

Has India Gained From Capital Account Liberalisation?
Private Capital Flows and the Indian Economy in the 1990s.

Sushil Khanna

Indian Institute of Management Calcutta

Paper presented at the **IDEAs Conference** on "International Money And Developing Countries: Theoretical And Policy Issues In The Current Context", 16-19 December 2002, MGM Beach Resorts, Muttukadu, Tamil Nadu, India

Introduction

The Indian economy has seen a radical change during the last decade. From a regime of fixed exchange and regulated interest rates, tight control on foreign direct investment (FDI) and a complete absence of foreign portfolio investment, it has transformed itself into a favoured destination for FDI and portfolio investment.

Even in the late 1970s India continued to shelter its economy even when Latin America was opening itself to commercial borrowings and the East Asia economies changed their policies to attract private international portfolio capital. This changed with liberalisation in the 1990s when Indian policy makers embarked on a conscious strategy to integrate the economy with global financial markets.

The role of volatile private capital flows across borders has been debated widely in other countries (Helleiner; 1988), but the impact of such flows on the Indian economy is yet to be evaluated. The earlier discussion in India on foreign inflows has tended to revolve around the benefits and costs of Foreign Direct Investments (FDI) and the problem of capital flight rather than those of short term financial inflows (Chandra, 1988).

The inflows have qualitatively changed the balance of payments situation in India. Today, private flows have replaced official assistance as the main source of meeting the current account deficit. The increase in FDI and portfolio inflows has had a wide ranging impact on the economy. These flows have begun to dominate the Reserve Bank's monetary policy and protecting the economy from the consequences of these flows has been the hallmark of the nineties. They also account for sharp increase in India's foreign exchange reserves, currently estimated to be above US \$ 70 billion. However, these flows have not proved to be an unmixed blessing.

Some authors have argued (Ahluwalia, 2002) that India has gained substantially from the liberalisation of capital account and given the controls on residents and strict limits on

debt creating inflows, Indian economy is not vulnerable to shocks from such inflows and outflows. The fact that India has escaped any serious capital flight is often cited as evidence.

The impact of FDI inflows has been studied in some detail by some authors (Saha, 2001 and Subrahmanian, et al, 1996). This paper looks at the experience of Indian economy to private capital inflows and the costs and constraints imposed on the economy as the central bank struggled to manage the impact. It tries to evaluate the costs and benefits and to assess whether India has derived any of the expected benefits.

Section-I discusses some theoretical issues associated with cross border capital movements and the way in which economists measure the costs and benefits of capital flows. The objective is to derive the hypothesis (that can be empirically tested) macro economic on effects of these inflows on the economy and the micro economic effects on the capital market. Section-II discusses the change in the policy regime that led to liberalisation of financial and external sector in the economy while section-III provides an overview of the nature of capital inflows to India in 1990s. Sections-IV and V look at the macroeconomic impact and on the Indian capital market as well the corporate sector and the last section draws some conclusions.

Section-I : Financial and External sector Liberalisation

– Some issues.

The theoretical argument for financial sector liberalisation and liberalisation of cross border capital flows are now part of the neo-classical dogma. Similarly, the debate on relative merits of domestic and external financial liberalisation has a long history.

In the earlier literature on the subject, Mckinnon (1973) and Shaw (1973) argued that the interest rates in developing countries were artificially suppressed lead to longer savings and investments financial liberalisation would lead to higher levels of investment and

output growth. Liberalisation would also channel funds towards financing the more productive projects. According to this familiar view, an increase in real interest rates following liberalisation should encourage savings and expand the supply of credit availability to domestic investors, thereby enabling the economy to grow more quickly. According to them the link between savings and investment should be the tighter, in the presence of capital controls and if a country has limited access to foreign savings.

A number of liberalisation programmes supported by the international financial institutions over the years have had as their explicit objective to increase interest rates from levels that in some cases were substantially negative in real terms¹.

While liberalisation of the domestic financial sectors and an increase in the interest rates have been the outcome of the liberalisation episodes, there is no empirical evidence that it leads to an increase in domestic savings and investment (Reinhart and I. Tokathidis, 2001). In several cases, the savings may actually fall².

This phenomena led Campbell and Mankiw ((Cambell, J. Yand N.G.Mankiw, 1989) to argue that before liberalisation, all households may not have access to credit markets, and hence their consumption are entirely determined by current incomes. Domestic financial liberalisation will be associated with relaxation of credit and liquidity constraints resulting in a consumption boom and a decline in aggregate savings. Hence, it is often seen that the financial liberalisation episode results in a period of rapid growth in bank lending, boom in asset price and increases in consumption that often lead to decline in private savings rates. Many of these episodes also resulted in a full-fledged financial crisis.

There is little consensus in empirical literature on the impact of interest rates on aggregate savings in an economy. For example, a study on 18 developing countries

¹ Not true for India, where despite regulated interest rates, they were positive during most of 1970s and 1980s.

² For a review of empirical studies showing impact of financial liberalisation on savings, investment and growth, see (Reinhart and I.Tokatlidis, 2001).

(Giovannini, 1985) concludes that for the majority of cases, the response of consumption growth to real rates of interest is insignificant and one should expect no change in savings rate. The literature is equally ambiguous on effects of financial liberalisation on savings rates, growth and other macroeconomic variables. In some cases, research has found that the relationship is significantly negative (Bandiera, etal, 2000).

The neo classical paradigm goes to argue that the impact of some these factors that present increase in savings & investment can be offset by opening up the domestic financial markets to international capital flows. Capital account liberalisation can make it possible for foreign savings to support domestic investment and growth, subject to acceptable risk and adequate returns.

Hence, liberalising capital account along with capital markets has become a dogma with international financial institutions. Their case rests on standard neo-classical efficiency argument, ignoring the ways in which financial markets are different from the market for goods and services. The arguments for capital market integration are as follows :

- (a) Given the fact that the returns on investment in different countries are not equal, the capital controls lead to resource misallocation: at the margin, some countries may not undertake highly profitable investment projects for lack of financing, while projects worth lower return are funded elsewhere (World Bank :1997). Financial integration severs the link between local savings and local investment “and allows savings to run instantly where it is most wanted,” say the World Bank. This enhances productivity and efficiency at the global level.
- (b) Governments should not be concerned about flight of domestic savings to other countries. They should be more concerned about maximising the income of the citizens and not necessarily the output within the country. If the citizens of a country find an outlet for their funds with higher returns, the GNP is maximised by allowing such migration. Similarly, if a foreign investor finds an investment opportunity within the country with a higher return than the cost of capital, the country will benefit.

- (c) The resulting international competition for inevitable resources forces governments to create an economic environment attractive to business in general and to FDI in particular. This FDI can increase the total investment in the economy. Secondly, even if it substitutes rather than augments domestic investment, it may be more productive than the domestic capital it replaces. FDI also creates spillover effects that raise the productivity of existing domestic capital.
- (d) Open capital markets help stabilise the economy through diversification. As a country faces a downturn, the lower wages will attract funds into the country, helping to stimulate it. Diversification also helps to reduce risk and hence the risk premium associated with the cost of capital. Opening capital markets helps to deepen the domestic financial system.
- (e) Finally, the case for opening capital markets is made by way of analogy to free trade in goods and services. Since free trade is good, runs the argument, treating “capital” as a good leads to welfare maximisation.

Unfettered capital flows across borders are risky is acknowledged in the literature, but sound macroeconomic environment, it is argued, can help cope with the most obvious consequences. Overheating and large inflows are often the result of poor macroeconomic management.

Despite the World Bank dismissing the impact of large cross border capital movements, economists have extensively discussed the trilemma of capital mobility, exchange rates and monetary policy (also known as “inconsistent trinity”). This trilemma is based on the proposition that open capital markets deprive a country’s government of the ability to target its exchange rate and to use monetary policy in pursuit of other economic objectives. The trilemma arises because a macroeconomic policy regime can include at most two elements of the “inconsistent trinity” of three policy goals :

- i) full freedom of cross border capital movements;
- ii) a fixed exchange rate;

- iii) an independent monetary policy oriented towards domestic objectives (e.g. faster growth).

If capital movements are prohibited and (i) is ruled out, a country's exchange rate can break ranks with foreign interest rates and thereby run an independent monetary policy. Similarly, a floating exchange rate if (ii) is ruled out, reconciles freedom of international capital movements with monetary policy effectiveness. But monetary policy is powerless to achieve domestic goals when the exchange rate is fixed and capital movements are free, the case where (iii) is ruled out. This is because since intervention in support of exchange parity then entails capital flows that exactly offset monetary policy impact threatening to alter domestic interest rates (Obstfeld; 2001).

Stiglitz discusses the fallacies of the standard arguments for capital account liberalisation. He argues that the capital markets suffer from information asymmetry and hence the proposition that capital liberalisation is exactly like trade liberalisation is false (Stiglitz; 2000).

But Stiglitz's strongest argument rests against the proposition that opening capital markets allows for diversification and thereby enhances stability. On the other hand, capital market liberalisation is systematically associated with greater instability as capital flows are pro-cyclical, exacerbating economic fluctuations, if not actually causing them. He calls for interventions to regulate these flows, including tax or direct controls on short term flows.

