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SHARMA, Shalendra D.

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Did India's Capital Control Regime Insulate it from the Asian Financial Crisis?: Some Preliminary Observations

Shalendra D. Sharma[1]

College of Arts and Sciences, University of San Francisco

Abstract

While India was not entirely immune to the Asian financial crisis of 1997–98, it was less affected by other countries in the region. To what extend India's relatively closed capital account regime insulated it from the financial contagion raging in its midst? This paper illustrates that although India's strong foreign exchange reserves position, the flexible exchange rate policy, the large size of the domestic markets and the relatively weak trade and financial linkages with the international economy were important factors in reducing financial market contagion and trade spillovers, it was India's comprehensive capital control regime which was crucial in reducing the country's external vulnerability.

1. Introduction

Long before the outbreak of the Asian financial crisis, a number of distinguished economists (who on principal were supportive of the idea of free capital mobility), cautioned that capital controls help limit *volatile short-term capital flows*—thereby avoiding balance of payments crises and limiting exchange rate volatility. In 1978, James Tobin (later a Nobel laureate in economics) proposed "throwing sand in the wheels of short-run capital flows" by imposing a uniform tax (dubbed the Tobin tax) on all foreign exchange transactions to reduce the destabilizing speculation in international financial markets. Admittedly, the Tobin tax would be a small percentage levy (in the order of about 0.1% to 0.5%) on all foreign exchange transactions. Tobin (1978) argued that such a tax would greatly lessen the profit margins on short-term currency trading (so called "round-tripping"), while having minimal effects on the returns to long-term international investments. In a similar vein, Rudiger Dornbusch (1986), noted that since financial markets are very liquid and react quickly to shocks (while the real economy is slow to react due to price and wage rigidities and investment irreversibility), this "differential speed of adjustment" may induce excess exchange rate volatility (over-shooting, bubbles, etc), with negative effects on real economic activity. Dornbusch proposed the adoption of measures such as capital controls and dual exchange rate systems to protect the real economy from the fluctuations in the financial markets.

Key words: India's economy, capital controls, financial crises, economic liberalization

2. The Background and Context

In the immediate post-war period, trade liberalization generally took precedence over capital account liberalization. In order to support trade, current account convertibility was achieved within a relatively short period. In accordance with its mandate, the IMF was instrumental in promoting such convertibility. Full current account convertibility had been achieved in most advanced countries by 1958. That year, the Treaty of Rome established the European Economic Community (EEC). It provided for the eventual freedom of capital movements in Europe, but this objective was circumscribed by a clause specifying that such liberalization should be carried through only to the extent necessary to ensure the proper functioning of the Common Market. By the 1980s, many advanced countries had made significant progress in liberalizing capital movements. Virtually all capital controls had been abolished among industrial countries, with no formal barriers to cross-border flows of capital.

In the mid-1980s, the International Monetary Fund (IMF) and other multilateral financial institutions embraced the benefits of open capital accounts for developing countries. Noting that changes in the information and communication technology have fundamentally transformed the financial services industry and made highly mobile capital a fact of life, the IMF argued that only by maintaining open accounts would emerging markets benefit from private capital flows comprising of instruments as varied as bank deposits, equities, direct investments, corporate bonds and government securities, among others. The IMF's than deputy managing-director, Stanley Fischer (1998, 2–3) aptly noted that:

> free capital movements facilitate an efficient global allocation of savings and help channel resources into their most productive uses, thus increasing economic growth and welfare. From the individual country's perspective, the benefits take the form of increases in the pool of investible funds and in the access of domestic residents to foreign capital markets. From the viewpoint of the international economy, open capital accounts support the multilateral trading system by broadening the channels through which countries can finance trade and investment and attain higher levels of income. International capital flows expand the opportunities for portfolio diversification and thereby provide investors in both industrial and developing countries with the potential to achieve higher risk-adjusted rates of returns

In addition, the IMF (and other supporters of open accounts) argued that by taxing foreign money required to purchase foreign made goods and services, exchange controls cut the quantity imported and/or raise the domestic relative price of imports. Also, exchange and capital controls raises transaction and other trade-related costs, and give rise to negative market perceptions, which in turn make it costlier and more difficult for the country to access foreign funds. Costs associated with international transactions increase because exchange controls tend to undermine the development of liquid (and efficient) foreign exchange markets, besides postponing necessary adjustments in policies or hampering private-sector adaptation

of modern financial instruments and changing international circumstances. All types of controls foster evasion, rent-seeking, the development of a parallel or black market in foreign exchange, including corruption, besides prolonging the survival of unsustainable domestic policies. Worse still, controls will inevitably generate a huge bureaucracy to enforce the rules, besides reducing trade by limiting the transfer of technology, portfolio diversification, managerial expertise and skills through foreign direct investment. Finally, controls may lose effectiveness over time as markets exploit the potential loopholes in the system to channel the "undesired" inflows through the exempted ones. That is, the effectiveness of the controls is limited by sophisticated financial markets which reduce the cost of circumvention relative to the incentives. Thus, these problems make capital controls poor candidates for permanent solutions.

