Impact of Capital Controls on Direct and Portfolio Investment: An Indian Perspective

Mahua Dutta* & Anjala Kalsie**

Abstract

This paper attempts to study the impact of capital controls on the foreign flows particularly Foreign Direct Investment and Foreign Portfolio Investment. Capital controls restricts the locals from acquiring foreign assets (capital outflow) and/or restricting foreigners from acquiring local assets (capital inflow). Prior to 1991, India's capital account was closed to most transactions. Initial liberalization focused on Foreign Direct Investment and Foreign portfolio investment. Since the mid-1990s, the stated aim has been to move toward full convertibility. Progress on liberalization has been slow but steady, and generally structured. Various measures have been undertaken to open India's economy to foreign investment by relaxing the capital controls earlier imposed on foreign flows. Economies with more extensive capital restrictions have had more success in avoiding external imbalances and pressures (India during the Asian financial crisis 1997). However, even a restrictive regime is no guarantee of immunity (the Indian crisis of 1991-92 is a good example). This motivates, to study the impact of capital controls on the foreign flows in India. The above mentioned objective was achieved by creating a variable of capital controls for India and finding its correlation with the foreign flows for the period 1997-2007. After finding the correlation an attempt is made to measure the associative relationship between the variables through regression analysis. It was found from the analysis that there is a significant relationship between capital controls and foreign flows.

Key words: Capital Controls, Foreign Direct Investment (FDI), Foreign Portfolio Investment (FPI), Net Commercial Borrowing, Net Short term loan.

Introduction

Capital controls are Government policy of restricting locals from acquiring foreign assets (capital outflow) and / or restricting foreigners from acquiring local assets (capital inflow). Capital outflow is the increase in the amount of money available from internal or local sources for the purchase of extra capital inflow. Controls of the capital flows take the form of restrictions on the assets transactions or restrictions on payments related to the acquisition of assets. Restrictions on assets transactions include direct capital controls, such as quantitative limits or prohibitions of certain transactions by imposing minimum maturity limits. Restriction on payment or Price-based capital controls take the form of taxes or reserve requirements. Direct controls have been used by Brazil by prohibiting some non-resident transactions (inflows to future and option markets) in 1995, and Chile's one year minimum maintenance period for non-resident capital inflows. These countries also used price based controls. In general there are two ways of laying down controls. First, the items prohibited and/ or restricted

are specified and everything else is allowed. Second, whereby everything is prohibited and / or restricted, except the items specifically stated as allowed or allowed subject to fulfillment of some conditions. India's case confirms to the second category. Indian economy is one of the fastest growing economies in the developing world today and, along with China, is considered as the happening emerging market in current times. In a recent survey by UNCTAD focusing on Transnational Corporations (i.e. primarily FDI), India ranked among the top three most attractive global business locations besides China and United States. Foreign Investment is in two forms, Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI). FDI is a component of country's national financial accounts, which is a investment of foreign assets into domestic structures, equipment and organizations. It is very much concerned with the ownership and operation in the host country. FPI on other hand gives the investor, a non-controlling interest in the company like, investment in securities on the stock exchanges of a foreign country or under the global depository receipt mechanism. It is

* Assistant Professor, Fortune Institute of International Business, New Delhi.
** Assistant Professor, Fortune Institute of International Business, New Delhi.

often said that even in case of FDI, if a company acquires around 10 per cent of the equity in a foreign firm, it should be treated as foreign portfolio investment as the investing or acquiring firm does not have a say in the affairs of the target company.

Capital flows are also in the form of Commercial Borrowing and Short term loan. Commercial Borrowing include commercial bank loans, buyer's credit, supplier's credit, securitized instruments such as floating rate notes, fixed rate bonds etc, credit from official export credit agencies, debt funds and borrowings from the private sector window of multilateral financial institutions. Corporate are free to raise Commercial Borrowing from any internationally recognized source such as banks, export credit agencies, suppliers of equipment, foreign collaborators, foreign equity holders, international capital markets etc.

Short term loans are given by lenders in money or property form to a borrower for a year or less than a year, where a borrower agrees to return the property or money, usually along with interest, at decided future points in time.