Rodrik (Rodrik; 1998) is more emphatic in arguing against capital convertibility. He challenges the proposition that capital controls lead to economic inefficiency. His study of sample of countries that have open capital markets (as measured by IMF) shows that there is no basis to argue that growth or economic performance is superior to others that have higher capital controls. Once the countries with open capital market do experience a financial crisis due to sudden capital outflows, often caused by external factors, it takes several years for growth to recover. "Enshrining capital account convertibility in the

IMF's articles of agreement is an idea whose time has not yet come. We have no evidence that it will solve any of our problems, and some reasons to think that it may make them worse." (Rodrik; 1998).

If there is no significant relationship between countries investment to GDP ratio and measures of capital account openness (as shown by Rodrik), it is possible that overall macroeconomic ratios fail to capture the link between investment at the firm level and their access to global resources. This hypothesis makes two predictions about the time series behaviour of prices and quantities of capital during capital market liberalisation. (Chari and Henry, 2002). Firstly, flow of cross border funds into a liberalising country reduces the cost of capital and drives up Tobin's q - the market value of firms assets relative to their replacement cost. Secondly, because of this firms will respond to the increase in q by investing more capital till the asset market value of firms and their replacement cost are equalised once again. Investment will decline slow down to a rate that is sufficient to maintain this equality.

Opening the stock market to foreign investors also alters the systematic risk for the representative investor, because liberalisation switches the relevant benchmark for pricing individual stocks from the local market index to a World stock market index. Consequently, prices should rise in sectors where systematic risk falls and fall in sectors where it rises. We should observe relatively more investment by firms whose risk falls and less by those whose risk rises (Chari and Henry, 2002).

Using a time series and cross sectional data from 1980 to 1994 for firms in 5 countries (including India) Chari and Henry, test their hypothesis. Their time series data supports the hypothesis that cost of capital falls and investment rises. The average Tobin's q in the liberalisation year is shown to be about 40 per cent higher, leading them to conclude that the capital market liberalisation has reduced the cost of capital to corporate sector in these economies and reduced risk.

II: Deregulation of the Indian Financial System and Capital Account in 1990s.

Till the beginning of 1991, India had a tightly controlled and regulated financial system and a restrictive foreign exchange regime. Though interest rates were regulated, there is no evidence they were highly repressed or negative. The exchange rate was pegged to the Sterling till 1975 and to a basket of currencies thereafter – though for all practical purposes it was pegged to the US dollar with few re-alignments and a narrow (+5%) band.

The Indian Government was a large borrower from the banking system with high Statutory Liquidity Ratio(SLR) of about 40 per cent of deposits. Banks were required to maintain large cash reserve ratio (CRR) of about 15 percent. Several sectors enjoyed access to directed credit at attractive rates of interest, which was cross-subsidized.

According to the Y. K. Reddy, (Reddy; 2002), the environment in the financial sector before 1991, was thus characterised by segmented and underdeveloped financial markets coupled with paucity of instruments. The existence of a complex structure of interest rates arising from economic and social concerns of providing concessional credit to certain sectors resulted in “cross subsidisation” which implied that higher rates were charged from non-concessional borrowers. The regulation of lending rates, led to the regulation of deposit rates to keep cost of funds to banks at reasonable levels, so that the spread between cost of funds and return on funds is maintained. The system of administered interest rates was characterised by detailed prescription on the lending and the deposit side leading to multiplicity and complexity of interest rates.

By the end of the eighties, the financial system was considerably stretched. The directed and concessional availability of bank credit with respect to certain sectors resulted not only in distorting the interest rate mechanism, but also adversely affected the viability and profitability of banks. The lack of recognition of the importance of transparency, accountability and prudential norms in the operations of the banking system led also to a rising burden of non-performing assets (Reddy; 2002) .

Foreign direct investment (FDI) was also tightly regulated and small compared to other Asian economies. Foreign portfolio investment was totally prohibited.

In 1991, the Central Government, facing a balance of payment default, devalued the rupee and set in motion widespread deregulation and liberalisation of the industrial and financial sectors. In addition, a conscious strategy of integrating with the global economy was put into place.

In the same year, the government embarked on the liberalisation of the domestic financial sector. The Narasimham committee (RBI, 1991) which studied the Indian financial system, identified the following weaknesses and distortions :

1. A large part of banking resources were pre-empted by the government as the banks were forced to hold government/government guaranteed paper as SLR. Along with the high cash liquidity ratio, (ranging between 12-15 per cent), more than half the deposits of the banking sector were not available for the private sector. The government paper was held at low (lower than market determined) rates of interest, forcing the banks to recover their costs from the advances made to the private sector. This raised the cost of borrowing to private sector in the 1980s.
2. Of the resources available for the private sector a substantial part (upto 40%) was directed towards priority sectors, which included export sector, few industrial sectors targeted (e.g. fertilizer) and small and medium business and the agricultural sector. Failure of the banks to meet targets forced the government to set up specialized institutions for servicing the small industry and rural borrowers in the 1980s
3. Interest rates were tightly regulated with all borrowers in a class paying the same/similar rates of interest. Thus with the deposit and lending rates regulated, the bank management were left with little control over their profitability except for control over costs, a large part of which too were regulated by public sector norms and industry wide collective bargaining. The Committee found the present structure of administered interest

rates as highly complex and rigid and not related to market conditions.

4. The committee also felt that directed credit policy had failed to serve its purpose, mainly because of the low interest fixed by regulators for what were more risky assets. Arguing that the health of the banks had deteriorated because of priority sector lending, it recommended a gradual withdrawal of directed credit.

5. The capital structure of Indian banks was also cause for concern with the net worth of the bank as low as 1-2% of their advances. It recommended re-capitalization of banks, most of which were in the public sector. Also it recommended entry of private and foreign banks.

6. The banks followed a lax system of income recognition, with many banks following the accrual system of accounting (including those from non-performing advances), and made inadequate provisioning for doubtful advances. A more stringent income recognition norm would show large non-performing assets (NPAs) and losses on bank's balance sheets. The Committee recommended a gradual shift to the Basle norms for income recognition.

Thus, it recommended a gradual deregulation of the financial sector, including phasing out of directed credit, interest rate de-regulation and lowering of SLR to release resources for the private sector. It hoped that with these measures, the industrial and commercial sector will be able to access to cheaper credit as the cross-subsidies were done away with and directed credit phased out.

Pursuant to the report, the Reserve Bank of India (RBI) embarked on a gradual deregulation of the financial sector. In the banking sector, the SLR has been reduced from a high of 38% in 1991 to 25% by 1996 and the government moved to a system of market determined rates of interest for its own borrowing. New income recognition norms based on International Accounting Standard Committee have been gradually enforced, resulting in several public sector banks showing large losses on the balance sheets, and NPAs,

which over the years have come down as a proportion of their total advances. Under the new norms the ratio of NPA were estimated to be as high as 24% in 1993-94, and by 1998 stood at about 16% of all advances. Interest rates have been largely deregulated with the credit worthiness of the borrower determining the interest rate. The public sector banks have been re-capitalized with the capital adequacy ratio now close to 8% and projected to go up 10% this year.

A significant change was in the sources of funding for the Development Financial Institutions (DFIs). These institutions had played an important role in India's industrialization strategy and provided long term project finance to private sector industrial firms and supported the expansion of the capital market by under-writing share issues and investing in the stock market. In 1992, their access to government guaranteed funds from the banking sector and Long Term (LTO) funds from the RBI were cut off and they were expected to raise resources from the market or other commercial banks.

In addition to the changes in the financial sector, India embarked upon a major deregulation of its external sector. After a sharp devaluation of the rupee in 1991-92, the central bank gradually moved to a market determined mechanism for determining the exchange rate. By 1993-94, the rupee was made convertible on the current account with market determined rates. This was combined with significant trade liberalisation, which included phasing out of import quotas (move to Open General License) with the exception of agricultural and consumer goods, sharp reduction in import duties and reduction in non-tariff barriers. Import of gold was permitted leading to a sharp drop in smuggling and a corresponding undermining of the black market in foreign exchange.

The liberalisation of foreign investment regime was soon put into place in 1991. FDI, till 1991, was confined to a narrow group of industries with majority control and to a larger set with a 40 per cent equity control for foreign investors. The 1991 Industrial Policy statement permitted majority control in most industries and 100 percent control in several industries. These lists were subsequently enlarged so that by 1995, most industries were

open to FDI (with a small negative list of industries like defence, atomic energy, tobacco etc.)

In November 1992, the RBI and the Government of India (GOI) permitted Indian companies to source foreign portfolio investment, subject to the approval of majority of current shareholders at a general body meeting. Indian firms with high credit rating were allowed to float Global Depository Receipts (GDR) and American Depository Receipt (ADR). Foreign Institutional Investors (FII) were allowed to enter the Indian capital market and could collectively hold up to 24 per cent of equity in listed Indian companies. Currently FIIs can hold up to 30 per cent of equity in most Indian companies and upto 100 in some, subject to the approval of Indian shareholders. The limit on banks, insurance, telecom firms etc., is capped at 30-49 per cent. Private sector's access to overseas commercial borrowings is permitted with prior government approval and capped at US \$2-3 billion per year.

In 1994, India moved to full convertibility on current account transactions and formally accepted the obligations under Article VIII of the IMF. In 1997, RBI appointed a committee under the Chairmanship Tarapore (Tarapore, 1997) to study a gradual move to full capital account convertibility, in light of the IMF's proposal to amend its Articles of Agreement and include capital account convertibility as an obligation of members.