Such claims nicely dovetailed with the neoliberal claims regarding market-friendly development policies. The IMF and other critics of "market repression" argued that controls on repatriation of profits and dividends only discouraged direct foreign investment, reduced international trade and limited domestic business opportunities. Also, in the presence of capital controls, financial intermediation was less efficient since savings were not allocated to its most efficient uses, and the range of available financial products and services tended to be narrow and of poorer quality. Also, as capital controls tend to create a wedge between domestic and external financial markets, the resultant differentials between domestic and international interest rates may create problems. That is, the wedge may create incentives for circumvention – meaning that the effectiveness of controls will then depend on the size of this incentive relative to the cost of circumvention[2]. Finally, critics pointed out that countries with serious macroeconomic imbalances and no credible prospects for correction in the short-run, however, have regularly been unable to address large-scale capital outflows by using capital controls. Indeed, in some cases, controls have reduced pressures on the authorities to introduce needed policy reform[3].

No doubt, with these arguments in mind, the IMF steadfastly promoted the liberalization of cross-border capital flows over the past two decades. Indeed, just before the outbreak of the financial crisis in Asia, the Interim Committee of the IMF (at its semi-annual meeting in April 1997), proposed that the organization's Articles of Agreement (the basic constitution of international financial relations among the 182 member nations), be amended to include currency convertibility for capital transactions. This view was reiterated in the following months by senior Fund officials, who stated that capital account liberalization should become one of the IMF's fundamental objectives.

During the Asian crisis several countries (including Indonesia, South Korea, the Philippines, Thailand and Malaysia), suffered a dramatic reversal of capital flows. Each country experienced severe losses in investor confidence and large capital outflows which resulted in sharp declines in reserves, stock market collapses and currency depreciation. The immediate policy responses to the crisis were also similar in the affected countries. These included defensive intervention in foreign exchange markets coupled with hikes in interest rates, followed by the floating of currencies. Following IMF terms, the countries also tightened capital and exchange controls. These measures, which proved inadequate to restore investor confidence and stem capital outflows, were followed by the adoption of adjustment packages that

included tight monetary and fiscal policies and wide-ranging programs of structural reforms. However, in September 1998, the Malaysian government challenged the prevailing orthodoxy and imposed capital controls by imposing restrictions on capital repatriation by foreign investors and on offshore trading of ringgit-denominated assets. In fact, by the time Malaysia imposed controls to "regain maneuvering room for monetary policy" it was no longer considered heretical[4]. As noted, several leading scholars had already begun to point out that in countries where the capital account was liberalized prematurely (i. e. without adequate preparation and strengthening of the financial system to build-in an appropriate reflection of risk), there was huge inflows of capital, especially short-term borrowing, that made these countries extremely vulnerable to a sudden change in investor sentiment. Specifically, in South Korea, Thailand and Indonesia, a key source of vulnerability had been the large capital inflows in the earlier part of the 1990s – particularly, unhedged short-term foreign borrowing. This had made these three crisis countries vulnerable to capital outflows and exchange rate depreciation. Capital inflows had also fueled a rapid credit expansion that led to asset price inflation and financing of low-quality investments. The credit expansion also reflected weaknesses in lending practices, ineffective market discipline, deficiencies in prudential regulation and supervision, and close links among governments, banks and corporations.

