

## Special articles

# Capital Account Liberalisation Empirical Evidence and Policy Issues – I

*This paper documents trends in capital flows into India in a comparative perspective, examines the impact of these flows on key macroeconomic variables and discusses the implications for economic policy.*

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### I Introduction

The last decade has witnessed a tremendous increase in the mobility of international capital. Cross-country trends in capital flows reveal that private capital flows now dominate with official capital flows reduced to a trickle. Simultaneously, a rise in portfolio capital has tilted the composition of international capital flows towards short-term investments, exposing individual countries to enhanced volatility and sudden withdrawal risks. These have been driven both by strong trends towards globalisation, which has enabled pursuit of higher returns and portfolio diversification, and the market-oriented reforms in many countries, which have liberalised access to financial markets. Concurrent with these trends has been the rising incidence of financial crises, raising questions about linkages between the two. Concern has also been expressed as to whether the costs of increased vulnerability to financial fragility might not outweigh the gains from financial deregulation. Notwithstanding these doubts, most countries continue to progress in dismantling capital controls to integrate their financial markets with the rest of the world, albeit more cautiously.

These developments have stimulated a keen interest in understanding the nature and economic effects of capital flows as well as the appropriate policy responses to safeguard against financial instability that appears to be associated with international capital mobility. Capital flows affect a wide range of economic variables such as exchange rates, interest rates, foreign exchange reserves, domestic monetary conditions as well as savings and

investments. These issues are significant for India as it gradually opens its capital account as part of its broader financial liberalisation strategy. Before 1991, India had a closed capital account with capital mobility being restricted through administrative controls and outright prohibition. In the aftermath of the balance of payments crisis in 1991, India embarked upon an economic reform programme aimed at transforming the controlled economy into a market-driven one. Following changes in exchange rate regime as well as trade and investment policies' reform, there was a spurt in capital flows into the country between 1992-93 to 1997-98. Though the magnitude of these flows is relatively insignificant in a cross-country perspective, the pattern and composition of these flows conforms to trends observed in other emerging markets. India also shares some attributes with these emerging economies, a fact that enables a comparative assessment. For example, like many Asian and Latin American countries, which were at various stages of macroeconomic stabilisation and/or financial liberalisation, when capital started flowing into these economies towards the end of the 1980s, India is a liberalising economy too. Notable differences persist, for example, India exhibits far lower openness than these countries and still retains strict capital controls, specifically on outflows.

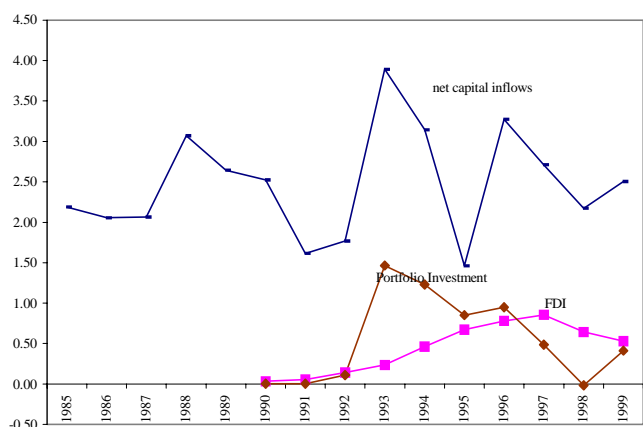
In the context outlined above, I attempt three things. First, I document trends in capital flows into India in a comparative perspective. Two, I examine the impact of these flows upon the key macroeconomic variables in the economy. Three, I dwell on implications for economic policy. Section II of this paper traces trends in capital inflows into India since the onset

of liberalisation, Section III assesses the impact of these flows on the real exchange rate, while Section IV discusses the policy implications and concludes.

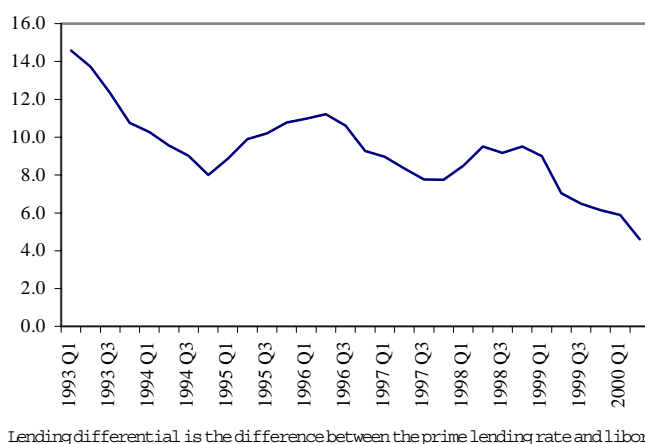
### I Trends and Composition of Capital Flows