The Committee argued that though capital controls may have served a useful role in early years of India's development strategy, its usefulness today was doubtful. It felt that with the increased cross border integration of financial markets and the opportunities for arbitrage, these controls are gradually less effective and the cost of maintaining them is high due to increasing costs and distortions. It recommended a gradual shift to full capital account convertibility by 2000. It is interesting that though the Committee studied several countries experience with capital convertibility, it was silent on the basic "Trilemma" discussed in theoretical literature and it however, was eloquent on the numerous benefits like growth of financial sector and diversification of risk by residents.

Even before Tarapore's road map for capital account liberalisation, the RBI had begun to liberalise capital account for foreigners as well as Indians. The liberalisation of FDI regime and portfolio flows are discussed above. The most significant liberalisation of capital account for residents was the permission granted to retain foreign exchange abroad. Domestic exporters were first permitted to retain their earnings abroad for 180 days as short term investments. In addition, the domestic banks were permitted in 1997 to invest up to 15 per cent of their Tier I capital abroad. In recent years Indian mutual funds have been permitted to invest abroad as well residents have been allowed to open foreign currency accounts. These measures formally linked the domestic money market with the foreign exchange market. Indeed, this has been one of the stated objectives of the central bank's deregulation (Khanna, 1999).

The onset of the Asian crisis just weeks after the Tarapore's recommendations and failure to reduce the fiscal deficit and meet other preconditions suggested by Tarapore has indefinitely postponed India's march towards capital convertibility. However, RBI continues to gradually relax restrictions in Indian residents and financial institutions to gradually increase facilitation of two way capital flows.

III: Trends and Composition Foreign Capital Inflows in India the 1990s.

The nineties saw a radical transformation in the nature of capital flows to India. From a near absence of any private capital inflows till 1992 (except those by Non-Resident Indians), today such inflows represent a dominant proportion of total flows. The official flows, shown as external assistance, represents grants and loans from bilateral and multilateral sources represented 75-80 per cent of flows till 1991. By 1994, this had declined to about 20 per cent and fell below 5 per cent by late 1990s (Table-2).

During the last 10 years, India has attracted more than US \$ 40 billion in foreign investment (Table-1). At a time, when the flow of private capital to developing countries has shrunk considerably (Chart I), private flows to India have strengthened, and are currently running at US \$ 9 to 10 billion per year (Chart-II), of which more than 55 per

cent constitute FDI and portfolio flows. As a matter of fact, there has been limited recourse to bank borrowing or floating of bonds abroad by Indian corporate sector, as RBI and government tried to limit access to such borrowings to few large private companies with high credit ratings, in a policy of limiting debt creating inflow. In some years though, such debt creating flows were significant and constituted about 40 per cent of inflows.

The liberalisation of the portfolio investment led to a surge in inflow of capital for investment in the primary and secondary market for Indian equity and corporate (and subsequently sovereign) bond market. About 460 foreign institutional investors (FIIs) have been allowed to enter the Indian market and the together have brought in more than US\$ 14 billion GDR and ADR floated by Indian corporate sector brought in the remaining portfolio inflows.

Table 1 provides an overview of the total foreign capital that India attracted during the 1992-2001 period. As the Table shows, India has attracted about \$22 billion in portfolio investments since 1993-94 and more than \$ 18 billion in FDI. These portfolio flows began in 1993 when India attracted more than \$ 5 billion in few months and continued at the level of \$ 2-3 billion per year till the Asian crises. The year 1998 witnessed a marginal out flow from the Indian stock market but soon the inflows went back to the US \$ 2-3 billion per year level.

The first phase of stock market liberalisation also saw many Indian companies issuing GDR and listing them on European exchanges like Luxembourg. As Table-1 shows during 1993-95 more than half of the portfolio investments was the Global Depository Receipts (GDR) floated by the Indian companies while the other half was FII investments. The FII investment was initially limited to a selected group of stocks and they were excluded from the growing market for bonds, and government securities. Their entry into the latter was permitted only in the late 1990s. The total amount of funds raised by India through GDR constituted roughly 40 percent of total inflows. However, during the second half of the 1990s there was a sharp decline in the funds raised through GDR

and FII investment in the Indian equity (and recently bond market) became the main form of portfolio inflows.

Thus in a span of less than a decade, private foreign investment to India constitute more than 55 per cent of all flows. The total inflow of \$22 billion as portfolio investment also constitutes a significant proportion of the total market capitalisation in India.

Thanks to the large inflows, the Indian economy faced for the first time a comfortable foreign exchange position. The rising reserves also reduced the vulnerability of the economy to minor shocks and also brought in large amount of investments from non-resident Indians (NRIs). The liberalisation of gold imports and over all trade liberalisation led to a sharp decline in capital flight and the black market premium on foreign exchange disappeared. This led to a diversion of transfer payments (mainly remittances from workers abroad) from illegal to banking channels. The transfer payments rose sharply from \$2-3 billion in 1991-92 to \$11-13 billion by the end of the decade.

Macroeconomic Consequences and Policies of RBI

The question that should concern is whether these flows of capital from abroad helped India overcome the constraints on the economy and grow at a faster rate than the earlier decade. Or has it imposed costs that have jeopardised growth and made the economy and monetary policy hostage to the vagaries of the international market.

The growth rate in the economy during the 1990s was marginally lower than the 1980s, if one includes the data for the entire decade. On the other hand it was same if one excludes the years 1991-92 and 1992-93 which was the period of stabilisation after the balance of payments crises which began in 1991. However, the main impulse for rapid growth was the increase in the public expenditure, mainly due to increase in salaries of public sector employees due to the Vth Pay Commission recommendations. This led to a substantial increase in growth in income from public services. The growth in the real

sectors of the economy, namely agriculture and industry was marginally lower than the 1980s. The rate of savings and investment in the economy showed no change with the rate of gross domestic savings hovering around the 22-23 per cent of GDP (Table-4). Similarly, the overall investment rate in the economy hovered between 24-26 per cent of GDP during the 1990s. The period of capital inflows coincided with the marginally rise in the investment/GDP ratio and an increasing domestic savings rate (Table-2) in the first half of the 1990s. In the 1996-2000 period when the inflows rose above the first half of the decade, investment actually declined along with increase in private and government consumption.

The liberalisation of the external sector though helped the economy to overcome the chronic shortage of foreign exchange and move away from regime of tight import controls and fixed exchange rates, there is no reason to believe that this resulted in higher rates of growth (Nagaraj, 1997).

The current account deficit, which had peaked at 3 per cent of GDP in 1991, (Table 3) declined and was below 1 per cent of GDP most of the decade. India saw a surplus in its current account in 2001-02. The rising inflows of foreign investment and multilateral aid resulted in a sharp increase in the foreign exchange reserves (Table-3). In addition to the official reserves with RBI to the tune of about \$ 65 billion (equal to a year's imports), the RBI encouraged commercial banks to deploy funds from NRI deposits and India Development Bonds etc. abroad. The commercial banks hold addition foreign assets of \$ 15 billion about half of which are deployed in inter bank market or sovereign bonds. As seen above, the economy during the 1990s was characterised by rising inflows of foreign capital. A significant proportion was short term portfolio flows. These flows were large enough to destabilise a very thin market for foreign exchange that had opened up due to the external sector liberalisation. (The daily transactions in the foreign exchange markets during most of the 1990s were below \$800 million per day).

The surge in capital inflows from 1993 put an excessive pressure on the value of the rupee and required the RBI to intervene in the foreign exchange markets to siphon off the

excess dollars and to keep the rupee value stable. The intervention in the foreign exchange markets were often in excess of \$2 billion in a month and in 1997 exceeded \$14 billion.(Khanna :1999). This resulted in constantly increasing foreign exchange reserves with the RBI. Table-3 provides data on current account deficit and foreign exchange reserves as well as foreign inflows as a proportion of exports. .

The large inflows of foreign capital led to three episodes of real appreciation in the value of the rupees after 1992. These coincide with the capital surge in 1993-95, 1996, 1997 and 1999-2000, when the real exchange rate appreciated by 10.7 per cent (in August 1995), 14 per cent (in 1997) and by 5 per cent per cent in 2000-01 over the March 1993 level.

The policy response of the RBI was to contain a nominal appreciation of the rupee. This policy response was supplemented by encouraging capital outflows to reduce pressure on the rupee in the foreign exchange markets and to check decline in earnings of the exporters. The trade reforms and the convertibility on the current account along with liberalisation of overseas investments by Indian firms were partly financed by these increasing capital inflows.

If the RBI had failed to intervene in the foreign exchange market, and the exchange rate regime was a pure float, the increase in capital inflows would have been associated with an appreciation of the rupee and an increase in imports and widening current account deficit. The RBI chooses to counter the appreciation pressures, which resulted in increases in foreign exchange reserves. As the current account deficit continued to hover below 1 per cent of GNP, the economy failed to absorb the capital inflows resulting in rising foreign assets of the Central Bank. In 1993 the first year of FII inflow, almost the entire net capital inflows were absorbed as foreign exchange reserves and from 1995 onwards the RBI has typically absorbed about 50 per cent of the net capital inflows into international reserves. The current stock of international reserves (US \$65 billion) represents an increase of more than 1000 per cent over the 1991 level.