On the other hand, economies that did not experience a severe economic collapse during the Asian crisis had some sort of controls on capital flows (Bhagwati 1998; 1998a). The Peoples Republic of China which had extensive capital controls became the paradigmatic example. Indeed, in December 1996, although China agreed to Article 8 of the IMF and permitted full convertibility of the RMB for current account transactions, however, unlike virtually all other Asian economies directly affected by the financial turmoil, the RMB was not convertible for capital account transactions[5]. Instead, the RMB is only convertible on the current account (that is, an official documentation of a legitimate trade or other approved transaction is required to change money). This, partial convertibility of the RMB made it extremely difficult for speculators to take any short position against the RMB or to place large leveraged bets for or against the currency – since there is no forward market that speculators can use to attack the RMB. As a further precaution against speculators from taking short positions on the RMB, on 30 October 1996, the State Administration for Exchange Control (SAEC) issued regulations to prevent foreign exchange under capital accounts from entering exchange settlements under current accounts. Chinese depositors were no longer allowed to convert their RMB deposits and purchase financial assets denominated in foreign currencies, while foreigners were legally barred from purchasing RMB-denominated shares. Also, the PBC by requiring everyone to buy or sell foreign exchange or foreign currency denominated financial assets to enter the exchange market operating through designated banks has inadvertently gave itself greater flexibility in responding to balance of payments problems. This is because the foreign exchange market is not open to any purchase of foreign exchange for capital account transactions. Large RMB spot transactions require the pre-approval of the State Administration for Foreign Exchange (SAFE). In fact, without the approval of SAFE, trading of foreign currency by businesses and individuals are illegal in China. The SAFE approval requirements and related limitations on foreign participation in PRC equity markets have translated into low

levels of portfolio investment. Also, in early July 1997, the Supervisory Commission on Securities Transactions (SCST) prohibited margin trading of overseas futures and foreign exchange in order to eliminate high-risk speculation and violations by Chinese enterprises in overseas markets. Finally, the Chinese authorities significantly intensified enforcement of exchange and capital controls, and moved to reduce circumvention. These measures involved enhanced screening of capital account transactions and increased documentation and verification requirements on current transactions to demonstrate that the transactions are in fact legitimate current transactions rather than disguised capital transactions.

The other examples cited included Singapore and India. Singapore had not internationalized its currency given the restrictions on the usage of the Singaporean dollar and borrowing outside Singapore, while India's policy towards foreign capital in the 1990 s differentiated between different types of flows. Specifically, while there was considerable liberalization of the regime for foreign direct investment, liberalization of portfolio flows began gradually in 1993. More importantly, debt flows have not been liberalized and short-term debt is tightly controlled for all Indian residents, including banks. Unlike many other emerging market countries, India also restricted capital outflows. Thus, it was argued that India's cautious approach insulated it from the destabilizing forces of highly volatile capital flows. This paper looks at the specific case of India to examine to what extend the capital controls help the country withstand the crisis with relatively little turmoil.

3. The nature of Capital Controls

Of the many arguments that have been advanced in the economic literature to justify the use of capital controls, the most often cited is that it helps counter volatile speculative capital flows that threaten to undermine the stability of the exchange rate and deplete foreign exchange reserves. Critics note that short-term speculative flows often associated with financial crises are usually difficult to distinguish from other short-term flows that finance trade and related economic activities. Given this, the judicious use of controls on short-term inflows can help slowdown surges of capital flows – which could potentially contribute to a crisis. Thus, prudently imposed, capital controls are seen to be effective instruments which enables authorities to "buy time" to implement policies to insulate the real economy from the turbulence in the global financial markets. Broadly speaking, capital controls are measures that discourage capital flows – both into or out of a country. Capital controls encompass a wide range of, and often country-specific measures, although they all attempt to restrict the movement of capital across national boundaries, or between residents and non-residents. Capital controls may affect: (1) foreign direct investment of residents and non-residents, (2) portfolio investments by non-residents, (3) borrowing and lending between residents and non-residents through financial institutions, and (4) other capital transactions such as controls over resident holdings of foreign currency deposits or personal transfers and real estate investments.

Capital controls have mainly taken two general forms: *direct or administrative* controls and *market-based* or *indirect* controls. Direct controls restrict capital movement and/or the associated payments and transfers of funds through outright

prohibitions, explicit quantitative limits, or an approval procedure—which may or may not be rule based. Administrative controls typically seek to directly affect the volume of the relevant cross-border financial transactions. A common characteristic of such controls is that they impose administrative obligations on the banking system to control flows. Indirect or market-based controls discourage capital movements and the associated transactions by making them more costly to undertake. Such controls may take various forms, including: (1) explicit taxation of cross-border flows such as taxes and levies on external financial transactions, (2) indirect taxation of cross-border flows such as non-interest bearing reserve or deposit requirements—under which residents may be required to deposit at zero interest rates a proportion of capital inflows at the central bank, and (3) a multiple exchange rate system where different exchange rates apply to different types of transactions. Depending on their specific type, market-based controls may affect either the price or both the price and volume of a given transaction.