Figure 1 plots the trends in net capital inflows (sum of FDI, portfolio, loans and resident Indian deposits) into India between 1985-98. The plot shows a recovery of net capital inflows that had begun to decline in the late 1980s and bottomed out in the 1991 crisis. Following liberalisation of restrictions on inward investment in 1991-92, there was a sharp increase in capital inflows between 1992-95 and 1996-97.<sup>1</sup> This is similar to the experiences of other emerging economies in Asia and Latin America, all of who typically experienced a rise in inward foreign capital following market-oriented reforms. The magnitude of capital flows into India is much smaller though; the peak level for India is 3.5 per cent of GDP in 1993-94, which is small when compared to other emerging markets. For instance, the peak levels are above 20 per cent for Malaysia, 13 per cent for Thailand, 10 per cent for the Philippines and almost 10 per cent for Singapore between 1990-93 [Glick 1998: 4-5].<sup>2</sup> Second, the swing in the capital account observed in the case of other emerging economies is not visible for India so far Khan and Reinhart (1995) estimate a change in the capital account from -2.4 per cent (GDP) on an average between 1984-89 to 1.6 per cent (1990-93) for ten Latin American countries and from 1.6 (1984-88) to 3.2 (1989-93) per cent (GDP) for eight Asian ones. Comparative

**Figur 3 1: Volume and Composition of Net Capital Inflows**  
(Per cent GDP) , 1985-99



**Figure 2: Lending Rate Differentials in the 1990s**



Lending differential is the difference between the prime lending rate and labor

figures for India are 2.3 (1985-89) and 2.4 (1993-98<sup>3</sup>) per cent of GDP, indicating only a marginal increase. This is probably explained by India's relatively late start in liberalising its trade and investment regimes, by which time the competition for international capital had already stiffened.

Though the magnitude of capital inflows into India is at variance vis-a-vis Latin America and other parts of Asia, there is a common pattern in the composition. World capital flows in the 1990s have displayed a steep decline in official capital flows and a rise in private investment, particularly portfolio capital. This trend is clearly reflected in Table 1 that profiles the composition of India's capital account over the 1980s and 1990s. The substantial contribution of aid towards the capital account in the 1980s dwindles steadily by the 1990s (excluding the IMF loan in 1991 and 1992). Official flows are replaced by private flows; a sharp increase in foreign investment, direct and portfolio, can be observed after 1992. Commercial borrowings abroad drop during the crisis years, resuming thereafter. Portfolio investment flows exceed direct investment (FDI) in the early years of liberalisation. The latter accelerates later, peaking in 1995 and falling thereafter. This feature contrasts with what is observed for the countries in the APEC region, where foreign capital was dominated by FDI after the opening of markets, with portfolio flows increasing only in the early 1990s. In a way, these movements reflect the global trends: global financial markets had changed substantially by the 1990s, with portfolio capital flows registering a sharp rise. More likely however, might be the process of liberalisation in India. While FDI procedures remained complicated and

discretionary, investment via the financial markets route was much faster and simpler. This might have tilted the composition of flows in favour of portfolio. A final feature of the table is the continued dependence upon migrants' remittances, after a short decline in 1993-94. It is important to highlight one distinguishing feature of the capital account in India during this period. This is the distinction between 'voluntary' and 'discretionary' flows. While FDI and portfolio investment are voluntary by nature, external commercial borrowings are discretionary, being monitored closely. The variation in external commercial borrowing suggests it might be the offsetting item in the capital account. It appears to adjust according to the movements in other components of the capital account as can be observed in the years 1992, 1998 and 1999.

The jump in foreign inward capital that India experienced after reform/liberalisation, as well as the composition of these inflows conforms to the evidence for other developing countries.<sup>4</sup> Two broad

explanations for this phenomenon have been offered in the literature. One viewpoint holds that the fall in US interest rates<sup>5</sup> between 1989-92, combined with cyclical recession in the US, Japan and many parts of Europe, drove world capital to developing countries in search of higher returns. The other view upholds the role of 'internal' or 'pull' factors such as credible economic reforms, improved macroeconomic performance and domestic policies that encouraged investor confidence and attracted foreign investment.<sup>6,7</sup> To what extent are these explanations valid for India?

