VI Financial Sector (Part 3 of 3)

Table 6.31: Inter-bank Transactions in the Foreign Exchange Market

(US $ billion)

Year	Spot			Forward / Swap			Inter-bank
	Purchases	Sales	Net	Purchases	Sales	Net	Turnover
	1	2	3	4	5	6	7
1997-98	124.3	118.2	6.1	230.0	216.5	13.5	1095.9
1998-99	116.2	109.5	6.7	221.5	217.2	4.3	1057.3
1999-2000	123.1	121.8	1.3	184.1	177.2	6.9	898.1
2000-01	150.4	141.0	9.3	282.3	261.5	20.8	1117.7
2001-02	138.5	137.3	1.2	327.1	334.9	-7.8	1165.3
2002-03 (April-January)	132.1	140.0	-7.9	271.5	268.2	3.3	1031.4

6.131 Except for a brief period of instability on account of border tensions in May 2002, the Rupee remained broadly stable during the current financial year (April-February). The Rupee gained strength against the US dollar during July 2002–February 2003 on account of excess supply resulting both from current and capital account transactions. The Reserve Bank made net purchases of US $ 9.7 billion during April-December 2002 (Table 6.32). A steady supply of dollar in the foreign exchange market kept the Rupee range-bound during the period and in terms of monthly average exchange rate, the Rupee appreciated by 2.2 per cent during the eight-month period from Rs.48.76 per US dollar in July 2002 to Rs.47.73 per US dollar in February 2003.

Table 6.32: Purchases and Sales of the US Dollar by the Reserve Bank

(US $ billion)

Year	Purchases	Sales	Net	Outstanding Net Forward Sales/Purchases (As at end-March)
	1	2	3	4
1997-98	15.1	11.2	3.8	-1.8
1998-99	28.7	26.9	1.8	-0.8
1999-2000	24.1	20.8	3.2	-0.7
2000-01	28.2	25.8	2.4	-1.3
2001-02	22.8	15.8	7.1	-0.4
2002-03 (up to December)	21.1	11.4	9.7	—

6.132 While the Rupee depreciated against the US dollar and the Pound Sterling by 35.3 per cent and 36.9 per cent, respectively, it depreciated by 26.7 per cent against the Japanese Yen during the 10-year period 1993-94 to 2002-03 (up to February 2003). Against the Euro, the Rupee depreciated by 6.3 per cent between 1999-2000 and 2002-03 (up to February 2003) (Chart VI.17). Depreciation of the Indian Rupee, however, was lower than that of some other emerging market economies. A cross-country analysis involving select Asian and Latin American emerging market economies reveals that the currencies of Korea, Malaysia and Chile depreciated against the US dollar during the 7-year period 1995-2001. The US dollar appreciated by 67 per cent, 60 per cent and 52 per cent against the Korean Won, Chilean Peso and the Malaysian

Ringgit, respectively, as compared to a 46 per cent appreciation against the Indian Rupee during the same period (Chart VI.18).

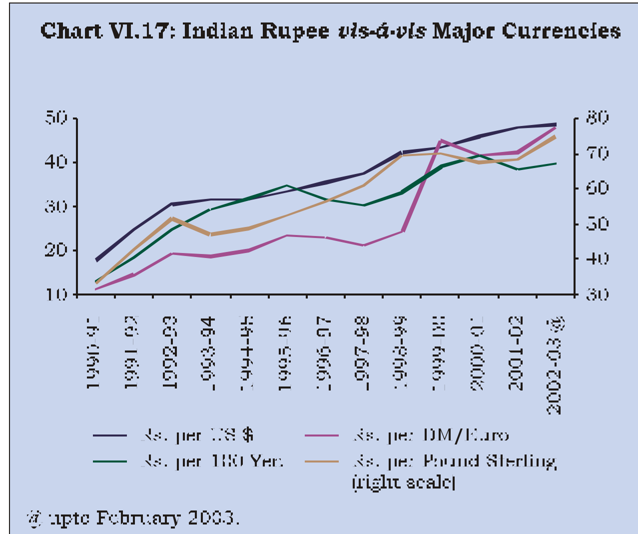


Chart VI.17: Indian Rupee *vis-á-vis* Major Currencies

@ upto February 2003.

