

Crisis Prevention and Capital Controls in India: Perspectives from capital account in the current scenario

Nishtha Khurana¹

October 2007

Abstract

India with its long standing capital controls, now eyes a full capital account liberalisation by 2009-10, and further reforms are gradually being put in place including the opening of portfolio investments as capital inflows, much of which has been reinforced into a stock exchange boom. It is argued that portfolio investments are volatile and any kind of volatile flows make the developing economies vulnerable to financial crisis. This paper analyses the capital controls in India and the potential risk of a financial crisis and/or a recession hitting the Indian economy under the current scenarios. For this purpose, an analysis of the exchange rate regime, the stock market and banking sector has been undertaken to find out points of risk. The study reveals that the exchange rate in India is quasi-fixed and not market determined as contended by the central bank. It has also been observed that stock markets are likely to crash in the near future plunging the Indian economy into a recession. The banking sector at present does not constitute a major risk but at the same time is suffering from inherent weaknesses. Finally, based on this it is also concluded that time is not yet ripe for full capital account convertibility.

Key words: capital controls, capital account liberalisation, financial crisis, stock market crash

Corresponding Author

Ms. Nishtha Khurana

Fabeckstrasse 45

14195 Berlin

Germany

e-mail: nishkhurana@googlemail.de

¹ I thank Prof. Dr. Jan Prieue and Alok Juneja, for their continued guidance and fruitful discussions. I gratefully acknowledge the time and efforts devoted by Kavaljit Singh and Jayati Ghosh during my stay in Delhi in March 2006.

Introduction

In one of his speeches at a public school in Kerala in 2004, Dr. APJ Abdul Kalam, the former President of India, recited few words from his book 'India 2020 Vision': "I have three visions for India.... *Third* vision: India must stand up to the world. Because I believe that unless India stands up to the world, no one will respect us. Only strength respects strength. We must be strong not only as a military power but also as an economic power. Both must go hand-in-hand."

In its bid to trudge the path of economic strength, to counter the odds when faced with the balance-of-payments crisis in 1991, India introduced a selective set of economic reforms. Recent reforms include liberalised foreign investment and exchange regimes, industrial decontrol, significant reductions in tariffs and other trade barriers, reform and modernisation of the financial sector, significant adjustments in government monetary and fiscal policies, and safeguarding intellectual property rights. India is step-by-step heading towards a full capital account liberalisation by 2009-10, discarding its trademark capital controls, resulting in an unprecedented economic growth and an extraordinary reserve of foreign exchange. However, these reforms entail the opening of volatile portfolio investments as capital inflows which has shaped into a stock exchange boom, making the economy vulnerable to financial crisis.

In this paper, two basic research questions are addressed:

- a) What are the scenarios under which a financial crisis and/or a recession might occur in India?
- b) Should India liberalise the capital account in the current situation?

Indian Overview

The Indian economy is one of the fastest growing economies in the developing world today and, along with China, is touted as the happening emerging market in current times. In a recent survey by UNCTAD focussing on Transnational Corporations (i.e. primarily FDI), India ranked among the top three most attractive global business locations besides China and United states. Although the experts placed it at the third position, the responses from Transnational Corporations (TNCs) placed India at the second spot before the United States (UNCTAD, 2005, p. 35).

This hardly seems surprising as India's economic performance over the past several years has been truly extraordinary. It now appears set for an extended period of rapid economic development, but such an outcome is by no means assured. This section analyses how far such expectations are realistic.

a) Balance-of-Payments Analysis²

For fourth year in a row, India has managed to come up with an economic performance which is nothing short of impressive. Growing openness and rising consumer and investor confidence are helping sustain a rapid growth of over 8 percent, buoying

² These figures in this sub-section have been derived from the Union Budget 2007-08 (<http://indiabudget.nic.in/ub2006-07/ubmain.htm>).

foreign investor interest. Firms are investing in new capacity to tap growing internal and external markets, igniting consumer expenditure as real per capita incomes rose by over 50 percent in the past decade. India's growth spurt has been accompanied by a marked opening to the regional and global economy. Meanwhile, Inflation remained low through August 2005, but has risen in recent months reflecting higher pass-through of world oil price increases and robust demand.

The Indian economy achieved a gross domestic product (GDP) growth rate of 8.1 percent in FY 2005-06 (i.e. April 2005 – March 2006), helped by broad-based domestic demand growth. Gross fixed capital formation grew at an estimated rate of 8.5 percent, reflecting rising investor confidence in the face of strongly entrenched demand growth and as a consequence of the expansion in credit and companies' initial public offerings. The ratio of gross fixed capital formation in GDP has increased to 25.9 percent and that of gross domestic capital formation to 30.1 percent. At the same time, public consumption grew less rapidly than GDP as the central Government has surpassed this target, reducing the deficit to 4.1 percent (as against 4.3 percent expected) of GDP. The boom in domestic private demand, combined with rising oil import costs, widened the trade deficit and pushed the current account further into a deficit equivalent to 2.5 percent of GDP. The importance of the services sector was reaffirmed in FY 2005-06 as it grew by an unprecedented 9.8 percent now accounting for 54 percent of economic output, whereas the industry sector, which accounts for approximately 26 percent of GDP, grew by 9.0 percent. The agriculture sector, with a share of about 20 percent of GDP, registered a minimal growth rate of 2.3 percent despite a favourable monsoon, reflecting continuing difficulties in raising productivity. Table 1 gives a further comparison between F.Y. 2005-06 and F.Y. 2006-07.

Table 1 Economic Indicators (in percentage) of F.Y. 2005-06 vis-à-vis F.Y. 2006-07

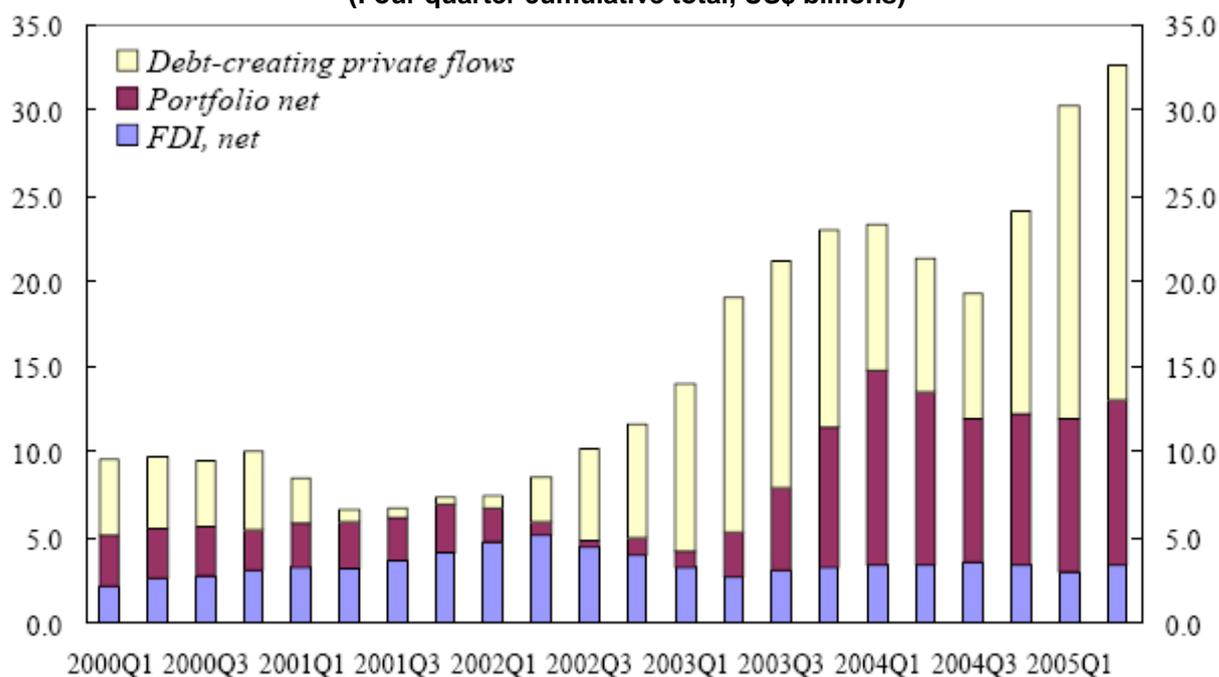
Economic Indicator	F.Y. 2005-06	F.Y. 2006-07
GDP growth	8.1	9.2
Manufacturing sector growth	9.0	11.3
Service sector growth	9.8	11.2
Agriculture sector growth	2.3	2.3

Source: Union Budget 2006-07 (<http://indiabudget.nic.in/ub2006-07/ubmain.htm>) and Union Budget 2007-08 (<http://indiabudget.nic.in/ub2007-08/ubmain.htm>).

Capital flows into India have surged in recent years, especially since April 2003, tripling to about USD 32 billion per annum. The most significant growth has been observed in debt creating non-portfolio flows (primarily reflecting bank loans, external commercial borrowings (ECBs), and to a much smaller extent trade-related credits), followed closely by portfolio investments and then by foreign direct investments (FDI), as can be seen in figure 1³.

³ Debt-creating private flows refer to the balance after deducting FDI and portfolio investments from the total private capital flows.

**Fig. 1 Composition of Net Capital Flows to India
(Four quarter cumulative total, US\$ billions)**



Source: IMF, 2006, p. 8.

There has been a growing concern for fiscal deficit as well as general government fiscal deficit, though the latter has, over the past few years, declined from 10 percent to less than 8 percent of GDP. As stated above, the central government deficit in FY 2005-06 is 4.1 percent but when the accounts of the state governments are combined with the federal account, the consolidated overall fiscal deficit approaches 7.6 percent of GDP.⁴ At the same time, a large infrastructure gap and critical social needs require higher government spending. Table 2 gives details of the debt receipts to finance fiscal deficit.