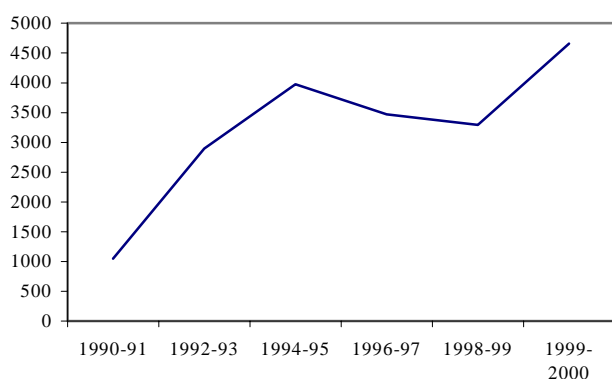
One way of probing the 'external factors' hypothesis is to examine comparative returns on domestic and foreign assets, noting that capital mobility will be guided by highest available returns. Due to lack of data availability on comparable assets, we compare interest rate differentials between India and the rest of the world. Figure 2 graphs the interest rate spread between the prime lending rate in India and Libor between 1993-2000. The interest

**Table 1: Composition of Capital Flows in India**  
(Percentage to total [net] capital flows)

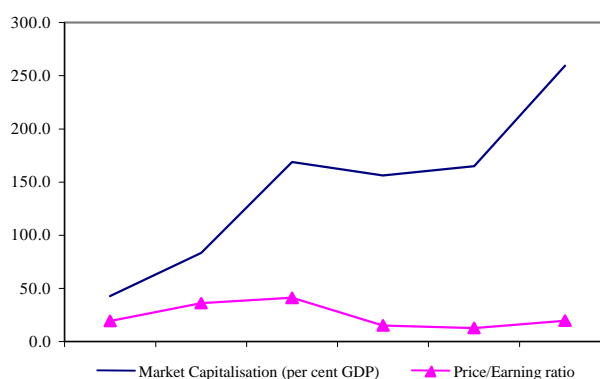
	Foreign Investment		NRI Deposits	External Assistance	Commercial Borrowings
	Direct Investment	Portfolio			
1985	0	0	16.3	30.3	21.1
1989	0	0	34.4	26.5	25.4
1990	1.3	0.08	21.4	30.7	31.3
1991	3.4	0.10	10.6	77.7	40.0
1992	8.0	6.2	51.3	48.4	-9.2
1993	6.0	37.6	12.4	19.6	6.3
1994	14.6	39.1	1.9	16.7	11.3
1995	46.0	58.3	24.5	21.5	29.2
1996	24.7	28.9	29.4	9.9	24.7
1997	36.1	17.8	11.5	9.2	38.8
1998	28.5	-0.7	20.9	9.9	53.0
1999	21.2	29.5	20.3	8.6	3.0

Source: Author's calculations based on figures from *Report on Currency and Finance, 1998-99*, RBI, Mumbai.

**Figure 3: BSE Share Prices Index, 1990-2000**



**Figure 4: Stock Market Prices, 1990-2000**



spread narrows rapidly from 1993, mainly because of a movement towards lower interest rates after deregulation rather than arbitrage. Foreign investors were allowed to invest in debt instruments in 1997 (subject to a 30 per cent ceiling on total investment) and government treasury bills in 1998. The relatively high differential rate of return on Indian assets possibly did attract capital inflows.

The timing of these flows however, suggests that internal or 'pull' factors were equally, if not more, important. Before 1991, Indian financial markets were closed, its trade and investment policies did not exactly encourage foreign direct investment and its credit-rating along with investor confidence had ebbed following the balance of payments crisis in 1991. Post-crisis however, market-oriented reforms were instituted by the government. The macroeconomic performance of the economy improved, as output growth recovered on a higher trajectory, the rate of inflation declined and debt/solvency indicators improved. External debt restructuring resulted in a decline of the short-term to total debt ratio from 10.2 in 1991 to 3.9 in 1994; as a ratio to reserves, short-term debt fell from 382.1 (1991) to 24.1 (1994) and further to 13.5 in 1998.<sup>8</sup>

Significant institutional, regulatory and policy changes impacting the external environment during this period were the switch to a flexible exchange rate regime,<sup>9</sup> consolidation of external debt, full convertibility of current account transactions, trade reforms,<sup>10</sup> liberalisation of investment policies relating to FDI and financial sector reforms. While the overall thrust of the reforms served to improve international investors' confidence, there is no doubt that specific measures to attract FDI and portfolio capital into India catalysed these inflows. These focused upon elimi-

nation of entry barriers and market integration. Foreign investment, which was permitted only in cases of technology transfer, was liberalised and the ceiling of 40 per cent on foreign equity participation was relaxed, procedures were greatly simplified. Elements of financial liberalisation that have a direct bearing upon portfolio investments were allowing foreign institutional investors to operate in the Indian capital market; these investments, initially restricted to equity, were subsequently relaxed to include debt, including government bonds.

