

**An Analysis of Foreign Portfolio Flows in the Context of
Capital Account Convertibility in India**

*Dissertation Submitted in the partial fulfillment of the requirements for the
degree of Master of Philosophy in Applied Economics of the Jawaharlal Nehru
University*

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I hereby affirm that the work for this dissertation, **An Analysis of Foreign Portfolio Flows in the Context of Capital Account Convertibility in India**, being submitted as part of the requirements of the M.Phil. Programme in Applied Economics of the Jawaharlal Nehru University, was carried out entirely by myself. I also affirm that it was not part of any other programme of study and has not been submitted to any other Institution/University for the award of any Degree.


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Certified that this study is the bona fide work of Nirmal Roy V.P carried out under our supervision at the Centre for Development Studies.


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*To the one who inspired me
My teacher, My friend.*

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ABSTRACT OF THE DISSERTATION

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Reforms in the financial sector were initiated as a response to the crisis of 1991 in the backdrop of an inward looking financial system which hampered the financial development of India. International capital inflows and outflows until then were restricted by administrative controls or outright prohibition on the purchase of foreign assets by residents, direct investment by foreigners, and private external borrowing. After India encountered balance of payments difficulties in 1991, gradual relaxation of restrictions on inward capital flows and on currency convertibility for current account transactions were effected. Even though a complete strategy towards liberalizing capital account was considered absent there have been reforms in the investments scenario and exchange rate scenario, like allowing foreign direct investments and the portfolio investment flows into the equity markets.

The comprehensive policy outlining the course of capital account convertibility was brought into light by the Tarapore Committee's report during 1997 which details a planned roadmap towards Capital account convertibility. The timing of the report at the Asian crisis, however delayed its implementation, which in fact set several preconditions like maintaining a reduced fiscal deficit, moderate inflation and reduction in cash reserve ratio and the non-performing assets in a three year time gap. Even though these preconditions are still raw, the spectacular growth of reserves and the economy in general, which many consider as crucial for the successful opening up of the capital account; has renewed the debate for fully making the capital convertible in the most recent period.

But this has to be seen in the Indian context of capital account dominated by the relatively short-term component, the portfolio flows. Preliminary analysis has revealed that foreign portfolio flows constitute relatively a larger share among the net capital flows, and these flows are also volatile in nature. Within this, the foreign institutional investment to the equity markets constitutes the lion's share and the majority of the institutional investors are from United States. This study is set in the backdrop of the debate on capital account convertibility.

For measuring how much open is our economy 'potentially' or 'de jure', the study has followed Quinn's methodology of coding the liberalisation measures pertaining only to the portfolio flows, between zero and one for calculating an openness index. The value of zero denotes fully closed, while the value of one denotes no restrictions towards flows. The index of openness at present shows the value of about 0.870 which indicates that our economy has liberalised almost majority of the restrictions against foreign portfolio flows and only restrictions pertaining to the limits and ceilings of these flows remains.

The study argues that, it is essential to understand the basic motives underlying the financial flows before liberalizing them. In this case, an empirical analysis to identify whether the foreign portfolio flows to India are driven either by the capital gains motive or the income gains motive is attempted. The variables identified for the regression analysis are net foreign portfolio flows as dependent variable and the stock price change, exchange rate change of rupee in terms of US dollar and real interest rate differential as independent variables. It has been found out that the foreign portfolio flows to India are driven primarily due to the capital gains motive and in the Indian case it is the change in stock prices. Before the analysis the econometric methodology has confirmed the long lasting relationship between the variables. Moreover, the causality checks also reveal that stock prices are causing the net foreign portfolio flows and not vice versa.

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ACRONYMS

ADF	Augmented Dicky Fuller
ADR	American Depository Receipts
AEG	Augmented Engle Granger
AREAER	Annual Report on Exchange Arrangements and Exchange Restrictions
BOPC	Balance of Payments Committee
BSE	Bombay Stock Exchange
CAC	Capital Account Convertibility
CPI	Consumer Price Index
DF	Dickey Fuller
DW	Durbin Watson
ECB	External Commercial Borrowing
ECM	Error Correction Model
FCAC	Fuller Capital Account Convertibility
FDI	Foreign Direct Investment
FEMA	Foreign Exchange Management Act
FII	Foreign Institutional Investment
FIIs	Foreign Institutional Investors
FPI	Foreign Portfolio Investment
GDR	Global Depository Receipts
IFS	International Financial Statistics
IMF	International Monetary Fund
LIBOR	London Inter Bank Offered Rate
NRI	Non Resident Indian
OECD	Organization of Economic Co-operation and Development
OLS	Ordinary Least Squares
RBI	Reserve Bank of India
REER	Real Effective Exchange Rate
SEBI	Securities and Exchange Board of India
US	United States
WPI	Wholesale Price Index

CHAPTER 1

INTRODUCTION

1.1 Introduction

The link between financial developments and economic growth is well established. Financial development can be best considered as a facilitator of economic growth, but a feedback relationship can exist between these two¹. The financial sector of most of the underdeveloped and developing economies were characterised by policies dubbed as financial repression until the seventies; i.e. they were often characterised by ceilings imposed on interest rates, high reserve requirements on commercial banks and presence of directed or preferential credit policies and by inflation taxes. It was McKinnon (1973) and Shaw (1973) who advocated the need for liberalizing the financial sector for augmenting growth². The McKinnon-Shaw thesis was further extended by Cho (1986), who argued that financial liberalization may remain incomplete without an efficient market for equity capital³. As a result, developing countries began to enact reforms in their financial sector especially in the capital market during the 1980s and 1990s. This has been in conformity with the theoretical rationale of allocative efficiency, which draws heavily on the predictions of the neoclassical model for capital account liberalization. This is primarily based on the argument that free capital mobility promotes an efficient global allocation of savings and a better diversification of risk, hence greater economic growth and welfare. This for some time became the watchword of IMF and World Bank who advocated capital market liberalisation to developing countries (Henry, 2006). A change in international financial market required changes in domestic financial market in developing economies.

¹ Demetriades P and S. Andrianova (2003) present a selected review of the empirical literature on the relationship between financial development and economic growth.

² McKinnon and Shaw argued that interest rate ceiling, high reserve ratio and directed credit programmes are the source of financial repression which necessarily results in low savings, credit rationing, low investment and over all low growth. Removing interest rate ceilings, reducing reserve requirements and abolishing priority lending and freeing the domestic financial system was seen as critical in delivering financial development and, consequently more growth.

³ Cho (1986) argued that that to achieve efficient resource allocation, credit markets need to be supplemented by a well functioning equity market. This is because, unlike bank borrowings, equity finance is not subject to adverse selection and moral hazard effects under the conditions assumed. Cho, therefore, concluded that substantial development of equity markets is essential for successful financial liberalisation.

Developments like the breaking down of Breton Woods system, introduction of floating exchange system, world debt crisis of the eighties, decline in the official development assistance and increase in the private capital flows, aging in the major developed countries, institutionalization of the savings and recent developments in the information and communication technology all have influenced the international financial sector. The liberalization of capital account also gained momentum in the last decade, which in turn aided financial integration to a significant level. Over the past two decades, the volume and composition of international capital flows have changed altogether. While the official capital⁴ flow to the developing countries has dwindled, the share of private capital flows has increased manifold. The net private capital flows reached an all time high of \$358 billion in 2005 (IMF). Within the capital flows, the quantum of short-term capital flows⁵ has increasingly become important. But their sudden reversals have raised many doubts. However, the experience of East Asian and Latin American crisis has raised doubts regarding the viability of the capital market liberalization. The critics like Stiglitz⁶ are of the opinion that capital market liberalization produces instability and not growth and hence argued for intervening in short-term capital flows.

Of late, the institutionalization of savings by institutional investors⁷ in majority of developed countries acted as source for the short-term portfolio flows. Coupled with this, the low rates of returns also resulted in the export of financial savings from these developed nations. As the assets of institutional investors expanded, their diversification strategies increasingly resulted in an expansion of cross-border investments, especially to emerging markets⁸, which had high rates of return and was mainly in the form of equity finance. These portfolio investments have always been subject to controversies in terms of their motives, desirability, their impact on the domestic economy and stock market and their influence on domestic policy making. Presently the world's portfolio flows' stands at about US \$ 60 billion⁹. Today India is a major recipient of world portfolio flows (Patnaik, 2005).

⁴ Official development assistances to developing countries.

⁵ Short-term capital flows includes portfolio flows, short-term international loans, commercial borrowings, NRI deposits etc.

⁶See Stiglitz (2000), where he identifies the empirical and theoretical weakness of capital market liberalisation. He strongly argues for intervention in short-term capital flows.

⁷Pooled funds held by pension funds, life insurance companies, mutual funds and investment trusts as repositories for the majority of savings.

⁸ The term *emerging markets* is commonly used to describe business and market activity in industrializing or emerging regions of the world. Originally brought into fashion in the 1980s by then World Bank economist Antoine van Agtmael.

⁹ Report on Currency and Finance, RBI, 2005.

The increased relevance for the speculative capital flows arises firstly from the ongoing financial market liberalization in most of the developing countries. The dismantling of capital controls in many of the developing countries made it possible for the institutional investors from developed countries to invest in these emerging markets where previously they were restricted to invest. Currently, investors in major developed countries invest less than one percent of their assets in emerging markets. A one percent increase in this allocation corresponds to net capital flows of more than \$120 billion¹⁰. Together with this, the 1990s saw an explosion in the global derivatives market. Financial derivatives became an important factor in the growth of cross-border capital flows, including emerging markets.

However, the portfolio capital is often characterised by several asymmetries like spread of information¹¹, volatility, aiming for short-term profits and investment strategies often depending upon the rating agencies. Owing to these asymmetries, boom-bust cycles¹² of capital flows have been particularly damaging for developing countries, where they both directly increase macroeconomic instability and reduce the room for maneuvers to adopt counter-cyclical macroeconomic policies, and generate strong biases towards adopting pro-cyclical macroeconomic policies¹³. Furthermore, there is now overwhelming evidence that pro-cyclical financial markets and pro-cyclical macroeconomic policies have not encouraged growth and, on the contrary, have increased growth volatility in those developing countries that have integrated to a larger extent into international financial markets¹⁴.

The major reason attributed to the cross border investments of institutional finance other than the differentials in the rate of return, is the gains accruing from the inter-temporal trade of capital. Transactions involving time naturally pose opportunities of returns, from changes in exchange rates and asset prices¹⁵. Since the basic motive of these flows is profit, they are always susceptible to sudden withdrawals. This is why these flows are

¹⁰ See Rene M. Stulz (1999). At present this can be of a larger dimension depending upon the size and shape.

¹¹ Stiglitz, (2000) owing to the non-existence or the large asymmetries of information, financial agents rely to a large extent on the "information" provided by the actions of other market agents, leading to interdependence in their behavior, i.e., contagion and herding.

¹² Refers to the movement of the economy through economic cycles due to changes in aggregate demand.

¹³ Kaminsky et al, 2004; Stiglitz and others, 2005

¹⁴ Prasad et al, 2003.

¹⁵ While the regime of floating exchange rate always bestows the opportunity of returns (price differential) from transactions involving foreign currency at different time points, the capital market provides scope of returns in the form asset price changes.

often referred to as butterfly capital or hot capital¹⁶. This raises doubts regarding the sustainability of these types of capital flows for emerging economies. Moreover the inherent features of the emerging markets like the depth, size and development of domestic financial and capital market, also adds to the problems of the capital importing developing countries.

This happens at a time when most of our capital controls are dismantled. Experiences have shown that, capital market liberalization is most often preceded by surges in capital flows and crisis. There is consensus regarding the role of short-term flows in precipitating financial crisis. At present, the share of short-term flows in India's capital account has risen tremendously, which itself has a strong macroeconomic implication. Now with the debate of fuller capital account convertibility, the need for liberalizing portfolio flows has to be constructive in the Indian scenario. There are criticisms regarding the recommendations of the committee's¹⁷ on capital account convertibility regarding its empirical soundness and is often considered guided by policy makers preferences and judgments. A better empirical understanding regarding the motives behind these types of flows, especially foreign portfolio flows is helpful in framing appropriate policies. Also there is a need to understand the present degree of openness towards portfolio flows; since this can be helpful in assessing the debates of capital account convertibility. This study tries to address these issues in detail

1.2 The Indian Experience

The stabilization and structural adjustment policies of the IMF which India had to undertake in the early nineties were due to the external payment crisis. The main aim of these policies was to unshackle the Indian economy from numerous administrative and legal controls and transform Indian industry/capital market into a globally competitive one. As per the recommendations of the Narasimhan Committee report¹⁸, a gradual deregulation of the financial sector including phasing out the directed credit, interest rate deregulation and lowering of SLR to release resources for the private sector were the

¹⁶ This are funds which flows into the country to take advantage of the favorable high returns in the domestic economy. These flows are volatile in nature since they are susceptible of moving avenues once the conditions reverse in the host country or even conditions becomes more favorable in another country.

¹⁷ Two committees were appointed to look into issues pertaining to capital account convertibility. While, the first committee (Committee on capital account convertibility) was appointed in 1997 and the second one (Committee on Fuller Capital Account convertibility) was appointed in 2006. Both the committees are chaired by S.S Tarapore.

¹⁸ Committee on Financial Sector reforms.

measures adopted. In the external sector the traditional methods of attracting foreign capital such as Foreign Direct Investments (FDI) and Foreign Portfolio Investments (FPI) were given a much bigger role to play. The relaxations were also carried forward to make the rupee fully convertible by 1994 for current account transactions. This was agreed as per the obligations of the Articles of Agreement¹⁹ of the International Monetary Fund (IMF).

Indian equity markets joined the internationalization²⁰ of capital markets with the opening up of the country's securities market in 1992 to the direct participation of Foreign Institutional Investors (FIIs). They were allowed to invest in all securities traded on primary and secondary markets, including the equity and other securities/instruments of companies which were being listed /to be listed on the stock exchanges in India. In addition to this, Indian firms were allowed to raise funds from abroad by floating Global Depository Receipts (GDRs) and American Depository Receipts (ADRs). India has cautiously opened up its capital account since then and the state of capital controls in India today can be considered as the most liberalised it has ever been in its history since the late 1950s²¹.

The round of economic reforms in response to the Balance of Payments (BOP) crisis in 1991 led to the publication of the Report of the Committee on Capital Account Convertibility (CAC) in 1997. This report outlined the plan for achieving full capital account convertibility²² but had set several preconditions to be achieved in a span of three years²³. Ironically, the report appeared on the eve of the East Asian financial crises. The issue of capital account convertibility in developing countries became more controversial in the wake of the Asian crises, and the absence of contagion effects²⁴ on the Indian economy during these crises was taken as affirmation of the wisdom of India's controls on outward capital flows (Kletzer, 2004).

¹⁹ Article VIII

²⁰ Integrating the domestic capital markets with global capital markets.

²¹ Report of the Committee on Fuller Capital Account Convertibility (FCAC), July 2006, RBI.

²² Capital Account Convertibility refers to the freedom to convert local financial assets into foreign financial assets and vice versa. It is associated with changes of ownership in foreign/domestic financial assets and liabilities and embodies the creation and liquidation of claims on, or by, the rest of the world. CAC can be, and is, coexistent with restrictions other than on external payments.

²³ This committee was chaired by Tarapore and was hence known as Tarapore Committee (1997). The Tarapore committee recommended several preconditions for embarking upon capital account liberalisation. The requirements pertained to reduction in the fiscal deficit, maintaining a moderate inflation and reduction in key monetary variables like cash reserve ratio and the non-performing assets.

²⁴ Contagion effects refers to the situation when an economy is affected because of asset prices of another country's financial market.

However, liberalization of inward capital flows to the Indian economy has continued in the last few years, and the prospects for further capital account liberalization appear to be improving again, after observing that the economy has posted impressive gains in the external front²⁵. Lately, the need for fuller capital account convertibility has been voiced by the Prime Minister²⁶. His request to revisit the subject and come up with a roadmap has thus resulted in the setting up of a committee under the chairmanship of S.S Tarapore²⁷. The report of the committee was submitted on July, 2006. The report recommended a five year time period for successfully implementing the road map towards fuller capital account convertibility. However, there have been criticisms from within the committee regarding the empirical validity of the recommendations of the report.

This brings to prominence the need for understanding the underlying nature of each of the financial flows before effecting the removal of various restrictions in the capital account in the Indian scenario. This seems to be true in the case of foreign portfolio flows. In a situation of increased importance of foreign portfolio flows in the capital account, it is of utmost importance to understand the basic motives inspiring the foreign portfolio flows to India²⁸. This study is an attempt in this direction.

1.3 Literature Review

As noted earlier, it was McKinnon (1973) and Shaw (1973) who firstly highlighted the need for liberalizing the financial sector against government interventions in the form of interest rate ceilings, high reserve requirements and directed credit programmes; for augmenting growth. Demetriades and Andrianova (2003) presents a reading of the McKinnon Shaw (M-S) hypothesis and this shows that M-S (1973) arguing for removing interest rate ceilings, reducing reserve requirements and abolishing priority sector lending—freeing the domestic financial system as critical to financial development and, consequently leading to growth. In their seminal paper, Stiglitz and Weiss (1981) showed that under imperfect information, because of the 'adverse selection' and 'incentive' effects, credit-rationing may not just be due to financial repression but could also arise from the normal competitive operations of the credit markets. Accepting this criticism, M-S school therefore suggests that credit rationing reduces economic growth only if the 'financially repressed' interest

²⁵ This was with respect to the rise in the investment and foreign exchange reserves.

²⁶ In a speech delivered at the Reserve Bank of India, Mumbai on March 18, 2006.

²⁷ Report of the Committee on Fuller Capital Account Convertibility (FCSC), July 2006, RBI.

²⁸ Presently the foreign portfolio flows occupies a significant share in the nation's capital account and in the GDP (RBI).

rate is below the competitive equilibrium credit-rationing rate. Cho (1986) showed analytically that to achieve efficient resource allocation, credit markets need to be supplemented by a well functioning equity market. This is because, unlike bank borrowings, equity finance is not subject to adverse selection and moral hazard effects under the conditions assumed. Cho, therefore, concluded that substantial development of equity markets is essential for successful financial liberalisation.

However, voluminous literature in this area has shown inconclusive evidence of financial liberalisation affecting growth and is always associated with crises in developing countries²⁹. Even, McKinnon (1991) was in favour of the sequencing of the liberalisation measures. He was of the opinion that, incorrect sequencing was the root cause of the financial crisis, and argued that financial sector reforms should always follow real sector reforms. Sen (2004) also confirms to this view by saying that, the boom in finance related activities has most often failed to infuse expansions in the real share of economies.

The case for capital market liberalisation was put by Fisher. Fischer suggests that, at a theoretical level, capital account liberalisation would lead to global economic efficiency, allocating world savings to those who are able to use them most productively, and would thereby increase social welfare. Citizens of countries with free capital movements would be able to diversify their portfolios and thereby increase their risk-adjusted rates of return. It would enable corporates in these countries to raise capital in international markets at a lower cost. It is suggested, moreover, that such liberalisation leads to further development of a country's financial system, which in turn is thought to enhance productivity in the real economy by facilitating transactions and better allocation of resources³⁰.

Singh (1997) concentrates on one of the short-term components of capital flows called foreign portfolio flows in the context of Latin American economies and presents the following argument. Although at a microeconomic level, the portfolio inflows helped generate the stock market boom, he quotes Rodrik (1994) and Krugman (1995) to point out these portfolio flows to Latin America were not responding to fundamentals but represented a misplaced euphoria and a 'herd' instinct. They agree that even though the

²⁹ Prasad et al (2003)

³⁰ As reviewed from Ajith Singh (2000)

macroeconomic fundamentals of these countries were weak, flow continued till the crisis broke out, which in fact had a very destabilizing effect on the growth of the economy. He further argues that portfolio capital was recommended to developing countries for being less vulnerable to external interest rate shocks than debt. However, in practice these inflows can be destabilizing to the real economy if external financial liberalisation is carried out in 'dis-equilibrium' conditions in the economy. Since the structural characteristics of developing countries makes them subject to more external and internal shocks than advanced economies, many of these unfavorable outcomes are likely to prevail even under 'normal' conditions, and even if there were a correct 'sequencing' of financial reforms.

Stiglitz (2000) offers insights into the financial crisis of 1990's as well as other recent crises, including Russia and Latin America. He suggests that premature financial and capital market liberalisation was at the root of these crises. He also suggests that global economic arrangements are fundamentally weak. His analysis of why capital market liberalisation produces instability, not growth, identifies the following fallacy in the pro-liberalisation arguments, namely that 'financial and capital markets are essentially different from markets for ordinary good and services'³¹. He also argues that capital flows are pro-cyclical; therefore the argument that the opening of capital markets would allow diversification and enhance stability is deficient. Finally by alluding to a vast econometric literature, which suggests that shocks to output can be long-lasting, he challenges the notion that any destabilizing effects emanating from capital account liberalisation are transitory, while the benefits are permanent. Stiglitz emphasizes the destabilizing influence of short-term capital flows in his analysis, arguing that there is a fairly compelling case against full liberalization and stresses for the effective designing of interventions against short-term capital flows.

Rangarajan (2000) addresses the question of preferability of some forms of capital flows to others, from the angle of volatility and capital formation. In the aftermath of the Asian crisis he has tried to look in to the extent and forms of controls to be exercised on capital flows. To him, the opening up of capital account need not preclude the imposition of moderate controls either price based or regulatory on capital flows. He argues for selective controls designed to achieve the specific objective of containing speculative flows and comments upon the fact that capital account liberalization should be done in stages.

³¹ This view was also raised by the staunch supporter of free trade like, Bhagavati (1998).