There has been a pronounced shift in the arena of capital flows – in the form of direct investment and portfolio investment in India. Since the opening up of India's economy under the structural adjustment program of the IMF, adopted in 1991 and the consequent significant transitions in several policies and programs of the Indian government, various measures have been undertaken to open India's economy to foreign investment and earlier restrictions have been relaxed. The decision was to create a dual route for inflows. First, automatic approval for FDI with up to 51 per cent equity in selected high priority industries was introduced, subject only to a registration procedure with the RBI, second, consideration for all other proposals for FDI, where approval was not constrained by pre-determined parameters and procedures was taken up by a Foreign Investment Promotion Board constituted for this purpose. The outflows associated with FDI continued unrestricted as before. Since, 1991, liberalization process has been slow but steady, and generally constructed. However, Asian financial crisis slowed down the momentum. Capital account also remains relatively closed, because of lack of stock market correlation and interest arbitrage.

A restrictive regime is not a guarantee of immunity (eg: the Indian Crisis of 1991-92). However, it was observed that economies with more extensive capital restrictions had more success in avoiding external imbalances and pressures (e.g. China and India during the Asian Financial crisis of

1997).The reason was that they did not have an open capital account and therefore had not imported a lot of capital that could flee when investors panicked. A new study by the IMF suggests that capital controls, where countries seek to limit the flow of foreign investment in and out of their borders may prove useful in managing the specific risks associated with international capital flows. Capital controls effect the domestic currency, equity and debt market. Allowing foreigners in debt markets onshore creates flow volatility. So, some capital control measures can be taken without getting into debate of desirability of capital flows and volatility.

A common view is that capital account liberalization leads to the development of financial markets that channel funds to borrowers with the most productive investment opportunities. It is believed that the removal of capital controls allows domestic and foreign investors to engage in more portfolio diversification, thereby reducing the cost of capital, and increasing the availability of funds.

Literature Review

There have been various studies to see the effect of capital controls on foreign inflows in different countries and in different time period. The study on the experience with large-scale and sustained capital inflows in Chile, Colombia, Indonesia, Korea, Spain, and Thailand finds that although classical sterilization operations can be effective for a time, the use of supplementary measures, including some indirect capital controls, may also be both desirable and effective. This also signifies that these measures are usually most effective when imposed in the less distorting form of a tax rather than in outright restrictions on the quantity of capital flows. (Jang-Yung Lee; 1997). It was also seen that corruption relieve foreign investors of the burden of taxes and capital controls, indicates that taxes and capital controls have negative, statistically significant, and quantitatively large effects on foreign investment (Wei,Jin ;Shang:1999).

Capital controls may work for small select countries and also during a short period of time, but most developing countries have found them as a quick route to sharp reduction in lending from international capital markets. Therefore, any type of protections should be no more than a temporary measures that provides time to create the proper policy framework of these countries, in order to enable them to face all kinds of shocks when dealing in the international market (Pontes, Maria, Ana: 1999). Despite the widespread use of capital controls, India has experienced several

balance of payment crises. The results indicate that India's inter-temporal budget constraint is satisfied and that the path of its current account imbalances is sustainable, with some support for the optimality (given capital controls) of its external borrowing (Callen,Timothy;2002). While more open financial markets can contribute to economic development, it is the openness of financial markets that can make developing countries more vulnerable to financial disruptions (Kaminsky and Schmukler, 2001a,b, 2002 and Schmukler 2003).