Table 2 Debt Receipts to finance Fiscal Deficit

Debt Receipts to finance fiscal deficit (in Rs. billion)	2005-06	
	Budget Estimates	Revised Estimates
Market Loans	10383.6	10037.3
Short term borrowings	645.5	852.6
External Assistance (Net)	965.6	751.4
Securities issued against Small Savings	301.0	135.0
State Provident Funds (Net)	500.0	550.0
Other Receipts (Net)	2004.7	787.5
Draw-down of Cash Balance	314.0	1503.7
Total	15114.4	14617.5

Source: Union Budget 2006-07 (<http://indiabudget.nic.in/ub2006-07/ubmain.htm>).

Other developments too are remarkable. First, the equity markets tantalized strongly in the year 2005 till date with the Bombay Stock Exchange's Sensitive Index (SENSEX) crossing the haloed 17,000 mark in September 2007. The rally was broad based across sectors and is often attributed to strong fundamentals of the economy and large purchases by mutual funds and international investors. However, such pace does vex some observers with respect to the relatively high growth of potentially speculative

⁴ Many states have substantial accrued levels of debt (the IMF estimates that the combined value of states' debt is equal to 33 percent of national GDP), the interest burden of which is substantial.

portfolio investment, while the Reserve Bank of India (RBI) has urged investors to exercise caution. Second, the demand for bank credit by the commercial sector has grown strongly in the last couple of years despite the fact that deposits have not been able to keep pace with credit growth. India had the fastest rate of credit growth in Asia in 2004-05. In the year ending in March 2005, bank credit grew by over 30 percent, the ratio of private sector credit to GDP grew to around 40 percent, and the aggregate credit-to-deposit ratio exceeded 60 percent. Nevertheless, credit remains low compared to GDP (around 40 percent), reflecting a low level of financial intermediation compared to other countries. Noteworthy is that the growth in bank credit has been accompanied by changes in the composition of loan portfolios to include higher-yield, though riskier, loans. For instance, consumer and mortgage lending have grown in importance as against lending to industrial corporations, which have traditionally been large and relatively secure customers for bank credit. They are now relying more on raising finance directly in capital markets.

Capital Controls in India

“We can’t allow economies to be destabilized by someone pressing a finger on a computer key and moving billions in and out of markets. If we don’t replace the present chaos with order, then globalisation will remain a 13-letter dirty word,” said India’s then finance minister, Yashwant Sinha at the World Economic Forum held in February 1999 in Davos.⁵

On hearing this, one would expect Indian authorities to follow their own advice and consequently adopt policy measures to regulate capital flows. On the contrary, there has been a pronounced 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 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.

Within a decade of independence, India introduced a complex web of controls on trade flows and other current account transactions. At that time, the capital account was a negligible residual. Private capital flows in or out from India were no more than a trickle for almost three decades thereafter. Concessional development assistance was the only noteworthy form of foreign capital inflows until 1980s when India opted for commercial borrowing in international capital markets and/or on commercial terms from non-resident Indians. Soon other forms of private foreign capital flows were introduced in the 1990s. Hereby, steps were taken for the first time ever to remove “financial repression” and introduce financial flexibility (Table 3).

⁵ Quoted in T N Ninan, “Sinha seeks Rules for Capital Flows,” *Business Standard*, February 2, 1999, p. 1.

Table 3 Institutional Reforms in Government Securities Market

Institutional Measures

- ◆ Administered interest rates on government securities were replaced by an auction system for price discovery.
- ◆ Automatic monetisation of fiscal deficit through the issue of ad hoc Treasury Bills was phased out.
- ◆ Primary Dealers (PD) were introduced as market makers in the government securities market.
- ◆ For ensuring transparency in the trading of government securities, Delivery versus Pay (DvP) settlement system was introduced.
- ◆ Repurchase agreements (repo) was introduced as a tool of short-term liquidity adjustment. Subsequently, the Liquidity Adjustment Facility (LAF) was introduced. LAF operates through repo and reverse auctions to set up a corridor for short-term interest rate. LAF has emerged as the tool for both liquidity management and also signaling device for interest rates in the overnight market.
- ◆ Market Stabilisation Scheme (MSS) has been introduced, which has expanded the instruments available to the Reserve Bank for managing the surplus liquidity in the system.



Increase in Instruments in Government Securities Market

- ◆ 91-day Treasury bill was introduced for managing liquidity and benchmarking. Zero Coupon Bonds, Floating Rate Bonds, Capital Indexed Bonds were issued and exchange traded interest rate futures were introduced. OTC interest rate derivatives like IRS/FRA were introduced.

Enabling Measures

- ◆ Foreign Institutional Investors (FIIs) were allowed to invest in government securities subject to certain limits.
- ◆ Introduction of automated screen-based trading in government securities through Negotiated Dealing System (NDS). Setting up of risk-free payments and settlement system in government securities through Clearing Corporation of India Limited (CCIL). Phased introduction of Real Time Gross Settlement System (RTGS).
- ◆ Introduction of trading of government securities on stock exchanges for promoting retailing in such securities, permitting non-banks to participate in repo market.

Source: Mohan, 2005, p. 962

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 fulfilment of some conditions. India's case confirms to the second category. A more substantive, albeit gradual, progress towards complete capital account convertibility⁶ was laid down by the high level committee on balance of payments headed by Dr C Rangarajan.

Table 4 Ownership restrictions on FDI

Sector	Limit on foreign ownership (per cent)
<i>FDI prohibited</i>	
Retail, Plantations, Real estate.	0
<i>FDI with limits on foreign ownership</i>	
Broadcasting	20 / 49
Defence	26
Insurance	26
Petroleum refining	26
Airlines	49
Oil and gas pipelines	51
Trading	51
Petroleum exploration	51 to 100
Petroleum distribution	74
Mining for diamonds, precious stones	74
Coal mining	74
Telecom	74
Banking	74
Advertising	74
Airports	74/100
<i>All other areas</i>	100

Source: Shah, 2005, p. 16.

The approach to capital account convertibility was cautious as the need to shift away from debt creating to non-debt creating inflows – with emphasis on more stable long-term inflows in the form of FDI and portfolio investment⁷ – was recognised. The 1991 external debt crisis experience dictated the parameters of capital account liberalization. It prompted strict regulation of external commercial borrowing, especially short-term debt, and led to a systematic effort to discourage volatile capital flows associated with repatriable non-resident deposits. The liberalisation of the policy regime for FDI began in July 1991 with two major decisions thereby creating 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. Presently, foreign ownership in certain sectors (e.g. telecom, insurance, banking, etc.) is capped at various levels (Table 4).

The liberalisation of the policy regime was extended to portfolio investment in September 1992. Since then a lot of changes in regulations pertaining to portfolio investments have been introduced in India (Table 5).

⁶ The first step towards the current account convertibility as per Article VIII status at the IMF was in trade transactions. Owing to apprehensiveness about capital outflows in the guise of current account transactions, some restrictions continued as safeguards.

⁷ The above-said committee identifies portfolio investments as long-term inflows which still remain debatable.

Table 5 Chronology of easing controls on portfolio flows

14 September 1992	“Foreign institutional investors” (FIIs) permitted into the country: these included pension funds, mutual funds, endowments etc. proposing to invest in India as a “broad based funds” with atleast 50 investors and no investor with more than 5%. Permitted access to primary and secondary market for securities, and products sold by mutual funds, with a minimum 70% investment in equities. Ceiling upon one FII of 5% ownership of any firm, and ceiling upon total of all FIIs at 24 %.
November 1996	New concept of “100% debt FIIs” permitted, which could invest in corporate bonds but not government bonds.
4 April 1997	Ceiling upon total ownership by all FIIs of local firms raised from 24% to 30% (required shareholder resolution).
April 1998	FIIs permitted to invest in government bonds, subject to a ceiling upon all FIIs put together of \$1 billion.
11 June 1998	Ceiling upon ownership by one FII in one firm raised from 5% to 10%. FIIs permitted to partially hedge currency exposure using the currency forward market. FIIs permitted to trade on the equity derivatives market in a limited way.
August 1999	Requirement that FII must have atleast 50 investors eased to 20 investors.
February 2000	Foreign firms and individuals permitted access to the Indian market through FIIs as “sub accounts”. Local fund managers also permitted to do fund management for foreign firms and individuals through sub accounts. Requirement that no investor can have over 5% of the FII fund eased to 10%.
1 March 2000	Ceiling upon total ownership by all FIIs of local firms raised from 30% to 40% (required shareholder resolution).
8 March 2001	Ceiling upon total ownership by all FIIs of local firms raised from 40% to 49% (required shareholder resolution).
20 September 2001	Ceiling upon total ownership by all FIIs of local firms raised from 49% to “the sectoral cap for the industry” (required shareholder resolution).
8 January 2003	Limitations upon FIIs hedging using the currency forward market removed.
December 2003	Twin approvals for FIIs at both SEBI and RBI replaced by single approval at SEBI.
November 2004	New ceiling placed upon total ownership by all FIIs of corporate bonds of \$0.5 billion.

Source: Shah, 2005, p. 11.

A committee on capital account convertibility was set up under the chairmanship of Dr Tarapore which suggested a roadmap towards full capital account convertibility. The report, however, proposed three basic preconditions that needed to be met before full capital account convertibility could be attained. First, a reduction in the fiscal deficit to gross GDP ratio to 3.5 percent was recommended. Second, inflation target of 3-5 percent was considered appropriate. Last, measures to strengthen the financial sector, and especially the banking sector were emphasised upon. The ratio of gross non-performing assets (NPAs) to advances was to be reduced to 5 percent and the cash reserve ratio (CRR) to 3 percent. At the same time, the committee called for a reduction in the external debt service ratio to about 20 percent and the prescription of net foreign assets to currency ratio of 40 percent. All these measures, it was hoped, would be achieved by 1999-2000. However, this was not to be so. While most of these targeted recommendations were achieved sooner or later, the fiscal deficit to GDP ratio and ratio of non-performing assets to total advances are still at levels higher than that envisaged in the recommendations. Besides, the dawn of the Asian currency crisis in 1997 stalled the process. More recently, a new committee has been set up to chart out a fresh roadmap based on current realities. However, it has been clarified that a free float of the Rupee is not expected before 2009 since revenue deficit is unlikely to be wiped out and fiscal deficit brought down to 3 percent.