The Indian literature of capital account liberalisation as mentioned earlier, started with the Report on the Committee on Capital Account Convertibility in 1997. This report outlined India's roadmap to achieve capital convertibility in a span of three years. But the recommendations of this report were criticized for its lack of good database, sound empirical methodology and testing and analytics³². Vasudevan (2006) argues that the report was substantially implemented. Now at a time when a second committee is set up to revisit the theme and recommended the path towards fuller capital account convertibility it is necessary to understand the empirical validity of liberalisation carried out so far. Vasudevan further expects that the recommendations of this committee will be theoretically sound and the realism behind the road map will be empirically established. But the validity of the report has been questioned in the backdrop of the criticisms from within the committee. Members like A.V.Rajwade and S.S Bhalla have openly questioned the empirical substance of the report.

In this context, a study to empirically analyse the basic characteristics of the capital flows is necessitated. This work is an attempt in that direction and will be focusing only on the foreign portfolio flows.

1.4 Objectives of the Study

The major aim of the study is to analyze the basic motives underlying one of the capital flows; i.e., the foreign portfolio flows to India, in the context of greater capital account convertibility. As it is essential to understand the present scenario of the capital account since the introduction of reforms, the first objective is

- To provide an overview regarding the trends in capital account and various related monetary and financial indicators since the reform period.

Earlier studies have measured the financial openness as an aggregate of all financial flows. Attempts to separate out openness with regard to each of the financial flows are virtually rare. The study also wants to raise the question of the present nature of the openness of our economy with regard to portfolio flows. This is necessary since it provides a true picture of the nature of reforms and sequencing carried out with regard to foreign portfolio flows.

³² Vasudevan, (2006).

Therefore the second objective is to

- Measure the present openness towards foreign portfolio flows in the Indian context.

It is necessary to understand the basic motivation for the flow of foreign portfolio flows to India. Finally, the core objective is

- To identify the significant motive behind the flow of portfolio capital to India, i.e. to examine whether foreign portfolio flows to India is led by income gain or capital gain motive.

1.5 Data and Methodology

In order to focus more deeply into the issue of foreign portfolio flows into India, one has to understand the basic nuances underlying the capital account transactions in the balance of payments account of the country. So, before moving onto the methodology of analysing the basic factors that motivate the foreign portfolio flows into India and estimating the present status of openness towards these flows, a broad outline regarding the capital accounts is to be provided. Data are available on monthly, quarterly and annual basis from the Reserve Bank of India. India's central bank provides data relating to all balance of payments transactions. Information regarding the capital account, the foreign portfolio flows and its various components and other monetary indicators which are essential for this study is available with the Reserve Bank of India website and its publications³³. The data regarding the number of foreign institutional investors in the Indian security markets and the country wise origin is available with the Securities and Exchange Board of India (SEBI)³⁴.

For examining the second objective of measuring the degree of openness of the portfolio flows, following Quinn (1997), a measure based on the official restrictions on portfolio flows is developed³⁵. This binary indicator will capture the degree of openness of controls or extent of liberalisation. For the calculation of the qualitative variable; i.e. the index of openness of portfolio flows, the de-regulating measures is available in a chronological order with various issues of the Annual reports of the RBI³⁶.

³³ Data is available from the RBI publications like Annual Reports, Handbook of Statistics on the Indian Economy and Report on Currency and Finance.

³⁴ The information regarding the origin of FII's is in alphabetical order and shows the places where they have registered. It requires data mining to disaggregate into country wise composition of FII's.

³⁵ A detailed rationale for choosing this measure and methodology will be divulged in the relevant chapter.

³⁶ Kohli (2005) from the various Annual reports has also provided a chronological order of the liberalizing measures pertaining to the various forms of capital flows in the capital account till 2001.

Finally the basic motives underlying the foreign portfolio flows is examined. The idea is to understand which motive influences the foreign portfolio flows most significantly. Is it the income gains motive or is it the capital gains motive, in the Indian context? This can provide clues regarding the true nature of these flows. For example, those flows that are primarily driven by income motive³⁷ is said to be stable and long-term in nature because they will be attracted by the differences in the rate of return. On the other hand, if these flows are driven by the capital gains motive³⁸, then these flows will be short-term in nature. For understanding the motives, causality tests and regression analysis among the variables involving the foreign portfolio flows, stock prices, exchange rates and interest rate differential will be carried out. The proposed method is to analyse the determinants of foreign portfolio flows.

1.6 Significance of the study

Many of the developing economies that had liberalized their capital account much earlier had experienced the rise in short-term foreign capital inflows, foreign exchange reserves, increasing interest rates, booming stock markets etc. But in the long run, most of them ended up facing financial and macroeconomic crisis. This has to be seen in the context of the consensus emerging in favor of controlling the shorter version of capital flows. In the Indian scenario, Asian crisis has put the issue of the path towards capital account convertibility controversial. Recently, with the economy showing spectacular gains in the external front including the growth in the foreign exchange reserves, the debate for fuller capital account convertibility has gained momentum. This study attempts to join the debate on capital account convertibility by looking at a single, but dominant component of capital flows; i.e., the foreign portfolio flows.

The basic idea is that, policy measures concerning capital account liberalisation should vary with the nature of the various components of capital flows. Without understanding the basic nature of capital flows, it would be a grave mistake to open the doors of our economy to these flows. Here an attempt is done to recognize the true nature of foreign portfolio flows. Along with this, effort is also taken to measure the present openness of our economy towards foreign portfolio flows.

³⁷ This is to be captured by the interest rate differential between India and the rest of the world.

³⁸ Gains from the inter-temporal trade involving currency and assets.

From an academic point of view, this study attempts to provide an empirical basis for understanding the factors that motivate foreign capital flows into India. The aim is to look on to the issue of capital account convertibility from the angle of foreign portfolio flows and by doing so, this study intends to fill the existing gaps in the literature on portfolio flows. While most of the studies concerning capital account liberalisation uses openness to capital flows or capital market openness as an aggregate measure of capital flows, this study attempts to provide a disaggregated measure considering one of the components of capital flows; the portfolio flows. This will provide scope for extending the measurement of openness for foreign direct investment flows, loans and banking capital etc.

Organization of the work

The first and second objectives of the study are realised in the second chapter. Before touching upon the actual openness to foreign portfolio flows from the data and subsequently measuring the openness from the measures, the internationalization of finance followed by internationalization of the Indian capital markets will be discussed. The issue for developing a suitable measurement of openness towards portfolio flows is dwelt in detail. This chapter measures the openness towards foreign portfolio flows and computes an index from the de-regulating measures following Quinn's methodology in the Indian context.

Analysing the third and the core objective is done in the third chapter. Before the econometric analysis, the theoretical underpinnings related to the capital mobility are discussed. The focus is to understand the basic motives underlying these flows. Econometric analysis is done to understand the true nature of portfolio flows into India.

The final chapter concludes by bringing together important findings of the study and drawing the policy implications.

CHAPTER 2

INTERNATIONALIZATION OF INDIAN CAPITAL MARKETS

Introduction

Before documenting the importance of foreign portfolio flows in the Indian context, it is essential to trace the rise of finance and portfolio flows, internationally. This chapter begins by providing a bird's eye view regarding the internationalization of finance and subsequently the growth of portfolio flows. In the second section, internationalization of Indian capital markets is be sketched out with special reference to foreign portfolio inflows into India. This will provide a picture regarding the openness of our economy towards foreign portfolio flows measured in terms of actual flow. At the same time, it is essential to map out the openness of our economy to foreign portfolio flows in terms of the rules governing these flows. This becomes essential because the opening up of the capital markets is affected by liberalizing rules and dismantling controls governing capital flows. It is important to have a clear idea regarding the openness of the economy in terms of the measures taken. For this, an index of openness is computed by assigning binary values following the methodology developed by Quinn. The index of openness will depict the current openness of the economy towards foreign portfolio flows.

2.1 INTERNATIONALISATION OF FINANCE

Prior to the 19th century the reach of international finance remained relatively limited to London and Amsterdam, which were the key centers, and their currencies and financial instruments were the principal focus. As the industrial revolution gathered momentum in Britain, international financial transactions extended to other centers that developed the markets and institutions capable of supporting it, and whose governments were not hostile to such developments. While in United States centers like Boston, Philadelphia, Baltimore and New York were prominent; France and Germany had developed sophisticated and expanding capital markets that became well integrated into the widening networks of global financing. After 1870, these developments progressed even further elsewhere in Europe and in the new world similar markets evolved from an embryonic stage and eventually financial trading spread to places as far a field as Melbourne and beyond Buenos Aries. With the world starting to converge on the gold

standard as a monetary system, and with technological developments and communications, the construction of the first global market place in capital, as well as in goods and labour, took hold in an era of undisputed liberalism and virtual laissez faire. Finance also advanced through the development of a broader array of private debt and equity instruments, through the expansion of insurance activities and through international trade in government bonds. By 1900 the key currencies and instruments were known everywhere and formed the basis for an expanding world commercial network whose rise was equally meteoric. More and more day-to-day activities came into the orbit of finance via the growth and development of banking systems in developing countries.

2.1.1 Four phases of Global Capital Mobility

Obstfeld and Taylor (2004), after a brief survey of literature trace the evolution of international capital mobility from the turn of the twentieth century into four distinct international monetary regimes. In the first period, which is between 1870 and World War I, the first stage of globalization sprang forth. An increasing share of the world economy came into the orbit of classical gold standard, and a global capital market with London as its nerve center emerged. Fixed exchange rate system was stable, interest rates converged and capital flows surged during this period. In the second period, from 1914 to 1945, the world wars and the intervening Great Depression destroyed the gold standard stability and global capital mobility. Monetary policy became subject to different policy goals and later as a tool to stabilize domestic economic activities under more flexible exchange rates. To protect currency crises and gold, controls became widespread³⁹. In the third period from 1945 to 1971 even IMF, the child of the Bretton Wood era was initially for capital controls as a means to prevent speculative attacks on currency pegs. These controls provided more scope for activist monetary policy. By the end of sixties, with the expansion of international trade, capital controls facilitated by the network of fixed-but adjustable exchange rates, begun to disintegrate the Bretton Wood system. In the fourth and final period; the post-Bretton Wood era of mostly floating exchange rates, capital account restrictions began to be dismantled and by the end of the twentieth century mostly eliminated. This coupled with the reduction in the transaction costs led to increase in capital flows mainly to developing countries.

³⁹ The global economy went to almost autarkic in a space of a few decades. Private capital flows dried up, international investment was regarded with suspicion, international prices and interest rates fell completely. Global capital was seen as a principal cause of the world depression of the 1930's.

2.1.2 Developments Contributing to the Growth of Portfolio Flows

One of the more surprising developments in international financial markets over the last decade has been the growing role of foreign portfolio investment as a channel for international capital flows to developing countries. Foreign direct investment was an important channel for flows to all regions, but portfolio investment was relatively unimportant and largely involved bond issues in the Euro markets by a few of the more credit-worthy developing countries. As the Eurobond market became the dominant channel for international capital flows and an increasingly attractive substitute for more expensive domestic markets in some industrialized countries, it became more difficult for countries with low credit ratings to attract external capital. Although Middle Eastern countries issued large amounts of international bonds in this period, external bond markets were closed to most developing countries. International investors' growing interest in foreign equities also diverted flows away from developing countries in this period as more funds were invested in the U.S., UK and Japanese stock markets. As the industrialized countries shifted into recession in 1989-1990, and particularly as U.S. interest rates fell, there was once again an abrupt shift in the direction of international capital flows with substantially larger flows to developing countries. By 1993, the aggregate net inflow to developing countries was 2 percent of world saving, up from 0.8 percent in 1990⁴⁰.

The increased flows of securities investment from industrialized countries to emerging markets was made possible by a number of developments in all the countries involved. One critical development was a marked change in investment patterns in the national markets of the major industrialized countries in the 1980s. The so-called institutionalization of savings - that is, the choice of pooled funds held by pension funds, life insurance companies, mutual funds and investment trusts as repositories for the majority of savings - increased the share of funds invested in securities and enhanced the role of institutional investors compared to that of depository institutions. As the assets of institutional investors expanded, their diversification strategies increasingly resulted in an expansion of cross-border investments. Cross-border transactions in bonds and equities among the G-7 countries (excluding the United Kingdom) rose from 35 percent of GDP in 1985 to 140 percent in 1995 (BIS, 1996). This was possible because all

⁴⁰ International Monetary Fund, 1995.

industrialized countries had removed exchange controls in the 1980s and were adopting full capital account convertibility by the early 1990s. Similarly, the shift toward foreign portfolio investment in emerging markets became possible when many developing countries began to relax exchange controls and open their capital account at the end of the 1980s and the beginning of the 1990s. Thus the international capital markets were expanded and the increased participation of developing countries led to the growth in portfolio flows.

Internationalisation of Indian financial markets however, was not only shaped by the then current international scenario, but also was a response to the external crisis which surfaced in 1991. The next section looks onto those issues.

2.2 INTERNATIONALISATION OF INDIAN CAPITAL MARKETS

The international scenario during the end of 1980s and the beginning of the 1990s were characterized by the relaxation of exchange controls and opening up the capital account by many of developing countries. Coupled with this in India, the demand for reforming the financial system was aired by many because according to critics the inward looking financial sector was thwarting savings, investment and growth. Further, there arose consensus regarding the need to reduce dependence on the debt-creating flows such as the short-term debt and non-resident deposits⁴¹. The primary sets of reforms were aimed at reforming the industry, trade and investment and the domestic financial sector. At the outset, it will be appropriate to present a picture on the state of the financial sector that existed in India.

2.2.1 Indian Financial System

India had a comparatively unrestricted financial system until the 1960s, when the government began to impose controls for the purpose of directing credit toward development programs. The initial motivation for financial controls was to direct savings toward investment in certain targeted sectors as part of a development plan. State ownership of intermediaries, interest rate restrictions, foreign exchange controls, and directed credit schemes were all part of the policy. The international capital inflows and outflows were restricted by administrative controls or outright prohibition on the purchase of foreign assets by residents, direct investment by foreigners, and private

⁴¹ These components dominated the capital transactions during the pre-reform scenario.

external borrowing. The trend towards financial reforms however has to be seen in the context of the changed international scenario. The breaking down of Bretton Woods agreement and the subsequent shifting towards a floating exchange rate regime along with the movement towards free trade necessitated the need for removing the controls on capital transactions. Together with this, developments like institutionalisation of the savings, growth of international financial markets, increase in the private capital flows, decline in the official development assistance, the world debt crisis of the 1980s have all influenced the international financial sector. After India encountered balance of payments difficulties in 1991, the authorities began to gradually relax restrictions on inward capital flows and on currency convertibility for current account transactions. The rupee was made convertible for current account transactions in August 1994, when the government agreed to the obligations of the Articles of Agreement⁴² of the International Monetary Fund. Trade liberalization also proceeded during the 1990s, with tariff rates reduced substantially. Over the last several years, restrictions on foreign direct investment, portfolio borrowing, and foreign portfolio equity ownership have been relaxed. However no conscious set of policies were contemplated to liberalize the capital account, even though there has been reforms in the investments and exchange rate regimes. The idea that there is clear need for a comprehensive policy was expressed only in 1997⁴³.

2.2.2 Process of Internationalisation of Indian Capital Market

The report of the High-level Committee on Balance of Payments (BOPC), 1993 marks the origins of capital account liberalization in India. This report reviewed the existing policies with respect to foreign investment, external aid and commercial borrowings, exchange rates, foreign exchange reserves, and the balance of payments in the light of the 1991 crisis. The central objectives of the policy according to the report were to prevent the occurrences of crisis in the future, bring foreign exchange via foreign investments rather than foreign debt and assistance and to reduce the emphasis on expensive sources of external financing like the NRI deposits. In fact, a major policy departure was the decision to phase out the favourable interest rate differentials and

⁴² Article VIII

⁴³ Kohli, (2005), Williamson, (2006). They feel that this view however was in support of the IMF's interim committee's belief that free capital movements were as much a part of a liberal economy as free product markets or free trade.

exchange risk guarantees. The key elements of the report of the High-level Committee on Balance of Payments can be summarized as follows; preference for foreign investments over foreign aid or debt, strict monitoring and reduction in both the borrowings for private commercial purposes and with respect to NRI deposits.

All these measures can be considered as a conscious post crisis response to restructure the capital account rather than liberalizing the capital account as such⁴⁴. Even though a complete strategy towards liberalizing capital account was considered absent, some deregulating measures like allowing foreign institutional investment into the Indian equity markets were taken. In the Indian case, portfolio flows were allowed within a year of liberalisation in the FDI. But reforms in the area of foreign portfolio flows can however be considered as a major departure from the commonly observed pattern, because reforms in portfolio investments usually takes place at a later stage, particularly after the domestic financial markets were developed. However, this was justified on the view that our capital markets were sufficiently developed than most of the developing countries. A comprehensive policy outlining the course of capital account convertibility was however brought into light by the committee appointed by the RBI in 1997 under the chairmanship of S.S Tarapore.

2.2.3 Capital Account Convertibility

The Tarapore Committee's Report 1997 details a planned roadmap towards Capital account convertibility. The Tarapore committee recommended several preconditions for embarking upon capital account liberalisation and set out a three year programme for meeting these essential preconditions. These requirements pertained to reduction in the fiscal deficit, maintaining the inflation at a moderate level (3 to 5 percent) and reduction in key monetary variables like cash reserve ratio and the non-performing assets. The committee taking cue from the various international financial crises also identified four attendant variables, the current account deficit, the Real Effective Exchange Rate (REER) monitoring band, the foreign exchange reserves and the domestic financial system⁴⁵. However the timing of the report in the wake of the Asian crisis delayed its implementation and has resulted in a more cautious approach towards capital account convertibility. The liberalisation of the capital account progressed in a gradualistic approach since then.

⁴⁴ Kohli, (2005).

⁴⁵ Tarapore, S.S, (1998).

The pattern of reforms carried out in the capital account was summarized by Reddy (2000) as follows. He notes that capital account liberalisation in India followed a distinct and asymmetric pattern. It distinguished between inflows, outflows associated with inflows, and other outflows; these have been correspondingly less restricted, completely free and more restricted. Secondly, discriminatory treatment was accorded between residents and non-residents, who have been respectively more and less restricted. Finally he notes the hierarchical approach towards individuals, corporates, and financial intermediaries such as institutional investors and banks. These have been correspondingly highly restrictive, restrictive, less restrictive and more restrictive. In general, the deregulation of every control has progressed from outright prohibition to an intermediate status (prior approval on individual case or automatic basis) to total freeing of the related transactions. Many transactions have also relied upon gradual increases in the size of the transaction or purpose activity or parties concerned. But comparatively, the Indian experience with capital account liberalisation was gradual in a sense that these reforms were cautious in nature. What was liberalised was specified. Everything else remained restricted or prohibited⁴⁶.

What have been presented above, constitutes only a broad outline on liberalisation carried out in the capital account. However given the focus of this study there is a need to provide a clear-cut picture regarding the portfolio component of the foreign investment flows. This is also important in the light of its dominant share in total capital flows into India.

2.2.4 Liberalizing Foreign Portfolio flows into India

Even though there were concerns regarding the volatility of portfolio flows, this reality does not seem to have exercised any influence on the mix of capital account liberalisation and controls in India⁴⁷. The liberalisation policy regime for portfolio flows begun in September 1992, with the opening up of domestic capital market to foreign institutional investors subject to registration with the SEBI⁴⁸. Similar access was provided to foreign institutional investors in the secondary market for debt. Soon thereafter foreign institutional investors were also allowed to invest or make placements in the primary market, subject to approval from the RBI with a maximum limit of 15 percent of the new

⁴⁶ Nayyar, (2003) notes that this was in fact the opposite of the more common approach to capital account liberalisation, elsewhere in which restricted or prohibited transactions were specified while everything else was liberalised

⁴⁷ Nayyar (2002) presents a detailed survey of capital account liberalisation in India.

⁴⁸ Securities and Exchange Board of India the statutory, regulatory agency was set up to function as the watch dog of Indian Stock market.

issue. Later foreign institutional investors were permitted to invest in government securities in the primary and secondary markets. This was done in 1996-97 and was treated as part of the overall limit on external commercial borrowing. Subsequently, in 1998-99, foreign institutional investors were also permitted to invest in treasury bills. The option of portfolio investment was also made available to domestic corporate entities from September 1992. Indian firms were allowed to access the international capital markets through GDRs or Euro convertible bonds that converted debt into equity after a stipulated period. However, the reforms in the portfolio flows also followed a distinct and asymmetric treatment as noted by Reddy⁴⁹. Overall, it can be seen that most of the channels have been liberalised but restrictions in the form of quantitative controls are still persisting.

One and a half decade into reforms, it now becomes essential to understand the trajectory of capital market liberalisation carried out in India. It is also essential to understand whether the objectives for internationalisation of the capital market, formalized as a response to the 1991 crisis have been achieved. For this, it is important to understand the composition and trends in India's capital account in the post reform scenario.

2.2.5 Emphasis on Non-debt creating flows

As mentioned earlier, one of the aims of the capital account reforms was to shift the emphasis from debt creating flows to non-debt creating flows. This can be seen from the composition of capital flows shown in the Table 2.1. There has been a huge shift from the debt creating flows the share of which was as high as about 83 percent during the beginning of the nineties⁵⁰, to the more stable non debt-creating flows in the present scenario. The non-debt creating flows accounted for about 81 percent of the total flows in 2005-06. Another important feature is the growing share of Portfolio flows in the non-debt creating financial flows.

⁴⁹ This is explained in detail in the earlier section.

⁵⁰ This was in tune with the needs of the time and can be considered as a policy response against emphasizing on short-term capital flows such as NRI deposits and short-term borrowings.

Table 2.1: Debt creating flows and non-debt creating flows.

