direct Investment	Inflows	107	4101	35464	39786
	Outflows	10	829	26104	19957
	Net	97	3272	9360	19819
Foreign Portfolio Investment	Inflows	6	13619	253952	175241
	Outflows	-	11029	223660	148349
	Net	6	2590	30292	26891
External Assistance	Inflows	3397	2941	7882	4735
	Outflows	1193	2531	2941	3752
	Net	2204	410	4941	982
External Commercial Borrowings	Inflows	4282	9621	24113	27617
	Outflows	2028	5318	11606	19132
	Net	2254	4303	12507	8485
NRI Deposits	Inflows	7348	8988	49252	65309
	Outflows	5811	6672	46014	50466
	Net	1537	2316	3238	14842

*Source of Data: Reserve Bank of India Handbook of Statistics*

Table 2.2 indicates that while the share of non-debt creating private foreign investments in total flows has increased over the period, at the same time there has also been a significant rise in debt

creating flows in the last few years mainly due to the increase in external commercial borrowings by the Indian Corporates.

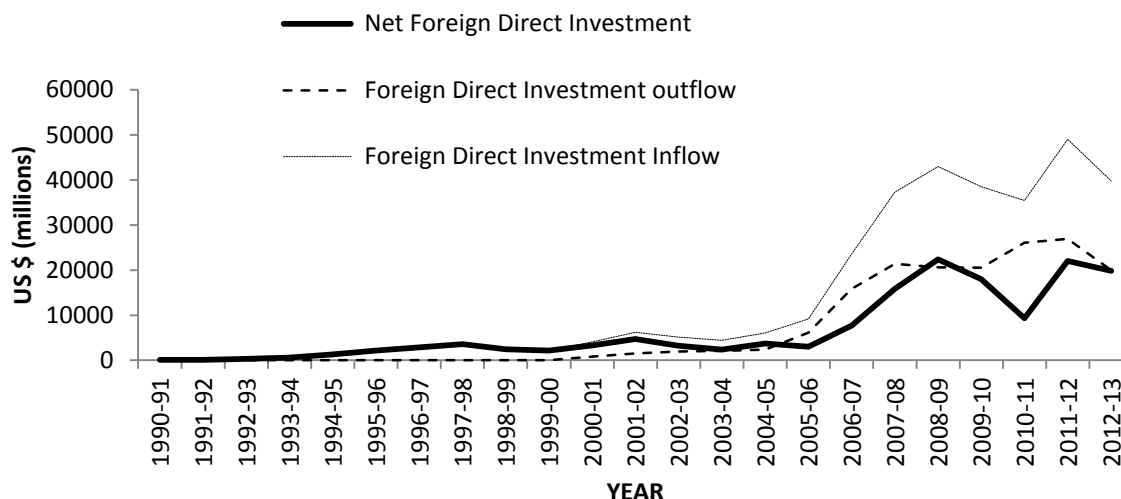
**Table 2.2 COMPOSITION OF CAPITAL INFLOWS TO INDIA (US \$ Million)**

<b>YEAR / ITEM</b>	<b>UNIT</b>	<b>1990-91</b>	<b>2000-01</b>	<b>2010-11</b>	<b>2012-13</b>
Net Capital flows	(US \$ Million)	7056.00	8840.00	63739.00	89300.00
(a) Net foreign Direct Investment	%	1.37	37.01	14.68	22.19
(b) Net Foreign portfolio	%	0.09	29.30	47.53	30.11
© Net Debt-Creating flows	%	71.17	30.38	52.29	53.34
(d) Net Other Capital	%	27.37	3.30	-14.50	-5.65
<b>Total (a+b+c+d)</b>	%	100	100	100	100

*Source of Data: Reserve Bank of India Handbook of Statistics*

**2.3.2.1 Foreign Direct Investment:** There has been a significant increase in the magnitude of FDI inflows to India since the opening up in the early 1990s. By 2000 most sectors were opened up to 100% foreign ownership. Fig 2.5 that traces the net FDI flows to India from 1990-91 onwards, indicates a particularly strong growth in the recent five years. As a consequence of the easing of capital controls and growing investor confidence, the Net FDI flows to India have risen from US \$ 0.107 billion in 1990-91 to US \$ 3.27 billion in 2000-01 and US \$ 19.95 billion in 2012-13.