The impact of capital controls on FDI varies by region and has changed overtime. In the 1970s and 1980s, none of the policies had an impact on FDI, whereas in the 1990s, it had a significant effect. Furthermore capital controls has no effect on FDI to Sub Saharan Africa and the Middle East, but affects FDI to East Asia and Latin America adversely. (Asiedu, Elizabeth; Lien,Donald D: 2003).The study on financial development and financial liberalization in Asia found that a higher level of financial openness spurs equity market development only if a threshold level of legal development has been attained, a condition prevalent particularly among emerging market of Asia. On the issue of sequencing, trade openness is found to be a pre requisite for successful' inducement of financial development via capital account liberalization (Ito, Hiro:2005). The impact of host countries, capital controls and liberalization process on the U.S. multinational firms face 5.25 per cent higher interest rates on local borrowing than do affiliates of the same parent borrowing locally in countries without capital controls. Capital control liberalizations are associated with significant increase in multinational activity – property, plant and equipment grows at 6.9% faster annual rates following liberalizations. The combination of the costliness of avoidance and higher interest rates discourages investment in countries with capital controls, and this effect is reversed upon liberalization of controls (Desai,Mihir;Foley,Fritz;Hines,James:2005).

Capital controls on Inflows, however, seem not to reduce the volume of net flows (and hence, the current account balance). In Malaysia, controls reduce outflows, and may give room for more independent monetary policy (Magud,Nicolas; Reinhart, M.,Carmen: 2006). As long as capital flows to emerging markets remain volatile and potentially disruptive, the discussion of capital controls in academic and policy circles will remain alive and hence there is a real need, to evaluate their effectiveness, however defined.(Magud,Nicolas; Reinhart, M.,Carmen: 2006).

Objectives of the Study

The main objective of the study is to see the impact of capital control on foreign inflows especially, direct and portfolio investment. It also tries to highlight the effect on external assistance, commercial borrowing and short term loan.

Research Methodology

Our aim is to analysis the impact of capital control on capital flows, which is a complex web of threads. To test whether there is any relationship between the capital flows and capital control, we have constructed a variable which will measure the capital controls numerically. The problem with such a measure is that the value of capital control within the country does not vary over a period of time, as the countries do not change the control measures frequently. The earlier studies which had created the index of capital controls have calculated it for various countries across the various parameters. In their studies the index of capital control within the countries does not vary very much over a period of time. It is quite logical as the status of each country under IMF Articles of Agreement does not change frequently. It was seen in these studies that panel data was used to construct an index which measures the capital control. However, some of the studies have also used the dummy variable approach to study the impact of capital controls on foreign flows; again they have used panel data approach.

Here we want to analyze the impact of capital control on capital flows empirically. For this the following procedure is adopted:

1. We have constructed a variable to measure capital control on the basis of parameters which are significant and supported by literature.
2. Then, we have measured the correlation between the capital controls and foreign flows.
3. After that we have measured the relationship between capital controls and foreign flows, through regression analysis.

The data for the FDI, FPI, net commercial borrowing and net short term loan were taken from the Economic Surveys published by Government of India Ministry of Finance Economic Division. For analysis purpose the data is taken from the year 1997 to 2007. For constructing the variable on capital control the relevant information was taken from

the IMF Annual Report on Exchange Arrangement and Exchange Restrictions.

In the procedure of estimation standard error may be large therefore the statistical significance of the coefficients may be adversely affected. Therefore we take 10% level of significance and not 5%. We have taken the base as p value for testing the level of significance and interpretation of results.

If one looks into the India's position in the IMF Annual Report on Exchange Arrangement and Exchange Restrictions (various issues) one will notice that on various parameters the situation does not changes frequently. In the IMF Annual Report on Exchange Arrangement and Exchange Restrictions the parameters like exchange arrangement, arrangements for payment and receipts, resident account, non resident account, imports and imports payment, exports and exports payment like repatriation requirements, surrender requirements have undergone minor changes over the period from 1997- 2007. Similarly, payments for invisible transactions and current transfers, capital transitions like controls on capital and money market instruments, controls on derivatives and others instruments, controls on credit operations, controls on direct investment, control on liquidation of direct investment, control on real estate transactions, controls on personal capital movements, provision specific to institutional investors etc. were present over the same time period with minor changes in some items.

The final parameters which we have considered for measuring capital control were as follows:
1. Control on capital and money market instruments.
2. Control on direct investment.
3. Control on real estate transaction.
4. Controls on personal capital movements.
5. Provision specific to institutional investors.

We have assigned the above parameters a value of 0 to 5 where 0 means no control and 5 means all the controls were present for the period 1997- 2007. The capital controls were high in the initial periods of linearization and it decreases with the passage of time.