Item	1990-91	1995-96	2001-02	2002-03	2003-04 R	2004-05 PR	2005-06 P
Total Net Capital Flows (in US \$ million)	7056	4089	8551	10840	16736	31027	24693
<i>of which:</i>	<i>in percent</i>						
1. Non-Debt Creating Flows	1.5	117.5	96.2	55.5	93.7	46.7	81.7
a) Foreign Direct Investments	1.4	52.4	71.6	46.5	25.8	18	31.1
b) Foreign Portfolio Investments	0.1	65.5	23.6	9	67.9	28.7	50.6
2. Debt Creating Flows	83.3	57.7	12.4	-12.3	-6	30.6	29.9
a) External Assistance	31.3	21.6	14.1	-28.6	-16.5	6.5	6.2
b) External Commercial Borrowings	31.9	31.2	-18.6	-15.7	-17.5	16.3	7.8
c) Short term Credits	15.2	1.2	-9.3	8.9	8.5	12.2	6.9
d) NRI Deposits	21.8	27	32.2	27.5	21.8	-3.1	11.3
e) Rupee Debt Service	-16.9	-23.3	-6.1	-4.4	-2.2	-1.3	-2.3
3. Other Capital	15.2	-75.2	-7.6	56.8	12.3	22.7	-11.6
4. Total	100	100	101	100	100	100	100

Source: Computed from Reserve Bank of India, Annual Report 2005-06.

2.2.6 Growing importance of Foreign Investment Flows

The growing share of Foreign Investment flows in the Capital account of India as presented in the Table 2.2 would justify the new interest and controversies regarding such transactions. In fact one of the thrusts of economic reforms in the external sector were the gradual opening up of the economy to foreign investments. In Table 2.2 it can be seen that the net foreign investment flows which constituted only about 1.43 percent of the total capital flows at the beginning of the nineties now constitutes about 73.8 percent. At the same time it is remarkable to note that even within the capital account, the portfolio flows has emerged as a major contributor. Its share has increased from less than one percent in 1990-91 to 50.58 percent in 2005-06. A detailed view about the net capital flows is depicted in Annexure II-A.

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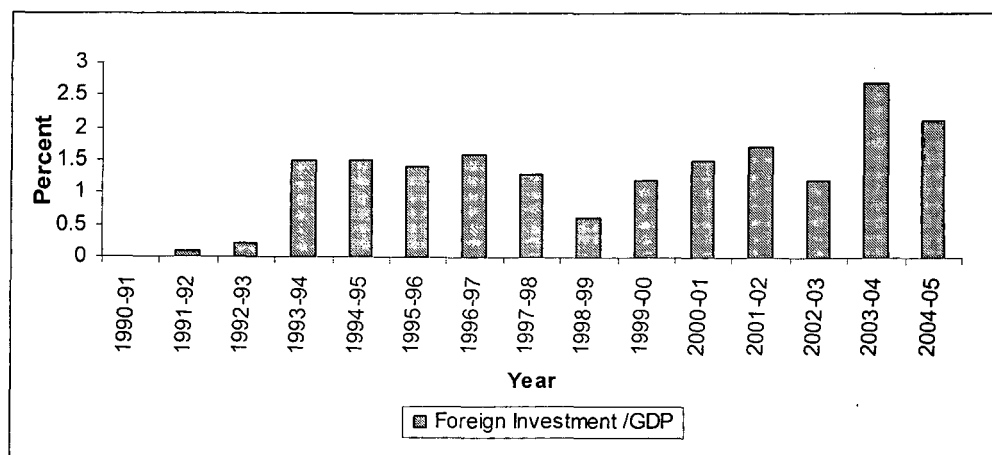
Table 2.2: Percent Share of Net Capital flows in Total Capital flow.

Capital Account	1990-91	1995-96	2000-01	2003-04	2004-05R	2005-06 P
1. Foreign Investment (a+b)	1.43	112.86	66.31	82.12	39.15	73.79
a) Direct	1.36	52.41	37.01	14.27	10.44	23.22
b) Portfolio	0.07	65.05	29.30	67.85	28.71	50.58
2. Loans (a+b+c)	78.43	53.80	59.55	-26.08	34.66	19.18
a) External Assistance	31.25	21.23	4.64	-17.26	6.20	5.82
b) Commercial Borrowings (MT & LT)	31.96	31.40	48.68	-17.48	16.24	6.44
c) Short Term To India	15.23	1.17	6.23	8.48	12.22	6.92
3. Banking Capital (a+b)	9.66	18.66	-22.18	36.05	12.49	5.56
a) Commercial Banks	12.77	22.94	-21.29	38.84	12.82	1.79
b) Others	-3.12	-4.28	-0.89	-2.80	-0.34	3.77
4. Rupee Debt Service	-16.90	-23.28	-6.98	-2.25	-1.34	-2.32
5. Other Capital	27.38	-62.04	3.30	10.15	15.04	3.78

Source: Computed from the Handbook of Statistics on the Indian Economy, Reserve Bank of India 2005-06.

But the share of foreign investment in the national income over a period is comparatively low. This is shown in the Figure 2.1. However, during recent years there has been a marked improvement in this ratio. It touched an all time high of about 2.7 percent during 2003-04, from a very low during the early years of reforms.

Figure 2.1 Foreign Investment to GDP ratio



Source: Reserve Bank of India, Handbook of Statistics on the Indian Economy, 2005-06.

At this juncture, it is necessary to look at what exactly constitutes the Foreign Investments. Foreign Direct Investment along with Foreign Portfolio flow constitutes the two major heads in the Foreign Investments, which is further divided into a number of subgroups. Direct investments through equity, reinvested earnings and other capital constitute direct foreign

investments⁵¹. Within the equity capital route, the acquisition of shares of Indian companies by non-residents have been included as part of FDI since January 1996 under Section 6 of Foreign Exchange Management Act (FEMA), 1999. Portfolio flows is constituted by investments by Global Depository Receipts/American Depository Receipts, Foreign Institutional Investments and Offshore funds and others. A detailed outline regarding the composition of foreign Investment flows is provided in the Annexure II-B. The next section spells out the relative importance of portfolio flows in the foreign investment flows as well as the total capital flows.

2.2.7 Foreign Portfolio flows

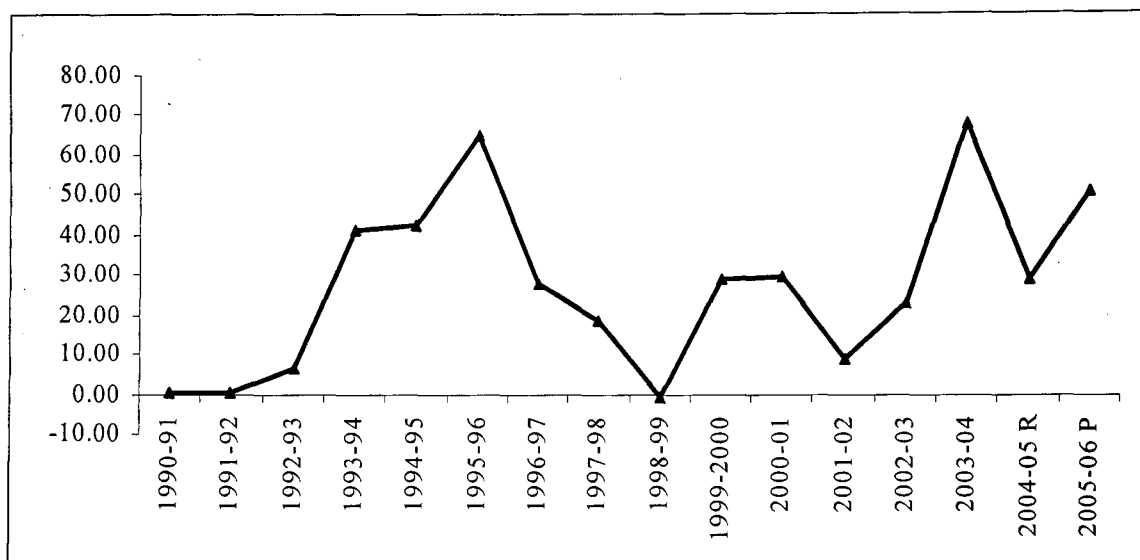
It has been shown that, in the last one and a half decade, the portfolio flows as a non-debt creating investment flow has increased its share in the total foreign investment flows and in the capital account as such. Figure 2.2 shows the share of portfolio flows in the capital account. During the year 2003-04 these flows' share in the capital flows touched an all time high of about 67.8 percent. The earlier notable contribution was during the year of 1995-96 when it touched about 65 percent of the total net capital flows. The decline since 1995-96 can be attributed to the impact of the Asian crisis⁵² on the Portfolio flows. In fact the outflows were larger during this time, which is well depicted in Figure 2.2. This shows the increased relevance of Portfolio flows in the later stages of opening up of the capital account. This has got relevance in a developing country context since the so-called stable, growth oriented foreign investment like the FDI is lagging behind the speculative foreign investment, the FPI⁵³.

⁵¹ FDI is constituted by investments through Government, RBI, NRI, acquisition of shares of Indian companies and equity capital of unincorporated bodies; route. Foreign direct investment to and by India up to 1999-2000 comprise mainly equity capital. In line with the international best practices, the coverage of FDI has been expanded since 2000-01 to include, besides equity capital, reinvested earnings (retained earnings of FDI companies) and 'other capital' (inter-corporate debt transactions between related entities). Data on equity capital include equity of unincorporated entities (mainly foreign bank branches in India and Indian bank branches operating abroad) besides equity of incorporated bodies.

⁵² The Asian financial crisis also called the East Asian crisis had impacted the financial flows regionally through contagion effects.

⁵³ See also Annexure II-C for a clear view regarding the major capital flows and its share in the total capital flows.

Figure 2.2 Portfolio Flow as a percent of the Capital flows



Source: Computed from the Handbook of Statistics on the Indian Economy, Reserve Bank of India 2005-06.

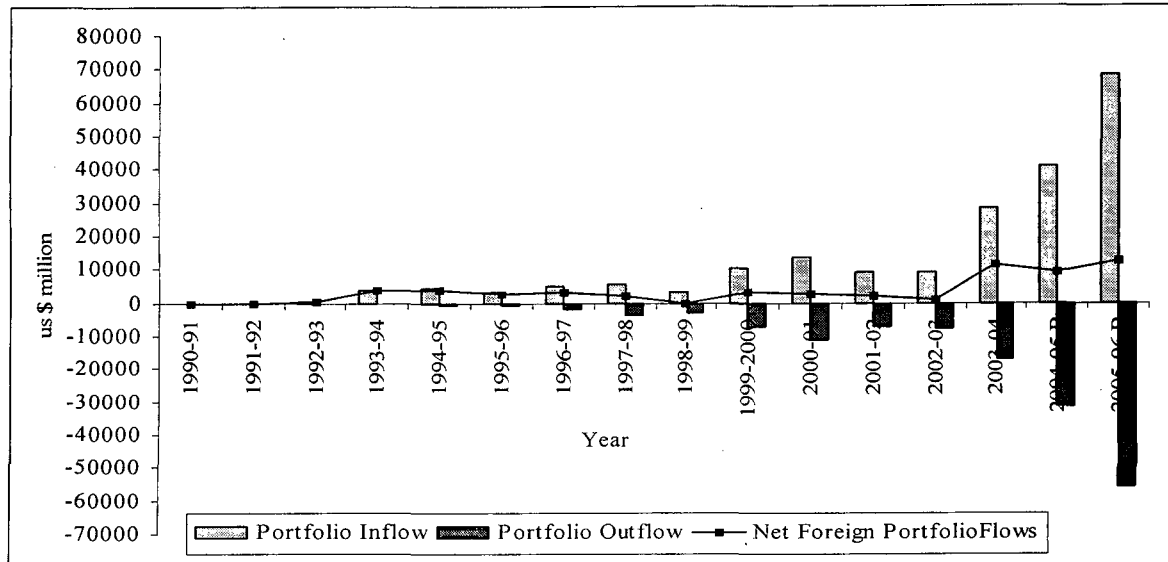
2.2.8 Trends in Portfolio Flows

The portfolio flows began in 1990-91 as a result of the opening up of the economy. In the first year the Portfolio flow recorded a modest figure of about 6 million US dollars via the offshore funds and the same trend continued in the next two year with investments of about 4 and 244 million US dollars respectively. Starting with 1993-94, the portfolio flows began to pick up. The trend continued for a while before the Asian financial crisis putting the breaks from 1996-97, and the portfolio flow even recording net outflows during 1998-99. After that, the foreign portfolio flow continued unabated, with the largest inflow recorded during 2003-04 and in the last year. However the quantum of outflows is also significant⁵⁴. The Figure 2.3 clearly depicts the trajectory of inflows, outflows and net inflows of portfolio flows which shows an increase in the last decade⁵⁵.

⁵⁴ A significant percent of Portfolio flow leaves the country each year as outflows. See also Annexure II-D for details. Interestingly the country has also seen Portfolio investment abroad in the years of 2001-02, 2002-03 and 2003-04 to the tune of 170, 69, and 35 US dollar million respectively (RBI- Handbook of Statistics on the Indian Economy, 2005-06).

⁵⁵ Annexure II-D provides a description about the trends in the foreign portfolio inflow, outflow and net flow.

Figure 2.3 Trends in Portfolio flows



Source: Reserve Bank of India, Handbook of Statistics on the Indian Economy, 2005-06.

However, the cumulative foreign investments through the portfolio route till now have been to the tune of about 57 billion US dollars.

2.2.9 A Fluctuating Flow

One of the concerns associated with portfolio flows is that of the volatility associated with these flows. In the Indian context also the phenomenon of volatility persists. In Table 2.3, co-efficient of variation is used to explain the variability in the annual growth rates of portfolio flows. It can be seen that net portfolio flows into India exhibits high variation during the whole period. Further analysis by dividing the periods into three; i.e. 1990-91 to 1994-95, 1995-96 to 1999-2000 and 2000-01 to 2005-06, also confirms the changing nature of volatility associated with these flows.

Table 2.3 Volatility in Foreign Portfolio Flows

Period	CV
1991-92 to 2005-06	834.89
1990-91 to 1994-95	154.02
1995-96 to 1999-00	-214.75
2000-01 to 2005-06	266.05

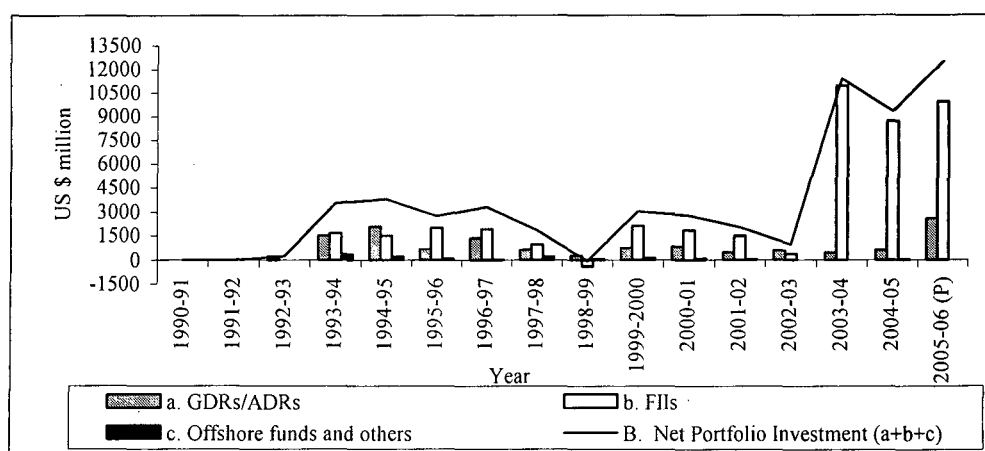
Source: Computed by the author, from the data available from RBI.

2.2.10 Composition of Portfolio Flows

The component wise analyse of Foreign Portfolio flow helps in understanding the nature of these flows. It is depicted in the Figure 2.4. As mentioned earlier, the foreign institutional investments into the Indian capital and money markets, the portfolio inflow through the issuance of Global depository receipts/American depository receipts by Indian firms and investments through the offshore funds constitute Foreign Portfolio flows.

Offshore funds⁵⁶ were first to invest in Indian markets since the economy was opened to portfolio flows. They began with an investment of about 6 million US dollars in the very first year. Portfolio investments by institutional investors and through GDRs/ADRs have begun only in 1992-93, two years after the liberalisation of capital flows.

Figure 2.4: Composition of Foreign Portfolio flows



Source: Reserve Bank of India, Handbook of Statistics on the Indian Economy, 2005-06.

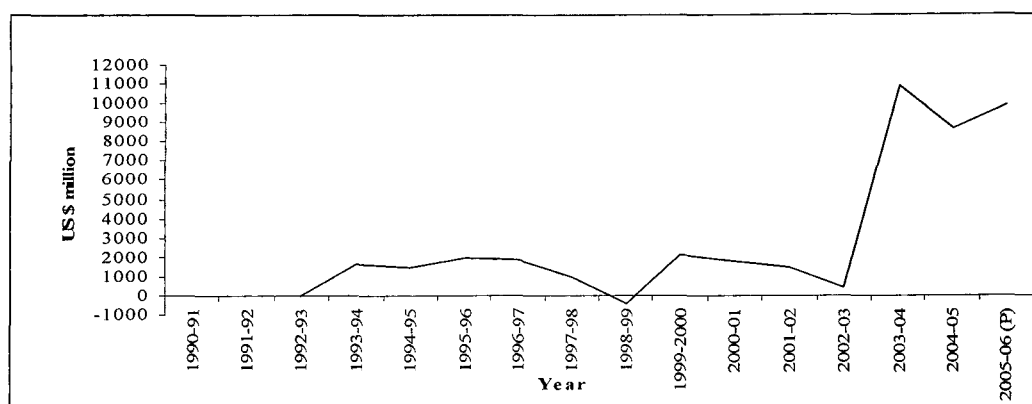
However the portfolio investment through the offshore funds route has been negligible comparing with the other two forms of foreign portfolio investments. The highest investment through this route was in 1993-94. But exactly a decade since that, the offshore funds investment touched nil. In the initial years, the investments by issuing GDRs/ADRs were comparatively significant, but got reduced thereafter, especially in comparison with the institutional investments into the Indian stock markets. The foreign institutional investors are now the largest and most leading mode of the foreign portfolio investment into India.

⁵⁶ An offshore fund is defined as a collective investment scheme for investments domiciled in an offshore centre.

2.2.11 Foreign Institutional Investments

The term foreign institutional investor is defined as an institution established or incorporated outside India for making investments in Indian equity and money markets. They have to register with SEBI for investment purposes. The foreign institutional investors can be of different types⁵⁷. Foreign Institutional Investors can invest in two routes, the equity route and the debt route⁵⁸. Figure 2.5 shows the trends in the foreign institutional investment into the Indian Equity markets.

Figure 2.5: Trends in Foreign Institutional Investments



Source: Reserve Bank of India, Handbook of Statistics on the Indian Economy, 2005-06.

It can be seen that the foreign institutional investment that began in 1992-93 with just one million US dollars, is now the major source of portfolio investment into India. In the aftermath of Asian crisis the foreign institutional investment however recorded net outflows, which was significantly large enough to offset the inflows from the other two components. In the last three years, this form of portfolio investment constituted about ninety percent of portfolio flows into our

⁵⁷ They are Pension Funds, Mutual Funds, Investment Trust, Insurance or reinsurance companies, Endowment Funds, University Funds, Foundations or Charitable Trusts or Charitable Societies who propose to invest on their own behalf, and Asset Management Companies, Nominee Companies, Institutional Portfolio Managers, Trustees, Power of Attorney Holders, Banks and Hedge Funds (earlier the permission granted was only to a few institutions, but this was extended following liberalisation measures).

⁵⁸ Under the equity route the FII is permitted to invest in the following instruments:

- Securities in the primary and secondary market including shares that are listed or to be listed on a recognized stock exchange in India.
- Units of schemes floated by the domestic mutual funds.
- Warrants.

Under the debt route the RBI permits the FIIs to invest in the following instruments.

- Debentures
- Bonds
- Dated government securities.
- Treasury bills; and
- Other market instruments.

country. It is interesting to note that, during 1992-93 the number of foreign institutional investors registered with SEBI was only 3 and today the number stands at 1039⁵⁹. Another notable feature is about the nativity of these foreign institutional investors; or the countries from where foreign portfolio capital in the form of institutional investment comes to India. Table 2.4 gives the country wise origin of the foreign institutional investors, which shows the importance of US and UK as the prominent investors into the Indian markets.

Table 2.4 Country wise origin of Foreign Institutional capital

Country Name	No of FII's	Percent in Total	Country Name	No of FII's	Percent in Total
USA	383	36.86	France	20	1.92
UK	163	15.69	Denmark	14	1.35
Luxembourg	77	7.41	Japan	11	1.06
Singapore	50	4.81	South Korea	11	1.06
Canada	42	4.04	Malaysia	10	0.96
Australia	40	3.85	Germany	9	0.87
Ireland	37	3.56	United Arab Emirates	8	0.77
Hong Kong	32	3.08	Sweden	8	0.77
Netherlands	29	2.79	Taiwan	7	0.67
Mauritius	25	2.41	Italy	7	0.67

Source: Computed from the information available from Securities and Exchange Board of India website, June 22, 2007.

2.3 MEASURING OPENNESS TO FOREIGN PORTFOLIO FLOWS

The above section highlighted the internationalization of India's Capital market with particular reference to Foreign Portfolio investments. This in a sense represented the actual openness of our economy to these flows since the economy was opened up. This actual openness towards foreign financial flows was facilitated by the relaxation of the vast array of controls and regulations governing the external account transactions. Economies are considered fully open financially, when there are no controls governing financial flows. So analyzing how much controls have been dismantled will provide a view regarding the potential openness of our economy towards international capital transactions. In this section, an analysis is attempted to understand the present openness of our economy towards foreign portfolio flows.