For example, in a dual (two-tier) or multiple exchange rate system, different exchange rates apply to different types of transactions. In particular, such systems attempts to raise the cost to speculators of the domestic credit needed to establish a net short domestic currency position, while allowing non-speculative domestic credit demand to be met at normal market rates. On the other hand, explicit taxation of cross-border flows involves imposition of taxes or levies on external financial transactions. Usually, tax rates are differentiated to discourage certain transaction types or maturities. Such taxation is generally considered a restriction on cross-border activities if it discriminates between domestic and external assets or between nonresidents and residents. Finally, indirect taxation of cross-border flows in the form of non-interest bearing compulsory reserve or deposit requirements (referred to as unremunerated reserve requirement or URR), has been one of the most frequently used market-based controls. For example, the Chilean URR or the encaje, in effect between May 1992 to May 1998 required anyone borrowing abroad to pay a premium of between 20% to 30% of the loan to be held at the central bank without interest, for one year. The penalty rate for early withdrawal was 3%. In effect, Chile combined market-based controls (indirect taxation of inflows through an URR) with direct minimum stay requirement for direct and portfolio investment. The URR was initially imposed on foreign loans (except for trade credits), but subsequently rates were raised and coverage extended to those inflows that became potential channels for short-term inflows, including foreign direct investment of a potentially speculative nature[6].

4. India's Capital Control Regime

In the aftermath of the balance-of-payments crisis in 1991, the Indian government introduced several far-reaching economic liberalization measures. The pre-1991 trade regime was extremely restrictive. Government authorization was required for the import of virtually all goods. Maximum tariff rates exceeded 300% and the average (import-weighted) tariff rate stood at 87% in 1990–91—the highest in the world. However, in short-order, this heavily protected industrial sector witnessed the virtual abolition of the industrial licensing system and other regulatory

impediments. By 1993–94, the average tariff rate had declined to 33% and further to 20% in 1997. Moreover, many sectors of the economy that had previously been reserved for the public sector have been opened for private investment, including power, telecommunications, mining, ports, transport and banking. Since 1997, substantial progress has been made toward phasing out remaining quantitative restrictions on agricultural, textile and industrial products. In the external sector the government has drastically reduced trade barriers by reducing tariffs and adopting a policy of exchange rate flexibility. The rupee was floated in March 1992 and full current account convertibility was established in August 1994 — earning India the coveted Article V 111 status with the IMF.

Prior to 1991 restrictions on foreign direct investment (FDI) was so strict that it was reduced to a trickle. After 1991 controls on foreign direct and portfolio investment have been significantly relaxed. By end-1991, the approvals process for FDI was greatly simplified as it became eligible for automatic approval by the country's central bank, the Reserve Bank of India (RBI). For example, automatic approval of foreign investment of up to 51% of shareholding was permitted for a wide range of industries. In addition, the government also created the Foreign Investment Implementation Authority as a one-stop shopping for foreign investors in obtaining all necessary approvals and to approve foreign direct investment proposals not covered under the automatic approval. Since 1996, the list of industries in which FDI is permitted has been further widened with foreign equity up to 74% permitted in some sectors. In September 1992, portfolio investment was allowed for registered foreign institutional investors, and Indian companies were permitted to raise capital from abroad by issuing equity in the form of global depository receipts (GDRs), and other debt instruments. In the area of financial sector reforms, prudential regulation and supervision of the banking system have been strengthened and today largely conform to international standards, while greater competition in the banking sector and improvements in the capital and debt markets have reduced reliance on central bank financing. The economy stabilized very rapidly after the 1991 crisis, and the average growth in the post-reform period 1992–2000 was about 6.5% — making India one of the five fastest growing economies in the world.

Yet, despite such success, or the breadth and depth of the reforms, the Indian economy still remains relatively closed — at least by standards of the fast-growing economies of East Asia. *First,* portfolio investments are strictly regulated by the RBI and the Securities and Exchange Board of India (SEBI). Portfolio outflows by residents are subject to prior approval, and Indian registered mutual funds may invest in overseas markets up to US$50 million — subject to an aggregate limit of US$500 million. Portfolio inflows by nonresidents are permitted only by registered foreign institutional investors. Moreover, a single foreign institutional investor's ownership share in Indian companies cannot exceed 10%, and short sales by them were prohibited. Other restrictions on the foreign institutional investor include a special 20% tax rate on dividend and interest income and 10% on long-term (12 months or more) capital gains and 30% on short-term capital gains. In 1993, foreign institutional investors were permitted to invest in debentures up to a maximum of 30% of total investments, but they were not permitted to invest in Indian government securities. Only in mid-1996 was the 30% limit removed, and in March 1997 the foreign institutional investors were permitted to invest in Indian government