As accumulation of the net foreign currency assets with the Central Bank results in increasing domestic money supply, the Reserve Bank was required to sterilise the monetary impact of increasing reserves. Thus, when efforts to reduce the fiscal deficit had dampened the increases in money supply, large capital inflows more than offset the effect of this fiscal contraction. This left the RBI with the limited choice in sterilising the monetary impact of capital inflows and private sector credit contraction and the cash reserve requirement of the commercial banks were the only instrument available.

The RBI began to sell government securities from its asset portfolio to soak up the excess liquidity. To persuade the banks whose SLR had been brought down to 25 per cent (and most banks were already holding government securities far in excess of the statutory requirements) it off loaded securities with attractive rates of interest. This jeopardised the objective of the financial reforms to lower cost of borrowing to private sector.

However, the decade of 1990s was not characterised by unilateral capital inflows and appreciation pressures. There were at least three depreciation episodes (1995-96, 1997-98 and 2000). Each of these was caused by exogenous factors. Political uncertainty and quick change in government, which resulted in a minor decline in flows, caused the 1995 speculative pressure on the rupee. On the other hand, the 1997 episode was caused by a small outflow of portfolio investment from the Indian stock market due to the Asian crises. In all the three episodes the RBI intervened first in the spot market for foreign exchange by selling large amount of dollars and then was forced to shift to the forward markets. The interventions were large and during the episodes, RBI sold about \$ 2-5 billion in spot and additional \$ 3-5 billion in forward market.

These interventions in the foreign exchange markets failed to contain the speculative attack on the rupee. Exporters delayed their repatriations in anticipation of further depreciation in the value of rupee. The RBI shifted its focus on the money market and increased bank rate, raised CRR (Cash Reserve Ratio) and imposed a surcharge on import finance and tightened export credit. This resulted in sharp increase in short term interest rate with the inter bank call money rates rising to above 55 per cent (Chart-IV & V).

Private corporate sector also found it much more difficult to raise funds from banks and real interest rates in the economy continued to be higher than anytime before. Real interest rates in 1990s, were as high as 6-9 per cent compared to 1-2 per cent in the 1980s (Khanna; 1999).

Thus, the integration of the foreign exchange market with the domestic money market through the freedom given to exporters to retain their earnings abroad for 180 days and to arbitrage between the foreign exchange and the domestic money market, had reduced the options of managing the trilemma we discussed in the above section-I. In each of the depreciation episodes the RBI was forced to increase the bank rate, sometimes by as much as 200 points, and increase cash reserves ratio of the commercial banks to reduce liquidity and raise domestic interest rates to provide an incentive to exporter to repatriate their earnings³. (Chart-IV & V).

The external account liberalisation and inflow of foreign capital was intended to increase the availability of investible resources in the Indian economy and to accelerate the rate of growth. Easy availability of international capital was expected to ease the credit constraint on the Indian corporate sector and increase the rates of capital accumulation. However, the experience of India has been contrary to the stylised scenario often presented by the IMF and World Bank. The ebb and flow of foreign capital in the Indian economy resulted in cyclical bouts of appreciation and depreciation of the rupee. Targeting a stable real exchange rate, the RBI became the main player in both the foreign exchange and money markets. It was forced to keep the interest rates high in the economy, sometimes to sterilise to effect of large inflows and at other times to persuade exporters to repatriate their earnings. In all these the objective of the financial reforms as envisaged by the Narasimham report ----- mainly to provide cheap credit to the Indian corporate sector was aborted. The resulting shock to the financial sector, periodic intervention by the RBI to reverse its policy of lowering cash reserve requirement and increasing interest rates jeopardised industrial restructuring. This restructuring was

³ For a stylized discussion of each of the depreciation episodes and the response of Reserve Bank, see (Khanna, 1999).

necessary for the Indian industry to cope with increasing competition from imports and the entry of large international oligopolies in the Indian marketplace. (Khanna,1999).

Capital Inflows and Indian Stock Markets

As we saw above the flow of international capital in the Indian economy was different from the experience of most developing countries including East Asia and Latin America. While in these countries, the main component of inflows were largely foreign direct investment in the first phase of liberalisation. The portfolio flows became an increasing component only in the 1990s. In India's case the portfolio flows outstrip the FDI inflows in the first phase of liberalisation.

As discussed above, the argument advanced for liberalising capital markets and opening them to foreign investors is to increase the availability of capital with the domestic industrial and commercial firms. In addition, entry of international investors helps to provide greater depth to the domestic capital markets and reduce the systematic risk in the economy. There are several ways in which this hypothesis is empirically tested. It is anticipated that better liquidity in the market and greater depth along with declining risk, will result in greater proportion of household savings being diverted to capital market. This should make it easier for corporate sector to raise investible resources and share risks and gains with individual investors.

The other component of hypothesis, about decline in cost of capital to corporate sector, measures the rise in value of stocks after the liberalisation, measured as Tobin's q . Alternatively, event study methodology is used to study the impact of announcement of liberalisation to stock prices. Did this happen in the case of India ? In this section we test this hypothesis that entry of foreign portfolio investors has raised the Tobin's Q for Indian firms that attracted such capital and lowered their cost of capital. We have used data from the CMIE's Prowess Data Base on the Indian stock market and supplemented it with published information by the National Stock Exchange and RBI.

To test this hypothesis we study the impact of portfolio inflows on the cost of capital and financing of the Indian corporate sector. As mentioned above the reduction in the cost of capital due to the inflow of foreign resources is expected to drive up the Tobin's q , that is, the asset market value of installed capital goods relative to their replacement cost. In case ' q ' does rise, the firms are expected to respond by investing more capital. Similarly, stock prices should rise as the systematic risk declines due to opening the stock market to foreign investors.

Unlike many other developing countries India has Asia's oldest stock market with the largest numbers of companies listed in the World. (See Table-5 below). India has about 10,000 companies listed on the 11 stock exchanges compared to 7600 in USA and only 930 in Germany. However, this market lacks depth and only about 2500 shares are actually traded on the stock market. The resulting turnover ratio, for the market is significantly smaller than some other developing countries. (Table-5)

With the opening up of the Indian capital market, approximately 460 foreign institutional investors (FIIs) registered with the Securities and Exchange Board of India brought in approximately \$14 billion of net investments (Table-6). In addition, some of the FIIs were granted permission to float Private Mutual Funds in India. Collectively the five foreign controlled mutual funds manage assets worth Rs.21,000 crores (AMFI, 2002) equivalent to US \$5 billion. Hence the total assets controlled by FIIs in the Indian stock market were approximately equal to US \$19 billion which is approximately 7 per cent of the total market capitalisation in March 2002.

As mentioned above the FIIs are allowed to invest in the Indian corporate sector up to 30 per cent of the outstanding shares of each company or higher if specifically authorised by the existing shareholders. The GDR holders are also the FII investors in the Indian stock market and are allowed to convert the GDR into Indian shares and trade on the Indian Stock Exchanges. This is an additional to the US \$5 billion worth of shares and hence the overall assets controlled by FIIs from funds garnered from the Indian investors. Hence

their total investment in the Indian stock market rises to US \$24 billion equivalent 9 per cent of market capitalisation.

Though the Public Sector Mutual Funds in India have a much larger asset base, their turnover is significantly smaller than the foreign controlled private Indian mutual funds. If one adds the turn over by FIIs in the Indian stock markets (Table-7) to the turnover from such funds, the turnover of FIIs in the stock market is as high as 25 per cent of the total turnover in Indian stock market and 44 per cent of the National Stock Exchange turnover in 2001-02 (Table 7). There is little doubt that they have emerged as the single most influential block of investors and market makers in the Indian capital markets. Their turnover has risen sharply during the last 4 years and as domestic investors flee the market, their grip has been strengthened.

We have analysed the impact of FII inflow on the stock prices and Tobin's q on the shares where FIIs have any investment greater than 1 per cent. Using data from the Prowess database from the Centre for Monitoring Indian Economy (CMIE).

In all about 840 Indian companies had any FII investment. Of these the Prowess database provides us data for the period 1990 to 2001 for a total of 319 companies. The market value of these 319 companies was 45 per cent of the total market capitalisation in 1997 and rose to 56 per cent in 2001.

Table-8 and Chart VI provide us estimates of Tobin's q for the entire period for these 319 companies. These have been computed using the method suggested by Varaiya and Kerin (Varaiya, N. & R. A. Kerin, 1987). As can be seen from Table 8, there was no significant change in the Tobin's q for the sample firms. It hovered around 2.8 in the period 1990-93, rose marginally to 3.5 in 1994-95 to decline once again to below 1990-93 level and to reach the all time low of 1.5 by the end of the decade. Hence there is no reason to believe the cost of capital to Indian firms declined due to the opening up the stock market to foreign institutional investors.

There no evidence either that the Indian corporate sector found it easier to raise resources from the stock market to finance its investments. The Development Financial Institutions (DFIs) were finding it difficult to provide long term loans to Indian corporate sector due to the end of the regime of government guarantees on their bonds and the cutting off the LTO Funds from the RBI to these institutions as recommended by the Narsimham committee. It was expected that the opening up of the domestic stock markets to foreign investors would increase the depth and liquidity of these markets and provide an alternative source of finance for investment to the Indian corporate sector.

Table-10 below provides the sources of finance to incremental investment by the corporate sector in India during the period 1990-1999. As we can see, instead of the capital market providing an increase support to their investments, there was actually a decline in the proportion of funds coming from the capital market. From about 25 per cent of the total needs of the private corporate sector being met by the capital market in the early 90s, today only about 16 per cent of the total funds needed for investment are provided by the capital market. They were increasingly forced to rely on internal resources for financing the growth, which has risen from about 30 per cent to 37 per cent by the end of the decade.