⁵⁹ Annual Report BSE 2004, SEBI website.

2.3.1 Need for disaggregating Openness of Foreign Portfolio Flows

It is important for developing economies looking forward to fully liberalizing their capital account to understand the openness in each of the components of capital account before attempting any further liberalisation measures. This becomes grave, when the capital flows are dominated by the short-term flows, against which there is a growing consensus for imposing controls. As shown earlier, the Indian capital account scenario is characterised by the dominance of foreign portfolio flows⁶⁰. The debate of capital account convertibility assumes significance in this context. Full capital convertibility refers to fully liberalizing/opening the doors of the economy to all forms of capital flows, without leaving any hindrances⁶¹. So in order to know the financial or capital account openness one has to document and analyse policy measures with respect to the whole of these capital flows. The financial market openness refers to the openness vis-à-vis all these different capital flows. Moreover, there are very few attempts to disaggregate the financial openness among its various components. Liberati (2006) has used the combination of foreign direct investment and portfolio investment as a measure for financial openness but, it is only a proxy for representing financial openness.

2.3.2 Understanding Financial Openness

Before moving explicitly into the construction the openness index for portfolio flows, it is essential to understand the issue of financial openness. While financial openness refers to an aggregate concept of increasing global linkages through the cross border financial flows, capital account openness/capital market openness refers to an individual country's linkage with international capital markets/flows (Prasad, 2003).

Brune et.al (2001), presents a review of the measures of financial openness. Some of the widely used measure of openness estimates the importance of the variable in question relative to the size of the economy⁶². For measuring the capital mobility, the convergence between the rate of return across borders (Frankel, 1993) or to the extent to which

⁶⁰ This throws up some interesting questions regarding the pace and sequence of reforms in the capital account. Either the reforms initiated is more favorable for the portfolio flows, or the macro-economic essentials that determines the capital flows are more encouraging for the portfolio flows than the other forms of financial flows.

⁶¹ This includes capital flows in the form of foreign direct investment, portfolio investment, loans, banking flows, external commercial borrowings, other capital etc.

⁶² The financial openness is analogous to the trade measure in that it seeks to estimate the size (or importance) of external financial transactions (gross financial flows) relative to the size of the domestic economy (Gross domestic Product).

domestic saving affect domestic investment (Feldstein and Horioka 1980) can also be taken. However, measurement of capital market openness has been usually fraught with difficulties⁶³. Prasad et al (2003) provides a broad picture regarding the measures of financial openness. Measures of *de jure*⁶⁴ restrictions on capital flows and *de facto*⁶⁵ or actual capital flows across national borders are two indicators of the extent of a country's capital market openness with the global economy. Understanding the differences between them is important when evaluating the effects of capital market openness. Most formal empirical work analyzing the effects of capital account liberalization has used a measure based on the official restrictions on capital flows as reported to the IMF by national authorities. A more direct measure of capital market openness is based on the estimated gross stocks of foreign assets and liabilities as shares of GDP. Although these two measures of financial integration are related, they denote two distinct aspects. The capital account restrictions measure reflects the existence of '*de jure*' restrictions on capital flows while the financial openness measure captures '*de facto*' financial integration in terms of realized capital flows⁶⁶. A debated question is whether capital market openness should be measured as either actual or potential mobility. However since the basic idea underlying the analysis attempted here is to understand how much open is our economy to foreign portfolio flows or how much liberalised our economy is towards portfolio flows; the measure based on '*de jure*' restrictions can be used.

2.3.3 Measuring Openness

The problem related to the measuring of degree of financial openness is a difficult task for the research⁶⁷. The IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions* (AREAER) addresses these problems, where the presence of capital controls

⁶³ Liberati, (2006) after extensive survey says that most of the empirical literature has converged towards the idea that financial openness indicators should indicate either actual or potential capital mobility.

⁶⁴ Having a right or existence as sated by law.

⁶⁵ Existing in fact, although not necessarily legal or accepted in reality.

⁶⁶ The actual flow can occur even without capital market liberalisation. Prasad et al (2003), shows that episodes of capital flight from some Latin American countries in the 1970s and 1980s are examples of such involuntary *de facto* financial integration in economies that are *de jure* closed to financial flows (that is, where integration has occurred without capital account liberalization). On the other hand, some countries in Africa have few capital account restrictions but have experienced only minimal levels of capital flows (that is, where liberalization has occurred without integration).

⁶⁷ To Brune (2001), there are several problems. First, should foreign direct investments or portfolio investments be considered or both? Second, are inflows or outflows that best measure financial openness? Third, are financial flows a more reliable indicator of capital mobility than stocks? Fourth, should flows and stock be disregarded in favour of alternative indicators

is labeled⁶⁸. This information serves as the basis for generating the indicator of capital market openness. Brune et al (2001), provides a brief description of the various studies on capital account liberalisation measures. They reports that these measures however were cross national in nature; and give the openness for a number of countries that were liberalizing their capital account. They reviews that, the first systematic attempt to analyze capital account policy was undertaken by Alesina et al, (1994). Using data reported in the International Monetary Fund's AREAER, they coded policy among the OECD countries for the decade of the 1980s using a 0-1 dummy variable. Subsequent studies have used the same variable but extended the country and period of coverage (Leblang 1997, Simmons and Elkins (2000). Dennis Quinn (1997) and Quinn and Inlan (1997), then went beyond this dummy variable approach by creating a 0-4 scale for restrictions on the capital account during two time periods (the mid-1970s and the mid-to late-1980s) for a sample of developed and developing countries. Beginning in 1996, the AREAER began explicitly to note the degree of openness on different categories of capital controls. Johnston and Tamirisa (1998) used this data to code capital controls for a single year 1996. Among the studies using simplistic dummies such as the binary variable from the International Monetary Fund annual report on exchange restrictions, the index created by Quinn (1997) remains the first and most popular"⁶⁹. Quinn's index makes careful use of the text of the IMF report to code an index with a value from 0 to 4.

2.3.4 The Methodology

The analysis of measuring the openness towards portfolio flows in the Indian context can be attempted using the methodology of Quinn (1997). Quinn has used simplistic dummies in terms of binary variables in coding the capital controls. His coding for capital inflows and outflows is as follows.

- If approval is rare and surrender of receipts is required, then $X = 0$.
- If approval is required and sometimes granted, then $X = 0.5$.
- If approval is required and frequently granted, then $X = 1$.
- If approval is not required and receipts are heavily taxed, then $X = 1.5$.
- If approval is not required and receipts are not taxed, then $X = 2$.

⁶⁸ Jayadev, (2007) notes that most efforts to identify the presence of capital account restrictions have relied primarily on the annual publication of the IMF Exchange Arrangements and Exchange Restrictions which provides details on various regulations on capital account transactions across countries. To him, it has been the central source for various constructions of financial openness like Quinn, 1997; Rodrik, 1998; Kraay, 1998; Klein and Olivei, 1999; Edwards 2001; Chinn and Ito, 2003.

⁶⁹ Brune et al further extends this analysis both forward and backward in their Capital Account Openness Index (CAOI).

However, the Index of Openness of Portfolio flows (IOP) of this study, differ from that of Quinn. First of all this study considers the case of foreign portfolio flows only. Secondly, while Quinn codes the liberalisation measures between 0 and 4, this study codes the measures between 0 and 1. The value of zero denotes fully closed and the value of one shows fully open towards portfolio flows. The liberalisation measures pertaining to the foreign portfolio flows have to be chronologically arranged for the coding purpose. Annexure II-E provides a detailed review of the opening up measures of the foreign portfolio flows in a chronological order.

For coding in this way, appropriate weights have to be assigned. Firstly, all the items within the foreign portfolio flows were taken. These items can be broadly denoted in the form of share and debentures, bonds and debentures, securities of those including that of government, public sector undertakings and of private firms, issuance of ADRs/GDRs, mutual funds and other financial intermediaries, preferential allotment and returns on investment and income. The items which are fully open, these portfolio flows will be given the total value one. Further, to assign values for each of these sub-sections of flows that constitute portfolio flows; this 'one' has to be weighted by the number of these sub-sections. In essence the fully open situation assigned by one is the sum of openness of each of these sub-section's values. This exercise was to prevent arbitrariness in assigning values to the liberalizing measures to a great extent. However, a curious limitation of this method is that, it has provided only a crude form of the methodology developed by Quinn.

For this, the method adopted was,

Value for each of the items of portfolio flow, 'x' = 1/ no of subsections; N

$$\text{i.e, } x = 1/ N \dots \dots \dots (1)$$

where x = openness for each of the components constituting portfolio flows.

where N = number of sub sections.

The liberalisation pertaining to any one of the items (x) was not carried out in a single year, but was progressively relaxed in the years since reforms were initiated. So, for considering the portfolio flows as fully open, all the restrictions on each of the items of portfolio flows have to be removed. But since the exercise of liberalisation was

progressively and gradually done through years, assigning value for each of the liberalisation measure carried out in years, has to be done. So, the index was weighted depending upon the proportion of liberalisation of the items in the portfolio flows in each year.

$$\text{i.e, openness of an item of portfolio flow} = x y \dots\dots\dots (2)$$

Therefore index of openness can be computed as $= \Sigma (x y)$

where y = proportion of liberalisation carried out in each year.

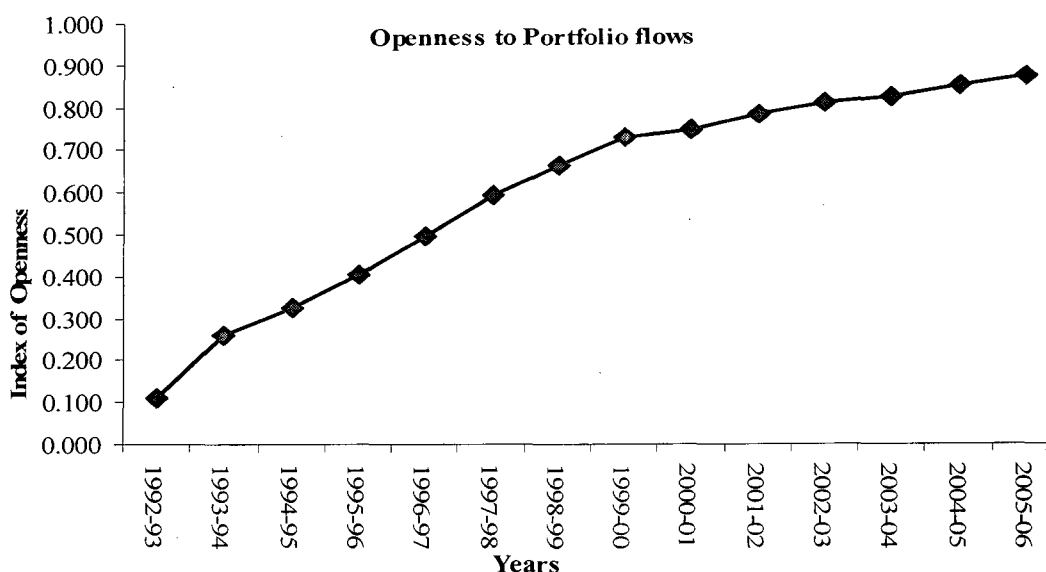
The liberalisation measures are chronologically listed by Kohli (2005) for the years 1992-93 to 2000-01 based on the Annual reports of RBI. The remaining information is available from the Annual reports of Reserve Bank of India. Now, based on these information, each of the liberalizing measures for the separate flows were assigned with values created in accordance with Quinn. In fact, this exercise has helped to prevent the assigning of values arbitrarily, to the liberalizing measures to a great extent. The index for openness increases, as each of the values assigned for each of the liberalisation measures is included in the calculation. This will be carried out for all of the years under study and this is how, the openness to portfolio flows from the liberalisation measures is indexed here in the study, in the Indian context.

2.3.5 Openness of Foreign Portfolio Flows in the Indian Context

The index when plotted shows the trajectory of openness of India towards foreign portfolio flows. Figure 2.6 represents the index of the potential openness of the economy towards the foreign portfolio flows. However it may not correspond well with the actual openness of the foreign portfolio flows. In the context of the debate on fuller capital convertibility, it is the potential degree of openness that is of prime importance since, once the capital flows are fully liberalised then there is a greater probability resulting actual openness will be de-stabilizing for the economy⁷⁰.

⁷⁰ This will be problematic since with fuller convertibility, there is always a potential threat that this liquid and volatile capital flowing out in the light of an imminent crisis. Assessing the true motives will be helpful in understanding the nature of these flows in this context.

Figure 2.6: Measuring Openness towards Portfolio flows from the liberalisation measures.



Sources: Author's own creation from the information adapted from Kohli (2005) and from various Annual Reports of RBI

The Figure 2.6 clearly shows that the openness of the economy towards foreign portfolio flows has been increasing since early 1990's and got stabilised in the later years. This shows that many controls on foreign portfolio flows were relaxed in the initial years itself. Nevertheless, they are subject to some quantitative restrictions. Now this has to be seen in the context that, no policy strategy was present towards capital account convertibility during that period. A broad policy outlining the path towards capital account convertibility came only with the report of the Tarapore committee in 1997.

As a result the outflows⁷¹ were liberalised during the 1997-98. But, this was subject to caps. However, actual flows experienced only during the period 2000-01 to 2002-03. Now it can be seen that the index of openness of foreign portfolio flows is at 0.8700, which in a way can represent that about eighty seven percent of the foreign portfolio account has been liberalised in the Indian scenario. It can also be understood from the measures, that most of the restrictions have been relaxed. Table 2.5 gives the existing status of the capital account convertibility with regard to the recommendations of 1997 committee on capital account convertibility.

⁷¹ This consists of outward portfolio investment in outward market by Indian Mutual Funds.

Table 2.5 Summary Status of Implementation by April 2006 of the 1997 CAC Recommendations

Sl. No.	Category	No. of items listed in recommendations	No. of items implemented			Items not implemented	Additional Measures by RBI
			Partly	Fully	Total		
1	Corporates						
1.1	Business - Residents	10 (4)	4 (1)	4 (2)	8 (3)	2 (1)	9 (0)
1.2	Non-Residents	3 (2)	2 (2)	1	3 (2)	0	3 (1)
2	Banks						
2.1	Residents	6 (1)	4 (1)	1	5 (1)	1	3
2.2	Non-Residents	1	1	-	1	-	-
3	Non-Banks						
3.1	Financial Residents	2 (1)	-	1 (1)	1 (1)	1	1
3.2	Non-Residents-FIIs	4 (4)	1 (1)	3 (3)	4 (4)	0	1
4	Individuals						
4.1	Residents	3 (1)	2 (1)	-	2 (1)	1	3
4.2	Non-Residents	4 (2)	1	3 (2)	4 (2)	0	3 (1)
5	Financial Markets	7 (6)	4 (3)	2 (2)	6 (5)	1 (1)	-
	Total	<u>40</u> (21)	<u>19</u> (9)	<u>15</u> (10)	<u>34</u> (19)	<u>6</u> (2)	<u>23</u> (2)

Source: Own Calculations from the Report of the Committee in Fuller Capital account Convertibility, 2006.

Note: Figures in parentheses shows no of measure pertaining to Portfolio flows, while others pertain to all the capital account transactions.

It can be seen that, majority of the recommendations of the Tarapore committee (1997), were implemented fully or partly, except some restrictions pertaining to those with respect to issuing of foreign currency denominated bonds to residents and relaxations in the foreign exchange market⁷². However, the restrictions with regard to the limits and ceiling on portfolio flows are still existent. Once these ceilings and limits are relaxed, the portfolio flows can be considered fully open.

⁷² A detailed report regarding the recommendations of the capital account convertibility (1997) with regard to the portfolio flows is given in the Annexure II-E. It presents the exact nature and stages of the implementations of the report. Source: Report of the Committee on Fuller Capital Account Convertibility, July 2006, RBI

Conclusion

This chapter has tried to throw some light on the internationalization of finance and Indian capital markets before analysing how much liberalised is our economy towards foreign portfolio capital flows. It is seen that most of the liberalisation measures were implemented in the initial years itself by way of dismantling of the controls. This has to be understood in the context that no concrete set of policies was initiated then towards making capital fully convertible in the capital account. However, once the policies were initiated towards capital account convertibility, the focus was seen on relaxing the regulations pertaining to the limits and caps on various items of portfolio flows. This exercise of measuring the openness brings to focus the necessity of understanding how much de-regulation have been undertaken so far before taking any other action towards fully opening up the portfolio flows. This potential and actual openness necessitates the need for understanding the basic motives that guides the foreign portfolio flows to India. This is attempted in the next chapter.

ANNEXURE II

Annexure II- A. Net Capital Flows

(in US \$million)

Capital Account	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2002-03	2003-04	2004-05 R	2005-06 P
1.Foreign Investment (a+b)	101	133	557	4233	4807	4615	5964	5353	2312	5117	5862	6686	13744	12147	18222
a) Direct	96	129	315	586	1343	2143	2842	3562	2480	2167	3272	4734	2388	3240	5733
b) Portfolio	5	4	242	3647	3579	2660	3312	1828	-68	3024	2590	1952	11356	8907	12489
2.Loans (a+b+c)	5532	3982	411	1812	3035	2200	4795	4799	4418	1601	5264	-1261	-4364	10755	4737
a)External Assistance	2204	3034	1856	1895	1518	868	1101	885	799	891	410	1117	-2888	1923	1438
b)Commercial Borrowings (MT & LT)	2254	1462	-366	686	1124	1284	2856	4010	4367	333	4303	-1585	-2925	5040	1591
c)Short Term To India	1074	-514	-1079	-769	393	48	838	-96	-748	377	551	-793	1419	3792	1708
3.Banking Capital (a+b)	681	567	3826	2264	-334	763	2229	-893	699	2127	-1961	2864	6033	3874	1373
a)Commercial Banks	901	138	2930	1658	-626	938	2225	-1260	-447	2304	-1882	2660	6501	3979	442
b)Others	-220	429	896	606	292	-175	4	367	1146	-177	-79	204	-468	-105	931
4. Rupee Debt Service	-1192	-1240	-878	-1054	-983	-952	-727	-767	-802	-711	-617	-519	-376	-417	-572
5. Other Capital	1931	473	-40	1639	1977	-2537	-254	1352	1810	2310	292	781	1699	4668	933
Total Capital Account (1 to 5)	7053	3915	3876	8894	8502	4089	12007	9844	8437	10444	8840	8551	16736	31027	24693

PR: Partially Revised. P : Preliminary.

Source: Reserve Bank of India, Handbook of Statistics on Indian Economy, online database.

Annexure II- B. Net Foreign Investment flows into India in the Post-liberalization period.

(in US \$ million)

Item	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06 (P)
A. Direct Investment (I+II+III)	129	315	586	1314	2144	2821	3557	2462	2155	4029	6130	5035	4322	6051	7722
I. Equity (a+b+c+d+e)					2144	2821	3557	2462	2155	2400	4095	2764	2229	3778	5820
a. Government (SIA/FIPB)	66	222	280	701	1249	1922	2754	1821	1410	1256	2221	919	928	1062	1126
b. RBI		42	89	171	169	135	202	179	171	454	767	739	534	1258	2233
c. NRI	63	51	217	442	715	639	241	62	84	67	35				
d. Acquisition of shares *	--	--	--	--	11	125	360	400	490	362	881	916	735	930	2181
e. Equity capital of unincorporated bodies #	--	--	--	--	--	--	--	--	--	61	191	190	32	528	280
II. Reinvested earnings \$	--	--	--	--	--	--	--	--	--	1350	1645	1833	1460	1904	1676
III. Other capital \$\$	--	--	--	--	--	--	--	--	--	279	390	438	635	369	226
B. Portfolio Investment (a+b+c)	4	244	3567	3824	2748	3312	1828	-61	3026	2760	2021	979	11377	9315	12492
a. GDRs/ ADRs # #	--	240	1520	2082	683	1366	645	270	768	831	477	600	459	613	2552
b. FIIs**	--	1	1665	1503	2009	1926	979	-390	2135	1847	1505	377	10918	8686	9926
c. Offshore funds and others	4	3	382	239	56	20	204	59	123	82	39	2		16	14
Total (A+B)	133	559	4153	5138	4892	6133	5385	2401	5181	6789	8151	6014	15699	15366	20214

* : Relates to acquisition of shares of Indian companies by non-residents under Section 6 of FEMA, 1999. Data on such acquisitions have been included as part of FDI since January 1996.

** : Represents inflow of funds (net) by Foreign Institutional Investors (FIIs).

: Figures for equity capital of unincorporated bodies for 2005-06 are estimates.

: Represents the amount raised by Indian Corporates through Global Depository Receipts (GDRs) and American Depository Receipts (ADRs).

\$ Data for 2004-05 and 2005-06 are estimated as average of previous two years. \$\$ Data pertain to inter company debt transactions of FDI entities.

Notes : 1. Data on FDI have been revised since 2000-01 with expanded coverage to approach international best practices.

2. These data, therefore, are not comparable with FDI data for previous years.

3. Monthly data on components of FDI as per expanded coverage are not available.

Source: Reserve Bank of India, Annual Report, online database.