Correlation analysis is a statistical tool used to describe the degree to which one variable is linearly related to another. Often correlation analysis is used in conjunction with regression analysis to measure how well the regression line explains the variation of the dependent variable. Correlation is used to measure the degree of association between the two variables.

Cor (Xt,Yt)
t = Time Period, t =1997, 1988 ,1999,......2007.
Regression analysis is used primarily for the purpose of prediction. The goal in regression analysis is to develop a statistical model that can be used to predict the values of a dependent variable (in our case FDI and FPI) based on the values of explanatory variable (capital controls).

$$FDIt = a + b1CCt + e \qquad (1)$$
$$FPIt = c + b2CCt + e \qquad (2)$$

FDI = Foreign Direct Investment
FPI = Foreign Portfolio Investment
a = Intercept of the FDI equation
b1 = Slope of the Capital Control in equation 1
c = Intercept of the FPI equation
b2 = Slope of the Capital Control in equation 2
t = Time period from 1997- 2007.
e = error term.

Statistical Articulation

Various foreign flows like foreign net direct investment, net foreign portfolio investment net external assistance, net commercial borrowing and net short term loan are reported in Chart: 1. If we observe the trend of FDI and FPI over the period of time from 1997- 2007, we observe that both these flows have increased over a period of time but the capital control measures as such has not changed drastically over the same time frame.

Chart 1: Analysis of Foreign Flows in India
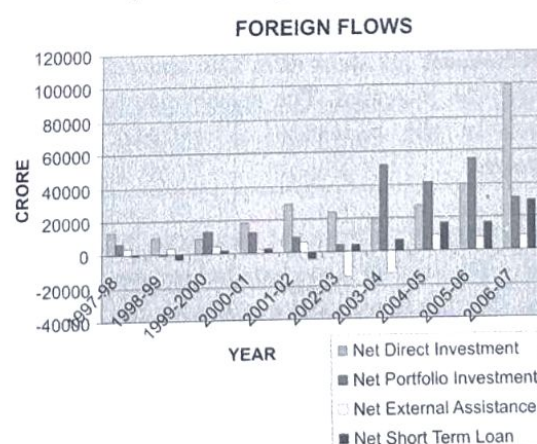
No doubt there has been a shift in the arena of capital flows, from earlier policy regime of official and commercial borrowings to private capital flows – in the form of FDI and portfolio investment. Since the opening up of India's

41

Table 1: Trends in Foreign Flows in India					(Rs. crores)
Year /Rs. Crores	Net Direct Investment	Net Portfolio Investment	Net External Assistance	Net Commercial Borrowing	Net Short Term Loan
11997-98	13193	6768	3463	14558	-530
1998-99	10388	-219	3484	18557	-3116
1999-oo	9396	13105	3915	1360	1633
2000-01	18404	12612	2080	20194	2286
2001-02	29245	9616	5819	-7543	-3765
2002-03	24397	4675	-14863	-8263	4670
2003-04	19830	51898	-12553	-13274	6679
2004-05	26947	41419	8993	24149	16957
2005-06	39457	55357	7876	11610	16300
2006-07	99261	31630	8027	73950	30096

Source: Details of the year 1997-2000, Economic Survey 2004-05, Balance of payment, 6.4 (A), A-76. Figures of the year 2000-07, Economic survey 2007-08, Balance of payment, 6.4 (A), A-76.

economy under the structural adjustment program of the IMF, adopted in 1991 and the consequent significant transitions in several policies and programs of the Indian government, various measures have been undertaken to open India's economy to foreign investment and earlier restrictions have been relaxed. Table: 1 show that there is no dramatic change in the various flows for the period 1997- 2001. In the year 1998-99 and also 1999-00 there was a dip in the FDI flows. But after 2000-2001 onwards there has been an increase in the FDI flows .Capital flows into India have surged in recent years, especially since 2003.