**Fig 2.5 Foreign Direct Investment**

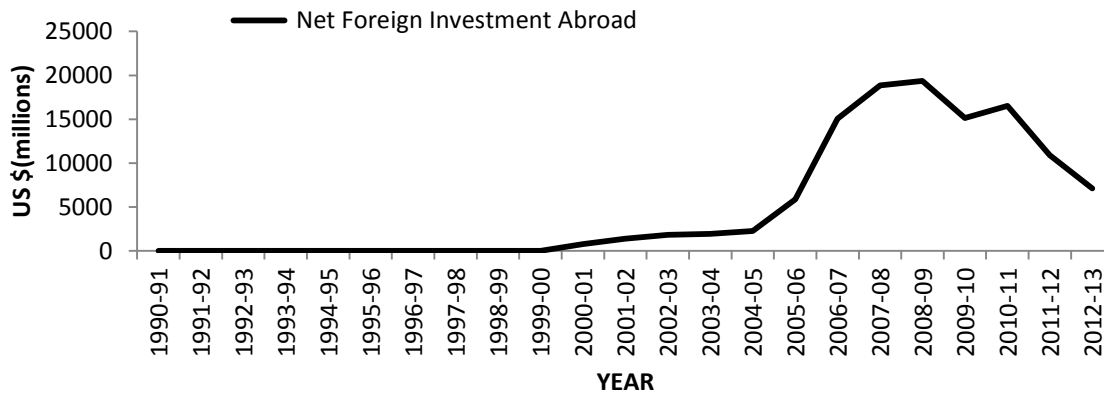


*Source of Data: Reserve Bank of India Handbook of Statistics*

As a share of GDP the net FDI flows increased from 0.03 % of GDP in 1990-91 to 0.69 % of GDP in 2000-2001 and thereafter to 1.08 % of GDP in 2012-13. Even though FDI investors are permitted to repatriate capital, so far in the Indian experience, the reverse flow of FDI capital has been miniscule. Consequently, FDI flows into India have been by and large a one way process of capital coming into the country. Most of the FDI flows into India have been attracted into the service sector. This is in contrast to dominance of manufacturing in FDI to many EMEs. This is indicative of the service lead growth of the Indian economy and its comparative advantage in the International trade in services (Mohan, 2008). Within the service sector financing, insurance, real estate and business sector witnessed a large increase in their share in FDI flows to India between 2000-01 and 2012-13. Computer hardware and software services also attracted significant FDI. Captive BPO/ subsidiaries have been the main vehicles for FDI investments in computer services that have facilitated offshore delivery of computer services and IT enabled services.

**2.3.2.2 FDI Outflows on account of overseas investment.** The rise in FDI inflows to India in the recent years has been accompanied by a significant leap in outflows on account of overseas investment by Indian corporates. The Fig 2.6 below traces the trend of outbound FDI since 1990-91.