securities and in treasury bills from April 1998. *Second,* while the rupee is now convertible on current account – which means that one can buy and sell foreign exchange for import, export and foreign travel – there are, nevertheless, ceilings and controls. Domestic residents and companies cannot operate in currency and stock markets abroad, and can invest abroad only with permit. For example, starting in April 1997 only authorized foreign exchange dealers were allowed to lend and borrow up to US$10 million in the overseas money markets. Also, Indian corporations are required to apply for permission to borrow abroad, and the total amount of loans made to all corporations is subject to an annual ceiling of US$8.5 billion (in 2000). *Third,* starting in October 1997, banks were permitted to borrow or invest up to a maximum of 15% of their unimpaired Tier 1 capital in the overseas money markets. Although, bank deposits by residents abroad and resident deposits in foreign currency are permitted, they are subject to prior approval. Similarly, deposits to Indian banks by nonresident Indians (NRIs) and overseas corporate bodies owned by NRIs are permitted in both rupees and foreign currencies, there are strict rules. That is, while NRI deposits can be repatriated, restrictions are placed on the interest paid to NRI deposit holders. In the 1980 s, the government made a conscious effort to attract NRI bank deposits by offering both high interest rates and exchange rate guarantees. However, cognizant of the volatility of NRI deposits during the 1991 crisis, the government, in mid-1990, made the terms on NRI deposits significantly less attractive by reducing the spread between the regulated rates paid on these deposits and international rates, and through the elimination of exchange rate guarantees on such deposits – leaving banks to cover their own positions. *Fourth,* not only is enforcement and administration of the controls regime delegated only to authorized foreign exchange dealers, they are also required to investigate the legality and permissibility of all foreign exchange transactions within the guidelines promulgated by the RBI and other government regulatory agencies.

And, *fifth,* The 1997 Committee on Capital Account Convertibility (or the Tarapore Committee), which released its report just three weeks before the devaluation of the Thai baht in July 1997 – while recognizing the gains to capital account convertibility in terms of increased funding for investment and risk diversification – nevertheless, recommended that India move cautiously towards capital convertibility (Government of India 1997). Specifically, the five-member committee recommended a three-year time frame for complete convertibility by 1999–2000, provided certain key preconditions were achieved before the full float of the rupee. The preconditions included: (1) Gross fiscal deficit to GDP ratio had to come down from a budgeted 4.5% in 1997–98 to 3.5% in 1999–2000, (2) A consolidated sinking fund had to be set up to meet government's debt repayment needs – to be financed by increased in RBI's profit transfer to the government and disinvestment proceeds, (3) Inflation rate had remain between an average 3–5% for the 3-year period 1997–2000, (4) Gross non-performing assets of the public sector banking system had to be brought down from the existing 13.7% to 5% by 2000. At the same time, average effective CRR had to be brought down from the existing 9.3% to 3%, (5) The RBI should have a Monitoring Exchange Rate Band of plus minus 5 percent around a neutral Real Effective Exchange Rate and that RBI should be transparent about the changes in REER, (6) External sector policies were to be designed to increase current receipts to GDP ratio and bring down the debt servicing ratio from 25% to

20%, and (7) Four indicators had be used for evaluating adequacy of foreign exchange reserves to safeguard against any contingency. Plus, a minimum net foreign asset to currency ratio of 40% should be prescribed by law in the RBI Act. In regards to capital controls, the Committee recommended a phased liberalization of controls on capital outflows over a three year period. The recommendations included: (1) Indian Joint Venture/Wholly Owned Subsidiaries (JVs/WOSs) should be allowed to invest up to US $50 million in ventures abroad at the level of the Authorised Dealers (ADs) in phase 1 with transparent and comprehensive guidelines set out by the RBI. The existing requirement of repatriation of the amount of investment by way of dividend etc., within a period of 5 years may be removed. Furthermore, JVs/WOs could be allowed to be set up by any party and not be restricted to only exporters/exchange earners, (2) Exporters/exchange earners may be allowed 100% retention of earnings in Exchange Earners Foreign Currency (EEFC) accounts with complete flexibility in operation of these accounts including cheque writing facility in Phase I, (3) Individual residents may be allowed to invest in assets in financial market abroad up to $25,000 in Phase I with progressive increase to US $50,000 in Phase II and US$100,000 in Phase III. Similar limits may be allowed for non-residents out of their non-repatriable assets in India, (4) SEBI registered Indian investors may be allowed to set funds for investments abroad subject to overall limits of $500 million in Phase I, $1 billion in Phase II and $2 billion in Phase III, (5) Banks may be allowed much more liberal limits in regard to borrowings from abroad and deployment of funds outside India. Borrowings (short and long term) may be subject to an overall limit of 50% of unimpaired Tier 1 capital in Phase 1, 75% in Phase II and 100% in Phase III with a sub-limit for short term borrowing. In case of deployment of funds abroad, the requirement of section 25 of Banking Regulation Act and the prudential norms for open position and gap limits would apply, (6) Foreign direct and portfolio investment and disinvestment should be governed by comprehensive and transparent guidelines, and prior RBI approval at various stages may be dispensed with subject to reporting by ADs. All non-residents may be treated on part purposes of such investments, (7) In order to develop and enable the integration of forex, money and securities market, all participants on the spot market should be permitted to operate in the forward markets; FIIs, non-residents and non-resident banks may be allowed forward cover to the extent of their assets in India. All-India Financial Institutions (FIs) fulfilling requisite criteria should be allowed to become full-fledged Ads. Currency futures may be introduced with screen based trading and efficient settlement system, and participation in money markets may be widened, market segmentation removed and interest rates deregulated. The RBI should withdraw from the primary market in Government securities, the role of primary and satellite dealers should be increased, fiscal incentives should be provided for individuals investing in Government securities, and the Government should set up its own office of public debt.