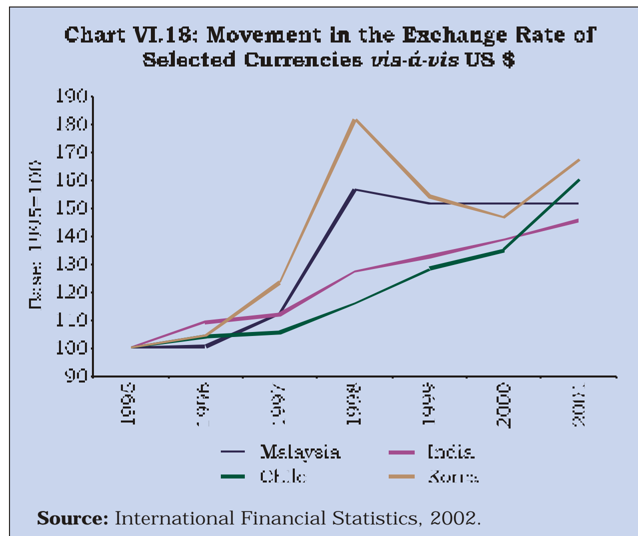


Chart VI.18: Movement in the Exchange Rate of Selected Currencies *vis-á-vis* US $

Source: International Financial Statistics, 2002.

6.133 The coefficient of variation of the Indian Rupee against the US dollar, which is a measure of volatility, moved in a narrow range, except for two occasions in 1995-96 and 1997-98 (Table 6.33 and Chart VI.19).

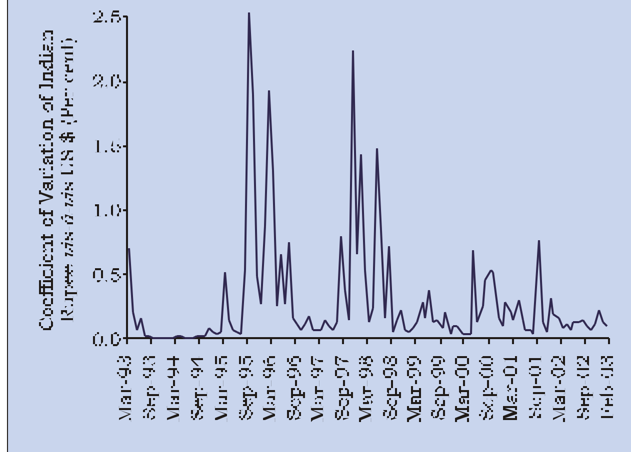


Table 6.33: Movements in the Exchange Rate of the Rupee per US Dollar

Year	Range	Average Exchange Rate	Average of the daily (absolute) variation	Coefficient of Variation (%)
	1	2	3	4
1993-94	31.21-31.49	31.37	0.01	0.1
1994-95	31.37-31.97	31.40	0.01	0.3
1995-96	31.32-37.95	33.45	0.10	5.8
1996-97	34.14-35.96	35.50	0.04	1.3
1997-98	35.70-40.36	37.16	0.07	4.2
1998-99	39.48-43.42	42.07	0.05	2.1
1999-2000	42.44-43.64	43.33	0.03	0.7
2000-01	43.61-46.89	45.68	0.04	2.3
2001-02	46.56-48.85	47.69	0.04	1.4

6.134 Thus, the foreign exchange market witnessed fairly stable conditions during the 1990s. Even during the period when the market came under pressure, effective measures were initiated and orderly conditions in the market were restored quickly.