**Fig 2.6 Net Outbound FDI**

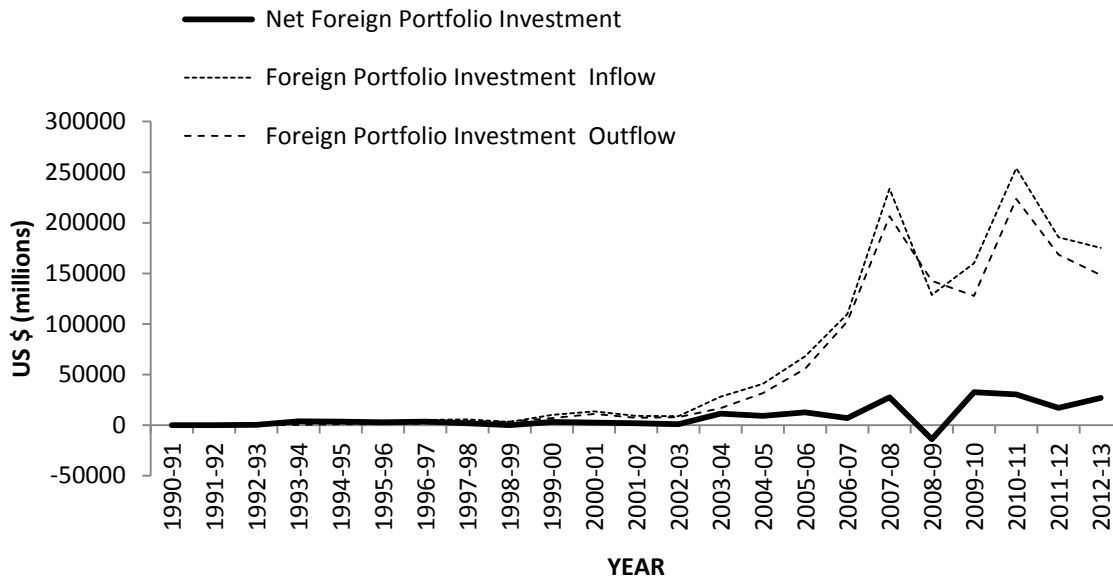


*Source of Data: Reserve Bank of India Handbook of Statistics*

Outbound FDI flows from India jumped from US \$ 0.76 billion in 2000-01 to US \$ 16.52 billion in 2010-11. Outbound FDI has witnessed a down trend recently and stood at US \$ 7.13 billion in 2012-13. As a share of GDP the outbound FDI increased from 0.045 % of GDP in 2000-01 to 0.387 % of GDP in 2012-13. IT and related services sector firms were the first to initiate overseas investment in the form of acquisition of foreign companies. This enabled them to gain better access to the US market. Subsequently, Pharmaceutical firms employed overseas acquisitions to reach out to the regulated foreign markets like the US and Europe. The acquisitions of natural resources like oil, coal, mineral and metals have also attracted the attention of Indian companies but their share in outward investments is presently low. Overseas investments by Indian firms are also increasing to other areas such as non-financial services. As regards, destination of outbound flows, developed countries, mainly the US and Europe accounted for almost three fourths of the overseas investment during the period 2000 to 2012.

**2.3.2.3 Foreign Portfolio Investment Flows:** The portfolio flows to India have also registered a sharp growth since the opening up through the FII framework from the early 1990s. Fig.2.7 indicates the trend of Net Portfolio flows to India since 1990-91.