Simultaneously, raising external resources abroad by domestic corporates was selectively liberalised.<sup>11</sup> These developments are partly reflected in the growing demand of institutional and private investors abroad, which has facilitated depository issues in the US and Europe and equity purchases by foreign institutional investors on the domestic stock exchanges (Table 2). Equity investment has been an important channel for portfolio inflows in other emerging markets too. Table 2 shows that the volume of bond issues has increased after 1991. These changes are consistent with evidence available for other emerging markets in Asia, where bond issues nearly quadrupled between 1989 and 1992 [Khan and Reinhart 1995:18] and continued to increase beyond this period.

The composition of foreign capital is by now well understood to make a difference in impact. Thus short-term or portfolio capital, which is subject to 'sudden reversal' and is, therefore, more volatile, renders the recipient country extremely vulnerable. Tentative evidence for India supports this hypothesis as portfolio flows are more volatile than FDI, as measured by the standard deviation of the two series. The standard deviation of portfolio investment

between 1990-99 is 5163.2 which is substantially larger than 4592.3 for FDI. The difference in volatility increases when measured at higher frequency, quarterly (1900.5 and 1226.9 respectively) as well as monthly (205.3 and 94 respectively).<sup>12</sup>

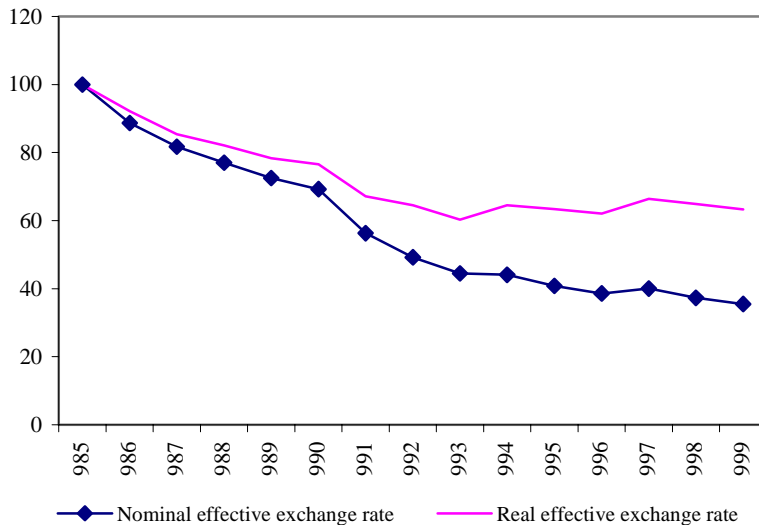
Portfolio flows also render the stock markets more volatile through increased linkages between the local and foreign financial markets. Preliminary evidence for India shows some support for this hypothesis as the co-movement between the share prices index and other stock prices' indicators during the capital surge of 1992-95 shows in Figures 1, 3 and 4. The rise in the share prices' index presumably contributed to the rise in market capitalisation and the price-earnings ratios during this period.<sup>13</sup> Simple correlation measures between portfolio capital flows and the BSE share price index is positively strong, 0.58. The price-earnings ratio is observed to be doubling between 1990-91 and 1992-93 and dipping sharply after 1995, when the flows subsided. A similar

**Table 2: International Bond and Equity Issues from India**  
(Billions of US\$)

Year	Global Depository Receipts	External Commercial Borrowings	Equity Investments by Foreign Institutional Investors
	(1)	(2)	(3)
1990-91	-	2.24	-
1992-93	0.09	-0.42	-
1994-95	1.97	1.04	1.54
1996-97	0.93	2.85	2.12
1998-99	0.51	0.85	-0.19

Source: Report on Currency and Finance, 1998-99. Data for FIIs includes both debt and equity. FIIs were allowed to invest in the Indian securities market only in September 1992, in debt instruments in 1997 (subject to an overall ceiling of 30 per cent of total investment) and in government treasury bills in 1998.



**Figure 5: Nominal and Real Effective Exchange Rates (1985=100)**

trend is observed for the period of inflows' boom in south-east Asia; this ratio doubled between 1990-93 for Hong Kong and Thailand. The negative consequences were that it fuelled stock market booms and contributed to market volatility in the case of Mexico and the east Asian economies.