In a nutshell, minimal capital controls prevailed as of late 2004. The only restriction on current account was on purchase of more than USD 10,000 per annum for the purpose of foreign travel. The access to currency markets was primarily available only to banks and economic agents with a direct current account or capital account exposure, who are allowed to trade in the market. There was still an absence of exchange traded currency derivatives, whereas importers and/or exporters face binding restrictions on the size of their currency forward positions. Outflows by individuals are limited to USD 25,000 per annum while those by firms to capital equalling their net worth. External borrowings must be of a maturity period of three and five years respectively in the case of a borrowing of a sum upto USD 20 million and above. Borrowing up to USD 500 million by a firm “for certain specified end-users” does not require any approvals, however, there is a ceiling whereby approvals for borrowing by all firms (put together), in a year, should not exceed USD 9 billion per annum⁸. The borrowing by banks from foreigners was allowed only at the central bank controlled interest rate “non-resident deposits”. There was a generic restriction on portfolio flows, stating that only “foreign institutional investors” (FIIs) are permitted to invest in the country, with an aggregate investment in government bonds by all foreign investors together not exceeding USD 1.75 billion (and that by any one fund not exceeding 30 percent). The total corporate bond ownership by all foreign investors was allowed up to USD 0.5 billion. However, in case of equity investments, the aggregate foreign holding in a company was subject to a limit that can be set by the shareholders of the company, provided no one foreign portfolio investor owned more than 10% of a company⁹. The firms were otherwise free to issue GDRs/ADRs outside the country, which could be sold to a broad swathe of global investors¹⁰. As regards FDI, foreign companies were required to take approval of the first firm they chose to do a joint venture with in the country, if they wished to start a related business (Shah, 2005, pp. 15-17).

Exchange Rate Regime in India

“Whether a country should choose a fixed or flexible exchange rate, or some intermediate regime, is one of the oldest policy questions in economics. It is also one of the most important. Many countries have encountered crises that interrupted their growth because they made a bad choice. Others have never got growth going because of misguided decisions.” (Williamson, 2004)

It is often contended that the Indian approach to opening the external sector and developing the foreign exchange market – in a phased manner from current account convertibility to the ongoing process of capital account opening – is perhaps the most striking success relative to other emerging market economies. Experience shows no accidents in this process. The exchange rate has been market determined and flexible for all practical purposes; and the process has been carefully calibrated. However, the Indian exchange rate regime can up to now at best be described as a ‘managed float’ as is discussed further in this section.

⁸ Such “certain specified end-users” include, for example, expanding a factory, or importing capital goods. The overall limit of USD 9 billion had never been reached. Firms are “required to hedge their currency exposure”, and substantial restrictions on their activities on the currency forward market are in place.

⁹ The limit on foreign holding was, in turn, subject to “sectoral limits” which applied in certain sectors. Foreign ownership in certain sectors (telecom, insurance, banking, etc.) was capped at various levels.

¹⁰ Within these restrictions, foreign investors were fully able to convert currency, hedge currency risk, and trade in the equity spot or derivatives markets.

India moved from a fixed exchange rate to a “market-determined” one in 1993 as a result of changes in the management of exchange rate and development of a market for foreign exchange. This goes hand in hand with the opening up of the capital account in the long-run. In July 1991, there was a substantial exchange rate adjustment when the rupee was depreciated in two steps by almost 20 percent as against the U.S. Dollar. There was a further depreciation of the rupee implicit in the introduction of a dual exchange rate system in March 1992 and the subsequent unification of the exchange rate in March 1993 at the market determined rate. Consequently, between end-June 1991 and end-June 1993, in nominal terms, the rupee had depreciated by about 33 percent against the U.S. Dollar. Recognising the importance of the development of the foreign exchange market, more so in a country opting for globalisation, an expert group on foreign exchange (the Sodhani Committee) was set up in 1994; which laid the foundation for the development of the foreign exchange market in India. The summary of reforms introduced in this market is presented in Table 6.

Table 6 Reforms in Foreign Exchange Market in India

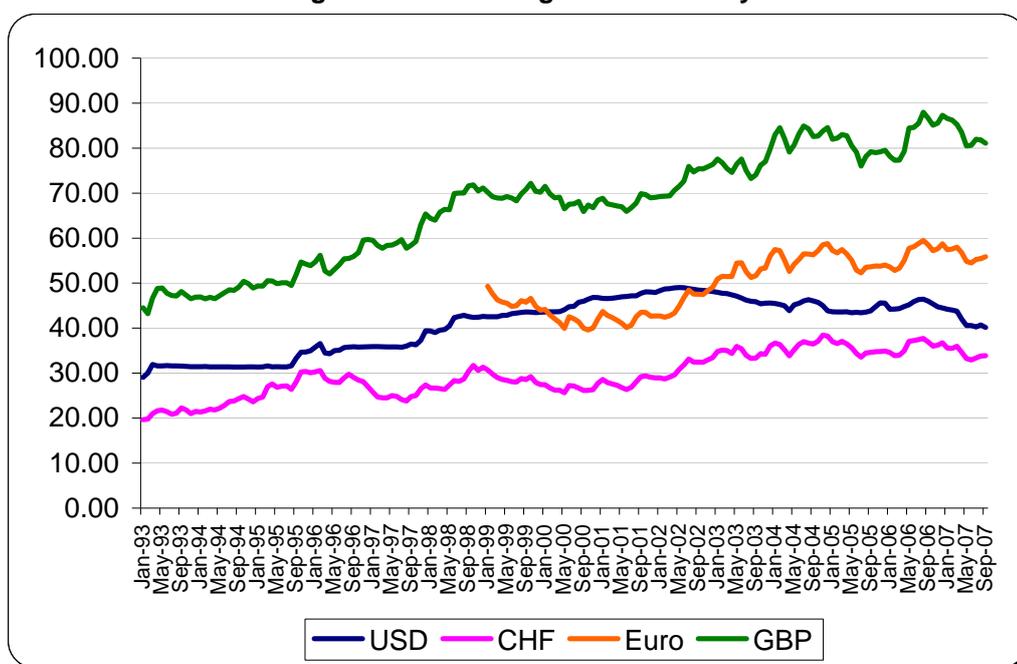
Exchange Rate Regime	Liberalisation Measures
<ul style="list-style-type: none"> ■ Evolution of exchange rate regime from a single-currency fixed-exchange rate system to fixing the value of rupee against a basket of currencies and further to market-determined floating exchange rate regime. ■ Adoption of convertibility of rupee for current account transactions with acceptance of Article VIII of the Articles of Agreement of the IMF. De facto full capital account convertibility for non-residents and calibrated liberalisation of transactions undertaken for capital account purposes in the case of residents. <p>Institutional Framework</p> <ul style="list-style-type: none"> ■ Replacement of the earlier Foreign Exchange Regulation Act (FERA), 1973 by the market friendly Foreign Exchange Management Act, 1999. Delegation of considerable powers by RBI to Authorised Dealers to release foreign exchange for a variety of purposes. <p>Increase in Instruments in forex market</p> <ul style="list-style-type: none"> ■ Development of rupee-foreign currency swap market. ■ Introduction of additional hedging instruments, such as, foreign currency-rupee options. Authorised dealers permitted to use innovative products like cross-currency options, interest rate and currency swaps, cap/collars and forward rate agreements (FRSs) in the international forex market. 	<ul style="list-style-type: none"> ■ Authorised dealers permitted to initiate trading positions, borrow and invest in overseas market subject to certain specifications and ratification by respective Banks’ Boards. Banks are also permitted to fix interest rates on non-resident deposits, subject to certain specification, use derivative products for asset-liability management and fix overnight open position limits and gap limits in the foreign exchange market, subject to ratification by RBI. ■ Permission to various participants in the foreign exchange market, including exporters, Indian investing abroad, FIIs, to avail forward cover and enter into swap transactions without any limit subject to genuine underlying exposure. ■ FIIs and NRIs permitted to trade in exchange-traded derivative contracts subject to certain conditions. ■ Foreign exchange earners permitted to maintain foreign currency accounts. Residents are permitted to open such accounts within the general limit of US\$25,000 per year.

Source: Mohan, 2005, p. 970.

By definition, a “market-determined” rate is when there is a currency market and the exchange rate is not administratively determined. However, it is a well-known fact that the RBI actively trades on the market, with the goal of “containing volatility”, and influencing the market price. Shah asserts that there is a marked difference between “the *de facto* and the *de jure* currency regime” in India. He analyses Patnaik’s (2003) claims that India has a quasi-managed floating exchange rate because of following reasons: (1) there is extremely low volatility of the Indian Rupee with respect to the U.S. Dollars

alongside high volatilities of other exchange rates such as that against the Euro or the Japanese Yen; (2) the Frankel & Wei regression¹¹, when tested for pegging the Indian Rupee against the U.S. Dollars, yields overwhelmingly positive results indicating that the dominant currency responsible in explaining fluctuations of the Indian currency is the U.S. Dollar; (3) there has been an enormous build up of reserves after mid-2002; and (4) the Calvo & Reinhart (2002) λ metric when extended beyond 1999 indicates that there has been no change in this metric over 1979-2003 (Shah, 2005, pp. 8-10).

Fig. 2 India: Exchange Rate Volatility



Source: Author's compilation from data on the Federal Reserve Bank of St. Louis Website; dt. Oct 03, 2007 (<http://research.stlouisfed.org/fred2/categories/15>).