Thus, as the preceding discussion shows, India has eschewed a "big bang" approach to capital account liberalization and financial sector reform in favor of a gradualist approach. The sequencing of reforms in India can be broadly characterized as follows: Trade, current payments, and FDI were liberalized first (1991), followed by the start of financial system reform and the liberalization of portfolio equity investment (1992). Further liberalization of portfolio and FDI was under-

taken in 1993 and 1994, in parallel with further reforms of trade policies, current foreign exchange transactions, and the financial sector. Most critically, the Indian government gradually and carefully liberalized capital account transactions during the 1990s by placing relatively strict limits on capital outflows and on all types of short-term capital flows. Restrictions on inflows were loosened first, with a clear emphasis on encouraging foreign direct investment and portfolio equity investments, while at the same time discouraging short-term and debt-creating inflows. Moreover, capital controls in India have been quantity based rather than market based, and administratively enforced. This has meant that the system offers very few opportunities for circumvention or evasion. Thus, given the fact that India's capital control regime is quite extensive and remained in force during the Asian crisis, the authorities did not find it necessary to impose additional capital controls in response to the crisis.

Although, the controls played an important role in insulating India, other factors were also at play. Clearly, India enjoyed stronger fundamentals. First, India's current account deficit (one of the traditional fundamentals indicators) stood at 1.7% of GNP, compared to Thailand's 8% and the other crisis-affected countries 4–5% of GNP. Second, India's policy of debt-management paid off and by 1996 the country's external debt situation had improved significantly. The debt/GNP ratio and debt-service/exports ratio had decreased from 41% and 35% respectively in March 1991 to 24% and 21% in March 1997. Clearly, India's policy of limiting debt-creating inflows helped to keep these ratios relatively low. Furthermore, there was a significant shift from debt-creating to non-debt-creating inflows. Short-term debt as a proportion of total debt had dropped from 10% to 5%, while foreign exchange reserves had increased from a low of US$2 billion in 1991 to US$28 billion in March 1997. Third, while capital controls may have been effective in isolating India's financial markets from those abroad, it is important to also note that stock markets in India are much less correlated with one another than stock markets in advanced economies (see Table 1).

Finally, we now know that in the crisis-affected countries, the dollar-pegging lulled the private sector into complacency about exchange risk and led to massive unhedged short-term foreign currency borrowing. However, this did not happen in India. The rupee's exchange rate was not overvalued at the beginning of the crisis, and monetary policy was geared toward allowing the exchange rate to depreciate in

Table 1 Correlation of Stock Market Indices*

Country	1991–98
India	0.60
Canada	0.94
France	0.94
Germany	0.98
Italy	0.92
England	0.95
USA	0.96

adjusted correlation coefficient (R) in static regression of equity indices (deflated) on G-7 countries.
Source: Habermeier (2000, 90).

Table 2 Percentage change in the nominal exchange rate against the US dollar

Country	Annual average for 1996
India	−9.3
Indonesia	−4.2
South Korea	−4.3
Malaysia	−0.5
Philippines	−2.0
Thailand	−1.7

minus indicates depreciation
Source: IMF (1999)

an orderly fashion in the face of market pressure, helped sustain financial market confidence (see Table 2). Given the fact that the rupee has depreciated steadily against the US dollar (by around 5% per year for the period 1996–2000) was enough evidence to the reasonable investor that there was no implicit exchange guarantee[7].