## II Capital Flows and Macroeconomic Aggregates

Several studies, notably Corbo and Hernandez (1994), Calvo, Leidermann and Reinhart (1994) and Khan and Reinhart (1995), amongst others, have documented the effects of capital inflows for a set of Latin American and south-east Asian countries. Some commonly observed effects of capital inflows are exchange rate appreciation, monetary expansion, rise in bank lending if the flows are intermediated through banks and effects upon savings and investment. This section considers the effects of capital flows upon the real exchange rate.

In theory, an inflow of foreign capital will raise the level of domestic expenditure in the economy, raising the demand for non-tradable goods that results in an appreciation of the real exchange rate. The price-adjustment process then leads to a reallocation of resources from tradable to non-tradable goods and a switching of expenditures in favour of non-tradables. The rise in aggregate expenditure also increases the demand for tradables, leading to a rise in imports and a widening of the trade deficit. The transmission channel

of the real exchange rate appreciation will however, depend on the exchange rate regime. With a floating exchange rate and no central bank intervention, the appreciation will take place through a nominal appreciation, but in a fixed exchange rate regime, the appreciation will work through an expansion in the domestic money supply, aggregate demand and the prices of non-tradables.

Figure 5 shows trends in the bilateral (rupee-dollar), real and nominal, effective exchange rates over three decades. The nominal and real effective exchange rate are both observed to be depreciating after 1985. After 1993, the time of regime switch, the nominal depreciation persists. The real exchange rate however displays a constant trend, punctuated by two visible appreciation episodes. During the capital surge in 1992-95 and 1996-97, the real exchange rate appreciated by 10.7 (August 1995) and 14 (August 1997) per cent respectively over its March 1993 level. The policy response of the authorities was to avert a nominal appreciation,<sup>14</sup> preferring an adjustment through gradual increases in domestic inflation.<sup>15</sup> Part of the policy response was directed towards encouraging capital outflows through early servicing of external debt. India's external adjustment was also facilitated by the timing of these inflows as they coincided with trade reform, convertibility of the current account and liberalisation of overseas investments by Indian firms, measures which were partly financed by the net increase in capital assets during this period.

Both real exchange rate behaviour and policy response in India bear a closer

similarity with east Asian economies than the Latin American ones. The former mostly limited adjustment of their currencies vis-a-vis the US dollar, in contrast to the Latin American countries, particularly Argentina, Brazil and Mexico, who allowed much more exchange rate flexibility. Glick (1998:8) has noted that though capital inflows have been associated with real exchange rate appreciation in both regions, the extent of real exchange rate appreciation in the Asian region was far less than the Latin American countries, presumably due to differences in policy response. Khan and Reinhart (1995) have pointed out that differences in composition of aggregate demand might account for this varied exchange rate response across the two regions. The investment/GDP ratio increased by 3.5 per cent for the Asian group of countries during the capital surge, but stagnated in the Latin American region, where private savings declined and consumption rose.

A similar comparison for India shows a 3.5 per cent increase in the investment/GDP ratio between 1992-93 and 1994-95, the capital inflow period. During this time, private savings rose by an approximately similar amount while consumption fell. Thus the composition of aggregate demand could also have curtailed a real appreciation, though circumstances indicate that policy response was undoubtedly a major factor in thwarting appreciation pressures upon the real exchange rate. For example, when the flows abated by mid-1995, the central bank effected an adjustment in late 1995, bringing back the real exchange rate closer to the March 1993 level.<sup>16</sup> A similar policy response prevailed when the real exchange rate appreciated in response to capital inflows in 1996-97, the appreciation was reduced by 9 per cent in December 1997. These responses can be observed in real exchange rate movements in Figure 5.

The behaviour of the real exchange rate in response to capital inflows has been an important area of concern and has been examined in several recent studies. Calvo, Leiderman and Reinhart (1993) and Edwards (1999) have explored the association between capital inflows and real exchange rates for a set of Latin American countries. They find substantial evidence that capital inflows contributed both to real exchange rate appreciation and reserves' accumulation in these countries.

Preliminary evidence for India shows the real effective exchange rate (REER)

and the net capital account to move together in equilibrium, i.e., the two series are cointegrated. The bivariate relationship (impulse response analysis) between the two series indicates that a one standard deviation shock to net capital account, i.e., a net inflow of foreign currency equivalent of Rs 4,735.9 crore in the first quarter, causes the real exchange rate to appreciate by 0.14 per cent in the second quarter.<sup>17</sup>

Preliminary evidence for India therefore, corresponds to individual as well as cross-country evidence on the subject. This empirical evidence however, needs to be examined further in depth, for though fluctuations in real exchange rates can be attributed to capital inflows, they can also be affected by changes in the terms of trade, government spending and monetary as well as exchange rate policies. The importance of the exercise need hardly be emphasised as a significant implication of this result is that a rise in inward capital flows into the economy is likely to lead to losses in international competitiveness via real exchange rate appreciation. This has implications for exchange rate policy, which are spelt out in Section IV of the paper.