Nor has there been any shift in the structure of financial savings by the household sector, which provides roughly 80 per cent of total savings in the economy (Table-9). The investment in the stock market, which was roughly 10-18 per cent of the incremental savings of the household sector in the first four years of the decade (1990-94). This has fallen to about 3.5 per cent by the end of decade. The flow of household savings to UTI etc. has become negligible, undermining their capacity to support the private sector's capital requirement. Thus the expected benefits of greater depth and liquidity and reduced risk which would induce greater proportion of the savings being diverted to the capital market has not been realised.

On the other hand, the Indian stock market is today largely dominated by a small group of FIIs who are able to move the market by the large interventions. Anecdotal evidence of

prices being manipulated to meet the bonus target of the FII managers are wide-spread in the financial papers.

Conclusions

This paper discusses the effect of foreign capital inflows on the Indian economy. The macroeconomic analysis in section-III above shows that the overall growth rate in the economy marginally declined during the 1990s and there was no significant change in the rate of savings or investment in the economy. The ebb and flow of short term capital imposed severe constraint on the Central Bank's capacity to pursue a counter cyclical monetary policy. The real interest rates were historically at the their peak. They hovered above 6 per cent due to the RBIs efforts to sterilise the effect of the inflows during some periods and to provide an incentive to exporters to repatriate their earnings in periods of speculative attacks on the rupee and to stem the rapid depreciation of the currency. Faced with the trilemma, RBI chose to manage the value of the rupee as its main target and adjusted interest rates and credit flow to stabilise the rupee in the foreign exchange market.

The micro analysis of the stock markets also fails to provide any evidence that the entry of foreign institutional investors has reduced the cost of capital to the Indian corporate secto. Nor has it helped the corporate sector to shift from their dependence on internal resources and funds from public sector development banks to the capital market. On the contrary, the evidence shows that their dependants on external sources has declined in general and more specifically on the capital markets. The overall cost to the economy of increased short-term capital flows has been substantially higher than any current or potential benefits.

(I am grateful to Arvind Agarwal, Subalaxmi and Ratul Ghosh for assistance in the computation and data analysis.)

References

- Ahluwalia, M.S., Y.V.Reddy, S.S.Tarapore, 2002,(ed), Macro economics and Monetary Policy : Issues in a Reforming Economy, OUP, New Delhi
- Ahluwalia, M.S.,2002, "India's Vulnerability to External Crisis : An Assessment", in M.S.Ahluwalia, Y.V.Reddy, S.S.Tarapore (ed), 2002
- AMFI, 2002, Association of Mutual Funds of India(AMFI),--Monthly Update, Oct, Bombay
- Bandiera, G.C. Et al, 2000, "Does Financial Reform Raise or Reduce Savings?", Review of Economics and Statistics, May, 82(2).
- Cambell, Y.Y. & N.G.Mankiw, 1989, "Permanent Income, Current Income and Consumption" Harvard Economic Research Working Paper 1466, Harvard.
- Chandra, N. K. (1988), The Retarded Economies, OUP, Bombay
- Chandrasekar, C.P. et al (2001), "Capital Flows : Arresting Speculation and Volatility", Asian Exchange, Hongkong
- Chari , A & P.B.Henry(2002), "Capital Account Liberalisation : Allocative Efficiency or Animal Spirits?" NBER Working paper, W8908
- EPW Research Foundation, 1996, "High Cost of Funds Forces Industrial Slowdown", in Economic and Political Weekly, Aug. 10.
- Giovannini, G.,1995, "Saving and the Rate of Interest in LDCs", Journal of Development Economics, Vol. 18, p-197-217.
- Griffith-Jones, S.,et.al (ed)(2001), Short Term Capital Flows and Economic Crisis, OUP, Oxford
- Helleiner, G.K.(1998). "Capital Account Regimes and the Developing Countries : Issues and Approaches", In Helleiner, 1998b
- Helleiner, G.K.(ed.)(1998b), Capital Account Regimes and Developing Countries Macmillan, London
- Helleiner, Eric,(1994), States and the Reemergence of Global Finance, Cornell University Press, Ithaca
- Khanna , S. (1999), "The Financial Reforms and Industrial Sector in India" Economic & Political Weekly Nov. 7, Bombay
- McKinnon, R. I., 1973, Money and Capital in Economic Development, Brookings Institute, Washington
- Obstfeld ,M.& Alan. M.Taylor(2001), "Globalization and Capital Market", NBER, Washington
- Park, Y.C. and Chi-Young Sung(1998), "Managing Foreign Capital Flows : The Experience of the Republic of Korea, Thailand, Malaysia and Indonesia", in Helleiner, 1998b.
- RBI, 2001, Handbook of Statistics on Indian Economy,
- RBI, 2002, Annual Repot, Various, Bombay
- Reddy , Y.V.(1999), "Managing Capital Flows", Reserve Bank of India Bulletin, Jan.
- Reddy , Y.V.,2002, "Monetary and Financial Sector Reforms in India: A Practitioner's Perspective" presented at the Indian Economy Conference, Program on Comparative Economic Development (PCED) at Cornell University, USA, on April 19-20, 2002
- Renhart, C.M. and I. Tokatlidis,(2001), "Before and After Financial Liberalisation", World Bank Conference on Financial Globalisation, (http://www.worldbank.org/research/conferences/financial_globalization.htm)
- Rodrik , Dani(1998), "Who needs Capital Account Convertibility" in Peter Kenen, (ed) Essays in International Finance Princeton
- Saha, B. 2001,"Foreign Investment, Financial Markets and Industry: India in the 1990s," doctoral dissertation submitted to Indian Institute of Management Calcutta.
- Shaw, E. S., 1973, Financial Deepening in Economic Development, OUP, New York.
- Shiirai , Sayuri, (2002), Road from State to Market -- Assessing the Gradual Approach to banking Reforms in India, ADB Institute Research Paper 32, Tokyo
- Shiirai , Sayuri, (2002), Have India's Financial Market Reforms Changed Firms' Corporate Fianancing patterns?, ADB Institute Research Paper 38, Tokyo
- Singh A. (2002), "Corporate Financial Pattern in Industrializing Economies", IFC Technical Paper #2
- Singh , A.(2000), "Corporate Financial Structures in Developing Countries", IFC, Technical Paper # 1

Stiglitz ,J.E.(2000), "Capital Market Liberalisation, Economic Growth and Instability", World Development, 28,6

Subrahmanian, K. K., et al, 1996, "Foreign Collaboration Under Liberalisation Policy: Pattern of FDI and Technology Transfer in India Since 1991", Development Research Group paper # 14, RBI, Bombay
Tarapore, S.S.,1997, Report of the Committee on Capital Account Convertibility. Reserve Bank of India, June

Varaiya , N. and R. A. Kerin,(1987) " The Relationship Between Growth, Profitability and Firm Value", Strategic Management Journal Vol. 8, 487-497

World Bank,(1997), Private Capital Flows to Developing Countries : The Road to Financial Integration

Table 1:	India: Foreign Investment Inflows					(mill US \$)	
Year	Direct Investmt	Cumulative FDI	Portfolio Investmt	Cumulative Portfolio Invmt	Annual Total	Cumulative	
	(A)	(B)	(C)	(D)	(E = A+C)	(F = B+D)	
1990-91	97	97	6	6	103	103	
1991-92	129	226	4	10	133	236	
1992-93	315	541	244	254	559	795	
1993-94	586	1127	3567	3821	4153	4948	
1994-95	1314	2441	3824	7645	5138	10086	
1995-96*	2144	4585	2748	10393	4892	14978	
1996-97*	2821	7406	3312	13705	6133	21111	
1997-98*	3557	10963	1828	15533	5385	26496	
1998-99*	2462	13425	-61	15472	2401	28897	
1999-00*	2155	15580	3026	18498	5181	34078	
2000-01*	2339	17919	2760	21258	5099	39177	

Source : RBI: Annual Report, 2002

Table 2: India: Composition of Capital Inflows (US \$ million)

Variable	2001-02	2000-01	1999-00	1998-9	1997-8	1996-97	1995-96	1994-95	1993-94
Total Inflows (net)	9545	9023	10444	8435	9844	12006	4089	8502	8895
of which: (in per cent)									
Non-debt Creating Inflows	62.1	56.6	49.7	28.6	54.8	51.3	117.5	57.9	47.6
a) Foreign Direct Investment	40.9	26	20.7	29.4	36.2	23.7	52.4	15.8	6.6
b) Portfolio Investment	21.2	30.6	29	-0.8	18.6	27.6	65.1	42.1	41
Debt Creating Inflows	14.8	69.3	23.1	54.4	52.4	61.7	57.7	25	21.3
a) External Assistance	12.6	4.7	8.6	9.7	9.2	9.2	21.6	17.9	21.4
b) Ext. Commercial Borrowings #	-12	44.5	3	51.7	40.6	23.7	31.2	12.1	6.8
c) Short-term Credits	-9.3	1.2	3.6	-8.9	-1	7	1.2	4.6	-8.6
d) NRI Deposits \$	28.9	25.7	14.7	11.4	11.4	27.9	27	2	13.5
e) Rupee Debt-Service	-5.4	-6.8	-6.8	-9.5	-7.8	-6.1	-23.3	-11.6	-11.8
Other Capital @	23.1	-25.9	27.2	17	-7.2	-13	-75.2	17.1	31.1
Total (1 to 3)	100	100	100	100	100	100	100	100	100
Memo Item :									
Stable flows *	88.1	68.2	67.4	109.7	82.4	65.4	33.7	53.3	67.6

Refers to medium and long-term borrowings.