The first case has been verified on a time series for the Indian currency in figure 2, where the volatility of the Indian Rupee has been verified against the U.S. Dollars (USD), the Euro, the British Pound (GBP), and the Swiss Franc (CHF). The data was taken on a monthly average basis for the entire interval of time during which the exchange rate in India has been “market determined”, i.e. between January 1993 and September 2007, to observe the fluctuations over the whole period. As can be observed, the exchange rate of Indian Rupee as against the U.S. Dollar is virtually smooth and free from radical fluctuations, whereas that of Indian Rupee against the British Pound, the Euro, and the Swiss Franc is visibly volatile. Exception, however, is the period during which the financial crisis hit the Southeast Asian countries. Since there was an expectation of capital outflows arising from contagion effects as the financial crisis spread through several countries in Asia, the rupee witnessed a mounting pressure for depreciation, in nominal terms, in the second half of 1997-98. The surge in capital

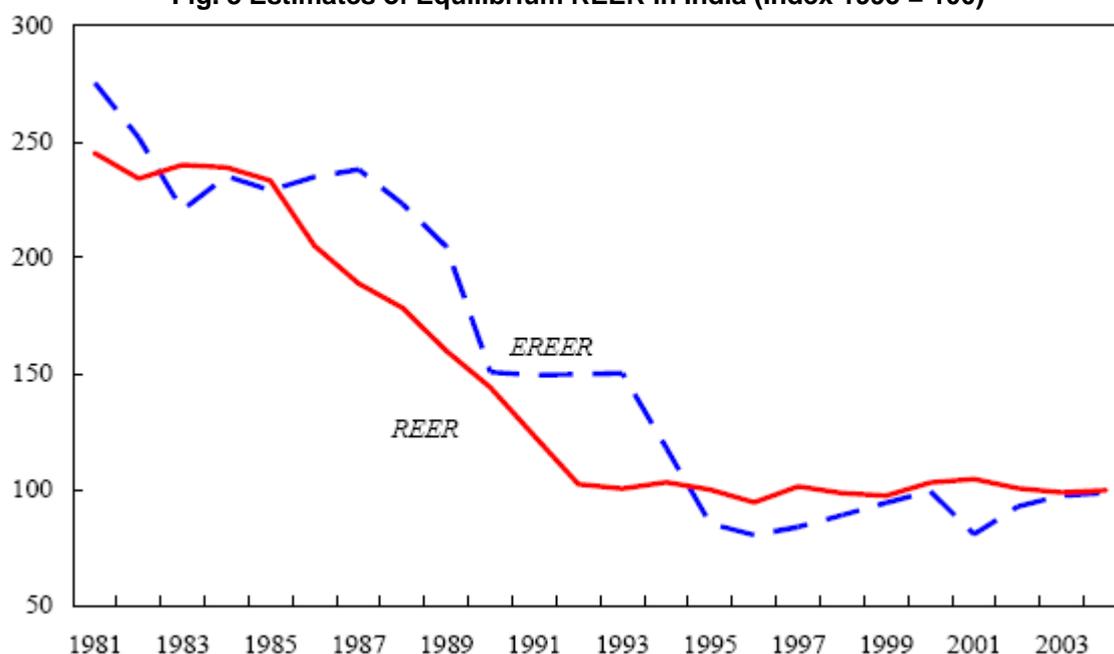
¹¹ “Frankel & Wei (1994) developed a regression based approach for testing for pegging. In this approach, an independent currency, such as the Swiss Franc (CHF), is chosen as a ‘numeraire’. The model estimated is:

$$d \log \left(\frac{\text{INR}}{\text{CHF}} \right) = \beta_1 + \beta_2 d \log \left(\frac{\text{USD}}{\text{CHF}} \right) + \beta_3 d \log \left(\frac{\text{JPY}}{\text{CHF}} \right) + \beta_4 d \log \left(\frac{\text{DEM}}{\text{CHF}} \right) + \epsilon$$

This regression picks up the extent to which the INR/CHF rate fluctuates in response to fluctuations in the USD/CHF rate. If there is pegging to the USD, then fluctuations in the JPY and DEM will be irrelevant, and we will observe $\beta_3 = \beta_4 = 0$ while $\beta_2 = 1$. If there is no pegging, then all the three coefficients will be different from 0. The R^2 of this regression is also of interest; values near 1 would suggest reduced exchange rate flexibility” (Shah, 2005, p. 9).

inflows during the preceding year exacerbated the problem by the appreciation in the real effective exchange rate of the rupee over time (figure 3). There was also a sharp slow down in capital inflows as confidence in international financial markets took a beating. Further, there was considerable volatility in the foreign exchange market between November 1997 and February 1998. The RBI reverted to large sales of U.S. Dollars in the spot market and in the forward market in an attempt to manage the situation, combining such purchases with monetary policy and administrative measures to stem adverse market expectations. This intervention had some impact on a nervous market though, not surprisingly, the efforts met with only limited success. As can be seen in figure 2, in a short span of nine months i.e. between end-September 1997 and end-June 1998, the exchange rate depreciated from Rs. 36.40 to Rs. 42.50 with respect to the U.S. Dollar. Nevertheless, this analysis confirms the argument that the exchange rate regime in India is a ‘managed float’¹².

Fig. 3 Estimates of Equilibrium REER in India (Index 1995 = 100)



Source: IMF, 2006, p. 17.

The whole object of such an exchange rate regime is to prevent destabilising speculation. Contrary to beliefs, the exchange rate is managed as much as possible, except when no room for manoeuvre is left by the market itself. Such extensive management of the exchange rate has been made possible only by the voluminous capital controls in India. Thus, to some extent, there is limited integration into international financial markets thereby enabling the RBI to intervene in a thin market for foreign exchange. This task has been somewhat facilitated by not so huge current account deficits and a very comfortable foreign exchange reserves position. Furthermore, many Indian economists contend that capital account liberalization, though limited, has reduced degrees of freedom in exchange rate policy. It is argued to do so “in

¹² There are two types of managed floats: (1) one closer to a floating exchange rate, where there is only minor interference by the central bank to avoid any short-term fluctuations; and (2) the other closer to a fixed exchange rate as there are heavy interventions by the central bank, to determine the direction and/or trend of the exchange rate. India falls under the second category (as can be proven by the accumulation of huge foreign exchange reserves).

three ways: by forcing an appreciation of the Real Effective Exchange Rate (REER)¹³ of the rupee over some periods, by creating a pressure for a nominal appreciation of the rupee in other periods, and by mounting a pressure for a nominal depreciation of the rupee in yet other periods” (Nayyar, 2002, p. 115). Furthermore, RBI revised its REER index in December to reflect changes in goods trade patterns. It has thereafter been shown to have risen by 7.6 percent since 2003-04, and by 6.4 percent since 1993-94. This has prompted some analysts to argue that the rupee is overvalued. However, the IMF investigation which uses ‘vector-error-correction models’ has suggested that at end-2004 the rupee was undervalued by about 15 percent, when trends in relative productivity, openness, and net foreign assets have been incorporated in the model. Yet another specification that includes a control for the 1991 balance of payments crises finds the rupee fairly valued over the same period¹⁴. IMF, on the other hand, argues that “India’s export performance in goods and services suggests that the exchange rate has not undermined competitiveness” (IMF, 2006, p. 17).

Scenarios in which Crises are likely

A. Stock Market Crash

“As long as there is no disorderly movement in the markets, I have to assume that investors, both buyers and sellers, know what they are doing,” said India’s Finance Minister, Mr. P. Chidambaram, when asked whether he believed that the steep rise in India’s stock market has created a bubble (TOI, 2006).

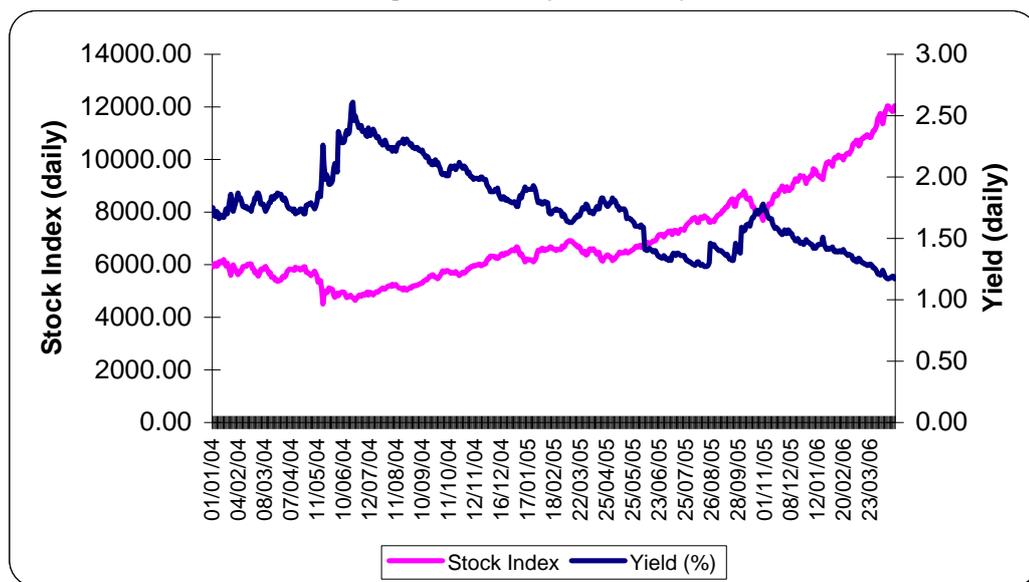
Just as the bulls continue their buying spree on the bourses and *Sensex* soars higher and higher, the evidence becomes stark and incontrovertible. The Bombay Stock Exchange’s Sensitive Index (*Sensex*) rose from 3727 on March 3, 2003 to 5054 on July 22, 2004, to 12040 on April 20, 2006 and again touching 17150 on September 27, 2007 gaining the last 1000 points in less than 6 trading sessions. The implied price increases of about 200 percent in the last 3 years are indeed remarkable. The story with the National Stock Exchange 50 Index (*Nifty*)¹⁵ has been much the same. It is not surprising that, despite fluctuations, the period of surge in the stock market was also one when FIIs investments have been extremely buoyant. According to Ghosh, the market in India lacks width and depth, with few investors, few companies whose shares are actively traded, and a small proportion of those shares available for trading. Hence any new capital inflow does trigger price increases (Ghosh, 2006).