**Fig 2.7 Foreign Portfolio Flows to India**

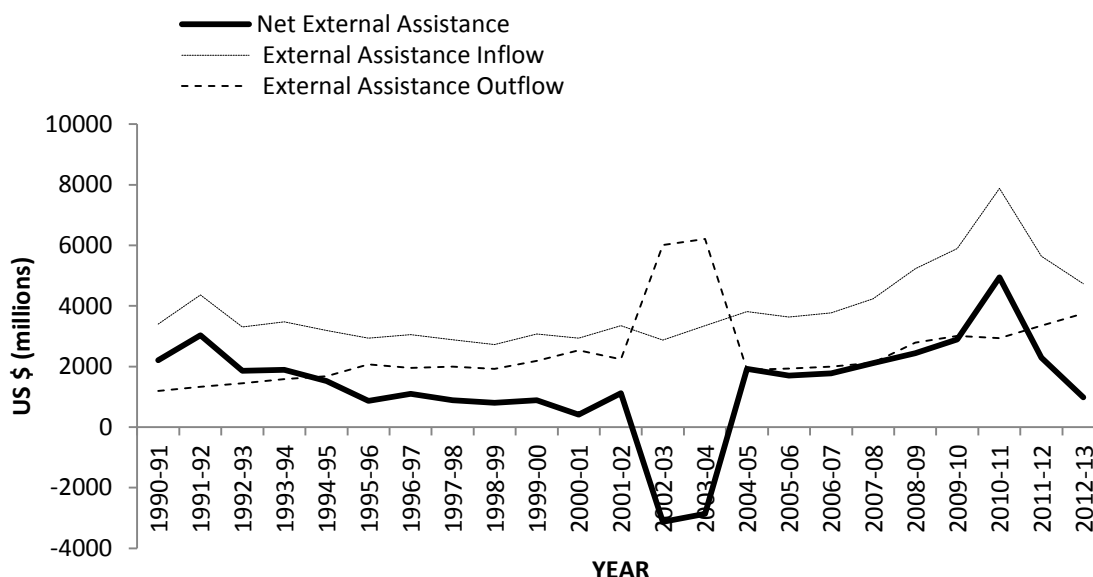


*Source of Data: Reserve Bank of India Handbook of Statistics*

The net portfolio flows have registered a growth from US \$ 0.006 billion in 1990-91 to US \$ 2.6 billion in 2000-01 and further to US \$ 26.9 billion in 2012-13. As a share of GDP the net portfolio flows have grown from 0.54 % of GDP in 2000-2001 to 1.46 % of GDP in 2012-13. India's share in net portfolio flows to emerging markets and developing countries has expanded significantly during this period. The portfolio flows in India have dominated FDI flows during the various periods of time. This is in contrast with what has been observed in most developing and emerging market economies where foreign capital was dominated by FDI flows after opening up of the capital account. In a way this observation is indicative of the substantial changes in the global financial markets by the 1990s with portfolio capital flows registering a sharp rise (Kohli, 2001). Another reason for tilting the composition in favour of portfolio flows is that foreign portfolio investments in India through financial market route was much faster and simpler as compared to FDI where procedures remained complicated and discretionary. Portfolio investments exhibit substantial inbound and outbound flows due to the de facto convertibility granted to these flows. However, unlike FDI flows that have exhibited steady upwards trend, a remarkable feature of the portfolio flows has been that over the years they have been more volatile depending on the domestic and international market sentiments.

**2.3.2.4 Debt Creating Flows:** These mainly comprise of the Loans, Banking Capital and Rupee Debt Service. Loans mainly comprise of External Assistance, Commercial Borrowings (Medium Term and Long term), and Short Term Credits to India.

**Fig 2.8 External Assistance**



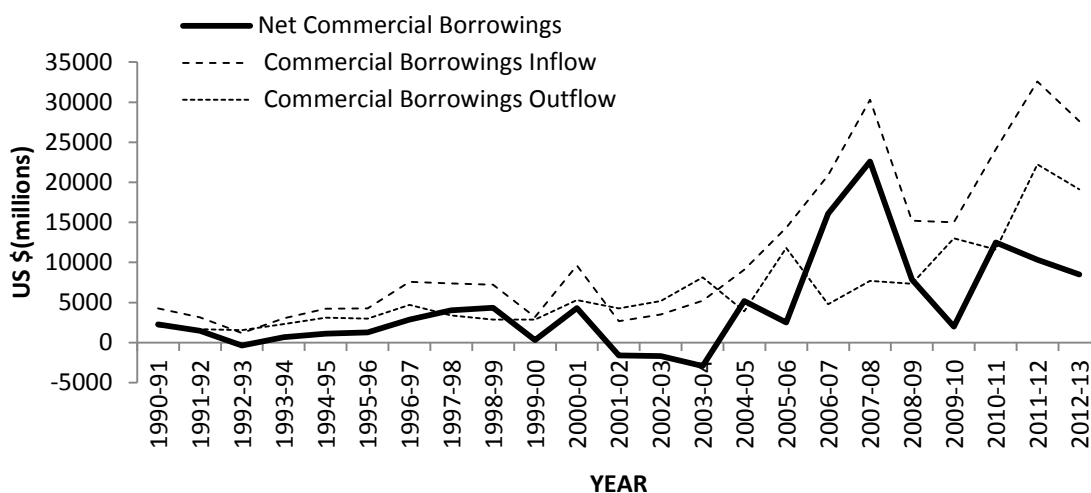
*Source of Data: Reserve Bank of India Handbook of Statistics*