#### **IV Policy Implications and Conclusion**

The experience with liberalisation of controls on inward capital flows in India shows close similarities with other liberalising economies of Latin America and Asia. A striking difference between India and these economies is that the magnitude of capital inflows has not been very large in India so as to cause intensive macro- and micro-management problems. As such, the challenges faced by India, both in terms of impact upon important economic variables as well as macroeconomic management, have been far less. Notwithstanding these differences however, many attributes of the Indian experience have been shown to bear strong similarities with these economies in this paper. Based on the analysis contained in this paper, the key policy issues of concern to India are of allowing the exchange rate to change, sterilisation, the soundness and capacity of the financial system to intermediate large volumes of capital inflows as well as the relative costs of particular policies.

It is well known by now that the composition of flows makes a significant

difference, both in terms of impact and smooth management. Portfolio flows are more volatile than direct investment flows and because of their short-term nature, more difficult to intermediate smoothly. They can cause uneven expansion and contraction in domestic liquidity and thus have a greater impact upon stock markets and expansion in money supply and domestic credit. Since sudden, large shifts in portfolio demand for a country's liabilities can be very destabilising, portfolio flows need to be skilfully intermediated. Direct investment flows (FDI), on the other hand, are long-term in nature and for that reason, less volatile. Being visibly embedded in investment in plant and equipment, FDI is less susceptible to sudden withdrawals out of the country and leads to productive uses of capital and consequent economic growth.

It is significant that the distribution of capital flows between portfolio and FDI flows into India tilts distinctly towards the former in most years after liberalisation. Foreign direct investment does not reveal a stable trend so far. The relatively greater contribution of portfolio capital towards India's capital account, and the fact that these inflows could increase to significant levels in the future as India's financial markets get integrated globally, show that an important sphere of concern is their skilful management to facilitate smooth intermediation. There are two channels through which inward capital can be intermediated – the stock market or the banking system. Preliminary evidence for India on the relationship between portfolio flows and some stock market indicators suggests that market prices are not unaffected by capital inflows. This exposes the potential vulnerability of the economy to sudden withdrawals of foreign investors from the financial market, which will affect liquidity and contribute to market volatility. The state of development of India's financial markets, which are relatively thin and underdeveloped, is likely to be a severe constraint on intermediating heavy volumes of volatile, short-term capital, though it must be admitted in fairness that the volume of transactions in both foreign exchange and domestic money markets has been steadily increasing in the post-reform period. An increase in the volume of capital inflows, therefore, might necessitate excessive intermediation through the domestic banking sector. What are the implications for India in this regard?

Apart from imparting volatility in the stock market, portfolio flows also have a greater impact upon domestic monetary expansion, if intermediated through the banking system. Sudden, uneven increases in intermediated funds will lead to an irregular expansion in the volume of domestic financial assets and liabilities.<sup>18</sup> Unless sterilised, the volume of bank lending is bound to rise and could lead to unscrupulous lending, which if it finances consumption or real estate, can trigger a consumption boom. Moral hazard risks are thus likely to increase, threatening financial instability, as transpired during the Asian crisis.

In such a scenario, a sound banking system is an essential prerequisite. The state of the Indian banking system, particularly the public sector banks, is fragile. Many of them are under-capitalised, with large levels of non-performing loans on their balance sheets. Though India's financial reforms have consistently emphasised strengthening of prudential regulation and supervisory standards, sector as well as borrower-specific exposure limits exist, and liquidity requirements are in place, the capacity of these institutions to assess, price and manage risks is doubtful. These capacities can be created through structural changes and institutional reform of these institutions, which is still an unstarted agenda of financial reform in India.

The difference between net capital inflows and the current account deficit has so far been negative in India, as a consequence of which the impact upon the banking system has been small. Thus absorption by the central bank through sterilisation and utilisation of bank reserves for financing import payments (recall that capital inflows during this period were used to liberalise trade transactions) controlled commercial bank lending during the past surge in capital flows. The banking system in India however, accounts for 64 per cent of the total financial assets of the economy, and a sudden expansion in banks' liabilities might be very difficult to monitor, particularly the end-use of loans. Real effects of intermediated foreign capital depend pretty much upon what these loans finance. For example, in the ASEAN region and some Latin American countries, like Chile and Mexico, capital inflows have been associated with high domestic savings, investment and economic growth. Absorption was therefore smooth and did not disrupt

macroeconomic stability. However, in the Latin American region, particularly Argentina and Brazil, there was a rise in private consumption. Instances when inward foreign capital translated into a stock market and real estate boom that ultimately ended in a financial or currency crisis, as in Malaysia and Thailand are also well known.