¹³ The real effective exchange rate is an indicator of competitiveness which takes into account both export and import competitiveness. A fall indicates an improvement in competitive position. (Definition source: <http://stats.oecd.org/mei/default.asp?lang=e&subject=16>)

¹⁴ The concept of ‘what constitutes overvaluation or undervaluation’ is a debatable issue and there are various conspicuous disagreements amongst various economists in this area.

¹⁵ The study, however, has been restricted to BSE *Sensex* and has not been extended to include NSE’s *Nifty*. A similar analysis on *Nifty* is likely to reveal similar results.

Fig. 4 Sensex (2004-2006)



Source: Author's compilation from data provided by the Economic Times, India.

Figure 4 shows the daily stock price index of the Bombay Stock Exchange, Sensex, from January 2004 through April 2006, along with the corresponding series of the dividend yields for the same period¹⁶. As can be observed, it is clearly the most dramatic bull market in the Indian history with the Index, starting from nearly 6000 points in January 2004, subsequently rocketing to the 12000 mark in April 2006, i.e. in a short span of 28 months¹⁷. Yet, this dramatic increase in prices is not matched in the yield growth. Looking at the figure, no spike in yield growth is visible. On the contrary, the yield curve shows an equally dramatic downward movement. This clearly suggests that the stocks are overpriced, with the price-earning ratio hovering fairly over the figure of 21 at the end of April 2004. No such episode in the history of the Indian stock markets comes even near to the present boom, except the 1992 rise in the stocks now referred to as the "Mehta Peak".¹⁸ The market fell by 50.3 percent in the following year, after the scandal was uncovered.

In fact, the market has since touched 17000 points, the unbelievable first in the history of Indian markets. The bullish traders are hailing it as the first scam-free boom in the market and predicting it to go even higher. Table 7 highlights the journey of Sensex till the 17000 mark.

¹⁶ Due to lack of time and resources, the author was unable to gather complete data of recent months, hence, the analysis has been restricted to the period April 2006. However, a brief overview of further months indicates the continuation of the same trend.

¹⁷ A slight trough can be observed in the index in May 2004 owing to uncertainty clouding the Indian political scene with no political party winning a clear majority in the central elections and later due to the inclusion of a number of Left Parties in the coalition forming the government. But, this uncertainty was soon overcome.

¹⁸ This period is named so after Mr. Harshad "Big Bull" Mehta, a Mumbai stockbroker, who set off a national scandal in 1992 after the market peak had been reached.

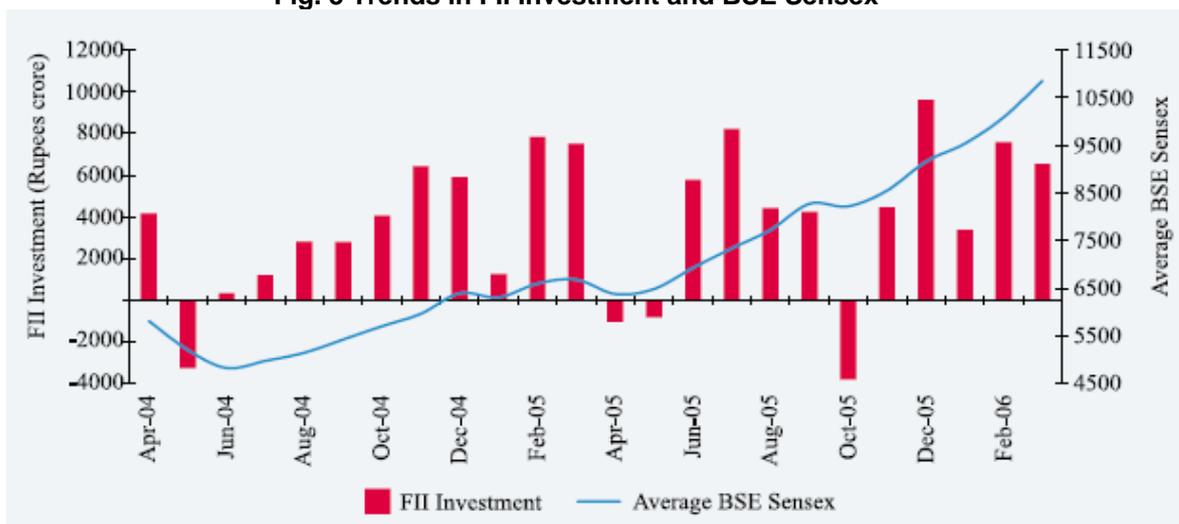
Table 7 Timeline on the rise of the Bombay Stock Exchange (Sensex)

Landmark	Date of achievement	Remarks, if any
1000	July 25, 1990	Sensex closed at 1001 in the wake of a good monsoon and excellent corporate results
2000	January 15, 1992	The liberal economic policy initiatives undertaken by the then finance minister took Sensex past the 2000-mark
3000	February 29, 1992	Sensex surged past the 3000 mark in the wake of the market-friendly Budget
4000	March 30, 1992	Sensex crossed the 4000-mark on the expectations of a liberal export-import policy but soon the Harshad Mehta scam hit the markets
5000	October 8, 1999	Sensex crossed the 5000-mark as the BJP-led coalition won the majority in the 13th Lok Sabha election
6000	February 11, 2000	The infotech boom helped the Sensex to cross the 6000-mark
7000	June 20, 2005	The news of the settlement between the Ambani brothers boosted investor sentiments and the 7000-mark was reached
8000	September 8, 2005	Sensex crossed the 8000 level following brisk buying by foreign and domestic funds in early trading
9000	November 28, 2005	9000-mark touched on the back of frantic buying spree by foreign institutional investors and well supported by local operators as well as retail investors
10000	February 7, 2006	The Sensex on February 6, 2006 touched 10003 points during mid-session but finally closed above the 10000-mark a day later
11000	March 27, 2006	The Sensex on March 21, 2006 crossed the magical figure of 11000 during mid-session for the first time but it was on March 27, 2006 that the Sensex first closed at over 11000 points
12000	April 20, 2006	The fastest 1000-point gain by the Sensex taking only 15 trading sessions
13000	October 30, 2006	Sensex climbed over 13000 but fell back again before bouncing back the next day
14000	January 3, 2007	The trend continues as Sensex touches 14000-mark
15000	July 9, 2007	The magical figure of 15000-mark reached raising investor expectations
16000	September 19, 2007	Continued bullish markets take the Sensex to 16000-mark
17000	September 27, 2007	The fastest 1000-point gain record broken: only 6 trading sessions

Source: Author's compilation from 'The Sensex journey: From 1,000 to 17,000!' dt. 29.09.2007
(<http://www.rediff.com/money/2007/sep/24sensexmarkets.htm>)

Market observers, the financial media and a range of analysts have concurred that the FII investments have been an important force, even if not always the only one, driving markets to their unprecedented highs (Figure 5). In the period since April 2003, India has witnessed an extraordinary surge in FII investments. Having averaged USD 1,776 million a year during 1993-94 to 1997-98, net FII investment dipped to an average of USD 295 million during 1997-99, influenced no doubt by the Southeast Asian crisis. The average rose again to USD 1,829 million during 1999-2000 to 2001-02 only to fall USD 377 million in 2002-03. The surge began immediately thereafter and has yet to come to an end. Inflows averaged USD 9,599 million a year during 2003-05 and are estimated at USD 9,429 million during the first nine months of 2005-06. Going by data from the Securities and Exchange Board of India (SEBI), while cumulative net FII flows into India since the liberalisation of rules governing such flows in the early 1990s till end-March 2003 amounted to USD 15,804 million, the increment in cumulative value between that date and the end of December 2005 was USD 25,267 million.

Fig. 5 Trends in FII Investment and BSE Sensex



Source: RBI, 2006, p. 72.

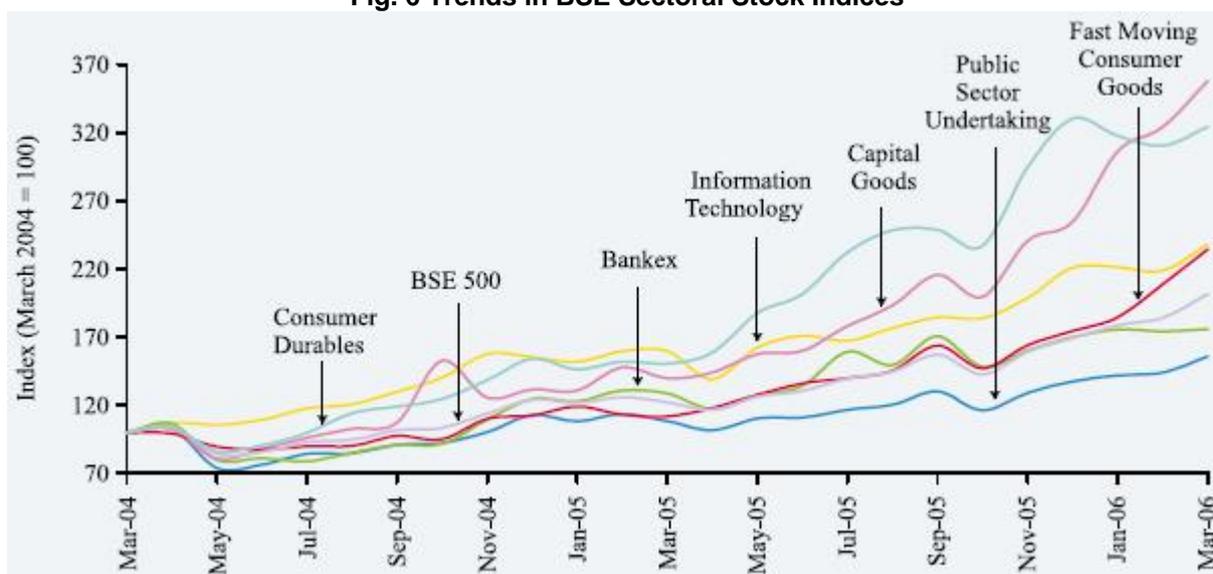
While the good profit performance of domestic firms may partly explain the high returns of recent times, other factors apart from liberalisation of the rules may have been more crucial to stock market and FII surge. To begin with, despite the RBI’s strategy of managing the exchange rate with large purchases of foreign currency, higher remittances and rising inflows on account of exports of software services played a pivotal role in strengthening of the Indian rupee. A stronger rupee connotes better returns in dollar terms, thus boosting foreign investors looking for capital gains. State policy can also be held responsible for the hike in returns on stock market investment. The long term capital gains tax being levied at the rate of 10 percent up to the Budget for 2003-04 was done away with. There is little doubt that this significant concession facilitated the above mentioned tide in a big way.