Growth of the Forex Market

6.135 As a result of various liberalisation measures, the foreign exchange market in India grew rapidly during the 1990s. The total turnover (merchant *plus* inter-bank) increased more than two-fold to US $ 129 billion in 2002-03 (up to January) from US $ 38 billion in 1990-91. The average monthly merchant turnover increased by around 550 per cent from a meagre US $ 4 billion in 1990-91 to US $ 26 billion in 2002-03 (up to January). The average inter-bank turnover, on the other hand, increased by around 200 per cent from US $ 34 billion in 1990-91 to US $ 103 billion over the same period. Reflecting the same, the inter-bank to merchant turnover ratio declined from 8.5 in 1990-91 to 4.0 in 2002-03 (up to January) (Chart VI.20). The merchant segment is dominated by spot transactions and the inter-bank segment is dominated by forward

transactions.

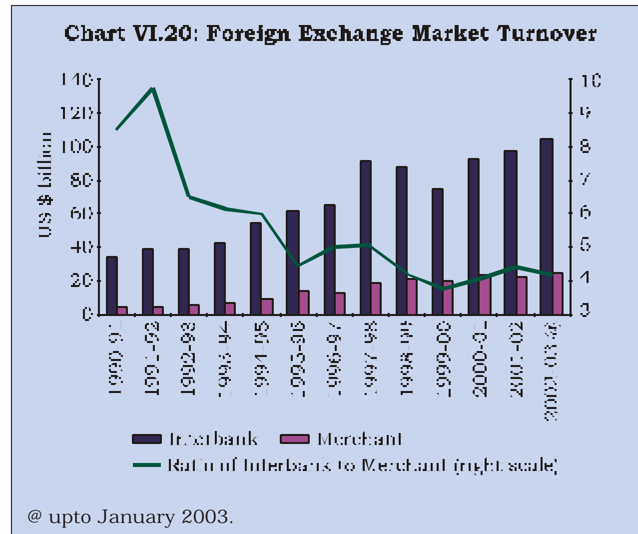


Chart VI.20: Foreign Exchange Market Turnover

6.136 To sum up, various reforms measures initiated have resulted in significant growth of the foreign exchange market. Also, despite liberalisation of capital account and introduction of market determined exchange rate, the foreign exchange market in India remained stable during the 1990s barring a few episodes of volatility.

6.137 India's current exchange rate policy of managing volatility without fixed target, while allowing the underlying demand and supply conditions to determine the exchange rate, has yielded satisfactory results. Various reforms measures in the foreign exchange market have also led to the widening and deepening of the forex market in India. This is reflected in the substantial increase in the foreign exchange market turnover particularly in the inter-bank segment. A recent Bank for International Settlements survey of the foreign exchange market turnover during April 2001 in which 43 countries including India participated reveals that while foreign exchange market turnover declined the world over considerably as compared to 1998, it increased in India.

6.138 Although reforms in the forex market have yielded good results, there are some issues, which need to be addressed to enhance its stability and ensure further growth.

- Although the turnover in the market increased considerably over the years, it still remains small. The Triennial Central Bank Survey of the Bank for International Settlements on Foreign Exchange and Derivatives Market Activity in 2001 revealed that the share of India in total global daily turnover of the foreign exchange market remained insignificant at 0.2 per cent during 2001. Since the market lacks depth, the Reserve Bank has to actively intervene in the market to absorb/ provide liquidity. There is, therefore, need to take steps to further develop the market so that the need for intervention by the Reserve Bank is minimised.
- The market is presently skewed with a few public sector banks accounting for the major share of the merchant transactions. For development of the market on healthy lines, it is necessary to have large number of players participating in the market.
- Derivatives are an important instrument of risk hedging. Although a few derivative products have been introduced, there has not been much activity in some of them such as FRAs. There

is a need to further develop a range of derivative products like forex options.

Capital Market

6.139 The capital market provides an alternative mechanism for allocating resources; it channelises household savings to the corporate sector and allocates funds among firms. In this process, it allows both firms and households to share risk. The capital market enables the valuation of firms on an almost continuous basis and it plays an important role in the governance of the corporate sector. The reforms in the capital market were aimed at enhancing the efficiency, safety, integrity and transparency of the market. The key reform measures for the capital market are provided in Box VI.4. The impact of various reform measures could be seen in the primary as well as secondary segments of the capital market.