5. Concluding Reflections

Economic theory has long suggested that capital will move from countries where it is abundant to countries where it is scarce because the returns on new investment opportunities are higher where capital is limited. Such a reallocation of capital will boost investment in the recipient country and, as Summers (2000) suggests, bring enormous social benefits. No doubt, before the Asian crisis, the general scholarly view was that liberalization of capital movements was an essential element of economic liberalization. Indeed, it was taken for granted that capital flows were analogous to trade flows and that they invariably benefit long-term economic development. However, Asia's financial crisis forcefully demonstrated that capital flows carry both benefits and costs. *First,* there is now the recognition that there lies a great difference between trade liberalization and financial liberalization. In the case of trade liberalization there are well established statistical systems to keep track of international trade, and thereby its impact on the real economy. In addition, there exist parallel institutional frameworks and rules to deal with trade measures like tariffs, quotas, subsidies and dumping, as well as mechanisms for dispute settlement and arbitration via institutions such as the World Trade Organization. However, no such structure exists to deal with the disruption caused by volatile capital flows. *Second,* the highly competitive and globalized financial world has created individual market participants that are huge enough to mobilize, often with the help of leverage, financial resources larger than the GDP of smaller economies. Thus, they can build up dominating positions in the markets of smaller economies and influence short-term market movements either singly or through acting in concert. This means that for countries with poorly developed financial markets, free cross-border movement of capital is incompatible if these countries try to maintain separate currencies and their own exchange arrangements. *Third,* there is growing awareness that rapid liberalization and the associated expansion of credit and increase in the mobility of cross-border capital can give rise to significant risks, unless liberalization

is preceded or accompanied by measures to promote more effective risk management.

Yet, it is also recognized that as economies develop more sophisticated financial sectors, capital controls become more and more difficult to enforce. In countries with serious governance problems, capital controls can become a source of corruption. Clearly, capital controls cannot be used successfully as a substitute for sound macroeconomic policies or maintained for extended periods because they are bound to be circumvented. The key question then is proper sequencing. That is, a fundamental issue in undertaking capital account liberalization is how to reap the benefits from capital market access while coping safely with the risks associated with international capital flows. While capital controls can enhance a country's ability to avoid financial crisis in the context of more open capital accounts, effective prevention also often depends upon the ability of financial and non-financial institutions as well as the government to manage financial risks in general. At the same time, legal, institutional, and prudential arrangements must be adequate to deal with complex risks associated with increasingly diverse types of capital flows.

India's experience illustrates that while short-term capital flows can be regulated, it is prudent to open the capital account cautiously and only after substantial progress has been made to establish a strong regulatory framework for the management of the domestic financial system. However, this does not mean that India should not work towards achieving full capital account liberalization. As noted earlier, in an attempt towards achieving this goal the Tarapore Committee recommended full liberalization provided that important preconditions are met. Suffice it to note, the Committee's recommendations, namely lowering the fiscal deficit to 3.5% of GDP or less, accompanied by a reduction in the deficit of the state governments; a reduction in the inflation rate to 3–5% annually; adequate level of owned forex reserves by maintaining adequate foreign exchange reserves (measured at least six months of imports and a legally required reserves to currency ratio of at least 40%); establish a monitoring band for real exchange rate development at plus and minus 5% around an estimate of a "neutral" real exchange rate; a reduction in non-performing assets of the banking sector; and the adoption of macroeconomic policies consistent with a current account deficit that can be sustainably covered by normal capital inflows (about 2% of GDP), and consistent with this, trade and external financing policies that would allow the debt service ratio to decline from 25% to 20% – are indeed prudent. Private capital flows are not likely to solve all development problems and can impose significant costs. However, ultimately, it will be domestic strength, including a robust and prudent financial sector that can best protect countries like India from the volatility induced by capital flows.

Notes

1 The author would like to thank colleagues at the IMF and anonymous referees for useful comments. All remaining errors are mine.

2 Firms, for example, may evade controls on capital flows by falsifying invoices for traded goods.

3 The argument is that high capital mobility limits discretionary policy and forces governments to adopt 'good' or market-conforming policies, including sound financial

supervision policies.