Source : RBI, Annual Report, 2002

Table 3: India: Foreign Exchange Reserves and External Sector Indicators

Year	Foreign Reserves (US \$ million)			CAD/GDP (per cent)	Foreign Inv/GDP
	Foreign Currency Assets	Other Assets	Total		
1	2	3	4	5	6
1989-90	3368	594	3962	-2.3	0
1990-91	2236	3598	5834	-3.1	0
1991-92	5631	3589	9220	-0.3	0.1
1992-93	6434	3398	9832	-1.7	0.2
1993-94	15068	4186	19254	-0.4	1.5
1994-95	20809	4377	25186	-1	1.5
1995-96	17044	4643	21687	-1.7	1.4
1996-97	22367	4056	26423	-1.2	1.6
1997-98	25975	3392	29367	-1.4	1.3
1998-99	29522	2968	32490	-1	0.6
1999-00	35058	2978	38036	-1	1.1
2000-01	39554	2727	42281	-0.5	1.1
2001-02	54106	3340	54106	0.3	1.2

Source : RBI, Annual Report, 2002

Table 4: India: GNP Growth, Savings Rate and Gross Fixed Capital Formation

Year	GDS/GDP	GFCF/GDP	GNP Growth rate
1989-90	22	22.4	6.7
1990-91	23.1	22.9	5.5
1991-92	22	22	1.1
1992-93	21.8	22.4	5.1
1993-94	22.5	21.4	5.9
1994-95	24.8	21.9	7.2
1995-96	25.1	24.4	7.5
1996-97	23.2	22.8	8.2
1997-98	23.5	21.7	4.8
1998-99	22	21.2	6.4
1999-00*	23.2	21.6	6.2
2000-01*	23.4	21.9	3.9

Source : India, Economic Survey 2002

* Quick Estimates

Table 5: International Comparison – India and Major Stock Markets (Dec. 1999)

Particulars	USA	UK	Japan	Germany	Singapor e	Hongkon g	India*
No. Of listed cos	7,651	1,945	2,470	933	355	695	9,871
Market Cap (\$ mn)	16,635,114	2,933,280	4,546,937	1,432,190	198,407	609,090	280,619
Market cap ratio(%)	210	232	111	66	208	385	85
Turnover (S mn)	18,574,100	1,377,859	1,849,228	1,357,841	97,985	244,886	486,360
Turnover ratio %	124	52	53	108	67	51	245

Estimated for financial year ending March 2000
Source: S&P™s Fact book, 2000

Table 6: FIIs in Indian Stock Market

Year	Rs. Crore			Net	
	Gross Purchase A	Gross Sales B	Turnover C=A+B	Investmnt A-B	Investmnt \$ mill.
1993	2,661.90	66.8	2,728.70	2,595.10	827.4
1994	9,267.20	2,476.10	11,743.30	6,791.10	2164.8
1995	6,665.90	2,812.20	9,478.10	3,853.70	1191.4
1996	15,739.20	4,935.60	20,674.80	10,803.60	3058.2
1997	18,926.50	12,719.20	31,645.70	6,207.30	1746.7
1998	13,899.80	15,379.70	29,279.50	-1,479.90	-338
1999	37,211.50	30,514.70	67,726.20	6,696.80	1559.9
2000	77,666.60	71,155.40	148,822.00	6,511.20	1492.2
2001	56,799.20	43,506.50	100,305.70	13,292.70	2843.3
Total				55271.6	14545.9

SEBI Website

Table 7: Turnover of Collective Investment Vehicles: Indian Stock Exchanges

	<u>1998-99</u>	<u>1999-00</u>	<u>2000-01</u>	<u>2001-02</u>
A. Public Sector (I+II+III)				
i. UTI	25043	23199	24503	16570
ii. Bank Sponsored	1192	3572	6306	7571
iii. Institution Sponsored	1824	4075	7158	17921
B. Private Sector (I+II+III)				
i. Indian	5375	12406	37477	64815
Joint. Venture (JV)				
ii. Predominately Indian	5309	26189	39149	91635
iii. JV-Predominately Foreign	3666	31511	62193	123359
C. FIs	29280	67726	148822	100305
FII+Foreign Jt. Ventures (C+Biii)	32946	99237	211015	223664
Turnover of Stock Exchanges	1023382	2067031	2880990	895826
NSE Turnover	414383	839052	1339510	513167

Source : NSE, Indian Securities Market Review, 2002 & 2002

Table 8: Tobin's Q for 319 Companies With FII Investment

<u>Year</u>	<u>Sample Tobin's Q</u>
1991	2.100
1992	3.302
1993	2.421
1994	3.463
1995	2.394
1996	1.851
1997	1.601
1998	1.464
1999	2.278
2000	2.218
2001	1.525

Table 9 : Changes in Financial Assets/Liabilities of The Household Sector (per cent)

Year	Bank Dep	Non- Bank Dep	Life Insrnce Fund	Provint & Pension	Claims on Govt	Shares & Deb	UTI	Trade Debt (Net)	Total Fin Asset	
1989-90	15.87	29.00	3.81	9.15	19.71	14.01	5.50	4.52	-1.58	100.0
1990-91	10.61	31.88	2.18	9.50	18.94	13.38	8.44	5.84	-0.77	100.0
1991-92	11.99	26.23	3.26	10.29	18.37	7.12	9.99	13.35	-0.61	100.0
1992-93	8.17	36.73	7.51	8.85	18.44	4.83	10.22	6.98	-1.74	100.0
1993-94	12.19	33.06	10.63	8.71	16.72	6.30	9.18	4.29	-1.09	100.0
1994-95	10.94	38.37	7.94	7.81	14.72	9.06	9.26	2.69	-0.79	100.0
1995-96	13.29	32.12	10.61	11.17	17.97	7.71	7.11	0.21	-0.20	100.0
1996-97	8.61	32.11	16.39	10.17	19.17	7.43	4.18	2.38	-0.45	100.0
1997-98	7.44	43.15	3.92	11.30	18.79	12.90	2.60	0.35	-0.45	100.0
1998-99	10.42	36.09	3.65	11.17	22.11	13.46	2.68	0.90	-0.49	100.0
1999-00	8.53	36.94	2.60	11.75	22.43	11.86	5.61	0.74	-0.46	100.0
2000-01	6.38	41.33	3.39	13.02	20.38	13.15	3.24	-0.51	-0.38	100.0

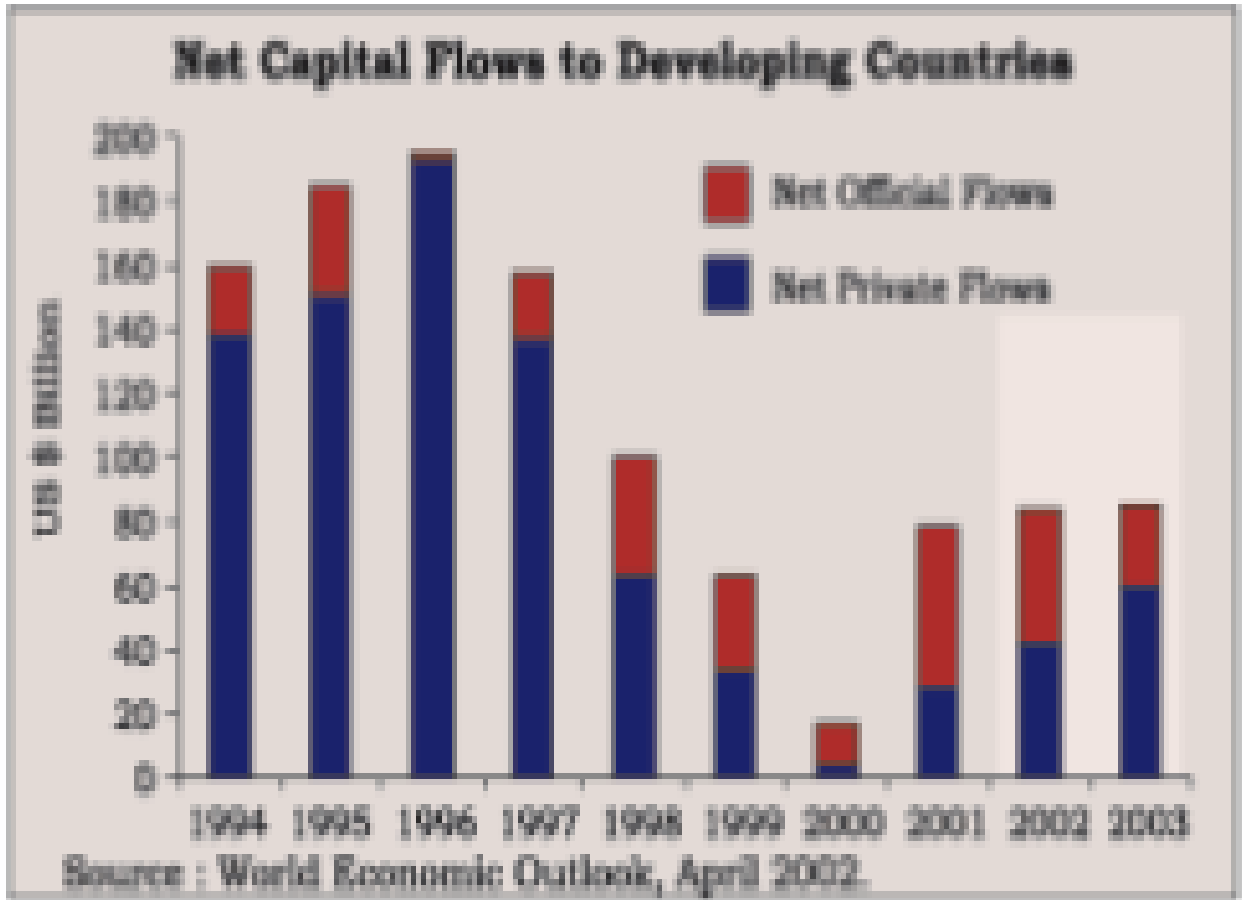
Source : RBI, Handbook of Statistics on Indian Economy, 2001