Once a boom in stock prices was triggered by the FII increase resulting from these factors, anticipations of further price increases took over, and the incentive to benefit from untaxed capital gains was only strengthened. In such circumstances, there is reason to believe that the herd instinct – so typical of financial investors guided by expectations – played a role in sustaining the boom, with a rush of investors into the country. At present, according to IMF, foreign investors account for about 13 percent of market capitalisation (IMF, 2006, p. 8). However, unofficial estimates, impossible to ignore due to the conspicuous lack of official estimates in India, place the figure at a much higher level. According to Singh, one-third of total market capitalisation is FIIs, whereas Ghosh places the figure somewhere near 30 percent (Singh, 2006; Ghosh, 2006). This is so to say ‘huge’ by any standard.

There are other reasons too for booming stock markets, more social and cultural than economic, as growth in stock markets is rarely “linked to the economic fundamentals of the country” (Singh, 2006). First, in today’s fast changing world, people are becoming more materialistic. There is a growing demand of comforts in life and living standards have shown an upward trend with rising incomes. As can be seen in the sector-wise bifurcation of stocks in figure 6, consumer durables and fast moving consumer goods showed a gain of 115.4 percent and 109.9 percent respectively, preceded only by capital goods index which shows a gain of 156 percent. This only indicates that the people want to become rich too soon and stock markets present an opportunity of amassing

substantial and quick riches. Furthermore, there is a sudden internet revolution¹⁹ in India, whereby the latest stock prices, trends and booms are only a mouse click away from the common man. Incidentally, India being hailed for information technology has seen the one of the biggest booms in this sector, 49.2 percent. Finally, the expansion in media reporting has added to the furore, there being a recent mushrooming of news channels in India, especially those in hindi and other regional languages. Each broadcast provides latest analysis and special researches with respect to the economy and stock markets in an attempt to prove its upmanship, in the end influencing the market events in a big way. Hence, it should not be uncommon to see speculative booms guided largely by the news media, namely, newspapers, magazines, broadcast media, and now even their new outlets on the internet.

Fig. 6 Trends in BSE Sectoral Stock Indices



Source: RBI, 2006, p. 72.

History is adept with many instances of financial crises in Southeast Asia, Latin America, Turkey and elsewhere where they were preceded by a surge in capital flows (other than FDI) and a simultaneous boom in stock and/or real estate markets. Independent of their inclinations, the exact causal mechanisms they identify and where they place the burden of blame, analysts of those periodic crises have accepted the reality that liberalised financial markets are prone to boom-bust cycles. Hence, ample room for caution remains even if the ongoing “India-boom” is seen by some as being “different” and “warranted by fundamentals”. Most booms were seen as signs of strength rather than vulnerability, till they went bust.

The case for vulnerability to speculative attacks is strengthened because of the growing presence in India of institutions like Hedge Funds, which are not regulated in their home countries and resort to speculation in search of quick and large returns. By the end of August 1995, the value of equity and debt instruments underlying participatory notes that had been issued by FIIs amounted to Rs. 784 billion or 47 per cent of cumulative net FII investment. In October 2003, the Economist reported: “Although a few hedge funds had invested in India soon after the country began liberalising its financial markets in the early 1990s, their interest has surged recently. Industry sources estimate

¹⁹ Internet technology though having reached India light years ago has been able to reach the masses only recently.

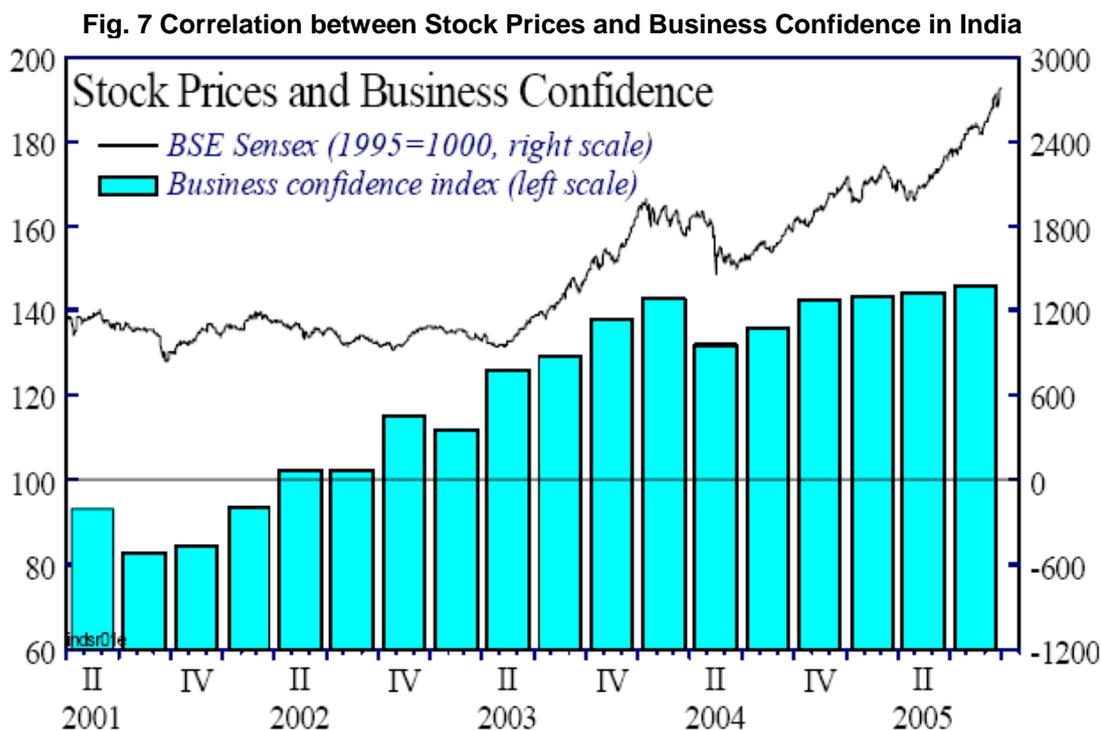
that perhaps 25-30 percent of all foreign equity investments are now held by hedge funds” (Dey, 2006).

Three tentative conclusions may be drawn from a cursory assessment of the recent developments. First, that FII investment does seem volatile even when annual average figures are considered. Second, while an initial promise of high returns triggered FII interest, speculative objectives and the herd instinct have played a role in keeping investment high and the markets buoyant. And, third, given the massive and concentrated inflows in recent times there are reasons to be concerned with their macroeconomic implications and the danger of an equally sudden reversal.

Now, the question arises: What might be the repercussions over the capital flows and the Indian economy in general if the upward trend in the stock market reverses in the near future? According to Ghosh, the trend is almost sure to reverse as all signs of a pre-crisis economy are visible. She further reiterates the fact that if it so happens, it will be the poor who would be affected by the deep recession as the rich are likely to transfer money out of the country one way or the other (Ghosh, 2006). Singh agrees with her on this point, further adding that such capital flight is bound to put pressure on the currency, which will have to be allowed to devalue as the RBI cannot maintain the quasi-fixed peg forever. Next, it may start a series of currency mismatches, and runs on banks, etc²⁰. In short, he says, India might be heading for the Southeast Asian experience. Regarding the stabilising capacity of the RBI, Singh said that India is more or less in a comfortable position in the short-run due to huge foreign exchange reserves, which are equivalent to 6 to 7 months of imports. But, the trouble starts brewing when new money will stop coming in and the Non-resident Indians (NRIs) will also withdraw money. Short-term credit is also likely to be lost and the economy might face a severe recession. Also, in a remote case that full capital convertibility is introduced sooner, the “Indian economy will be in a mess” (Singh, 2006). Ghosh informs that the RBI seems to be run by “more sensible people” than the finance ministry, but their problem is that they are losing control over all instruments to stabilise the Indian economy, hence, their capacity remains quite limited (Ghosh, 2006).

There are a couple of channels through which a stock market crash may be transformed into a financial and/or economic crisis, or else lead to a recession. First, a fall in stock prices is likely to lead to capital outflows, especially by FIIs, thus putting pressure on the exchange rate and forcing it to devalue. This is likely to enhance the burden of external debt which is almost entirely owed in hard-currency, henceforth, deteriorating the balance sheets of firms and banks. Second, a fall in stock prices will reduce consumption and thereby also investment. Thus, expectations will fall resulting in rise in bond prices and at the same time fall in interest rates. This will then result in capital outflows, again leading to pressure on exchange rate and devaluation. Third, a fall in stock prices will have a negative impact on balance sheets in general as it will result in the fall in the value of assets (collaterals) owned by domestic enterprises and banks. But, this will at the most result in a recession and not in a full blown financial crisis. Fourth, business confidence being highly correlated with stock prices (figure 7), any fall in latter will result in fall in former. Low business confidence translates into a low level of investment, which will be a setback for economic growth. This too is likely to translate into a recession but not a financial crisis.

²⁰ Refer ‘B. Banking Crisis’ for detailed analyses.



Source: IMF, 2006, p. 31.