Annexure II- C. Major Capital Flows

	1.Foreign Investment		2.Loans			3.Banking Capital	
	Direct	Portfolio	External Assistance	Commercial Borrowings (MT & LT)	Short Term To India	Commercial Banks	Others
1990-91	1.36	0.07	31.25	31.96	15.23	12.77	-3.12
1991-92	3.30	0.10	77.50	37.34	-13.13	3.52	10.96
1992-93	8.13	6.24	47.88	-9.44	-27.84	75.59	23.12
1993-94	6.59	41.01	21.31	7.71	-8.65	18.64	6.81
1994-95	15.80	42.10	17.85	13.22	4.62	-7.36	3.43
1995-96	52.41	65.05	21.23	31.40	1.17	22.94	-4.28
1996-97	23.67	27.58	9.17	23.79	6.98	18.53	0.03
1997-98	36.18	18.57	8.99	40.74	-0.98	-12.80	3.73
1998-99	29.39	-0.81	9.47	51.76	-8.87	-5.30	13.58
1999-00	20.75	28.95	8.53	3.19	3.61	22.06	-1.69
2000-01	37.01	29.30	4.64	48.68	6.23	-21.29	-0.89
2002-03	55.36	22.83	13.06	-18.54	-9.27	31.11	2.39
2003-04	14.27	67.85	-17.26	-17.48	8.48	38.84	-2.80
2004-05 R	10.44	28.71	6.20	16.24	12.22	12.82	-0.34
2005-06 P	23.22	50.58	5.82	6.44	6.92	1.79	3.77

Source: Own calculations from RBI data

Annexure II- D. Foreign Portfolio Flows

Year	Portfolio Inflow (US \$ million)	Portfolio Outflow (US \$ million)	Net Portfolio Flows (US \$ million)	Outflows as a % of Inflows
1990-91	6	0	6	0
1991-92	4	0	4	0
1992-93	244	2	242	0.82
1993-94	3958	311	3647	7.86
1994-95	4402	823	3579	18.70
1995-96	3456	795	2660	23.00
1996-97	4953	1641	3312	33.13
1997-98	5573	3745	1828	67.20
1998-99	3225	3293	-68	102.11
1999-2000	9951	6927	3024	69.61
2000-01	13619	11029	2590	80.98
2001-02	9259	7307	1952	78.92
2002-03	8833	7889	944	89.31
2003-04	28218	16862	11356	59.76
2004-05 R	40536	31629	8907	78.03
2005-06 P	68115	55626	12489	81.66

Source: Reserve Bank of India, Handbook of Statistics on Indian Economy, online database.

Annexure II-E

Liberalization Measures of Foreign Portfolio Flows

1992-93

NRI's/OCB's permitted to acquire shares/debentures of Indian companies through Stock exchanges in India, up to 24 % of the total paid up the company both on repatriation and non-repatriation basis, subject to certain prudential limits. Investment by a single investor, on a repatriation basis, not to exceed 1 % of its total paid up equity capital or preference capital or 1% of total paid up of each series of convertible debentures issued by it.

1993-94

NRI's/OCB's allowed to invest in schemes of domestic mutual funds floated by public sector banks/financial institutions not on a repatriation basis. Such investments can be made through the secondary market also. Neither investment/deposit amount nor the income/interest thereon, eligible for repatriation.

Policy guidelines for accessing international markets through GDR are revamped. Only one issue per company in a financial year. Not more than two issues for any group of companies in a financial year. No limit specified for NRI/OCB investment. Retention of issue proceeds permitted only for specific purposes such as import of capital goods, retiring foreign currency loans and capitalizing Indian joint ventures abroad.

Government allows Public sector units to issue bonds under public issues to NRIs/OCBs through prospectus by private placement with facility of repatriation of both principal as well as interest on the bonds. NRI/OCB shareholding not to exceed 1% of the paid up capital of the PSU concerned. Purchase consideration bid money to be received through normal banking channels or debit to investor's NRI/FCNR accounts.

1994-95

NRIs/OCBs and FIIs allowed to invest, on a repatriation basis, in all activities except agriculture and plantation activities, subject to conditions. FIIs not eligible to make investments in unlisted/private limited companies under the scheme. Investments should be in the form of remittances abroad through normal baking channel or debit to NRI/FCNR account of the non-resident investor.

FII investment by way of preferential allotment permitted up to 15% of the equity of the company subject to the condition that aggregate FII/NRI/OCB investment does not exceed 24% of the equity of the company. Such shares are not transferable in any manner for the period of five years. NRIs permitted to repatriate income/interest on investments or deposits. However the repatriation to be phased over a period of three years. Guidelines for euro-issue modified. Euro issue proceeds to be held as foreign currency deposits with the banks and public financial institutions in india, which can be converted into indian rupees only as and when expenditure for the approved end users are incurred. Companies are permitted to remit funds into India in anticipation of the use of funds for approved end users. Existing ceiling for use of issue proceeds for general corporate restructuring including working capital requirements raised from 15% to 25% of the GDR issue. Three year track record required relaxed in the case of companies seeking GDR/FRCB issue to finance investment in infrastructure industries such as power generation, telecommunication, petroleum exploration and refining, ports airports and roads.

1995-96

OCBs allowed to sell/ transfer shares/bonds/debentures of Indian companies acquired with repatriation benefits through stock exchange under the portfolio investment scheme.

Foreign investors allowed disinvesting equity shares through stock exchanges in India. Permission granted for of foreign investors or disinvestment of listed equity shares through private placement. Restrictions relating to the five year lock- in period for issue of equity shares on preferential basis are withdrawn except where the preferential issue of securities is in favour of promoter/promoter group.

1996-97

FII's allowed investing in government of India dated securities. FII's allowed investing up to 100% in debt instruments of Indian companies. The investment may be in listed or to be listed corporate debt securities or in dated government securities and will be in treated as a part of the overall limit on external commercial borrowings.

Norms for disinvestments by non-residents of shares of unlisted and listed companies, whose shares are not regularly traded further liberalised. Automatic approvals were granted for gross sale less than or equal to Rs 20 lakh. For transactions greater than Rs 20 lakh, price and quantity restrictions relaxed.

1997-98

Liberalisation policy on overseas investment Indian announced. Two fast track windows available, while the first one is through investment from balances under EEFC account (up to US \$ 15 million), while the second one is through GDR route (maximum 50% of the amount raised).

Indian companies no longer require the RBI's permission for receiving inward remittances and issue of shares to NRI/OCB investors under the 100% scheme.

FII's with 30% ceiling on investment in debt securities allowed to invest in government securities in addition to corporate bonds within the 30% ceiling on debt component.

SEBI registered Indian fund managers, including mutual funds, allowed to invest in the overseas market subject to SEBI guidelines within an overall cap of US\$ 500million.

FII's permitted to purchase/sell treasury bills within the overall approved debt ceilings.

Banks allowed to borrow/invest in overseas money markets. Ceiling increased from US \$ 10 million up to a maximum extent of 15%of their unimpaired tier 1capital. Foreign banks operating in India to remit their profits/surplus to their head offices without the approval of RBI.

1998-99

Authorized dealers (AD) permitted to provide forward cover to FII's in respect of their fresh investment in equity in India as well as to cover the appreciation in the market value in the market value of their existing investment in India. This facility also extended to NRIs/OCBs for their portfolio investments.

The individual and aggregate portfolio investment ceiling for NRIs/OCBs/PIOs would be exclusive of the individual portfolio investment of 10%and aggregate portfolio ceiling of 30%of the paid up capital for FII's.

FII's allowed to invest in unlisted companies through the 100%debt route and tender their securities directly in response to an open offer subject to SEBU regulation. FII's permitted to buy/sell derivative contracts, which are traded on the stock exchange.

FII's also permitted to trade in derivatives without trade requiring them take or give delivery. Transactions among FII's with respect to Indian stocks no longer require the post- facto confirmation from the RBI.

Limits for investments by FIIs /NRIs/OCBs in Indian companies enhanced. Ceiling of 24% on FII investment in primary and secondary markets in the paid up equity capital raised to 30% subject to approval of the board of directors of the company. Ceiling of the single holding of a single FII or the concerned FII group in any Indian Company raised from 5% to 10% of the total paid up capital. Aggregate, ceiling for FII that is 24% or 30%, as the case may be old be exclusive of investments made by NRIs/OCBs under the portfolio investment scheme.

Indian software companies allowed to offer ADR/GDR linked Stock option schemes to their non-resident/ resident permanent employees (including Indian and overseas working directors). Indian companies no longer require the RBI's permission for the purpose of receiving inward remittances and issue of shares to NRI/OCB investors under the 100% scheme. However the relevant documents have to be submitted with the RBI within 30 days of the issuance. A blanket approval for investment abroad in the field of computer software by the Indian software companies. 50% of their foreign exchanges earnings granted.

1999-2000

General permission granted to Indian mutual funds to issue units or similar instruments under schemes approved by SEBI to FIIs with repatriation benefits, subject to certain conditions.

RBI grants permission to non-resident holders of ADRs/GDRs to acquire underlying shares released by the Indian custodian upon the surrender of ADRs /GDRs.

2000-01

SEBI simplified procedures for FIIs permitting them to go ahead with client's order and do the registration later within a day or two. Thus FIIs do not have to wait for SEBI clearance to execute the requests of clients.

Eligibility criteria for overseas investments by the Indian mutual funds where, the US\$ 10 million was removed and SEBI decided to apportion the US\$ 500 million limit of investments among Indian mutual funds.

FIIs in the primary/ secondary markets in India, Indian companies (other than banking companies) were permitted to enhance their aggregate ceiling on investments from 30% to 40% of issued and paid-up capital of the Indian company.

The facility to purchase share or convertible debentures of Indian companies engaged in print media sector by FIIs/NRIs/OCBs is withdrawn.

Any Indian company that has issued ADRs/GDRs may require shares of foreign companies engaged in the same area of the core activity up to an amount of US\$ 100 million or an amount equivalent of ten times of their exports in a year, whichever is higher (instead the earlier facility available only to the Indian companies in certain sectors). Two-way fungible in ADR/GDR issues of Indian companies introduced, subject to sector caps. Stock brokers in India could purchase shares and deposit these with the Indian custodians for the issue of ADRs/GDRs by the overseas depository to the extent of the ADRs/GDRs that have been converted into underlying shares. Indian companies were allowed to sponsor ADR/GDR issues with an overseas depository against shares held by its shareholders that wish to use this option. A registered broker in India may purchase shares of an Indian company on behalf of a person outside India, for the purpose of converting the shares so purchased in ADRs//GDRs, provided that the shares are purchased on a recognized stock exchange and the Indian company had issued ADRs/GDRs.

2001-02

In consultation with the Government of India, the Reserve Bank permitted Indian companies to increase the FII investment limit up to the sectoral cap/statutory ceiling, as applicable. The Government announced that the FII portfolio investments will not be subject to the sectoral limits applicable for FDI except in specified sectors.

Following the circular dated February 4, 2002 by the Reserve Bank permitting FIIs to trade in all the exchange traded derivative contracts, the SEBI announced the position limits to be followed by the FIIs and their sub-accounts.

The SEBI also laid down norms for the derivative segment of the exchanges and their Clearing House/Clearing Corporation to implement the procedure for the monitoring of FIIs and the sub-account's position limits and the norms for computation of such position limits.

In pursuance with the proposals in the Union Budget 2002-03, the SEBI allowed the mutual funds to invest in foreign debt securities in the countries with fully convertible currencies and with highest rating (foreign currency credit rating) by accredited/registered credit rating agencies. They were also allowed to invest in government securities where the countries are AAA rated.

With a view to accord further flexibility in their funds management, banks in India were allowed to invest up to 50 per cent of their unimpaired Tier I Capital or US \$ 25 million whichever is higher, in overseas money market instruments and/ or debt instruments.

With a view to further liberalize and simplify the facility, the FIIs were permitted to hedge the market value of their entire investment in equity as on a particular date without any reference to a cut-off date. If a hedge becomes naked in part or full owing to shrinking of the value of the portfolio, it may be allowed to continue to the original maturity, if so desired.

2002-03

SEBI increased the investment limit on foreign securities to 10 per cent of net assets of each MF as on March 31, 2002 from 4 per cent. However, a minimum of US \$ 5 million and maximum of US \$ 50 million is permissible to each MF irrespective of the size of assets.

Subject to certain specified conditions, listed Indian companies were permitted to invest abroad in companies listed on a recognized stock exchange and having the shareholding of at least 10 per cent in an Indian company listed on a recognized stock exchange in India (as on 1st January of the year of the investment). Such investments shall not exceed 25 per cent of the Indian company's net worth, as on the date of its latest audited balance sheet.

MFs were permitted to invest in equity of overseas companies as indicated above subject to certain specified conditions. Accordingly, the overall cap of US \$ 500 million fixed earlier for investment abroad in ADRs/GDRs of Indian companies and rated debt instruments in overseas markets was raised to US \$ 1 billion.

Resident individuals were also permitted to invest in overseas companies as indicated above without any monetary limit, subject to certain specified conditions

Indian companies were permitted to retain abroad funds raised through ADRs/GDRs for any period to meet their future forex requirements. Pending repatriation or utilisation of such foreign currency funds, they have also been allowed to invest them in certain specified categories of deposits/monetary instruments.

With a view to give a fillip to the capital markets, the Union Budget proposed that all listed equities that are acquired on or after March 1, 2003 and sold after the lapse of a year or more are exempted from the incidence of capital gains tax. Capital gains on buybacks were exempted from tax for one year

As a measure of further liberalisation and in order to encourage Indian companies to list ADRs/GDRs on the overseas exchanges, through the scheme of sponsored ADRs/GDRs, resident shareholders of Indian companies, who offer their shares for conversion to ADRs/GDRs, were allowed to receive the sale proceeds in foreign currency subject to condition that the conversion to such ADRs/GDRs should have the approval of Foreign Investment Promotion Board (FIPB). Further, the sale proceeds, so received by residents, are also permitted to be credited to their Exchange Earners' Foreign Currency/Resident Foreign Currency (Domestic) [EEFC/RFC(D)] accounts or to their Rupee accounts in India at their option.

Disinvestment proceeds under the scheme, receivable by residents, who have since become non-residents, would also be eligible for credit to their foreign currency accounts abroad or any of their accounts in India at their option.

The requirement of obtaining separate permission from RBI by the Mutual Funds (MFs) for investing overseas in debt/equity/ADRs/GDRs under the existing regulations was waived. Accordingly, MFs having the requisite approval from SEBI, may proceed to invest overseas.

For developing the derivative market in India and widening the spectrum of hedge products available to residents and non-residents for hedging currency exposures, foreign currency rupee options have been permitted with effect from July 7, 2003. ADs having a minimum CRAR of 9 per cent will be permitted to offer the product on a back-to-back basis. Further, ADs having adequate internal control, risk monitoring/management systems, mark to market mechanism along with fulfilling of certain specified criteria will be allowed to run an option book after obtaining a one time approval from the Reserve Bank.

2003-04

SEBI allowed mutual funds (MFs) to invest in equity of listed overseas companies which have share holding of at least 10 per cent in an Indian company listed on a recognized stock exchange in India. The overall ceiling for the entire mutual fund industry to invest in ADRs/GDRs issued by Indian companies and foreign equity and debt securities would be US \$ 1 billion. Each MF can invest up to 10 per cent of its net assets in these securities as on January 31 of the relevant year, subject to a maximum of US \$ 50 million. MFs were given general permission by the Reserve Bank for overseas investments within the cap of US \$ 1 billion, where SEBI's approval for undertaking such investments has been obtained. The requirement of obtaining separate permission from the Reserve Bank by mutual funds for investing overseas in rated debt/equity instruments and ADRs/GDRs under the existing regulations was waived. Accordingly, MFs having the requisite approval from the SEBI for undertaking such investments overseas do not require separate approval from the Reserve Bank.

Indian corporates and resident individuals were permitted to invest in rated bonds/fixed income securities of listed foreign companies abroad subject to certain conditions.

Overseas investors making long-term investments were allowed to hedge their forex exposures in India, pending investment, by entering into forward sale contracts with banks in India.

For developing the derivative market in India and widening the spectrum of hedge products available to residents and non-residents for hedging currency exposures, foreign currency rupee options were permitted with effect from July 7, 2003. ADs having a minimum CRAR of 9 per cent were permitted to offer the product on a back-to-back basis. Further, ADs having adequate internal control, risk monitoring/management systems, mark to market mechanism along with fulfilling of certain specified criteria were allowed to run an option book after obtaining a one time approval from the Reserve Bank. ADs were permitted to offer only plain vanilla European options for their customers.

The Reserve Bank specified that FIIs and NRIs, with the approval of the SEBI, may trade in all exchange traded derivative contracts subject to the limits prescribed by the SEBI. Registered FIIs were permitted to trade in all Exchange Traded Derivative Contracts (ETDCs) approved by the SEBI from time to time subject to the stipulated limits. NRIs were also allowed to invest in ETDCs approved by the SEBI out of INR funds held in India on a non-repatriable basis

SEBI registered FIIs/sub-accounts of FIIs were permitted to buy/sell equity shares/debentures of Indian companies (excluding companies engaged in the print media sector), units of domestic mutual funds, Government dated securities and Treasury Bills through stock exchanges in India at the ruling market price, invest/trade in ETDCs, and also to buy/sell shares and debentures, etc. of listed/unlisted companies otherwise than on stock exchange at a price approved by the SEBI/Reserve Bank.

FIIs were permitted to make investments in Government dated securities and Treasury Bills either in the primary or secondary market subject to SEBI (FIIs)/Government of India Regulations modified from time to time.

The FII position limit in all index derivative contracts (futures or options) on a particular underlying index would be Rs.250 crore or 15 per cent of the total open interest of the market per exchange, whichever was higher, in that index derivative.

The Union Budget, 2004-05 proposed the following measures: i) raising of the investment ceiling for FIIs in debt funds from US \$ 1 billion to US \$ 1.75 billion, ii) 0.15 per cent Securities Transaction Tax (STT) on all transactions made on the stock exchanges, iii) abolition of the tax on long-term capital gains from securities transactions,

iv) Reduction in the short-term capital gains tax to a flat rate of 10 per cent from the existing 30 per cent (excluding surcharge). (But this was later modified. It was clarified that the STT of 0.15 per cent would be applicable only to the delivery-based transactions and would be shared equally between the buyers and the sellers. The tax for non-delivery transactions by day traders and arbitrageurs was proposed to be reduced from 0.15 per cent to 0.015 per cent and to 0.01 per cent on derivatives transactions)

The debt market was fully exempted from the STT. Debt oriented mutual funds were also exempted from STT and would pay 10 per cent tax on long-term capital gains and 30 per cent tax on short-term capital gains. Equity oriented mutual funds were exempted from tax on long-term capital gains and the tax on short-term capital gains was reduced to 10 per cent. Buyers of units of MFs would pay a STT of 0.15 per cent.

Government of India notified the Companies (Issues of Indian Depository Receipts) Rules, 2004. Companies incorporated outside India may issue Indian Depository Receipts (IDRs) if they meet the following conditions: (i) their pre-issue paid-up capital and free reserves are at least US \$ 100 million, with an average turnover of US \$ 500 million during the preceding three financial years; (ii) they have been making profits for at least five years preceding the issue and have been declaring dividend of not less than 10 per cent each year; and (iii) pre-issue debt equity ratio is not more than 2:1. The issuing company also has to fulfill the eligibility criteria stipulated by the SEBI in this regard.

2004-05

Authorized Dealers permitted to allow remittances for acquisition of shares under Employees' Stock Option Plan (ESOP) dispensing with the condition that the shares should be offered at a concessional price. Sale of the shares so acquired was also permitted, without prior permission of the Reserve Bank, provided the proceeds thereof are repatriated to India.

SEBI modified the risk containment measures, position limits and the broad eligibility criteria of stocks and indices on which futures and options could be introduced.

The issue of ADR/GDR linked stock option by a listed company in the knowledge-based sectors would be governed by SEBI (Employees Stock Option and Stock Purchase Scheme) Guidelines, 1999, while the issue of ADR/GDR linked stock option to its employees by an unlisted company would continue to be governed by the guidelines issued by the Government of India. Accordingly, ADs were allowed to make remittances up to US \$ 50,000 or its equivalent in a block of five calendar years, which is the current limit per eligible employee, without prior approval of the Reserve Bank, for purchase of foreign securities under the ADR/GDR linked ESOP, after satisfying that the issuing company has followed the relevant guidelines of SEBI/Government of India.

In view of the Government of India raising the cumulative debt investment limit for the FIIs/sub-accounts from US \$ 1 billion to US \$ 1.75 billion, SEBI clarified that the overall investment limit under the 70:30 route in dated Government securities and treasury bills would be increased from US \$ 100 million to US \$ 200 million.

SEBI clarified that a cumulative sub-ceiling of US \$ 500 million outstanding would be fixed for FII investments in corporate debt, over and above the ceiling of US \$ 1.75 billion for Government debt.

An employee or a director of an Indian office or branch or a subsidiary of a foreign company in India or of an Indian company in which the foreign holding is not less than 51 per cent was permitted to purchase shares under ESOP offered by a foreign company even if it is an indirect shareholding (through a holding company or an SPV in third country) in the Indian company.

The Union Budget, 2004-05 proposed the following measures: i). raising of the investment ceiling for FIIs in debt funds from US \$ 1 billion to US \$ 1.75 billion, ii) 0.15 per cent Securities Transaction Tax (STT) on all transactions made on the stock exchanges, iii) abolition of the tax on long-term capital gains from securities transactions, iv) reduction in the short-term capital gains tax to a flat rate of 10 per cent from the existing 30 per cent (excluding surcharge).

2005-06

Residents in India were allowed to enter into contracts in commodity exchanges or markets outside India to hedge the price risk on import/export of a commodity, subject to certain conditions and reporting requirements.

FDI and portfolio investment were permitted in an Indian company publishing newspapers and periodicals dealing with news and current affairs within a composite ceiling of 26 per cent of the paid-up capital of the company subject to the guidelines issued by the Ministry of Information and Broadcasting. As such, FIIs, NRIs and Foreign Venture Capital Investors were allowed to purchase shares of an Indian company engaged in print media sector.

Persons / entities eligible under the FDI route other than FIIs were permitted to invest in the equity capital of Asset Reconstruction Companies (ARCs) registered with the Reserve Bank. Applications from eligible entities for investment in the ARCs would be considered by the Foreign Investment Promotion Board (FIPB) subject to certain conditions.