So far, the evidence available for India on this issue shows that capital flows financed more investment than consumption. Initially, the current account deficit widened from 0.4 (1993) to 1.8 per cent (1995) in correspondence with the capital surge. This can be traced to a combination of a 3.8 per cent increase in national investment and a 3 per cent increase in national savings during the same time.<sup>19</sup> In a longer perspective however, i.e., between 1990 and 1995, the current account balance (as percentage of GDP) improved by 1.5 per cent. This reduction is accounted for by a rise in savings rate by 1 per cent whereas the rate of investment actually fell by 0.6 per cent. This is partly because public investment fell during this period by almost 1.8 per cent though private investment increased by almost 4 per cent. Disaggregation of private investment shows that it went into productive sectors. Real private investment in construction remained constant at 0.6 per cent of GDP between 1991-1995, increasing marginally by 0.1 per cent thereafter, while equipment investment rose from 3.8 per cent of GDP in 1990 to 6.4 per cent in 1993 and by another 2 per cent for 1994 and 1995.

A second issue is the response of the real exchange rate to removal of capital account restrictions. This paper shows that capital inflows are associated with real appreciation in India. This is an area where conflicting policy choices are bound to arise. The policy option of stabilising the real exchange rate to keep it constant can be a source of potential conflict between external and internal objectives and it may not always be possible to reconcile the two. Intervening foreign currency purchases to stabilise the exchange rate and accumulation of foreign exchange reserves has implications for domestic monetary management, which can be seriously impaired by divided short-term monetary responses during a capital surge. Monetary policy therefore has to be untangled from exchange rate policy to be able to respond effectively to domestic objectives.

The option of a more flexible exchange rate policy, which has the advantages of insulating domestic money supply, domestic credit and the banking system as well as discouraging speculation through increased exchange risk, carries with it the risk of appreciation. A significant implication of real appreciation is the loss in external competitiveness, which hurts exports. This, in turn, will lower the profitability of the trading sectors of the economy and disrupt the process of trade liberalisation. Second, there are real adjustment costs associated with exchange rate changes, which, if the inflows are temporary, can severely disrupt economic processes within the economy.

The major policy issue here is how much should the exchange rate be allowed to fluctuate or adjust, vis-a-vis the tradeoff between the real economic costs of exchange rate fluctuations and inflation. In other words, if the external sector has to be protected, how does one reconcile a stable exchange rate and simultaneously control domestic money supply with capital mobility. This is the familiar *macro-economic policy trilemma* [Obstfeld and Taylor 2001] where the conflict facing policy-makers is the choice between a fixed exchange rate, capital mobility and an activist monetary policy, when only two of the three objectives can be chosen. One may also mention here that the policy option of protecting exports through subsidies, as a safeguard against adverse exchange rate movements, is now constrained by the current environment of globalisation and trade agreements.

One option that could be explored in the face of capital inflow surges is absorption by the external sector through encouraging capital outflows. The policy response during the 1993-97 surge did liberalise capital outflows to contain appreciation pressures. This response actually facilitated trade liberalisation as it was possible to pursue import liberalisation despite the expected impact upon the current account. South Korea exercised this option successfully during its current account surplus of 1986-88 when it actively encouraged capital outflows by residents.<sup>20</sup>

India is gradually liberalising its capital account and the issue of freeing capital outflows is controversial. Presently, restrictions upon outflows stem mainly from the concern that the rupee needs to be protected from a speculative attack depleting foreign exchange reserves. Current trends in reserve accumulation reveal that maintaining a sizeable level of foreign

exchange reserves is an important objective of the central bank. Undoubtedly, holding an adequate level of reserves, along with other policy instruments, is necessary armour to enable the central bank to respond quickly to short-term capital inflows and outflows. A second weapon to counter external pressures emerging from capital account transactions is capital controls. There is no doubt, particularly in the aftermath of the currency crises, that capital controls have reemerged as a self-protection device to safeguard against heavy capital surge pressures. These can be effective in managing the external position, particularly in the short-run. Countries that have used them successfully include Israel (1978), Chile (1991) and Malaysia (1998-99).