The Hindustan Times, dated June 01, 2006 warns, “India’s GDP may have grown at a euphoric 8.4 per cent in 2005-06, but the UK-based Economist magazine has struck a note of caution. In the forthcoming ‘A survey of business in India’, the Economist has pointed to a degree of irrationality amid the exuberance and warned against getting too enthusiastic about the property and share markets” (HT, 2006).

B. Banking Crisis

Financial sector reforms were initiated as part of overall economic reforms in the country and wide ranging reforms covering industry, trade, taxation, external sector, banking and financial markets have been carried out since mid 1991. The most significant achievement of the financial sector reforms has been the marked improvement in the financial health of commercial banks in terms of capital adequacy, profitability and asset quality, as also greater attention to risk management. Further, deregulation has opened up new opportunities for banks to increase revenues by diversifying into investment banking, insurance, credit cards, depository services, mortgage financing, securitisation, etc. At the same time, liberalisation has brought greater competition among banks, both domestic and foreign, as well as competition from mutual funds, Non Banking Financial Corporations (NBFCs), post office, etc. As banks benchmark themselves against global standards, there has been a marked increase in disclosures and transparency in bank balance sheets as also greater focus on corporate governance. But what remains to be seen is whether India’s banking sector is ready for the challenges that may lie ahead.

Having had one of the oldest traditions of banking in the world, the Indian banking system is largely individuated by a number of mixed ownership banks. About 98 percent of the assets in the banking system in India are accounted for by commercial banks with the balance being held by cooperative banks. The commercial banking segment, in turn, consists of 27 public sector banks (having a majority ownership by the Government), 40

private sector banks, and 33 foreign banks. In 2003-04, total bank assets constituted a little over 70 percent of GDP (Prasad and Ghosh, 2005, p. 4). According to a report by ICRA Limited, a rating agency, the public sector banks hold over 75 percent of total assets of the banking industry, with the private and foreign banks holding 18.2% and 6.5% respectively. Currently, overall, banking in India is considered as fairly mature in terms of supply, product range and reach – even though reach in rural India still remains a challenge for the private sector and foreign banks. Even in terms of quality of assets and capital adequacy, Indian banks are considered to have clean, strong and transparent balance sheets – as compared to other banks in comparable economies in its region. Some of the major reform initiatives in the last decade that have changed the face of the Indian banking sector are given in Table 8.

Table 8 Reforms in Banking Sector

A. Prudential Measures

- ☞ Introduction and phased implementation of international best practices and norms on risk-weighted capital adequacy requirement, accounting, income recognition, provisioning and exposure.
- ☞ Measures to strengthen risk management through recognition of different components of risk, assignment of risk-weights to various asset classes, norms on connected lending, risk concentration, application of marked-to-market principle for investment portfolio and limits on deployment of fund in sensitive activities.

B. Competition Enhancing Measures

- ☞ Granting of operation autonomy to public sector banks, reduction of public ownership in public sector banks by allowing them to raise capital from equity market up to 49% of paid-up capital.
- ☞ Transparent norms for entry of Indian private sector, foreign and joint-venture banks and insurance companies, permission for foreign investment in the financial sector in the form of Foreign Direct Investment (FDI) as well as portfolio investment, permission to banks to diversify product portfolio and business activities.

C. Measures Enhancing Role of Market Forces

- ☞ Sharp reduction in pre-emption through reserve requirement, market determined pricing for government securities, disbanding of administered interest rates with a few exception and enhanced transparency and disclosure norms to facilitate market discipline.
- ☞ Introduction of pure inter-bank call money market, auction-based repos-reserve repos for short-term liquidity management, facilitation of improved payments and settlement mechanism.

D. Institutional and Legal Measures

- ☞ Setting up of Lok Adalats, debt recovery tribunals, asset reconstruction companies, settlement advisory committees, corporate debt restructuring mechanism, etc. for quicker recovery/restructuring.
- ☞ Promulgation of Securitisation and Reconstruction of Financial Assets and Enforcement of Securities Interest (SARFAESI) Act and its subsequent amendment to ensure creditor rights.
- ☞ Setting up of Credit Information Bureau for information sharing on defaulters as also other borrowers.
- ☞ Setting up Credit Information Bureau for information sharing on defaulters as also other borrowers.
- ☞ Setting up of Clearing Corporation of India Limited (CCIL) to act as central counter party for facilitating payments and settlement system relating to fixed income securities and money market instruments.

E. Supervisory Measures

- ☞ Establishment of the Board for Financial Supervision as the apex supervisory authority for commercial banks, financial institutions and non-banking financial companies.
- ☞ Introduction of CAMELS supervisory rating system, move towards risk-based supervision, consolidated supervision of financial conglomerates, strengthening of off-site surveillance through control returns.
- ☞ Recasting of the role of statutory auditors, increased internal control through strengthening of internal audit.
- ☞ Strengthening corporate governance, enhanced due diligence on important shareholders, fit and proper tests for directors.

F. Technology Related Measures

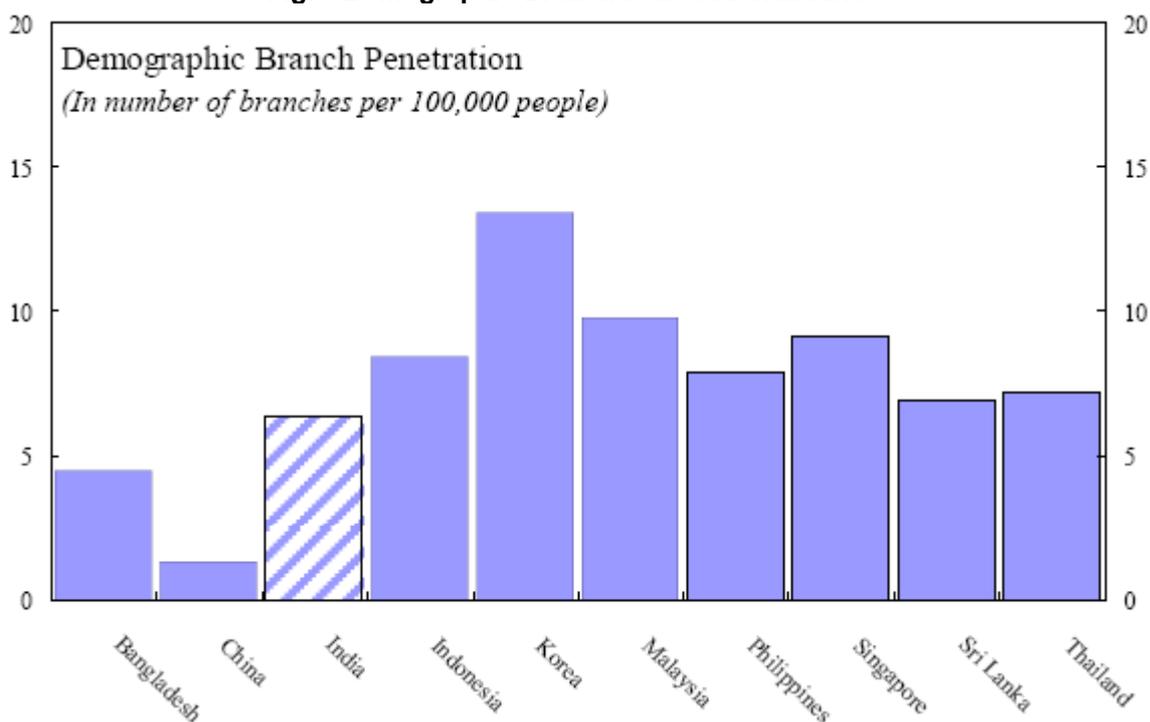
- ☞ Setting up of INFINET as the communication backbone for the financial sector, introduction of Negotiated Dealing System (NDS) for screen-based trading in government securities and Real Time Gross Settlement (RTGS) system.

Source: Mohan, 2005, p. 964.

A study conducted by Koeva (2003) on the “performance of Indian banks during financial liberalisation” has produced promising results. According to the study, the concentration of the Indian banking sector has declined during the past decade along with bank spreads and profitability. Not only that, the composition of the banking sector has also changed with the emergence of new private and foreign banks, which is also associated with the significant deterioration in bank spreads and profitability (Koeva, 2003, pp. 8 ff.). Hence, it may be argued that the reforms are moving in the right direction.

However, some would like to differ. Singh argues that India’s financial sector is primarily bank based, and the banking sector reforms are not satisfactory. He reiterates that about 40 to 50 percent population in India does not have access to proper banking services. Although foreign banks are now allowed into the country, but they remain concentrated only in urban areas and cater only to the rich and upper middle-class people with their tailor-made products. Singh further believes that the bulk of economic growth actually comes from the small- and medium-sized enterprises, which are in essence catered to by the small, regional and state-level banks. Hence, these small- and medium-sized Indian banks certainly play an important role and are participating in the growth, particularly in the sphere of agriculture (Singh, 2006).

Fig. 8 Demographic Branch Penetration in Asia



Source: IMF, 2006, p. 21.