4 During the height of the Asian crisis, and just three days before Malaysia imposed controls on 1 September 1998, Paul Krugman posted on his web-site a provocative article justifying the use of controls on capital outflows to combat speculative attacks (Krugman 1998a). Specifically, Krugman argued that emergency controls on capital outflows may be a prudent choice at times of severe speculative attacks from domestic and foreign speculators. While some viewed Krugman's piece as providing intellectual cover for Malaysia's use of controls, Krugman clarified his position a week later in an article aptly titled, "Saving Asia: It's Time to Get Radical" – arguing that since earlier prescriptions, in particular, protecting the currency through sharp rises in interest rates ("the IMF model"), or allowing a sharp depreciation of the exchange rate have not worked *"temporary controls on capital"* is the least bad choice, if not the only choice, left to a country desperately trying to halt a financial meltdown[4]. Yet, Krugman also adds that such temporary and "curative" controls must serve as an aid to reforms, and should be dismantled once the economy recovers. A host of other distinguished analysts have echoed similar sentiments. Dani Rodrik (1998a), uses a GDP per capita growth equation and a simple index of capital-account openness with a sample of some 100 developed and developing countries for 1975-1989 and finds that there was no significant relationship between liberalizing capital flows and economic growth. He issues an indictment of the IMF's push for unconditional capital market liberalization, arguing that since asymmetric information problems are endemic to financial markets it is time for "the IMF to accept temporary capital controls in the countries that are otherwise following its recipes, so that they, too, can revive their economies." Echoing Krugman, Alan Blinder (1999, 50-63) (also a former vice-chairman of the Federal Reserve), has suggested that emerging economies should not "rush to open capital markets [since] unfettered international financial mobility is not the best system for all countries." Similarly, Jagdish Bhagwati notes that while there may be efficiency gains from liberalizing capital movements, the benefits are small and also uncertain. He notes that whereas there is a very strong empirical basis for asserting significant benefits from liberalization of trade and foreign direct investment, there is much less evidence for claiming similar benefits from liberalization of capital movements. Thus, emerging market economies should liberalize inflows of foreign direct investment, but continue to be cautious on liberalizing other capital flows. Finally, Barry Eichengreen and Charles Wyplosz (1996) point out that most foreign exchange transactions have little to do with economic fundamentals, and only contribute to destabilizing and reducing social welfare. Thus, they make a case for the Tobin tax as a tool to lower welfare-reducing short-term capital flows without affecting welfare-enhancing long-term flows. To Eichengreen (1999), capital controls can be used as a third line of defense following the first line of defense (banks' own risk-management practices), and the second line of defense (regulatory supervision). Eichengreen 1999, 49-50; 2000a) argues that since building effective regulatory and supervisory institutions for financial markets may take a long time, he proposes that countries with underdeveloped domestic financial markets and inadequate auditing and accounting standards should impose a tax on short term capital inflows because, "under these circumstances, banks gambling for redemption or otherwise unable to manage the riskiness of their portfolios will tend to fund themselves excessively abroad, and foreigners will tend to accommodate them. Holding-period taxes on all capital inflows are the only effective way of containing this problem." For Eichengreen, Chilean-style controls on *capital inflows* is an appropriate way to stop the "boom and bust" cycles associated with volatile short-term capital flows.

5 Capital account convertibility can be broadly defined as the freedom from quantitative

controls, taxes and subsidies that affect capital account transactions between residents and non-residents. Examples of such transactions include all credit transactions between residents and non-residents, including trade and non-trade related credits and deposit transactions, and transactions in securities and other negotiable financial claims.

6 The rationale for the Chilean tax was threefold: (1) to prevent overvaluation of the peso, which would have negatively affected the country's export-oriented growth, (2) encourage more long-term capital inflows for developmental purposes, and (3) discourage residents from relying too heavily on short-term borrowing, thereby reducing the problem of maturity mismatch (that is heavy short-term borrowing and long-term lending). When short-term flows dried up in 1998, the premium was reduced to zero. However, what is important to note is that Chile's URR on most capital flows was market based and non-discriminatory form of capital control with many desirable macroeconomic effects. Studies of the Chilean case suggest that while the controls had limited success in reducing the overall size of capital inflows, they were effective in altering the composition of inflows away from short-term money in favor of longer-term funds. However, the Chilean controls "worked" because it was comprehensive and an integral part of broader macroeconomic reforms. Specifically, the Chilean authorities closed all possible loopholes—even to the extent that domestic banks were prevented from writing offshore derivative swap contracts with foreign holders of long-term Chilean debt. Most importantly, Chile could do this because of its strong macroeconomic fundamentals. Its regulation of the financial sector is well-developed. Chile has in place a modern system of prudential banking regulation, effective loan recovery mechanisms and high transparency, disclosure and accountability standards, and an autonomous central bank.

7 India's exchange rate is not a completely free float. Rather the RBI intervenes (either through direct intervention in foreign exchange markets or through interest rate intervention) whenever it feels that the movement of the rupee is being driven by 'temporary imbalances of supply and demand' or by speculative pressure. Thus, the RBI's interventions are designed to calm markets, rather than fighting against all odds to maintain a particular rate.

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