External Assistance consists of debt-creating external aid flows from bilateral and multilateral sources. Up to 1970s external assistance used to be the major source of external financing, but they declined significantly thereafter. The net external assistance flow which stood at US \$ 2.20 billion in 1990-91 declined to US\$ 0.410 billion in 2000-01 and US \$ 0.982 billion in 2012-13. Their share in India’s total net capital flows dwindled from 31.2% in 1990/91 to 5% in 2000-01 and further to 1 % in 2012-13 and they have been replaced by private capital flows. In the recent years there has been a significant outflow of external assistance that India has started extending to other developing countries in the form of grants and soft loans for technical cooperation, training and infrastructure development. In 2012-13 net flows of external assistance by India stood at US\$ 286 million. Fig 2.8 indicates the trend of net flows on account of External Assistance.

Commercial Borrowings relate to the borrowing abroad by Indian corporates in the form of foreign currency denominated loans or bond issues abroad. With the decline in aid flows in the

late 1970s and increase in external financing requirements to meet the BoP obligations, commercial borrowings from international capital markets were allowed. Commercial Borrowings exhibited a decline in early 1990s in the wake of BoP crisis. Even though Commercial flows resumed subsequently, their demand in late 1990s and early 2000 remained low on account of global economic slowdown. Fig 2.9 indicates the trend of net flows on account of Commercial Borrowings. Driven by high domestic interest rates, robust growth expectations, combined with greater risk appetite of global investors for emerging markets bonds and loans, the net flows from Commercial Borrowings, increased significantly from US \$ 4.3 billion in 2000-01 to US \$ 8.48 billion in 2012-13.