FIIs registered with the SEBI were allowed to invest in security receipts (SRs) issued by ARCs registered with the Reserve Bank up to 49 per cent of each tranche of scheme of SRs subject to the condition that investment of a single FII in each tranche of scheme of SRs should not exceed 10 per cent of the issue. The policy of investment in ARCs under the FDI route and investment by FIIs in SRs issued by ARCs would be reviewed after a period of two years and one year, respectively.

FIIs registered with SEBI and NRIs permitted to subscribe to the issue of perpetual debt instruments eligible for inclusion as Tier I capital and debt capital instruments as upper Tier II capital subject to certain limits.

The Union Budget, 2006-07 proposed the following measures: i) Increase in FII investment limit in the Government securities to US \$ 2 billion from US \$ 1.75 billion,

ii) Increase in FII investment limit in corporate debt to US \$ 1.5 billion from US \$ 0.5 billion, iii) Increase in ceiling on aggregate investment by mutual funds in overseas instruments to US \$ 2 billion from US \$ 1 billion and removal of requirement of 10 per cent reciprocal share holding, iv) Limited number of qualified Indian MFs allowed to invest, cumulatively up to US \$ 1 billion in overseas exchange traded funds.

Annexure II-F

EXISTING STATUS ON THE CAPITAL ACCOUNT

Position as on April 30, 2006

(\$ indicates US dollars)

Item	Position in 1997	Recommendations of 1997 Committee on Capital Account Convertibility			Present Position
		Phase I 1997-98	Phase II 1998-99	Phase III 1999-2000	
I. CORPORATES/BUSINESSES					
A. Corporates/Businesses - Residents					
1. Issuing foreign currency denominated bonds to residents (only rupee settlement) and investing in foreign currency denominated bonds and deposits (only rupee settlement).	Not permitted.	To be permitted without any ceiling	Same as Phase I.	Same as Phase I.	Not implemented.
2. Financial capital transfers abroad including for opening current/chequeable accounts.	Not permitted.	\$ 25,000 per annum	\$ 50,000 per annum	\$ 100,000 per annum	Implemented in part Listed Indian companies are permitted to invest up to 25 % of their net worth in overseas listed companies having at least 10 % stake in listed Indian companies and in rated bonds/fixed income securities Companies eligible to raise ADRs, GDRs and ECBs are permitted to open foreign currency accounts abroad and invest the proceeds in rated bonds/fixed income securities pending repatriation of proceeds. ECBs can also be retained overseas in bank accounts with debits permitted for purposes for which the loan was raised.

Item	Position in 1997	Recommendations of 1997 Committee on Capital Account Convertibility			Present Position
		Phase I 1997-98	Phase II 1998-99	Phase III 1999-2000	
3. Accessing capital markets abroad through GDRs & ADRs other forms of equity issues.	Permitted individually by Government. Approval under FERA given by RBI.	No approval to be taken from RBI/ Government. Reporting within 30 days from close of issue.	Same as Phase I.	Same as Phase I.	Implemented Companies eligible to issue equity in India and falling under the automatic route for FDI are allowed to access the ADR/GDR markets without approval from Govt/ RBI subject to reporting to RBI within 30 days from close of issue. GOI considers cases not permitted under the automatic route.
4. Foreign Currency Convertible Bonds/ Floating Rate Notes.	Permitted individually by Government within overall ECB ceiling.	To be within ECB ceiling with same procedure viz. queuing vide item 4.	Same as Phase I	Same as Phase I	Implemented FCCB are permitted subject to the same terms and conditions as ECBs.
B. Corporates - Non Residents (including OCBs)					
1. Portfolio Investment in India through stock exchanges in shares/debentures.	Allowed within the 24% limit (can be increased to 30% at the option of the company) which includes portfolio investment by NRIs, FIIs & OCBs subject to approval by the RBI which is valid for a period of five years. The investment restricted to 1% by individual NRIs/OCBs and 10% by individual FIIs. Corporates, other than OCBs and FIIs, are not permitted.	To be allowed to all non-residents without prior approval by RBI. Designated ADs should be required to report to the RBI.	Same as Phase I	Same as Phase I	Implemented in part No RBI approval is required for registration of FIIs. Investments by non residents is permitted under the portfolio Investment scheme to entities registered as FIIs and their sub accounts under SEBI(FII) regulations and is subject to ceilings indicated therein. The transactions are subject to daily reporting by designated ADs to RBI. (Sch II of No.FEMA 20, Cir 53 dated 17.12.2003) <i>OCBs have been banned from investing under PIS</i>
2. Disinvestment	Disinvestment as approved by the RBI except where sales are made through stock exchange under portfolio investment scheme.	RBI approval to be dispensed with.	Same as Phase I	Same as Phase I	Implemented in part RBI approval for transfer of shares from non-residents to residents has been dispensed with in cases where shares are sold on stock exchange or in case of sale under private arrangements, where it complies with the pricing guidelines.

Item	Position in 1997	Recommendations of 1997 Committee on Capital Account Convertibility			Present Position
		Phase I 1997-98	Phase II 1998-99	Phase III 1999-2000	
Additional relaxations permitted by RBI					
Multilateral institutions permitted to raise resources in India					Multilateral institutions like IFC have been allowed to raise resources in India by way of issue of Rupee Bonds with prior approval
II. BANKS A. <u>Banks - Residents</u>					
1. Investments in overseas markets	Banks allowed to invest in overseas money market up to \$ 10 million.	Investments may be in overseas money markets, mutual funds and foreign securities. To be allowed subject only to (i) requirements of Section 25 of BR Act 1949* (ii) open position/ gap limits.	Same as Phase I	Same as Phase I	Implemented in part Authorised Dealers are allowed to undertake investments in overseas markets up to the limits approved by their Board of Directors within a ceiling in terms of section 25 of BR Act 1949. Such investments may be made in overseas money market instruments and/or debt instruments issued by a foreign state with a residual maturity of less than one year and rated at least as AA (-) by Standard & Poor/ FITCH IBCA or Aa3 by Moody's. Authorised Dealers are also allowed to invest the undeployed FCNR(B) funds in overseas markets in long-term fixed income securities subject to the condition that the maturity of the securities invested in do not exceed the maturity of the underlying FCNR(B) deposits.
III. NON BANKS - FINANCIAL A. <u>Non Banks - Financial - Residents</u>					
1. SEBI registered Indian investors (including Mutual Funds) investments overseas.	Not allowed.	Overall ceiling of \$500 million and the ceiling should be so operated that a few large funds do not pre-empt the overall amount.	Overall ceiling of \$ 1 billion.	Overall ceiling of \$ 2 billion.	Implemented The aggregate ceiling on investment overseas by Mutual Funds has been raised to US\$ 2 billion with an individual ceiling as decided by SEBI. Mutual Funds registered with SEBI, investing overseas do not need separate permission from foreign exchange angle. (Announced in the budget for FY 2006-07. Operational instructions are under issue)

Item	Position in 1997	Recommendations of 1997 Committee on Capital Account Convertibility			Present Position
		Phase I 1997-98	Phase II 1998-99	Phase III 1999-2000	
Non Banks - Non Residents					
FII (a) Portfolio Investment	(a) Investments in secondary market allowed once FII is registered with SEBI subject to 24 per cent ceiling (can be increased to 30 per cent at the option of the company) which includes portfolio investment by NRIs, FIIs and OCBs with a 10 per cent limit for individual FIIs and 1 per cent by individual NRIs/OCBs. FERA approval is given by RBI, which is valid for a period of five years.	To be allowed without RBI prior approval. Designated ADs would be required to report to RBI.	Same as Phase I.	Same as Phase I.	Implemented in full No RBI approval is required
(b) Primary market investment/private placement.	(b) Primary market offering/private placement allowed with RBI approval up to 15% of the new issue/capital.	(b) RBI approval not required. Designated ADs to report to the RBI.	Same as Phase I.	Same as Phase I.	Implemented in full The ceiling in I.B.2 is inclusive of primary market investments/private placements
(c) Disinvestment	(c) (i) Disinvestment through stock exchange allowed freely. (ii) Other routes of disinvestment require RBI approval.	(ii) RBI approval for disinvestment to be dispensed with.	Same as Phase I.	Same as Phase I.	Implemented in part RBI approval for transfer of shares from non-residents to residents has been dispensed with in cases where shares are sold on stock exchange or in case of sale under private arrangements, where it complies with the pricing guidelines.

Item	Position in 1997	Recommendations of 1997 Committee on Capital Account Convertibility			Present Position
		Phase I 1997-98	Phase II 1998-99	Phase III 1999-2000	
(d) Investments in debt instruments	Permitted to invest in dated Government securities of Central and State Governments (excluding Treasury Bills) both in primary and secondary markets. ECB ceiling includes FII investment in rupee debt instruments. The Debt Funds of FIIs are also allowed to invest in corporate debt securities (NCD, Bonds, etc.) listed or to be listed. FIIs can invest in equity and debt (NCDs, Bonds, etc.) in the ratio of 70:30, Debt Funds of FIIs can invest upto 100 per cent in debt instruments subject to a ceiling prescribed by SEBI.	Maturity restrictions on investments in debt instruments (including treasury bills) to be removed. FII investments in rupee debt securities to be kept outside ECB ceiling but could be part of a separate ceiling.	Same as Phase I.	Same as Phase I.	Implemented FII investments in debt is subject to a sub ceiling within the overall ECB ceiling as indicated below a) G-secs and T-bills - US\$ 2.00 Billion b) Corporate debt - US\$ 1.5 Billion. The ceilings for FII investment in dated Govt. securities and T-Bills was US\$ 1.5 Billion. This was increased to US\$ 1.75 billion in November 2004. As this ceiling was exclusive of limits for investment in corporate debt, a separate limit of US\$ 0.5 Billion was prescribed for FII investment in corporate debt. This ceiling has been revised to the limits indicated above.
A. Individuals: Non Residents					
1. Portfolio Investment in India through stock exchange.	Allowed to NRIs within the 24 per cent ceiling (can be increased to 30 per cent at the option of the company), which includes portfolio investment by NRIs, FIIs and OCBs subject to approval by the Reserve Bank which is given for a period of five years. The investment restricted to 1 per cent by individual NRIs/OCBs and 10 per cent by individual FIIs.	Allowed to all non-residents without RBI prior approval. Designated ADs would be required to report to RBI.	Same as Phase I.	Same as Phase I.	Implemented in respect of NRIs Individual NRIs can invest upto 5% of the total paid up capital (PUC) of the investee company or 5% of the total paid-up value of each series of the convertible debentures of the company. The aggregate ceiling for NRI investments in a company is 10% of the PUC or 10% of the total paid-up value of the each series of debentures. This ceiling can be raised upto 24% of the PUC. NRIs can invest in Perpetual Debt Instruments issued by banks upto an aggregate ceiling of 24% of each issue and investments by individual NRIs can be up to 5% of each issue. NRIs can invest in Debt Capital Instruments (Tier II) of banks without limit.

Item	Position in 1997	Recommendations of 1997 Committee on Capital Account Convertibility			Present Position
		Phase I 1997-98	Phase II 1998-99	Phase III 1999-2000	
2. Disinvestment	Disinvestment to be approved by RBI except where sales are made through stock exchange under portfolio investment scheme.	RBI approval to be dispensed with.	Same as Phase I	Same as Phase I	Implemented Sale of shares through private arrangement which is not in compliance with pricing guidelines requires approval of RBI.
Additional Relaxation permitted by RBI					
Two way fungibility of ADRs/GDRs					A registered broker in India has been allowed to purchase shares of an Indian company on behalf of a person resident outside India for purpose of converting the shares into ADRs/GDRs subject to compliance with provisions of the Issue of Foreign Currency Convertible Bonds and Ordinary Shares (Through Depository Receipt Mechanism) Scheme, 1993 and guidelines issued by the Central Government from time to time
IV. FINANCIAL MARKETS					
Foreign Exchange Market (a) Forward contracts	(a) Forward contracts are allowed to be booked on the basis of business projections in respect of exporters and importers. Also forward cover allowed for non residents for limited purposes such as dividend remittance and freight/passage collections.	(a) To allow all participants in the spot market to participate in the forward market; FIIs, non residents and non resident banks having rupee assets can be allowed forward cover to the extent of their assets in India. Banks to be allowed to quote two way in rupee to overseas banks/correspondents both spot and forward subject to their position/gap limits. Those with economic exposures to be allowed to participate in forward market.	(a) Same as Phase I	(a) Same as Phase I. No restrictions on participants in spot/forward markets i.e. participation allowed without any underlying exposure.	Implemented in part Underlying exposure is necessary for a person resident in India for entering into a forward contract. Importer/Exporter can book forward contracts on past performance basis. Economic exposure cannot be hedged. Forward contracts cannot be undertaken with non-resident banks. Offer of two-way quotes to non-resident banks is prohibited. ADs may enter into forward contracts with persons resident outside India to the extent of investment in equity/debt instruments. Persons resident outside India may enter into forward sale contracts of tenors not exceeding 6 months with ADs for their proposed investment in India. These forward contracts booked by non-residents once cancelled are not eligible to be rebooked.

Item	Position in 1997	Recommendations of 1997 Committee on Capital Account Convertibility			Present Position
		Phase I 1997-98	Phase II 1998-99	Phase III 1999-2000	
(b) Authorised dealers	(b) Authorised dealers at present are only banks	(b) All India Financial Institutions which comply with the regulatory/ prudential requirements and fulfil well defined criteria should be allowed to participate as full fledged ADs in the forex market	(b) Same as Phase I	(b) To allow select NBFCs to act as full fledged authorised dealers on basis of criteria similar to FIs	Not implemented
(c) Products (Derivatives)	(c) Currently the only derivative in the rupee \$ market is the forward contract. ADs have been allowed to enter into Rupee/\$ currency swaps with counterparties in India subject to open position and gap limits. Cross currency derivatives and interest rate derivatives allowed for covering underlying exposures - to be routed through ADs	(c) All derivatives including rupee based derivatives to be allowed. Futures in currencies and interest rates to be introduced with the system of screen-based trading and an efficient settlement mechanism.	(c) Direct access to overseas markets by corporates for derivatives without routing through ADs Phase I to continue	(c) Same as Phase I & II.	Implemented in part Swaps and Options and rupee based derivatives are allowed for a person resident in India through ADs. Currency futures have not been introduced.
2. Money Market	Banks allowed to lend and borrow freely. FIs allowed to lend with no limit/ allowed to borrow within small limits. Others allowed to lend to primary dealers for minimum amount of Rs.10 crores. MFs participate only as lenders. Residual restrictions on deposit rates applicable to public deposits; minimum period for CDs/MMMFs/ fixed deposits specified.	Market segmentation to be removed. Deposit rates to be deregulated and minimum period restrictions to be removed. Restrictions on participants in the money market to be freed. Level playing field for all banks, FIs and NBFCs regarding reserve requirements and prudential norms.	Same as Phase I	Same as Phase I	Implemented in part Deposit rates have been freed excepting prescription on saving deposits and ceiling on non-resident deposits. Lending rates have also been freed except for a ceiling of BPLR on loans below Rs. 2 lakh and LIBOR-linked ceiling on export credits. Union budget, 2006-07 has proposed that the farmer receives short-term credit at 7 per cent, with an upper limit of Rs.3 lakh on the principal amount. Following the recommendations of Narasimham Committee II, since 2001 RBI has moved towards making call/notice money market a pure inter-bank market and prudential limits have been placed on lending/borrowing in this market. Accordingly the non-banks (except PDs) have been completely phased out of call money market since August 6, 2005. Non-banks are free to participate in collateralized market repo and Collateralised Lending and Borrowing Obligations (CBLO) as per extant guidelines. Minimum period is reduced to seven days for term deposits, CDs and CPs.

Item	Position in 1997	Recommendations of 1997 Committee on Capital Account Convertibility			Present Position
		Phase I 1997-98	Phase II 1998-99	Phase III 1999-2000	
3. Government Securities Market	A number of measures have been taken to strengthen the market for Government securities such as a move towards market related rates of interest, introduction of auctions and new instruments and measures to develop the secondary market through Primary Dealers (PDs) and Satellite Dealers (SDs).	<p>(i) Access to FIIs in Treasury bill market.</p> <p>(ii) RBI to develop Treasury bill market offering two-way quotes.</p> <p>(iii) Government Securities (including Treasury bills) futures to be introduced.</p> <p>(iv) RBI to provide Liquidity Adjustment Facility to PDs through Repos and Reverse Repos.</p> <p>(v) Dedicated gilt funds to be given strong and exclusive fiscal incentives to individuals to develop the retail segment.</p> <p>(vi) Number of PDs and SDs to increase. Progressive increase in share of PDs in underwriting. Commission to PDs to be related to underwriting commitment.</p> <p>(vii) Government to initiate action for setting up of an Office of Public Debt (OPD).</p> <p>(viii) Delivery Versus Payment (DVP) system to be fully automated for all securities on a real time basis with proper safeguards for ensuring</p>	<p>(i) The OPD to take up part of issue of dated securities and all Treasury bills.</p> <p>(ii) RBI to discontinue participation in 91 day Treasury bill primary auctions and it should only participate in the secondary market.</p> <p>(iii) Number of PDs and SDs to be further increased with a quantum jump in share of PDs in underwriting with strong incentives through underwriting commission.</p>	<p>(i) The OPD to take full responsibility for primary issues of all treasury bills and dated securities.</p> <p>(ii) Full underwriting of issues by PDs with RBI discontinuing participation in primary market for dated securities.</p>	<p>Implemented</p> <p>FIIs permitted to invest in G-secs and T-bills upto US\$ 2.00 Billion. FIIs can invest in equity and debt in the ratio of 70:30 and Debt Funds of FIIs can invest upto 100 per cent in debt instruments subject to above ceiling.</p> <p>Multilateral FIs like IFC, ADB which have been permitted by the GOI to float Rupee Bonds in India can purchase Govt. dated securities out of such resources.</p> <p>T-bills as well as bond futures introduced in 2003, but have not encountered success. No activity at present.</p> <p>LAF has been provided to PDs.</p> <p>Dedicated gilt funds have been provided liquidity support, but rarely being used.</p> <p>In accordance with the FRBM Act, RBI has withdrawn participation in primary issues of all government securities, effective April 1, 2006. The system of PDs is being strengthened.</p> <p>Currently there are 17 PDs and the SD system has been discontinued. RBI has recently issued guidelines for banks' undertaking PD business through which permitted structure of PD business would be expanded to include banks' which fulfill certain minimum eligibility criteria. (Cir.No. 64 dated 27.02.2006)</p> <p>A revised scheme of underwriting commitment and liquidity support for PDs has been put in place</p> <p>With this, PDs are underwriting the issues fully through compulsory and optional portions in equal proportions and the commission is related to the underwriting commitments and the success</p>

Item	Position in 1997	Recommendations of 1997 Committee on Capital Account Convertibility			Present Position
		Phase I 1997-98	Phase II 1998-99	Phase III 1999-2000	
		that risks are controlled.			rate. Settlement of government securities in RBI's books is through CCIL on DVP-III on a net basis. As a central counterparty, CCIL guarantees settlements and risk mitigation procedures have been put in place.
4. Participation in international commodity markets.	Not allowed	To be allowed	Same as Phase I	Same as Phase I	Implemented Listed resident companies engaged in import and export trade, are allowed to hedge the price risk of commodities (except Gold and silver, petroleum and petroleum products) in the international commodity exchanges/markets through select commercial bank ADs. RBI can consider applications not covered under the delegated authority.

Source: Report of the Committee on Fuller Capital Account Convertibility, July 2006, RBI

CHAPTER 3

AN EXPLORATORY ANALYSIS OF FOREIGN PORTFOLIO FLOWS

Introduction

In the previous chapter we traced the process by which India gradually opened its economy to capital flows in general and portfolio flows in particular. It has been shown that the openness towards this dominant but volatile component has been steadily increasing since the inception of liberalization, from the beginning of nineties. It is necessary to understand the basic nature of financial flows, especially in the context of rapid liberalisation measures pertaining to the capital flows. This has also got some relevance in the ongoing debate about making the rupee fully convertible in the capital account transactions. Understanding the basic motives of these flows empirically would help in setting out the path towards capital account convertibility. In this context, the study examines the basic motives that guides foreign portfolio flows into India. The first section deals with the theoretical discourses in the realm of foreign capital flows especially foreign portfolio flows. This is followed up by a discussion on the relevant literature with an aim to identify the determinants of foreign portfolio flows. This chapter subsequently examines the determinants of foreign portfolio flows into India by applying time series econometric methodology.

3.1 THEORETICAL UNDERPINNINGS

The theoretical support for international portfolio flows can be seen in the literature of global capital markets. Obstfeld and Taylor (2004) provide an excellent review of theoretical aspects favoring global trading of financial assets. They argue that at the global level, the international capital market channelises world savings to their most productive uses, irrespective of location. Thus, international diversification of risk is also made possible through the globalization of capital markets⁷³. Further, the capital markets also reallocate resources over time in ways that raise efficiency, i.e., an international capital market allows countries to smooth out over time the dynamic consumption

⁷³ This pooling of risks can be accomplished through a diversity of financial instruments: stock shares, foreign direct investments, insurance contracts.

effects of predictable income fluctuations⁷⁴. The other main potential role of international capital market is to introduce discipline against the exploitation of captive domestic capital market. Unsound policies-for example, excessive government borrowing, or inadequate bank regulation would spark speculative capital outflows and higher domestic interest rates under conditions of financial openness. In theory, at least a government's fear of these effects makes its behavior less attractive towards taking any such policy measure⁷⁵. However, these theoretical propositions seem to hold good in a world with perfect capital mobility and a fully flexible exchange rate regime. It has to be understood that, practically these conditions are difficult to fulfill for developing economies that are in the process of opening up their economies.