In the case of net FPI one will observe that these flows are more volatile in nature, dipping in year 1998-99 and again rising in the subsequent year. The nature of net commercial borrowing and net short term loan has been volatile particularly from 1997-98 to 2000-03. Whereas, from 2003-04 onwards net short term loan and net commercial borrowing has increased. The reason may be due to the relaxation in the regulation of external commercial borrowings.

One can observe that from the data given in Table: 1 that although FDI and FPI flows has changed over a period of time the capital control measures as such has not changed drastically . Which is true, as the countries do not change the capital control measures drastically every year. The measures do changes over a period of time but gradually. For example FDI in various sectors has been allowed over a period of time and in some sectors it has been increased to a particular percentage. The same hold true for FPI. Countries maintained consistency on account of capital control measures. It is also necessary for gaining the confidence of the international investors.

Table 2: Correlation Between Capital Controls and Capital Flows	
Foreign Flows	Correlation between Capital Control and Foreign Flows
Net Foreign Direct Investment	-0.68296
Net Short Term Loan	-0-90062
Net Portfolio Investment	-0.86303
Net Commercial Borrowing	-0.42315

The correlation between various flows and capital controls was calculated in SPSS 14 and the results were reported in Table: 2. There is a negative correlation between capital controls and Foreign flows. The correlation between controls and FDI is -0.68 and it is significant at 5 percent. The association between FPI and controls is -0.86 and the same is significant at 1 percent. The correlation between net short term loan and capital control turns out to be highest amongst the capital flows which is -0.90 and significant at 1 percent. Table: 1 also supports this as the volatility is quite high in case of short term loans among all the capital flows considered in this study. It is not significant in case of net commercial borrowing although the sign of the coefficient is negative.

Table: 3 shows the result of correlation of paired samples calculated on SPSS 14. Overall the correlation between the pairs of various capital flows is positive. The reasons attributed for this is liberalization and openness of Indian economy. Correlation is high and significant between FDI and net short term loans. It may be due to the fact that as FDI increase the demand for working capital also increases and the same is meet through net short term loans and

net commercial borrowing. The correlation is also high between FDI and net commercial borrowing. FDI is the most attractive type of capital flows for India because of its lasting nature and also because it is considered a vehicle for transformation of the domestic production process through bridging the technological gap The management of net commercial borrowing has been guided by the overarching principles of prudent external debt management. This focus on keeping the maturities long and servicing cost low. Net commercial borrowings were approved within an overall annual ceiling that were revised upwards progressively and

negative in this case too. Indicating that controls adversely affect the FII. In case of net portfolio investment the value of adjusted r square is 71 percent which further supports the above result.

We have applied regression analysis by taking net commercial borrowing and net short term loan as dependent variable and capital control as independent variable:

$$NCB_t = c + b3CC_t + e \qquad (3)$$
$$NSTL_t = d + b4CC_t + e \qquad (4)$$

NCB = Net Commercial Borrowing
NSTL = Net Short Term Lending
c = Intercept of the NCB equation
b3 = Slope of the capital control in equation 3
d = Intercept of the NSTL equation
b4 = Slope of the capital control in equation 4
t = Time period from 1997- 2007
e = error term

Table 3: Paired Samples Correlations

Pair	N	Correlation	Significance Level
FDI & FPI	10	.351	.320
FDI & NCB	10	.776	.008
FDI & NSTL	10	.848	.002
FPI & NCB	10	.103	.776
FPI & NSTL	10	.659	.038
NCB & NSTL	10	.718	.019

subject to a hierarchy of priorities of projects/ sectors. The paired correlation is also high between net commercial borrowing and net short term loans.
We have run the regression equation mentioned in methodology section on E-Views taking FDI and FPI as dependent variables and capital control as independent variables for the time period 1997- 2007. The result of regression analysis was reported in Table: 4. It shows that in case of FDI capital control turns out to be significant as the p value is 0.0295. Indicating that capital controls do

It was found that the coefficient of capital control was negative in both the equations indicating that controls adversely effect the net commercial borrowing and net short term loan. In case of net commercial borrowing the coefficient of capital was not significant as the p value is 0. 22. In case of net short term lending the coefficient of capital controls is significant as the p value is .0004.
The regression analysis is applied on the log of FDI data to know the effect in terms of elasticity of FDI. For this log of the FDI was taken, and the same is used as a dependent variable. The explanatory variable is same as capital control.