**Fig 2.9 Commercial Borrowings**

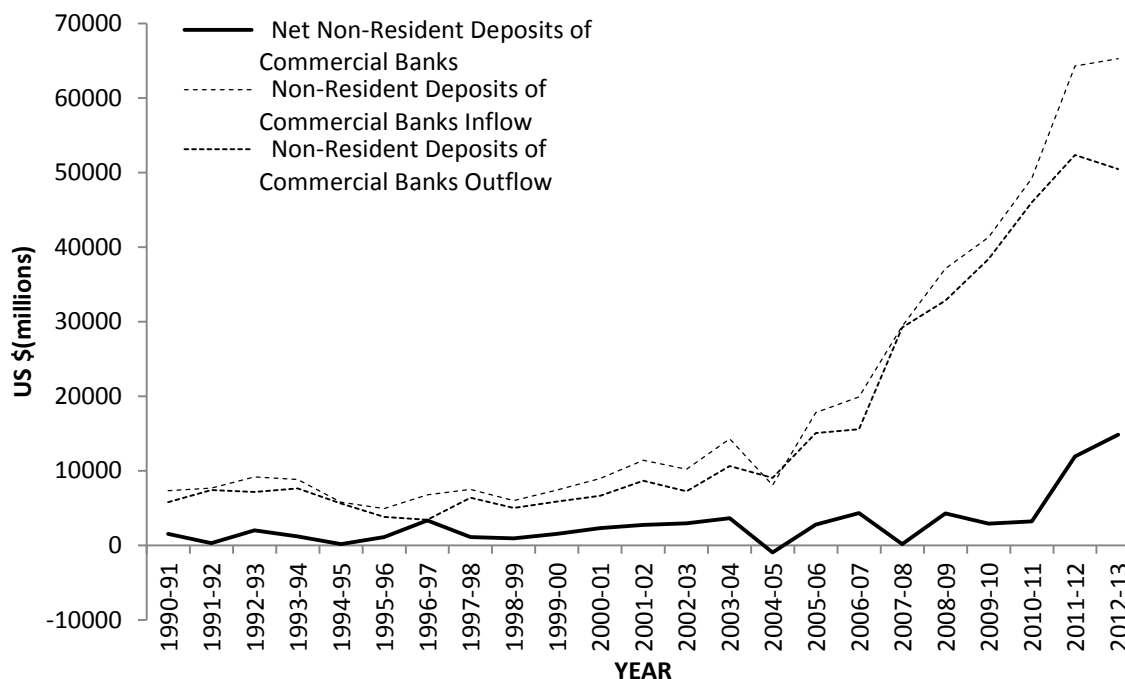


*Source of Data: Reserve Bank of India Handbook of Statistics*

An important component of the Banking Capital flows is the Non-Resident Indians (NRIs) Deposits. These constitute borrowings by Indian banks abroad in the form of bank deposits, both rupee denominated and foreign currency denominated, from NRIs/Overseas corporate bodies. The interest rates on these deposits are set by Reserve Bank of India (RBI). While NRI deposits were a generally stable source of support to India's foreign exchange requirements in the wake of decline of external assistance flows in the 1980s, but the external payment crisis in 1990-91 demonstrated the vulnerability associated with these deposits due to drastic change in

expectations in times of difficulty (Mohan, 2008). Since the 1990s the interest rates on these deposits have been aligned to international rates. However, their interest rates and maturity requirements are changed by the RBI from time to time, in order to modulate these flows in accordance with the overall macroeconomic management requirements. Fig 2.10 traces the Net flows on account of NRI deposits from 1990-91 onwards.

**Fig 2.10 Non Resident Indian Deposits**



*Source of Data: Reserve Bank of India Handbook of Statistics*

## 2.4 The Role of PULL and PUSH Factors in determining Capital Flows to India

The surge of capital inflows that India experienced after the liberalization in early 1990s can be explained in the context of the roles of PUSH and PULL factors as enumerated in the economic literature. The relatively high interest rate differentials between India and the rest of the world have played an important role in attracting foreign capital after the opening of financial markets (Kohli, 2001). For e.g. the search for yield in view of very low real long-term interest rates in advanced countries has been an important factor driving portfolio flows to India as is the case with other emerging market economies. The timing of these flows however, suggests that the