At the beginning of the twenty-first century the merits of the capital mobility were under forceful attack. Such a revival of concerns about free flow of capital came to the forefront of policy discussion due to multiple crises faced in Western Europe, Latin America, East Asia, Russia and elsewhere. These recent international financial crises have submerged the entire economies and threatened their trading partners, inflicting losses all around. The case for various risks of global capital movements have been made by a number of economists belonging to different schools of thought. Within the neoclassical tradition, Obstfeld and Taylor (2005) argue that the international financial transactions rely inherently on the expectation that counterparties will fulfill future contractual commitments; they therefore place confidence and possibly volatile expectations at the centre stage. Furthermore, problems of oversight, adjudication, and enforcement all are orders of magnitude more difficult among sovereign nations with distinct national currencies than within a single national jurisdiction. The literature also explains the theoretical proposition of 'Trilemma' or the 'impossible trinity'⁷⁶, which is hindering the independence of policy choices. In an economy having free capital mobility, it will be difficult to follow other two objectives of fixed exchange rates and an independent monetary policy for achieving domestic policy goals.

⁷⁴ They argue that a country that has rich investment opportunities but that generates little saving of its own, can tap the international capital market to exploit its investment potential without massive short-run consumption cutbacks. Conversely, countries with abundant saving but more limited investment prospects at home can earn higher returns to wealth than they would domestically.

⁷⁵ The prospect of rising interest rates and capital flight may discourage large public sector deficits; the sharp reaction of exchange rates to investor expectations and interest rates may restrain inflationary monetary moves.

⁷⁶ This term was invoked firstly by Obstfeld and Rogoff (1998). The chosen macroeconomic policy regime can include at the most two elements of the 'inconsistent trinity' of three policy goals: Free capital mobility, fixed exchange rate and an independent monetary policy.

Even staunch supporters of free trade within the neoclassical school like Bhagavati (1998) argue that the concept of free movements of capital is fundamentally different from that of free trade in goods. Stiglitz (2004) also refutes the claims of enormous benefits from free capital mobility as not persuasive. Stiglitz (2000) had argued that capital flows are subject to asymmetric information, agency problems, adverse selection and moral hazard. Although such problems may also occur in trade in goods and services, they are intrinsic to financial flows and are far more significant. He further considers capital flows as pro-cyclical and exacerbating economic fluctuations and argued that it leads to greater instability, and this instability (especially financial market crises) would have adverse effects on economic growth. Indeed, it is not only the downturn itself which has lasting effects, but the very presence of the risk of instability that is likely to discourage investment.

Singh (2002) quoting the Keynesian school argues that financial markets are particularly prone to coordination failures and often generate multiple equilibria, some good, and some bad. In the absence of appropriate coordination by the government or international authorities, an economy may languish in a low level equilibrium, producing sub-optimal output and employment levels. Therefore, it is necessary to understand the basic theoretical premise by which the foreign capital flows especially foreign portfolio flows to the developing economies are analysed and explained.

Economic theory tells that the capital flows to an economy due to interest rate differentials between the nations⁷⁷. In other words, the capital flows from areas with low returns to areas where returns to capital are high⁷⁸. Therefore, it can be considered that the capital flows occur as a result of the difference in income gaining opportunities⁷⁹. But capital does purely seek the capital gains accruing due to intertemporal trade. In a world of flexible exchange rates and near flexible exchange rates, the yield on assets also include the changes in exchange rate (between the time investment is made and the time it is repatriated) of the currencies involved. Similarly, the expectations about prices of financial assets can also be considered as constituting a capital gain (change in asset prices between the time of purchase and the time at which it is sold). In essence, the investments in financial assets can provide capital gains (loss) in two ways, firstly; with the future increase (decrease) in equity prices, and secondly with respect to expectations of the exchange rate (depreciation/appreciation).

⁷⁷ Robert Mundel and Marcus Fleming developed this initial analysis in the 1960's in the world of fixed exchange rates and capital mobility.

⁷⁸ According to Mundel Fleming, portfolio holders' worldwide will shift their wealth to take advantage of the new rate.

⁷⁹ A crucial assumption is made here with respect to interest rate and rate of return being similar.

While identifying the underlying factors that are responsible for the inflow of foreign capital (mainly portfolio capital into the emerging economies), it raises two important basic questions. Those are; is it purely due to the expectations of an income gain (rate of return) or is it due to the capital gains motive resulting from the intertemporal transaction that attracts these flows? The answer assumes significance in the context of full capital account convertibility⁸⁰. This has got enough ramifications in the monetary policy, the exchange rate regimes to be followed, the foreign exchange reserves and sterilization policies associated with these flows in an economy.

However, the capital flows eyeing the gains from the intertemporal trade have got problems. They rely on 'expectations', which can change at any point of time since it is affected by many exogenous factors. Moreover majority of these flows are dominated by investments by institutional investors, which aim at short-term, speculative profits⁸¹. All these make the case for capital investments of short-term nature. However the capital flows attributed by the prospects of the income gains accrues mainly due to the interest rate differential that exists between the domestic economy and the outside world. The interest rates to a great extent depicts the true nature of macro-fundamentals of the domestic economy. The returns on these assets can also be considered as income gains. Making capital fully convertible in a situation where the majority of the capital flows are dominated by the expectations of capital gain has got serious ramifications. These flows, which are volatile in nature, may give rise to a series of macroeconomic problems to the developing economies.

3.2 MODELING FOREIGN PORTFOLIO FLOWS INTO INDIA

A great deal of empirical literature exists that delineates the determinants of portfolio flows. The literature on foreign portfolio flows adopts a common approach in separating the determinants of foreign portfolio flows into domestic influences from external influences⁸². Gordon and Gupta (IMF, 2003) present a systematic review of studies on the determinants of portfolio flows. Studies by Bohn & Taser (1996) showed a positive relationship between portfolio inflows and domestic stock market returns. Brennan and Cao (1997) finds that this positive relationship might reflect exogenous changes in investor

⁸⁰ Theoretically speaking, in a world of perfect capital mobility, domestic and foreign interest rates will be equal. With a fixed exchange rate it is the interest rate that does the equalizing and there is no independent monetary policy. However, with flexible exchange rates, it is the exchange rates that do the equalizing. Here monetary policy is active (Dornbush and Fischer).

⁸¹ The hedge funds, which also come under this category, need special mention here. Most of these investors are known for hedging capabilities.

⁸² These studies distinguish the domestic and external factors as pull and push factors respectively.

preferences that causes funds to flow into the host market and bid up prices. Griffin et al. (2002) also establishes a similar relationship for several Asian countries using daily data. Studies by Richards (2002) and Griffin et al. (2002) find a positive relationship between daily foreign portfolio flows to Asia and lagged U.S stock market returns.

Thus, the external factors also play crucial role in determining the portfolio inflows. Calvo et al. (1993) finds that global interest rates and business cycle conditions determine the portfolio inflows to Latin America. But studies by Chuhan et al. (1993) find that domestic factors are at least as important as external factors in explaining portfolio flows to Asian countries. Garibaldi et al. (2002) find that both domestic and external factors are significantly associated with portfolio inflows. Gordon and Gupta also highlight the regional factors determining foreign portfolio flows.

There is rich literature in the Indian context which examine the portfolio flows in the Indian context. The literature adopts a common approach in separating the determinants of foreign portfolio flows into domestic influences such as domestic stock market returns, the volatility and liquidity of the domestic stock markets, exchange rates, and the external influences such as global stock market returns, interest rates and business cycle conditions. Usually, the focus of most researchers is on both domestic and external factors. Gordon and Gupta (2003), presents a systematic review of literature on this subject.

The main issues addressed in the Indian literature includes,

- The relationship between foreign portfolio inflows and pull and push factors relating to it⁸³.
- The relative importance of pull versus push factors in determining the foreign portfolio inflows; and
- The influence of FIIs on the Indian stock market scenario.

⁸³ While pull factors refer to the domestic attributes of a nation that attract foreign portfolio inflows (this includes domestic market returns, exchange rate, stability of the market etc.), push factors are those external factors that attract financial investments (such as global stock market returns, interest rates and business cycle conditions etc).

Earlier studies in the Indian context such as Samal (1997) and Pal (1998) have focused on one of the items of portfolio investments, the foreign institutional investment into India's equity market. They argue that, the investments by FIIs and the movements of the Sensex are quite closely related in India and that FIIs wield a significant influence on the movement of the Sensex. A study by National Stock Exchange (NSE, 2001) also observes that, in the Indian stock markets FIIs have a disproportionately high level of influence on market sentiments and price trends. According to Pal (2005) FIIs not only are the major players in the domestic stock market in India, but their influence is also growing. To him, FIIs have emerged as the most dominant investor group in the Indian stock market scenario. Chakrabarti (2005) conducted a systematic study on the FII inflow and found domestic stock market returns having contemporaneously positive and significant influence on FII inflows. But Gordon and Gupta (2003) find a negative relationship between lagged Indian stock market returns and the FII inflows. Rai and Bhanumurthy (2004) noting the increasing importance of foreign institutional investments in India's capital account and the issue of capital account convertibility investigated the basic determinants of the foreign institutional investments. Using monthly data they found that FII inflow depends on stock market returns, inflation rates (both domestic and foreign), and ex-ante risk⁸⁴.

From the above literature, it could be observed that majority of these empirical studies concentrated on the foreign institutional investments (FIIs) into the Indian stock markets. Even though FIIs are an important constituent of the foreign portfolio flows, they may not be representing the true nature of portfolio flows. Moreover, most of the studies have not recognized the expectations of capital gaining opportunities as constituting an important determinant of these inflows. This needs some empirical investigation as to understand which factor purely guides these portfolio flows into India. If these flows are attracted purely by the income gains from interest rate differentials then these flows are said to be non-problematic and long-term in nature. On the other hand, if these portfolio flows are attracted by the short-term speculative gains from the differences in the stock prices and exchange rates between the times the investors invest and by the time they disinvest, then capital account liberalisation with regard to this speculative capital flows will be erroneous and will be destabilizing for the economy. In this context, the objective here is to analyse the basic reasons that can be attributed to the flow of foreign portfolio capital into India.

⁸⁴ For theorizing the model, they have incorporated the concepts of uncovered interest parity and purchasing power parity.

In this framework, the two major factors motivating foreign portfolio flow have been broadly divided into capital gains motive and income gains motive⁸⁵. Following the literature, the income gaining opportunities was identified as the differentials in the rate in return (real interest differential is used here) and the capital gaining opportunities as the stock price changes and exchange rate changes. Since the analysis is considering the foreign portfolio flows, the time period for the study is during the post liberalisation scenario where such flows have taken place⁸⁶.

3.2.1 Model specification

On the basis of theories discussed and earlier empirical literature, we assume that net foreign portfolio flows mainly depends upon real interest rate differential, changes in the exchange rate and changes in the stock prices; the model can be represented as follows:

$$nfpi = \alpha + \beta_1 rid + \beta_2 \Delta sp + \beta_3 \Delta e + u_t \text{----- (1)}$$

where 'nfpi' represents net foreign portfolio flows;

'rid' represents real interest differential;

' Δe ' represents change in exchange rate of the domestic currency;

' Δsp ' represents changes in stock prices (quarterly closing values of BSE sensex)

3.2.2 Data Sources and Variable Description

Before estimating the model and interpreting the results it is necessary to explain the variables used, the data and its sources and about the frequency of data and period of analysis. The four variables identified for the model has been explained below. The data on foreign portfolio flows is available in the capital account of the balance of payments⁸⁷. It is available on quarterly frequencies from 1990-91:1 to 2005-06:4. The data regarding exchange rates are also available on monthly basis from 1992:4 to 2006:7⁸⁸. Quarterly data for the calculation of real interest rate differential was available from the International

⁸⁵ Variables like the national income; inflation (foreign and domestic), foreign exchange reserves etc can be identified as influencing foreign portfolio flows into India. But since the focus of this study is limited in specifically analysing which motive predominantly determines the foreign portfolio flows into India, the analysis is limited in exploring these variables only.

⁸⁶ This will provide the view in the liberalised regime, when the controls were dismantled.

⁸⁷ 'The Handbook of Statistics on the Indian Economy' and 'Database of the Indian Economy' Reserve Bank of India website.

⁸⁸ The monthly average figures and end month rates were available. Quarterly end month figures were taken for the analysis.

Financial Statistics (IFS) and Reserve Bank of India. The information about the stock prices was available from the BSE about the opening and closing values on a daily basis⁸⁹. Further specific description of variables is provided below.

3.2.3 The Foreign Portfolio Flows

The net foreign portfolio flows is taken as the dependent variable in our model specification. The reason of considering net inflows is that it gives a better idea regarding the explaining capacity of the basic motives represented in the explanatory variables in keeping these flows in the domestic capital market. It can be seen that the variations of net foreign portfolio flows is quite high⁹⁰. The flows had experienced episodes of net outflows during the period 1997-98 and at the beginning of this decade⁹¹. This implies that these types of flows are prone to large reversals in the event of internal and external shocks.

3.2.4 Interest Rate Differential

Interest rate differential is used to represent the income gains motive in our model. Here the real interest rates are used as a explanatory variable for the analysis and are taken as the difference between the real Indian interest rates and real world interest rates. The real interest rates are taken as the nominal interest rates less inflation. The 364-day Treasury bill of the government of India is taken as the nominal interest rate while the wholesale price index (WPI) based price index is used to calculate the inflation rate. For the world real interest rate, the London Inter-Bank Exchange Rate (LIBOR) is taken as to represent the world interest rate while price index⁹² of US was used to proxy the world inflation. The US inflation is considered since the World inflation is showing extremely high rates and as a result the real interest rates would always be negative. A closer look at the real interest rate differential shows that both the world rate and Indian real interest rates are moving closer to each other but the differential between the two is found to be widening for the last four years⁹³. This was because of the low and negative real Libor interest rates.

⁸⁹ The historical Sensex values are available in the website of Bombay Stock Exchange.

⁹⁰ Already explained in chapter two.

⁹¹ The first episodes of outflow (1997-98) were due to the impact of East Asian crisis and the ensuing stock market crash, while the second episodes of outflows (during 2000 and 2002) can be attributed to the crashes in the stock market. This throws some light on the impact of explanatory variables like the stock market prices on foreign portfolio flows. See Annexure III- Figure 3.1.

⁹² Consumer price index based inflation is used.

⁹³ See Annexure III- Figure 3.2.

3.2.5 Stock Prices

In order to understand whether the foreign portfolio flows are attracted by the capital gains motive, we use the stock prices as one of the explanatory variables⁹⁴. Here the stock prices are not taken directly, but the change in stock price is taken for the analysis. The change in stock prices is taken by $I/sp * dsp/dt$. This is with the assumption that the investor changes the expectation according to the observed changes in stock prices rather than the level of stock prices. The quarterly closing values of BSE sensitivity index are taken as to represent stock prices and the respective changes are taken from it for the model. It can be seen that the movement of the sensex showed acceleration since 2002. But before that, the stock prices showed fluctuations and did not exhibit any trend. Interestingly the foreign portfolio flows also showed increase during the subsequent periods⁹⁵.

3.2.6 Exchange rate

Transactions involving currencies at various time periods raise expectations about capital gains. The expected change of the domestic currency provides some information about capital gain when the transaction is carried out at a latter point of time and vice versa. So changes in the exchange rate can be used as affecting the capital gain motive leading to foreign portfolio inflows. The graphical representation of the exchange rate shows that our exchange rate in terms of per unit US dollar has been subjected to continuous depreciation⁹⁶. While episodes of devaluation by the central bank were a reason for the depreciation of rupee; the other is purely the market driven reason affecting demand and supply of domestic currency⁹⁷. But it can be seen that the exchange rate becoming stronger in terms of the Indian rupee in the later periods⁹⁸. The changes in the exchange rate is a motive for capital gains and this can be considered as a crucial variable affecting the short-term capital inflows into the country. The variable used here was changes in exchange rate assuming the investor had perfect foresight. The change in exchange rates is taken by $I/e * de/dt$, i.e. $E(e) = \Delta e$.

⁹⁴ This is also due to the fact that the majority of foreign portfolio flows are in the form of foreign institutional investments into the Indian stock markets.

⁹⁵ See Annexure III-Figure 3.3.

⁹⁶ See Annexure III- Figure 3.4.

⁹⁷ This can be due to reasons such as a positive current account balance and currency interventions in the foreign exchange market.

⁹⁸ While this strengthening of the domestic currency was also attributed to the positive current account receipts.

3.3 METHODOLOGY

For identifying the factors causing the inflows of foreign portfolio investment into the Indian economy, we estimate above specified model through the application of time series methodology. But different methodologies have different context of appropriateness in their applications. Their suitable use mainly depends on the nature of the data or time series properties of the variables i.e. how do they behave over a period. Therefore, before implementing any time series estimation methodology, we investigate the time series properties of the variables used in the model.

3.3.1 Unit root tests

The starting point of analysing the time series properties is to identify the presence of unit-root in the series⁹⁹. In order to uncover a true relationship among time series variables, it is essential to check for non-stationarity or the presence of unit roots in the time series variables¹⁰⁰. Firstly, the variable has to be tested through ADF¹⁰¹ unit root tests for finding out the presence of unit-roots. The results are reported in Table 3.1.

Table 3.1: Unit root tests

Variables	t-ADF value (without constant and trend)	t-ADF value (constant included)	t-ADF value (constant and trend included)	Inference
nfpi	-2.241*	-3.339*	-4.515**	Stationary
rid	-0.8941	-3.707**	-4.765**	Stationary
Δ sp	-6.444**	-6.664**	-6.678**	Stationary
Δ e	-6.560**	--7.040**	-7.165**	Stationary

Note: 1.* & ** = Significant at 5 and 1 per cent levels respectively.

The unit root check reveals that all variables are stationary at levels, i.e I(0). Gupta and Gordon (2003) had noted that the foreign portfolio flows followed a seasonal pattern. However seasonality adjusted series was found to be an I(1) process. They argue that a differenced series is not meaningful and regressions using it had very little explanatory power. So in our study, the tools for accounting or adjusting the variation of data due to seasonal factors is not considered.

⁹⁹ The conventional method of regression of time series variables that are non-stationary often leads to the problem of spurious regression. The regression co-efficient of variables that are non-stationary shows statistically significant results, which actually does not exhibit any relationship. So, it is essential to identify the presence of unit root in the time series or non-stationarity in the variables under study.

¹⁰⁰ Granger and Newbold (1974), has reported that the time series that is non-stationary provides statistically significant results with high R² (goodness of fit) and very low DW (Durbin-Watson is the standard test for detecting serial correlation) statistic; indicating high auto-correlation among residuals. But he results gets reversed when stationary variables were used showing that in actual terms, there existed no relationship between the variables and the results obtained earlier are spurious.

¹⁰¹ Dicky-Fuller (DF) and Augmented Dicky Fuller (ADF) are standard tests for unit-root.

Econometricians suggest for the application of different ECM and cointegration tests for establishing the short and long run relationship among the variables. However, in our case, since all the variables are of I(0) or integrated of zero order, the standard cointegration techniques such as Engle-Granger (AEG) test of cointegration for two variable case and the Johansen and Juselius test (JJ) for multiple variables are not applicable. These standard tests could be applicable when variables are non-stationary and integrated of the same order. In order to find out the causal relationship between these variables, a pair wise Granger causality test seems to be suitable to the present context.

3.3.2 Causality Tests

A pair wise Granger causality test of each variable such as stock price change, exchange rate change, and interest rate differential with net foreign portfolio flows have been conducted and the results are reported in Table 3.2. The choice of optimal lag length for the causality test has been selected as per the appropriate criteria prescribed¹⁰². The causality is detected through the Wald statistic, which is asymptotically distributed as χ^2 (chi^2)¹⁰³.

Table 3.2: Pair wise Granger Causality Wald Tests

Null Hypothesis	χ^2	df	Pros > χ^2	Inference
Δsp not causing $nfpi$	12.6069	2	0.0027**	Reject null hypothesis
$nfpi$ not causing Δsp	2.1522	2	0.4754	Not Reject null hypothesis
Δe not causing $nfpi$	14.2238	2	0.0006**	Reject null hypothesis
$nfpi$ not causing Δe	6.5211	2	0.0394*	Reject null hypothesis
rid not causing $nfpi$	0.1561	2	0.3810	Not Reject null hypothesis
$nfpi$ not causing rid	1.096	2	0.5741	Not Reject null hypothesis

Note: * and ** indicates significance at 5% and 1% levels respectively.

It can be seen that there is causality running from stock price changes (Δsp) to net foreign portfolio flows ($nfpi$)¹⁰⁴. This reveals the fact that foreign portfolio flows into India are caused by the stock price changes. It can be argued that, it is the expectations from the changes in the stock prices (between the time investments are made and the time it is disinvested) that are motivating foreign portfolio flows into India. However, the reverse

¹⁰² AIC (Akaike information criterion), SBIC (Schwartz Bayesian information criterion) and HQIC (Hannan-Quinn information criterion)

¹⁰³ The statistical software STATA was used for the computation of Granger Causality Wald tests.

¹⁰⁴ The null hypothesis of stock price change not causing net foreign portfolio flows is rejected. This means that the stock price change is causing net foreign portfolio flows.

causality from net foreign portfolio flows to stock price change is not observed. This result shows that, the stock price changes are not influenced by the foreign portfolio investments, which contradicts the belief that, Indian stock market boom is fuelled by foreign portfolio flows.

A two-way causality is reported in the case of causality between exchange rate changes and net foreign portfolio flows¹⁰⁵. Exchange rate Granger causing foreign portfolio implies that the foreign portfolio flows are driven by expectations from the changes in the exchange rate¹⁰⁶. This shows that foreign portfolio flows to India are also caused by the capital gains motive from exchange rate differential (between time investments are made and it is repatriated). At the same time, there is also a presence of reverse causality from foreign portfolio flows to exchange rate change. This shows that domestic exchange rate change is also caused by the foreign portfolio flows. This confirms the view that, in a market driven floating exchange rate regime, the inflow of foreign capital influences domestic exchange rates.