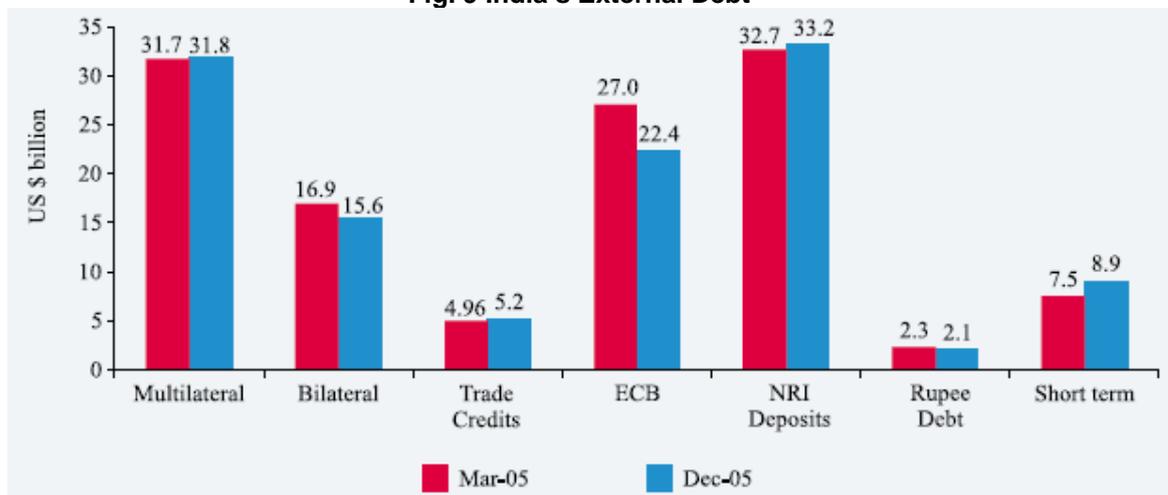
The IMF, on one hand, appreciates the dramatic improvement in health of the banking system in recent years, but, at the same time, expresses concern over private credit being under 40 percent to GDP, compared to 100 percent for countries such as Korea and Malaysia. Moreover, it emphasizes that a large segment of the population lacks any access to the banking services, despite a large branch network as compared to many other developing countries in the region (figure 8). “Indian banks continue to have one of the largest exposures to government securities in the world, and the banking sector is dominated by public sector banks (PSBs) whose prudential indicators, despite recent

improvements, remain less favourable than those of new private and foreign banks” (IMF, 2006, p. 21).

There has been a marked increase in credit growth in India. The IMF statistics reveal a growth in bank credit of over 30 percent in the year ending 2005, whereas aggregate credit-to-deposit ratio is stated to exceed 60 percent in the period. Rising incomes and consumption as well as falling borrowing costs have been found to be the driving force behind this demand, but, in essence credit still remains low as against GDP (around 40 percent) indicating a “low level of financial intermediation” in comparison with other countries. Nevertheless, such a rapid growth in credit raises concerns as there are still inherent weaknesses in the Indian banking system, especially a comparatively high level of non-performing assets (NPAs) in the public sector banks (IMF, 2006, p. 13).

With the growth in the Indian economy expected to be strong for quite some time – more so in its services sector – the demand for banking services, especially retail banking, mortgages and investment services are expected to be strong. Mergers and acquisitions (M&As), takeovers, asset sales and much more action is likely to face India on this front. In connection with the above, Singh feels that the Indian banking sector is now technically advanced. With latest transactions technology, it is far above many developing countries and almost comparable to many developed countries. So, if India were to move towards full capital account liberalisation, technology would not be a constraint in keeping up with the surge in transactions and flows. But, in such a scenario, sudden outflows (as in the case of a stock market crash) may be highly problematic, especially if residents too are allowed to move funds abroad after capital account is opened (Singh, 2006). Ghosh, on the other hand, actually feels that banks will rather contribute to capital flight in such circumstances (Ghosh, 2006).

Fig. 9 India’s External Debt



Source: RBI, 2006, p. 82.

It has already been highlighted above that debt-creating flows and portfolio investments dominate the scene of private capital inflows (figure 1). Since portfolio investments are more prone to sudden outflows as compared to FDI, thus India becomes highly vulnerable to a change in investor sentiment. In India’s case asset-price inflation (especially in stock and real estate markets) is setting in along with expansion in credit, growth in consumption, and more importantly, gradually increasing short-term debt which was about 6.1 percent of total debt as at end-March 2005 as compared to only 2.8 percent at end-March 2002. India’s external debt (presumably all in hard-currency

except the debt owed to Russia which is denominated in rupees but constitutes a very small portion of the total external debt) is rising in value terms (figure 9), though the ratio of debt-stock to GDP has shown a regular decline over the years. However, India's large international reserves and capital controls (at least as of now) act as a buffer. Even now, there are few controls with respect to capital outflows (except on residents), but foreign exchange reserves are currently at unprecedented levels. It may still be a cause for concern, if India has to face sudden capital outflows. This might create pressure on the rupee, forcing the central bank to either use its reserves to keep the rupee stable (as long as it can) or allow the rupee to devalue. In such a case, there is a possibility of currency mismatches²¹, which might land the banks and enterprises, who had borrowed from abroad, in a fix; and any run on banks and enterprises will have an effect on the economy as a whole.

Table 9 Indicators of Debt Sustainability

Indicator	(Per cent)		
	March 2004	March 2005	December 2005
1	2	3	4
Concessional debt/Total debt	36.1	33.3	32.7
Short-term/Total debt	4.0	6.1	7.5
Short-term debt/Reserves	3.9	5.3	6.5
Reserves/Total debt	101.1	114.8	115.1

Source: RBI, 2006, p. 82.

However, since reserves exceed the stock of portfolio investments, NRI deposits and short-term residual maturity external debt by about USD 50 billion, it is more likely that the RBI would adopt a policy of stabilising the exchange rate rather than allowing the rupee to devalue. Furthermore, India's foreign exchange reserves exceeded the external debt by 15.1 percent at the end of December 2005 (Table 9). Hence, the danger though it persists, is not exceptionally large enough to engulf the economy as a whole and lead to disastrous consequences as in the case of the Southeast Asian crisis.

Conclusion

This paper analyses the capital controls in India and the potential risk of a financial crisis and/or a recession hitting the Indian economy. The paper also looks at the exchange rate regime followed by the RBI in India. Finally, in particular, it looks at two scenarios which may trigger a financial crisis. A look at the booming stock markets in India was undertaken to analyse the possibility of a stock market crash. Last, the paper analysed the banking sector and its reforms to study whether it is capable enough to deal with sudden outflows arising out of a stock market crash or would it succumb to its own weaknesses, further worsening the crisis by initiating a banking crisis and/or a currency crisis.

The main conclusions of this paper can be summarised as follows:

²¹ Currency mismatches arise when a country does not have sufficient sources of hard currency, like assets denominated in hard currency or sources of income in hard currency (e.g. exports) to discharge such debts. In India's case, it has not been possible to analyse the assets denominated in hard currency. Hence, in this paper, it cannot be stated for surety whether India will experience a currency mismatch or not. However, in the absence of such analysis, it can only be stated that the risk of a currency mismatch looms over India.

1. There has been a selective liberalisation of the capital account. However, many controls still exist qualifying India to be termed as a “capital-controlled country”.
2. The exchange rate, though touted as “market-determined”, can at best be described as a “quasi-managed float” or a “dirty float” due to frequent interventions by the RBI.
3. The stock market is, in all probability, heading for a crash since the stocks are severely overpriced. Furthermore, due to a very high share of market capitalisation by FIIs, India faces the risk of huge outflows of funds in the event of a stock market crash.
4. Banking sector, though technically capable to deal with huge transactions increase, still suffers from inherent weaknesses, especially the public sector banks, as reforms have been brought about at a slow pace.
5. India might face risks of a currency mismatch in case of devaluation of the rupee owing to a low proportion of debt denominated in local currency in total external debt. However, short-term debt being a small percentage of the same, places it in a somewhat comfortable position in the immediate future. Furthermore, huge foreign reserves act as a buffer to prevent any severe exchange rate crisis.
6. The stock market crash, in an event it happens, results in a huge loss of business confidence, and might lead to a recession, especially if the inflow of funds from FIIs suffers a setback.
7. It may not yet be the right time to move towards full capital account liberalisation due to still large fiscal deficits, a looming stock market crash and inherent weaknesses in the banking sector.

This suggests that India might face a stock market crash but that, though bad enough in itself may not be accompanied by a financial crisis as authorities are in a strong position to counter pressure on the Indian currency. As for a banking crisis, the indicators of financial system soundness indicate considerable improvement but the authorities still have to remain cautious and not let laxity in reforms to set in. In periods of economic growth and asset price boom, it is common for banks to embark on riskier project. The authorities have to tighten the prudential regulations to keep that in tow. And, in view of all the above circumstances, capital account convertibility should not be introduced until further headway is achieved in the above directions.

Bibliography

Dey, Anindita. *RBI against short selling by FIIs*, Hindustan Times, New Delhi, April 02, 2006.

Ghosh, Jayati. *Direct telephonic Interviews*, New Delhi, March 22, 2006.

IMF. *India 2005: Article IV Consultation – Staff Report; Staff Statement; Public Information Notice on the Executive Board Discussion*, IMF Country Report No. 06/55, February 2006.

Koeva, Petya. *The Performance of Indian Banks during Financial Liberalisation*, IMF, Working Paper No. WP/03/150, July 2003.

Mohan, Rakesh. *Financial Sector Reforms in India*, The Chartered Accountant, Volume 53, No. 8, February 2005.

Nayyar, Deepak. *Capital Controls and the World Financial Authority: What can we learn from the Indian Experience?*, in John Eatwell, Lance Taylor ed. 'International Capital Markets: Systems in Transition', Oxford University Press, 2002.

No author, The Hindustan Times (HT), 'Amid growth, a warning', New Delhi, June 1, 2006.

No author, The Times of India (TOI), 'Free float of Rupee not before 2009', New Delhi, April 8, 2006.

Prasad, Eswar; Rogoff, Kenneth; Wie, Shang-Jin; and Kose, M. Ayhan. *Effects of Financial Globalization on Developing Countries: Some Empirical Evidence*, IMF, 2003.

Reserve Bank of India. *Macroeconomic and Monetary Developments in 2005-2006*, April 18, 2006. (<http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/69821.pdf>)

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

Singh, Kavaljit. *Direct telephonic Interviews*, New Delhi, March 20, 2006.

UNCTAD. *World Investment Report: Transnational Corporations and the Internationalisation of R&D*, 2005.

Williamson, John. *The Choice of Exchange Rate Regime: The Relevance of International Experience to China's Decision*, (Outline of a lecture at a conference on exchange rates organized by the Central University of Finance and Economics in Beijing), September 7, 2004. (<http://www.iie.com/publications/papers/williamson0904.pdf>)