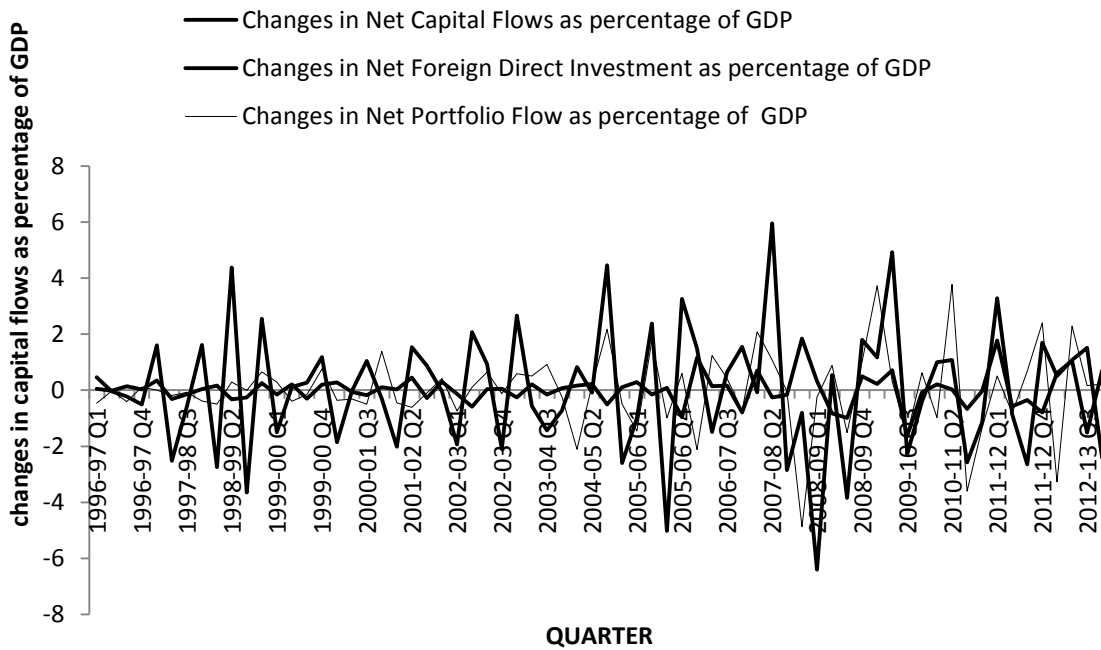


internal PULL factors were equally important (Kohli, 2001). The significant institutional, regulatory and policy changes following the balance of payment crisis in 1991 such as switch to flexible exchange rate regime, full current account convertibility, dismantling of trade restrictions, consolidation of external debt, liberalization of investment policies relating to FDI, etc. catalyzed these inflows. The liberal capital account policy regime and growing investor opportunities in India have significantly contributed to FDI inflows to India since the early 1990s. Allowing foreign institutional investors (FIIs) to operate in Indian markets and expanding the scope of these investments from equity initially to include debt and government bonds subsequently, further attracted these flows. In addition, domestic factors such as strong macroeconomic fundamentals, a resilient financial sector, sophistication of the domestic equity market, the improved performance of the corporate sector and attractive valuations also attracted large portfolio flows (Mohan, 2008).

### **2.5 Volatility of Capital Flows:**

The capital flows to India since the liberalization of the capital account in early 1990s while being large and growing have at the same time been increasingly volatile. The rise in volatility of capital flows has been more prominent in the recent years since 2003-04 with the net capital flows jumping to a level of 9% of GDP in 2007-08 and then slumping to a level of 0.8 % of GDP in the very next year 2008-09 in the backdrop of the global financial crises. Fig 2.11 below indicates the quarterly changes in the net capital flow, FDI , Portfolio flows as a ratio of GDP from 1992-93.

**Fig 2.11 Volatility of Capital Flows**



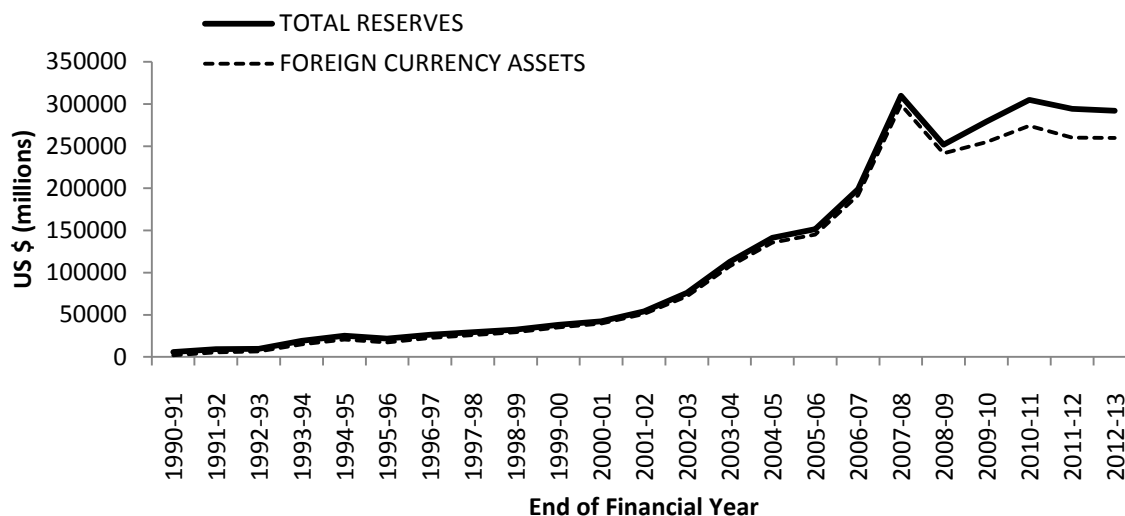
*Source of Data: Reserve Bank of India Handbook of Statistics*