Primary Market

6.140 Notwithstanding depressed conditions in the capital market in the last few years, significance of the capital market in meeting the financing requirements of the corporates has generally improved. Since the initiation of the reforms, the reliance of the corporate sector on the capital market for funds increased markedly. The resources raised by the private sector companies from the primary equity market rose sharply in the first half of the 1990s to touch a peak of Rs.17,414 crore in 1994-95 (Chart VI.21). The resource mobilisation from the primary market, however, tapered off in the second half of the 1990s due to a variety of reasons such as tightening of disclosure norms and subdued secondary market [6]. The ratio of resource mobilisation by the private sector to GDP almost trebled from an average of 0.4 per cent during the period 1970-92 to 1.1 per cent of GDP during 1992-2000.

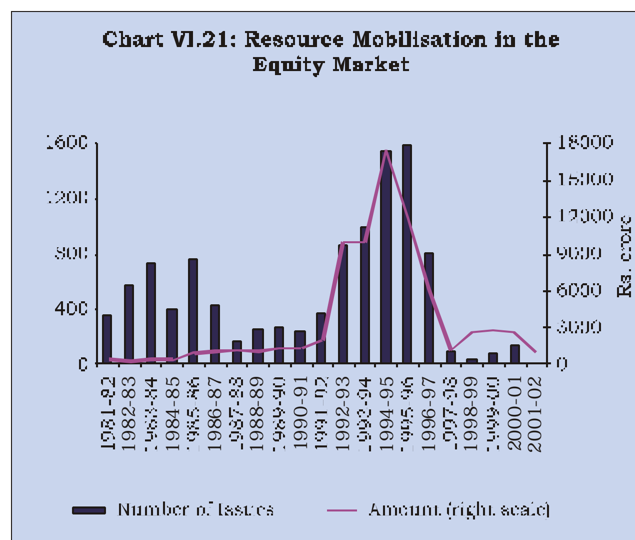


Chart VI.21: Resource Mobilisation in the Equity Market

6.141 Reflecting the growing importance of market-based financing, the share of capital market-based instruments in total funds raised by non-Government non-financial public limited companies increased to 22.3 per cent during the period 1991-92 to 2000-01 from 17.3 per cent in the period 1985-86 to 1990-91 (Table 6.34). During the period 1992-93 to 1996-97, the share of capital market instruments in total external financing worked out to 37.3 per cent, with a peak of

51.3 per cent in 1993-94. The share of shares and debentures in financial savings of households rose, on an average basis, to 9.0 per cent during the 1990s from 6.0 per cent during the 1980s, with a peak at 13.5 per cent in 1993-94.

Table 6.34: Sources of Funds for Non-Government Non-Financial Public Limited Companies

Item	1985-86 to 1990-91	1991-92 to 2000-01
	1	2
Share of Internal Sources	34.1	35.7
Share of External Sources	65.9	64.3
Share of Capital Market-related Instruments in Total Funds (Debentures and Equity Capital)	17.3	22.3
Share of Financial Intermediaries in Total Funds	20.9	19.5
Debt-Equity Ratio (including debentures and long-term borrowings)	89.5	72.3

Source : Finances of Public Limited Companies, Reserve Bank of India Bulletin (various issues)

Secondary Market

6.142 In the secondary market, the move to an electronic trading system has resulted in transparency in trades, better price discovery and lower transaction costs. The efficiency of the market has improved through faster execution of trades. The operational efficiency of the stock market has also been strengthened through improvements in the clearing and settlement practices and the risk management process. Almost the entire delivery of securities now takes place in dematerialised form. During the last four years or so, there has been no instance of postponement or clubbing of settlements at two main stock exchanges (BSE and NSE) despite defaults by brokers. The cases of bad deliveries have become almost nil. The setting up of trade/settlement guarantee funds in most of the exchanges has considerably reduced the settlement risk for investors. The corporate governance practices and disclosure norms have led to transparency in information flows, which, in turn, have improved the price discovery process.