Table 4: Result of Regression Analysis

	Coefficient	P- value	Intercept	P- value	Durbin-Watson Statistics
Foreign Direct Investment, Net	-28059.68	0.0295	151462	0.0119	1.285594
Foreign Portfolio Investment, Net Inflows	-27718.09	0.0013	143606.3	0.0005	2.722818
Net Commercial Borrowing	-16492.94	0.2231	85480.25	0.1587	1.423600
Net Short Term Loan	-15171.36	0.0004	73306.07	0.0004	1.745315
Log of FDI Net	-0.866304	0.0053	13.80675	0.0000	1.280578

impact the FDI flows. The sign of the coefficient of capital controls is also negative which is as expected since the capital controls measures restricts the FDI flows.

In case of net Portfolio Investment the coefficient of capital control turns out to be significant since the p-value is 0.0013. Again signifying that capital controls, adversely affect the FPI flows. The coefficient of capital control is

The coefficient of capital control was -0.866 and significant as p value is 0.0053. It is seen that if capital controls is reduced by 1 unit on a scale of 1 to 5 the FDI will increase by 86 percent. Elasticity of other capital flows cannot be calculated as some of the figures in the time series were negative. The logarithm transformation is used to overcome the problem of nonlinearity of the parameters. In Chart 2 we have plotted the residual from the regression analysis of

Chart 1: Residuals of Regression Analysis of FDI and Log of FDI
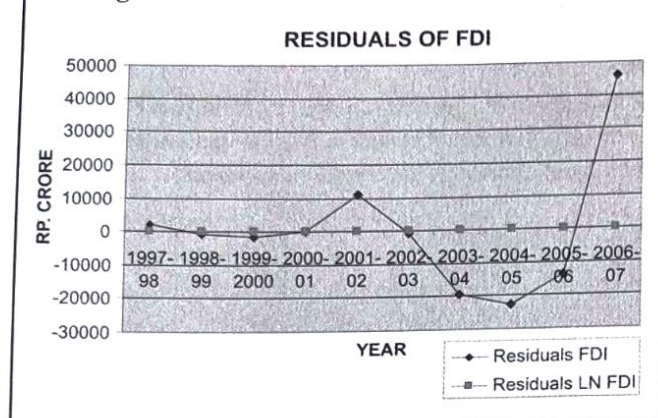
FDI and Log of FDI. The residuals are much smoother in case of log of FDI series as clear from Chart 2.

The Durbin-Waston test as reported in Table: 4 shows that there is auto correlation. The problem of autocorrelation is bound to be there since we are dealing with time series data. For example FDI in a particular year is bound to be effected by the FDI of the previous period to some extent as the business environment and the policies do not changes overnight. The same holds true for every foreign flows.

In our case we have taken only one explanatory variable i.e. capital control, but there are other variables also which effects the foreign flows. The present study does not consider all those variables. Since all the variables which effect foreign flows are not considered there is an observed pattern in residuals.

One should interpret the result of regression analysis with a word of caution. As the estimating equation is valid only over the same range as the one from the sample was taken initially. The estimating line cannot be applied over any range of values. Hence extrapolation beyond the range of the observed data is not possible as it will mislead the result.

Conclusions and Suggestions

One can conclude that capital control restricts the foreign flows, but they are not only the reasons to restrict foreign flows. In case of Foreign Direct Investment (FDI), business competitiveness index, trade restrictiveness index, financial openness, skilled manpower, bureaucracy index, corruption index etc, also play a major role in accelerating the inflow of foreign capital to a country. Similarly, Foreign Portfolio

investment (FPI) depends upon corporate performance, credit rating of the country, exchange rate, interest rate, inflation rate etc.