Chile's example illustrates the successful use of dynamic and comprehensive policy in this context. Initially, when capital started flowing into Chile, it was perceived to be temporary and the Chilean authorities resisted nominal exchange rate appreciation, sterilising their purchases. When the flows persisted however, the authorities changed track, allowing greater exchange rate flexibility, lowering sterilisation and imposing restriction on capital inflows, particularly short-term capital. While some, like Khan and Reinhart (1995), have argued that taxation of short-term flows can be subverted through over-invoicing and under-invoicing of imports and exports in the long-run, empirical evidence [Gregorio, Edwards and Valdes, 2000] shows that capital controls had a persistent and sizeable effect upon the composition of capital inflows in Chile, tilting them towards longer maturity.

In the current global financial environment, capital controls, if carefully timed and fine-tuned to being imposed in rough weather and removed in smoother times, can be used effectively in conjunction with other policy instruments, like greater exchange rate flexibility, part sterilisation and encouraging outflows, to manage the capital account. A comprehensive policy package, as Chile's example shows, might perhaps be the best course in order to minimise costs associated with extreme use of a single policy option. ■■■

## Notes

[The views expressed are the author's own and not of the institution to which she belongs. I am indebted to Pronab Sen for very helpful comments on an earlier version of this paper. Part II of this paper will appear next week.]

- 1 Since then capital flows have been on a declining trend; both portfolio and FDI flows have not reached the peak level of 1995.
- 2 Net private capital flows to emerging markets increased seven-fold between 1990 and 1996 [Glick 1998:4-5].
- 3 These figures exclude years 1990-91 due to the balance of payments crisis as a result of which there was extensive capital flight of non-resident Indian capital from India (see *Economic Survey*, 1990-91, 1991-92, MoF, GoI).
- 4 See Khan and Reinhart (1995) for an exhaustive documentation of capital inflows into Latin America and east Asia.
- 5 Calvo, Leiderman and Reinhart (1993) offer empirical evidence in support of this argument.
- 6 See Chuhan, Claessens and Mamingi (1993) and Hernandez and Rudolph (1995) who document the role of domestic factors in attracting capital flows. Recent research by Bohn and Tesar (1998) assesses the role of local versus global 'push' factors in this context and finds that the former was relatively more important in determining US investment in Asian markets.
- 7 Currency realignment has been offered as another explanation for stimulating capital flows by Goldberg and Klein (1998). Khan and Reinhart (1995) note that reasons vary across Latin America and Asia; for instance, external factors have been more important for the former group.
- 8 *Source*: 'India External Debt: A Status Report', GoI, MoF, DEA, June 1999.
- 9 A dual exchange rate regime replaced the basket-linked peg in 1991, signalling transition to the floating exchange rate regime in 1993.
- 10 These consist of progressive reduction in tariff rates and removal of quantitative restrictions on imports. The average rate of tariffs, which was 125 in 1991, was successively reduced to 50 per cent by 1995. See Krueger and Chinnoy (2000).
- 11 This can be observed under the heading commercial borrowings in Table 1. These are closely monitored by the authorities, with annual limits on borrowings. Only companies with a proven track record are permitted to raise capital abroad through depository issues.
- 12 Claessens, Dooley and Warner (1995) however, provide a different view on this. They show both categories of capital flows to hold equivalent time-series properties.
- 13 The post-1991 period is also concomitant with regulatory, institutional and other changes in the capital market. In part, these measures have also contributed to the upward trend in stock market prices through increase in investor confidence and attracting greater funds.
- 14 For a complete discussion on macroeconomic policy response to capital inflows during this period, see *Economic Survey*, 1994-95 and Acharya (1999).
- 15 Both consumer and wholesale price inflation rose between 1993-95, the peak period of inflows and again in 1996-97, when inflows resumed.
- 16 The base of March 1993 is reported to have been notionally established as an 'equilibrium' rate for the rupee by the official authorities. See 'Money Market Review', *EPW* Research Foundation, *Economic and Political Weekly*, September 13, 1997: 2306.

- 17 See Kohli (2001, forthcoming) for empirical evidence in support of this hypothesis.
- 18 A further source of expansion in loanable resources of the domestic banks could surface through impending financial reform measures like reduction in reserve requirements or disinvestment proceeds that might be deployed to retire internal public debt.
- 19 Since the current account deficit equals the difference between national saving and investment, imbalances in it can result from either a fall in savings or a rise in investment. A current account deficit stemming from a rise in investment is more desirable since it leads to an increase in productive capacity and economic growth. On the other hand, a fall in the savings rate driving the current account deficit indicates a rise in consumption.
- 20 Koo and Park (1994).

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