As seen the portfolio flows that are subject to sudden reversal are more volatile as compared to FDI and the other forms of capital flows to India, a phenomenon experienced by other EMEs as well.

## **2.6 Accumulation of Foreign Exchange Reserves**

Substantial inflows of foreign capital to India since liberalization have not only financed current account deficits but also have resulted in an accumulation of foreign exchange reserves. Fig 2.12 traces the level of foreign exchange reserves from 1992-93 onwards that have mainly resulted from the interventions by RBI in the foreign exchange market in the wake of rising capital flows and increase in volatility.

**Fig 2.12 Foreign Exchange Reserves**



*Source of Data: Reserve Bank of India Handbook of Statistics*

It can be seen that since the opening up of the capital account, the stock of reserves has increased regularly. A brief decline in foreign exchange holdings is witnessed in the period 2007/08 to 2008/09 which corresponds to the global financial crisis in 2008. From a level of US \$ 5.83 billion in 1990-91 the stock of reserves increased to US\$ 292 billion by end of 2012-13. This heavy build up of reserves consequent to the capital flows is similar to the reserve accumulation pattern of many EMEs in the post capital account liberalization phase of heavy capital flows.

### **2.7 The impact of capital flows on Indian Economy & the Importance of the study thereon.**

Several studies in the economic literature have documented that capital flows affect a wide range of economic variables such as real exchange rates, foreign exchange reserves, money supply, interest rates, inflation, savings and investment etc. As will be discussed in detail in the next chapter there has been an active and continuing debate in the literature on the costs and benefits of capital flows to the host countries in terms of economic performance.

The concept of real exchange rate has been most widely used in the theoretical literature and empirical studies to analyze the impact of capital flows on the economies of the developing countries. An important reason for this is that of all the macroeconomic effects associated with international capital flows, appreciation of real exchange rate is one of the main negative consequences. Appreciation of the real exchange rate, which is associated with capital flows, is

an important determinant of the possible loss of external competitiveness, which hurts exports. This will lower the profitability of the trading sectors of the economy and disrupt the process of trade liberalization- a problem popularly known as Dutch disease. In the developing countries a large number of people are employed in the goods sector. This loss of competitiveness may thus have adverse implications for economic growth, equity and diversification. Maintaining high level of competitiveness is important for an economy as it enhances exports and enables it to sustain high output growth without straining the balance of payments, besides contributing to economic diversification. In addition, significant appreciation can lead to a jump in the aggregate demand leading to overheating of the economy, inflation, negative effect on savings & investments, thereby creating major problems for macroeconomic management & eventually sudden drying up of capital flows due to change in expectations culminating in a financial crisis. The real adjustment costs associated with exchange rate changes can severely disrupt economic processes within the economy.

The volatility of the real exchange rate often translates into unpredictable movements in the relative prices in the economy adversely affecting economic growth. The negative impact of the real exchange rate volatility on growth can be transmitted through declining investment and by lower foreign trade -- particularly in the differentiated products. Countries with shallow financial markets are particularly vulnerable to growth shocks in an environment of rising exchange rate volatility.

All these issues are of critical importance for India as it receives large volumes of capital flows of different compositions while it progressively opens up its capital account and is increasingly motivated to make a transition to full capital account convertibility, more so as the capital flows to India in the recent years have become increasingly volatile. An understanding of the macroeconomic implications of these large and increasingly volatile capital flows is essential as policymakers in India devise policy responses to limit the damage and vulnerability to this growing trade in assets. This context motivates this research.