It is true, that foreign portfolio investments are volatile and any kind of such flows make the developing economies like India vulnerable to financial crisis. Hence, the capital controls are required to be imposed by developing nations to restrict the easy outflow of foreign portfolio investment and short term loan. At this point one should not forget that it was the capital control measures which saved India from the 1997 East Asian Financial Crisis. The effectiveness of capital control also varies across countries, time and types of measures like, limiting private external borrowing in the "good times" plays an important prudential role because more often than not countries are "debt intolerant".

Capital controls effect on FPI and short term loan is more compared to FDI and net commercial borrowing as FPI and short term loan are more volatile in nature. The infrastructure, stability in inflation, exchange rate and interest rate of the countries play a major role in sustaining the inflow of capital flows to a country. Developing countries like India should first strengthen their macroeconomic conditions by implementing appropriate policy measures before completely liberalizing the capital controls.

References

Ariyoshi, Akira, Karl, Habermeier and Bernard, Eurens (2000); Capital Controls: Country experiences with their use and liberalization; IMF Occasional Paper 190.

Arteta, C., Eichengreen, B and Wyplosz, C (2001); When does capital account liberalization help more than it hurts?; National Bureau of Economic Research Working Paper No. 8414.

Ana, Maria and Pontes, P G (1999); Capital flow and capital control; Minerva Program (Fall).

Bakker, Age and Bryan, Chapple (2002); Advanced country experiences with capital account liberalization; IMF Occasional Paper 214.

Calvo, G A and Reinhardt, C M (2000); Fear of Floating; NBER Working Papers No.7993.

Chinn, M D and Ito, H(2002); Capital account liberalization, institutions and financialdevelopment: cross country evidence; National Bureau of Economic Research Working Paper No. 8967.

Corsetti, G, Pesenti, P and Roubini, N (1998); Paper tigers? A preliminary assessment of the Asian crisis; National Bureau of Economic Research Working Paper Series No. 6783.

Desai, Mihir, Fritz, Foley, and James, Hanes (2004); Capital Controls, Liberalizations, and Foreign Direct Investment; National Bureau of Economic Research Working Paper 10337; March.

Desai, Mihir, Fritz, Foley, and James, Hanes (2005); Capital controls, Liberalizations and Foreign Direct Investment; Harvard NOM Working Paper No. 04-24; July.

Ishu, Shogo and Karl, Hakermeirer (2002); Capital Account Liberalization and Financial sector stability; IMF Occasional Paper 211.

Ito, Hiro (2005); Financial Development and Financial Liberalization in Asia:Thresholds,

Institutions and the Sequence of Liberalization; Portland State University; June- 20

Johnston, Barry and Natalia, Tamirisia (1998); Why do Countries Use Capital Controls?;

International Monetary Fund Working Paper 98/181; December.

Joshi, V (2003c); How to respond to Foreign Inflows; Business Standard; 17th July.

Khurana, Nishtha (2007); Crisis Prevention and Capital Controls in India: Perspectives from capital account in the current scenario; October.

Magud, Nicolas E, Carmen, Reinhart and Kenneth, Rogo (2005); Capital Controls: Myth and Reality - A Portfolio Balance Approach to Capital Controls; NBER working paper; November.

Magud, Nicolas and Carmen, M Reinhart (2006); Capital Controls: An Evaluation; NBER Working Paper 11973; January.

Mohan, Rakesh (2005); Financial Sector Reforms in India; The Chartered Accountant; Vol. 53 (8); February.

Quirk, Peter J and Owen, Evans1 (995); Capital account convertibility review of experiences and implications for IMF policies; IMF Occasional Paper 131.

Shah, Ajay (2005); India's Experience with Capital Flows: The Elusive Quest for a Sustainable Current Account Deficit; National Bureau of Economic Research; Working Paper 11387; May.

Shah, Ajay and Patnaik, Ila (2008); Managing capital flows: The case of India; Working Paper 52; NIPFP-DEA Research Program , National Institute of Public Finance and Policy; New Delhi.

Sharan, Vyuptakesh (2008); International Business: Concept, Environment and Strategy; Pearson Education (2nd Edition).

Tarapore committee (1997); Report of the committee on capital account convertibility; Reserve Bank of India ; Mumbai.