Table 10: Sources of Funds for Corporate Sector

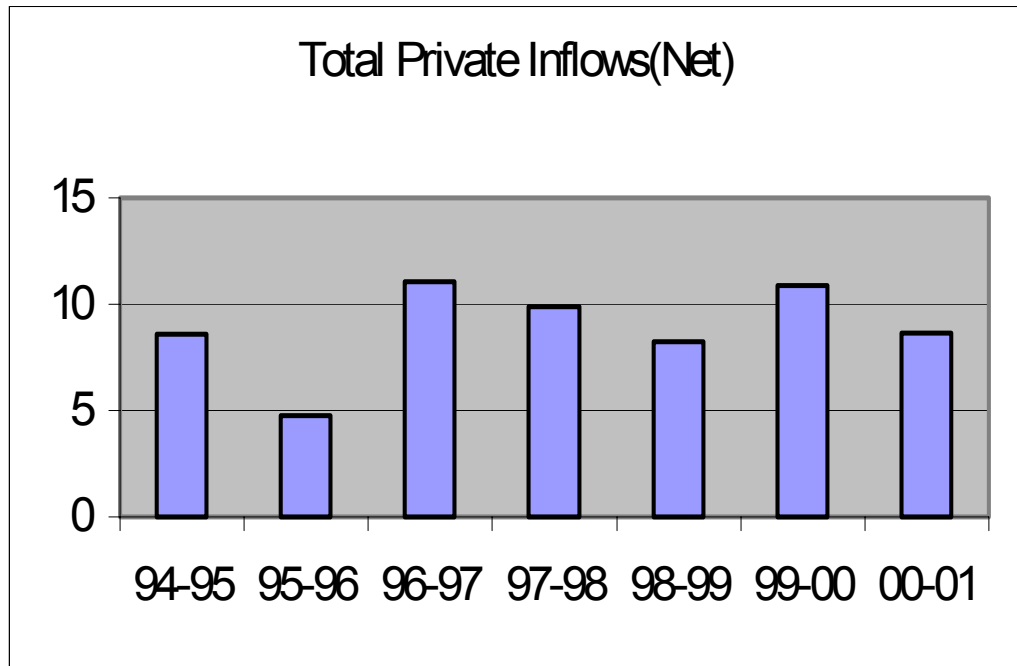
	Sources of Funds						
	Internal	Retained	Deprec-	External	Capital	Bank/FI	Curr.Liab.
Year	Sources	Profits	ation	Sources	Market	Borrowin	& Prov
1990-91	36.32	16.2	20.12	63.68	13.2	24.9	25.58
1991-92	29.5	14.17	15.33	70.5	17.84	28.54	24.12
1992-93	23.77	11.3	12.47	71.23	31.65	27.07	12.51
1993-94	28.82	17.76	11.06	71.18	46	4.22	20.96
1994-95	25.3	14.4	11	74.7	34.7	21.8	18.1
1995-96	28.3	15.8	12.5	71.7	15.2	31.7	24.7
1996-97	25.7	7.8	18	74.3	15.2	40.1	19
1997-98	30.2	8.3	21.9	69.8	20.7	32.3	16.9
1998-99	36.3	6.3	30	63.7	11.1	18.4	34.2

Source : CMIE

Chart I : Private Capital Inflows to Developing Countries

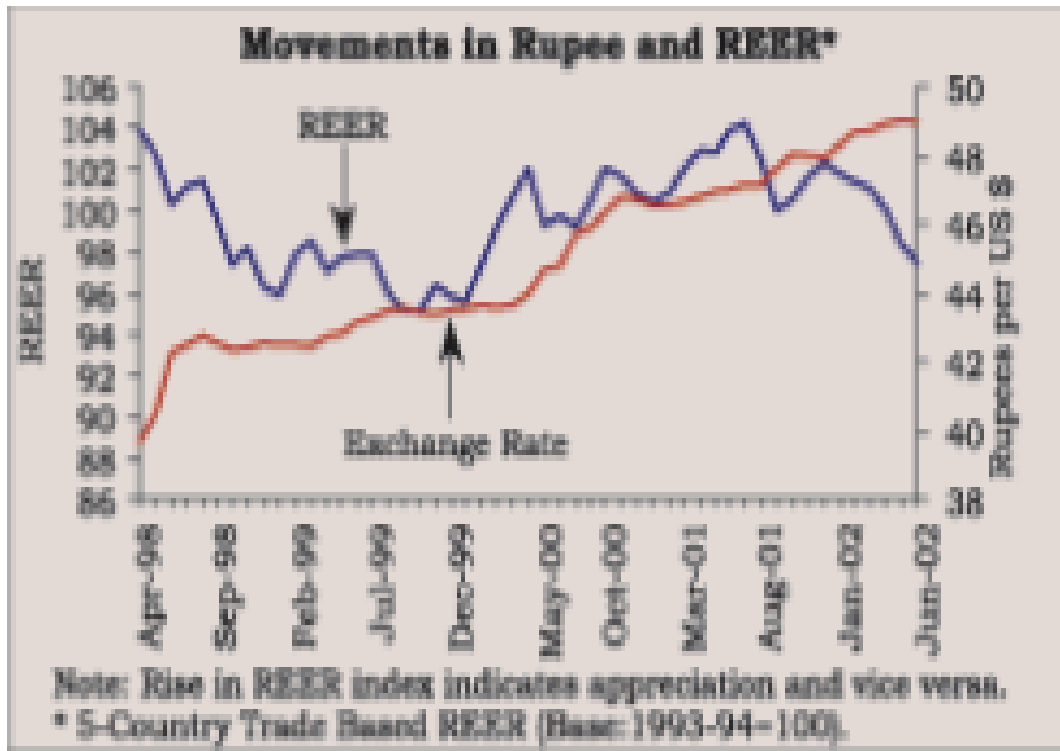


Source : IMF, World Economic Outlook, 2002.

Chart II India: Private Capital Inflows 1994-2001

Source : RBI, Annual Report, 2002.