However, the pair wise non-causality between real interest rate differential and net foreign portfolio flows cannot be rejected. This indicates that, the interest rate differential is not causing foreign portfolio flows, which in term shows that the portfolio flows to India are not guided by favorable interest rate differentials. Similarly, the reverse causality of foreign portfolio flows granger causing real interest rate differential cannot also be rejected, indicating foreign portfolio flows not causing any real interest rate differential.

However, the approach of detecting causality between variables by using Granger causality test can only serve as a preliminary test for establishing the causality relationship. Moreover, the direction of causality is not yet known. So a model capturing the effects of both the capital gains motive and income gains motive as specified in earlier equation 1 can be estimated through a multivariate procedure. This will help us to identify the major motives affecting the foreign portfolio flows. Since all the variables are stationary, application of OLS would likely to yield robust estimates. Therefore, we estimate the results in OLS.

¹⁰⁵ Causation both ways is seen here. While the exchange rate change granger causing net foreign portfolio flow is significant at 1% level, the reverse causality of net foreign portfolio flow granger causing exchange rate is significant at 5% level

¹⁰⁶ The exchange rate used here is Indian rupee in terms of US dollar. A future depreciation in the domestic currency provides scope for foreigners who are investing here, to get more foreign currency later. Similarly expectations of appreciation of domestic currency can also be transformed into profits in a well functioning futures market with financial instruments like futures and options.

3.3.3 Model Estimation through OLS

The model as explained earlier in equation 1 can take the form of an autoregressive model in which the lagged dependant variable is also included as an explanatory variable. This is likely to correct the serial correlation in the model. The model can be specified in the form

$$nfpi = \alpha + \beta_1 rid + \beta_2 \Delta sp + \beta_3 \Delta e + \beta_4 nfpi_{-1} + u_t \text{-----} (2)$$

The results of the regression analysis are reported in the table 3.3.

Table 3.3: Modeling net foreign portfolio flows through OLS

Variables	β	t-prob
Constant	2926.22	0.341
Rid	-134.425	0.744
Δsp	14411.7	0.019*
Δe	1158.50	0.968
$nfpi_{-1}$	0.43593	0.023*

Note: * indicates significant at 1% level

3.3.4 Results

The result shows the change in stock prices is significant in influencing the net foreign portfolio flows into India. The corresponding ' β ', which represents the coefficient of the change in stock prices, is positively significant (14411.7). This is quite consistent with the earlier result that the changes in stock prices influence the foreign portfolio flows hence providing a robust estimate. In other words a small change in sensex will result in huge flows of foreign portfolio capital. However, in contrast to the earlier causality results, this finding that exchange rate is not a significant factor in explaining portfolio flows is providing a mixed result; the other variables real interest rate differential is shown as not influencing the foreign portfolio flows into India. But the past foreign portfolio investments India (Y_{t-1}) is shown as a determinant of the present foreign portfolio flows (Y_t). All the model adequacy tests carried out satisfy the properties of good fit. The model reports fairly moderate goodness of fit of R^2 of 0.40. The Lagrange Multiplier auto regression test is also showing overall significance (AR 1-4 test)¹⁰⁷. The F-test¹⁰⁸ also rejects the null of no overall significance confirming the significance of the model¹⁰⁹.

¹⁰⁷ DW (Durbin Watson 'd' statistic which is the standard technique of testing serial auto correlation, is not considered appropriate in the case of auto regressive models. The alternative Durbin's 'h' statistic

Conclusion

The present chapter has tried to analyse the structural motives behind the foreign portfolio flows into India since the capital markets were opened up for international participation. The preceding discussion has clearly brought out the fact that foreign portfolio flows are influenced solely by the capital gains motive from the expectations of changes in stock prices rather than any income gains motive from the rate of returns or interest rate differential. This leaves enormous scope for debate on the capital account convertibility. It has been categorically proved that this capital flows is speculative or seeking capital gains which are mostly short-term in nature. So the question of fully liberalizing these types of flows assumes greater relevance in the interest of liberalizing the capital account.

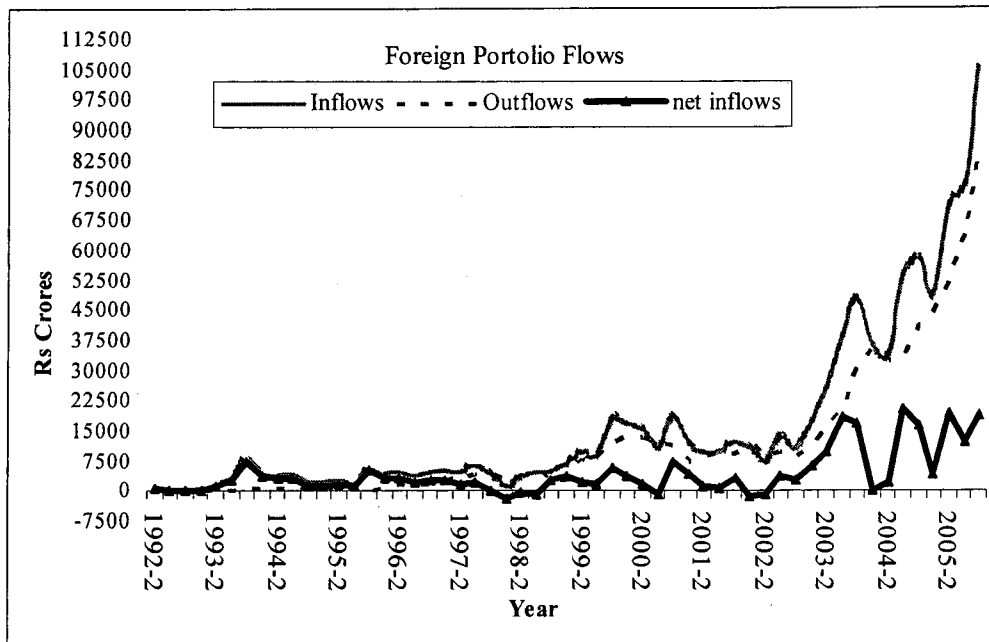
cannot be used due to problems in the calculation. So Lagrange Multiplier test of overall significance is reported. In the Annexure III- Table 3.1)

¹⁰⁸ Shows the overall significance of an observed multiple regression.

¹⁰⁹ See Annexure III-Table 3.1 for details

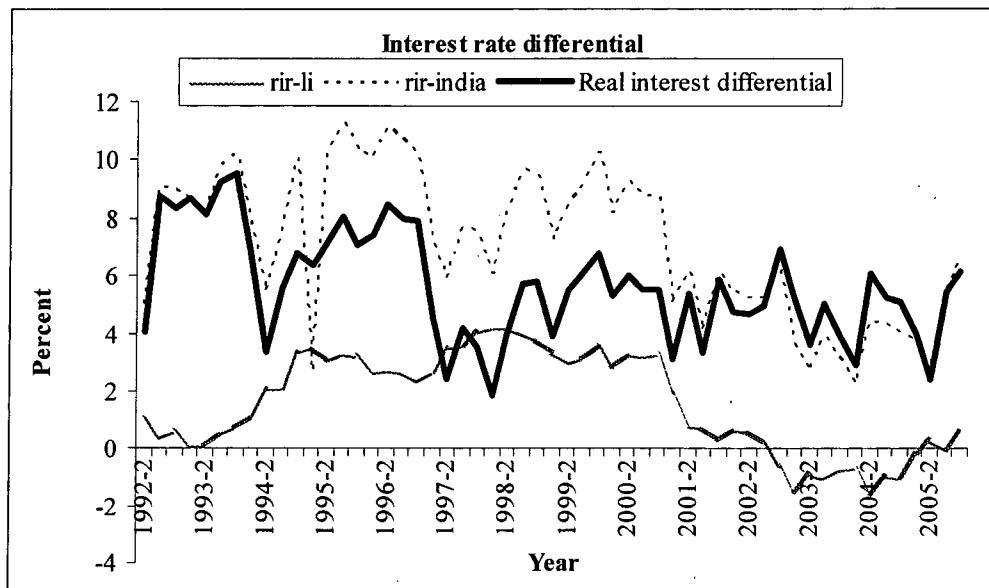
Annexure III

Figure 3.1: Foreign Portfolio Flows



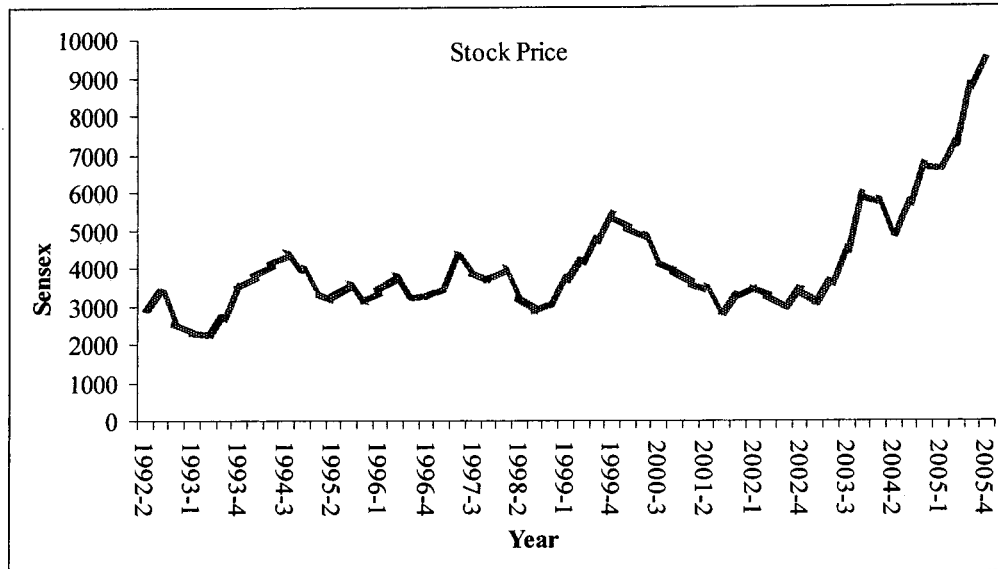
Source: Reserve Bank of India, Handbook of Statistics on Indian Economy, online Database.

Figure 3.2: Interest Rate Differential



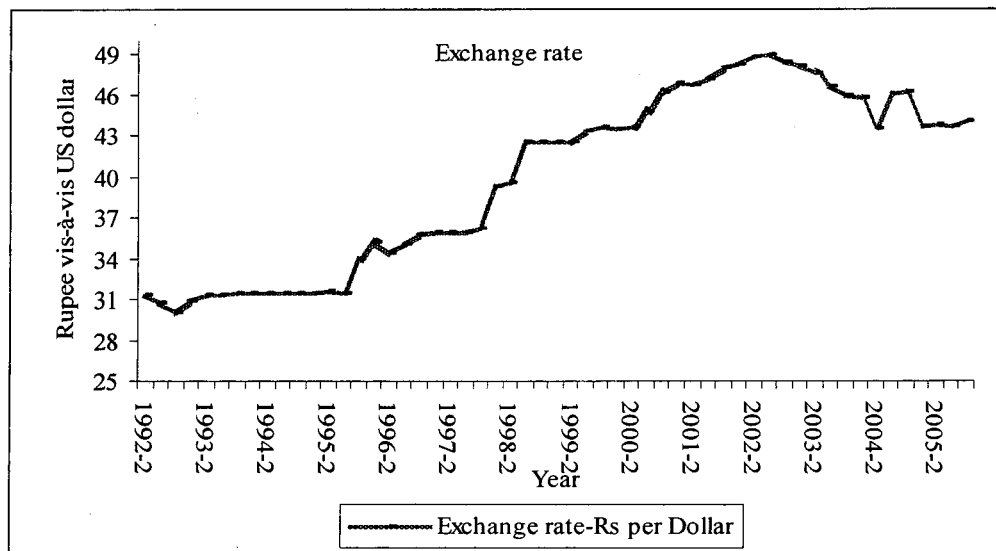
Source: Reserve Bank of India, Handbook of Statistics on Indian Economy, online Database.

Figure 3.3: Stock Price



Source: Bombay Stock Exchange, Historical Data, online Database.

Figure 3.4: Exchange rate



Source: Reserve Bank of India, Handbook of Statistics on Indian Economy, online Database.

Table 3.1 Model Adequacy tests

Sigma	4603.68	RSS	1.03850016e+009
R ²	0.401677	F (4,49)	= 8.224 [0.000]**
Log-likelihood	-529.468	DW	1.93
AR 1-4 test: F (4,45)	= 1.7499 [0.1558]	ARCH 1-4 test: F (4,41)	= 8.7453[0.000]**
Normality test: Chi ² (2)	= 16.630 [0.0002]**	Hetero test: F (8,40)	= 0.91359 [0.5153]
Hetero-X test: F(14,34)	= 0.56098 [0.8759]	RESET test: F (1,48)	= 1.5138 [0.2246]

Chapter 4

CONCLUSION

This study was motivated by the growing share of foreign portfolio flows in total capital flows into India since reforms were initiated. The debate for making currency fully convertible in the capital account also strengthened the cause. This milieu provided enough scope for the objective of measuring the present openness of our economy towards foreign portfolio flows. Understanding the existing scenario and nature of controls would be useful for any further relaxation of regulations pertaining to foreign portfolio flows. Moreover, this measure is a new attempt in the direction of separating out the openness with respect to different types of capital flows as against the conventional methodology of an aggregate measure of financial openness. The second chapter was devoted for this objective. Studying the liberalizing measures, it was seen that most of the controls pertaining to foreign portfolio flows were dismantled in the initial years, and the regulations were relaxed thereafter. Measuring openness using Quinn's methodology by assigning binary values also revealed that, in the initial years of liberalisation the openness index accelerated indicating the dismantling of most of the controls. Thereafter, the index of openness stabilized showing gradual relaxations being made. The index of openness assigns takes the value of 0.87 out of the total assigned value of one, indicating that only regulations regarding the limits and caps on quantities are remaining.

This background necessitated the need to delineate the fundamental instincts motivating portfolio capital investments into India in the liberalised regime. Exploration of this core objective was conducted in the third chapter in the backdrop of the capital gain and income gain seeking behaviour of the capital flows. While the capital gain motive in the Indian scenario was adequately represented by stock price (BSE sensex) changes and exchange rate changes, the income gain motive was represented by the real interest rate differential between India and the world. The causality tests have revealed that it is the expectations about the stock prices that is causing the foreign portfolio flows and not vice versa. It has also been found that there exist two-way causality between the expectations about the exchange rate and foreign portfolio flows. This reveals that foreign portfolio flow is caused by the capital gaining opportunity involving the

currencies, and at the same time the inflow of foreign portfolio flow is also causing the changes in the exchange rates. However, these tests do not show any causal relationship between foreign portfolio flows and interest rate differentials.

Examining the motivating factors in a multivariate set up through the application of the OLS have proved that foreign portfolio flows to India are attracted by the capital gains motive (stock price changes) rather than income gaining motive. Experiences have proved that financial flows chasing capital gains are susceptible to sudden reversals destabilizing the recipient economy. The capital gain always rests on expectations regarding either the future asset prices or the exchange rate of the domestic economy. The capital flows depends on expectations of the asset price changes may not be representing the long-term growth potential of the economy. Rather, they signify short-term expectations that can alter at any point of time. The recent crises have underlined the pro-cyclical nature of these flows. Despite consensus regarding this disturbing nature of these flows, very little precautions have been taken. Prudential sequencing of financial sector reforms has been recommended most often by the neoclassical school to prevent these types of crises. However, the pro-cyclical nature of these flows makes it essential to leave some form of controls, which help monitor the short-term, capital gain chasing flows.

The case becomes more compelling when the implications of these capital gain seeking flows on the economy are also taken into consideration. The foreign portfolio flows has got both benefits and costs. More than the theoretical aspects of benefits and risks, it is the mammoth task of managing the macroeconomic implications of these flows that makes this a case of considerable importance. The macroeconomic effects always have got several policy implications especially in the context of developing economies. First of all, the foreign capital flows including the foreign portfolio flows have severe repercussions on the exchange rate of the domestic currency. An inflow of capital leads to appreciation of the domestic currency, which is considered harmful for domestic exports while favourably influencing import bill. In total, this will have unfavourable effects in the current account of the balance of payments.

This raises the need for sterilizing the foreign capital inflows. Sterilizing the foreign capital has both monetary as well as fiscal outcomes. Sterilization done through the issuance of domestic financial instruments essentially can lead to increases in the central banks deficit and thereby affect the domestic interest rates and inflation. It can also crowd out domestic real investment in the economy. In the Indian case, recently a new

financial instrument called the market stabilization bond has been introduced for sterilization; for which, the proceeds unlike other debt instruments cannot be used by the government for financing its expenditure. In essence, the economy has to incur a huge cost for sterilization. On the other hand, this effectively results in accumulation of foreign exchange reserves of the nation. Accumulation of foreign exchange reserves at the same time can also give rise to a cost, when it is invested in low yielding assets. When the cost of sterilization is higher than the cost of holding reserves, the economy loses.

This shows that the opening up the economy to capital flows effects the autonomy of the domestic monetary policy. In a regime of floating or semi flexible exchange rate regimes, targeting the domestic exchange rate leaves virtually lesser scope for pursuing an independent monetary policy oriented towards domestic policy objectives. This becomes problematic to the developing economies like India, who are in the process of opening up capital flows and at the same time have many domestic economic objectives to be achieved by pursuing an independent monetary policy. It can be argued that the focus has shifted from having an independent monetary policy fulfilling domestic objectives to a regime of targeting exchange rates. It is to be remembered that one of the macroeconomic implications of this new regime has been the accumulation of foreign exchange reserves at the price of a costlier sterilization. This will definitely lead to a decline in the government's revenue. In the present scenario, one can find little economic sense in encouraging short-term capital flows instead of promoting long lasting private investment, which will only add up to the RBI's kitty of low yielding foreign exchange reserves.

In the fiscal front, the deregulation of the capital market reduces the support provided earlier by a restrictive financial system. In the controlled regime, the financial system provided ample income for the government, which is not possible in this new regime of capital mobility. This arises because the free movement of capital makes it difficult to insulate the fiscal policy from the exchange rate policy and interest rate policy. In fact, an efficient fiscal stance is always considered as a precondition for the successful implementation of capital market liberalisation. In the case of developing economies like India, which are characterised by huge public deficits, capital market liberalisation has been associated with a demand for reduction in the public deficits. However, the problem arises when this reduction in deficits is achieved by cutting the necessary

expenditure in the social sectors. Capital market liberalisation is always associated with the argument that an over expansionary fiscal policy may result in net capital outflows. In essence, capital mobility imparts a sort of contractionary macroeconomic stance. Hence, it can trade off with the fiscal policy of the country.

The capital inflows including the foreign portfolio flow have other implications also. These flows affect the domestic financial sector mainly through the banking and capital markets. The capital flow will impact the balance sheet of banks through an expansion in foreign liabilities, exposing banks to the new risks related to interest rates, currency, country, maturity as well as asset-liability mismatches. These inflows could impact the banking system through a rise in the growth of private domestic credit, lending boom, and risky loans. In tune with this, the net capital inflow absorbed as foreign currency reserves would potentially increase the domestic credit, depending upon the scale of sterilization. All these matters becomes grave, in a situation when majority of capital flows is constituted by capital gain seeking FPI into India.

Considering the fact that foreign portfolio capital is influenced by the stock markets prices, it is necessary to look into implications of foreign institutional investments into the Indian capital markets. The possible destabilizing factor in the case of foreign institutional investments has been the issue of promissory notes and sub-accounts. While sub-accounts are underlying entities (stock brokers) on whose behalf, a foreign institutional investor registered with SEBI invests; promissory notes are derivative instruments issued against some underlying Indian securities by foreign institutional investors to their overseas customers. Since these may not be regulated anywhere it is easy to use these routes for shady transactions. Concerns have been raised regarding their capacity of undermining market integrity and infusing volatility in the system. Another issue has been the tax heaven (abolition of long term capital gains tax, reduction of short-term capital gains tax and a reduced securities transaction tax) provided to the foreign institutional investors that implies substantial revenue loss to the economy.

Any further action on fully liberalizing capital flows must be based on a detailed analysis of all the macroeconomic implications of the foreign capital flows. The Indian literature has been critical about the policies guiding capital flows, calling them as based on common sense rather than having any economic logic. Analysing the macroeconomic implications using a coherent model and empirically verifying it, should have been the ideal exercise before modeling the policies. Even the members of the latest committee on

fuller capital account convertibility have criticized the report for its lack of empirical validity. This shows that the Indian experience of capital market liberalisation has been guided without proper macroeconomic modeling or empirical verifications. Even though the present study is not intended to fill the above gap, it helped to underlie the importance of detailed empirical analysis by delineating the motives that attract the portfolio flows into India.

To conclude, two contrasting but interesting facts about the recent financial crises are highlighted in the literature. It has been noted that portfolio flows to Latin America were not responding to fundamentals but represented a misplaced euphoria and a 'herd' instinct. Even though the macroeconomic fundamentals of these countries were weak, flow continued till the crisis broke out, which in fact had a very destabilizing effect on the growth of the economy. The role of foreign portfolio flows in spreading contagion in the East Asian crisis is also well documented. However the contrasting fact is that, the macro economic fundamentals of East Asian countries unlike the Latin American countries were strong. In spite of having high growth rates and huge foreign exchange reserves, these economies once labelled as tigers for their economic performance had to face financial contagion and crisis. This emphasizes the importance of prudentially managing the macroeconomic implications of portfolio capital flows. In evolving such a management strategy, the finding that portfolio flows in India are influenced more by capital gains motive than income gains motive is a useful input in the direction of macroeconomic policy making.

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