Chart III: Rupee Value : REER and Nominal Exchange Rate



Exchange rate & Interest rates

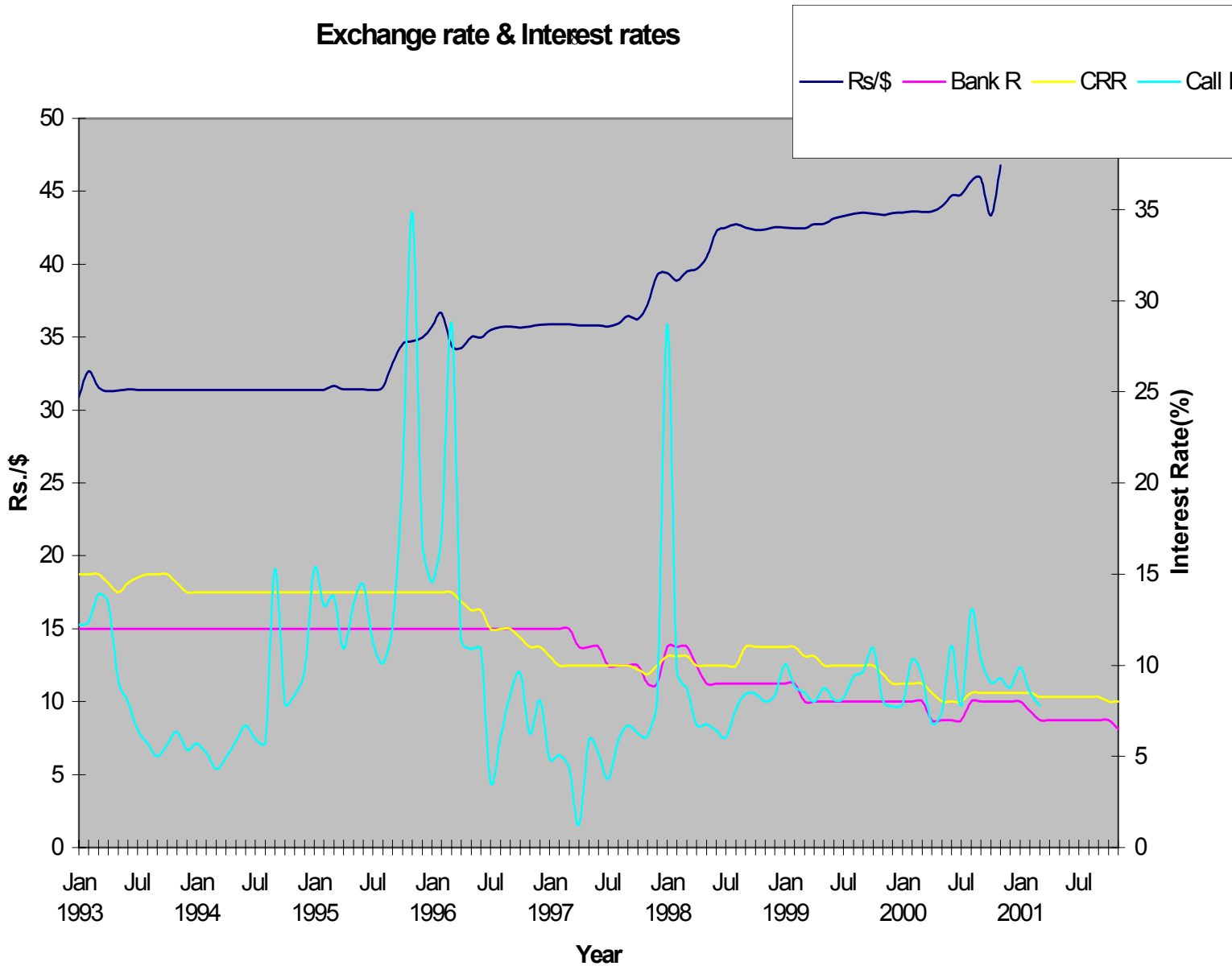


Chart IV : Exchange Rates, Interest Rates & CRR : India 1990s

Depreciation Episode 97-98

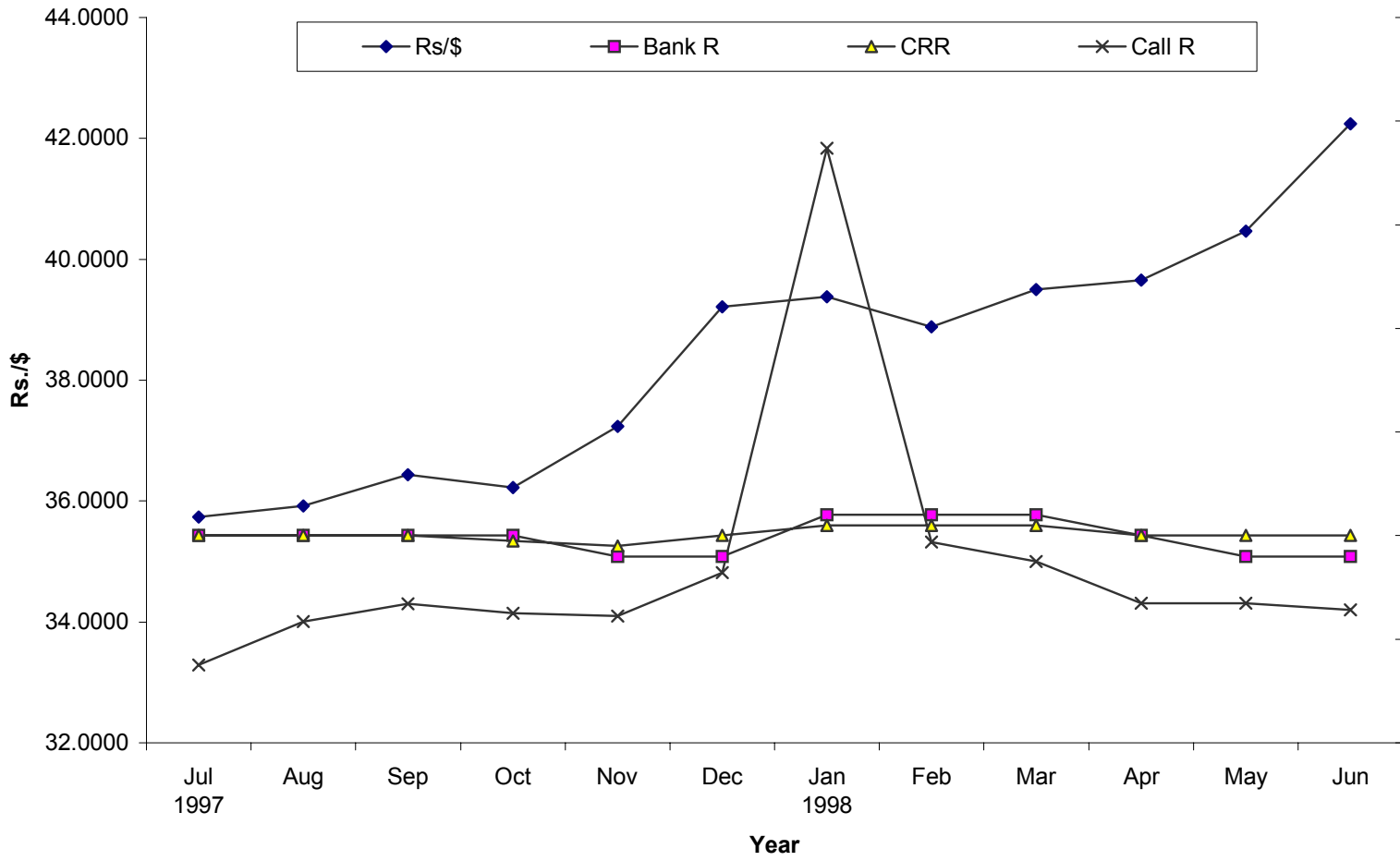


Chart V: Depreciation Episode 1997-98

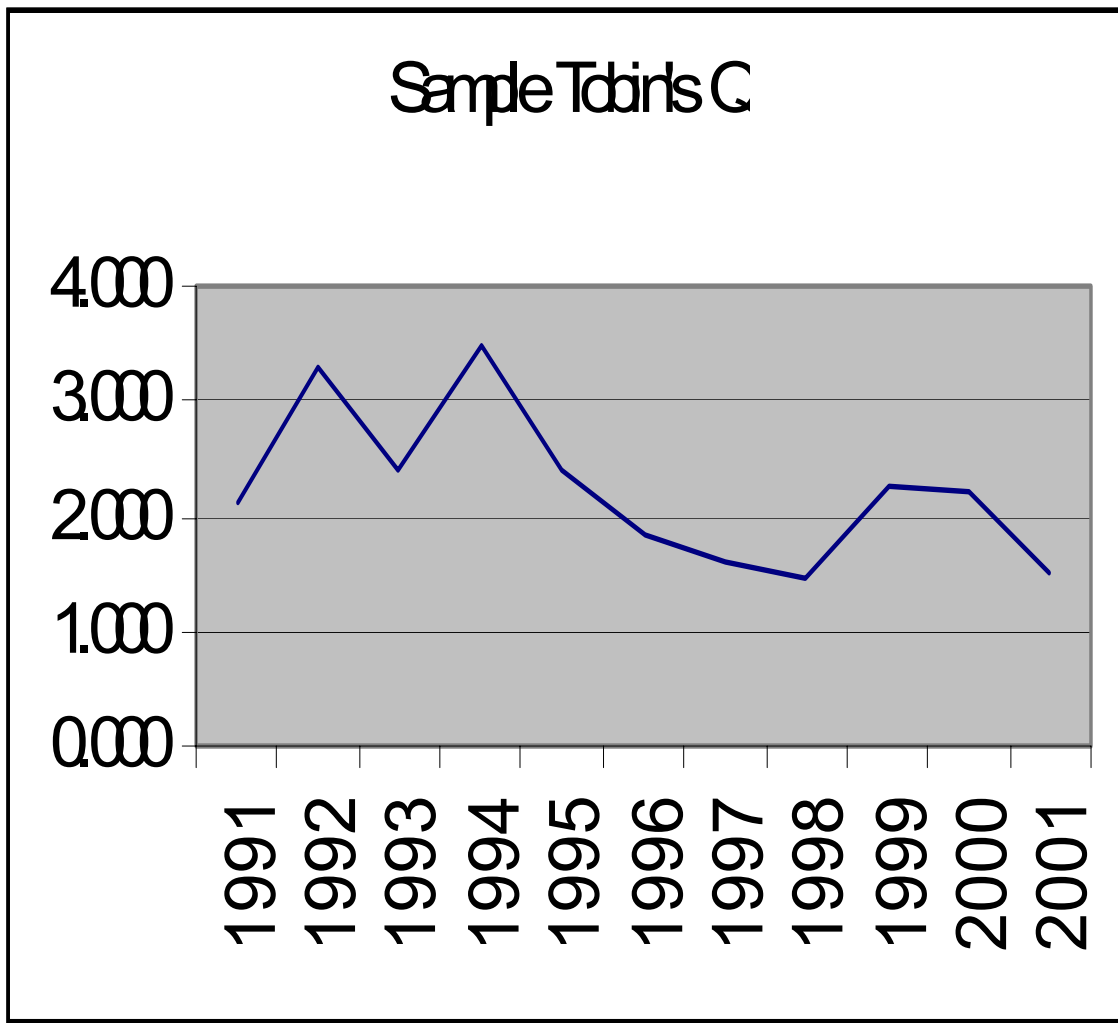


Chart VI : Tobin's Q for Selected Indian Companies with FII Investment