6.143 There has been an appreciable increase in liquidity as reflected in the traded value and turnover ratios (Table 6.35). The traded value ratio, *i.e.*, the ratio of turnover to GDP, increased from 23.2 per cent in 1993-94 to about 136.9 per cent in 2000-01. At the same time, the turnover ratio, *i.e.*, the ratio of turnover to market capitalisation, increased from 50.9 per cent in 1993-94 to 139.0 per cent in 2001-02.

6.144 The transaction cost in the Indian stock markets declined sharply as a result of measures such as automated trading, compression of settlement cycle, and introduction of dematerialisation. The transaction costs[7] in terms of the brokerage, regulator's fees, custody, safekeeping and clearing is estimated at about 0.31 per cent (0.40 per cent for foreign institutional investors), which compares favourably with international standards (Raju, 2000).

Table 6.35: Indicators of Liquidity

(Per cent)

Year	Traded Value Ratio	Turnover Ratio
	1	2
1993-94	23.2	50.9
1994-95	15.7	34.4
1995-96	18.7	39.7
1996-97	45.8	132.3
1997-98	58.1	154.1
1998-99	58.1	178.3
1999-2000	107.1	215.1
2000-01	136.9	478.9 #
2001-02	39.0	139.0 #

Market capitalisation is estimated assuming that the BSE accounts for 95 per cent of all-India market capitalisation.

Source: Compiled from BSE data.

6.145 The volatility in the Indian stock markets has declined in the recent years. The coefficient of variation of the BSE Sensex declined to 14.9 per cent during the 2-year period April 2000 to March 2002 from 25.9 per cent during the 10-year period from April 1991 to March 2000 and 33.6 per cent during the 6-year period from April 1985 to March 1991.

6.146 Thus, the various parameters, such as liquidity, volatility and transaction cost, point towards the improvements in the efficiency of the capital market. The impact of various reform measures on two critical aspects of efficiency, *viz.*, the information efficiency (*i.e.*, whether all market information is reflected in the prices) and allocative efficiency (whether resources are being allocated efficiently) of the capital market, has been explored further.

Box VI.5
Informational Efficiency of Stock Markets

Informational arbitrage efficiency is of three types. In the “weak” form, efficiency means that current prices reflect all information that can be derived by examining the history of past prices. This implies that future prices cannot be predicted from past changes and markets follow a random walk. In the semi-strong form of efficiency, all publicly available information is reflected in the current stock prices. In the strong form, the efficient market hypothesis states that stock prices reflect all information, including information available to insiders.

A large number of studies conducted for the Indian market supported the weak efficiency hypothesis during the 1980s (Barua and Varma, 2000). However, most of the recent research, using more sophisticated time series techniques, such as tests of stationarity and variance ratio tests do not support the hypothesis that Indian stock markets follow a random walk suggesting that markets are not efficient (Madhusoodan, 1998; Pattnaik and Chatterjee, 2000).

However, some studies conducted in the Indian context report that markets respond to news such as political developments, announcements of bonus/rights issues and dividends (Barua and Varma, 2000). There is also some recent evidence in terms of leading indicator properties in respect of macroeconomic variables such as real money balances, inflation rate and industrial activity and the lack of integration between the BSE national index and individual securities in terms of causality tests (Amanulla and Kamiah, 2000). These studies, therefore, concluded that markets are efficient in the semi-strong form.

Most of the studies on efficiency in the Indian context were conducted with data up to the late 1990s. However, since then, several measures have been initiated, which were expected to have further improved the market efficiency. In view of this, information efficiency hypothesis was tested by estimating the autocorrelation function using data up to December 2002. In conformity with earlier research, the result of the exercise carried out for the purpose shows that the Indian stock markets do not satisfy the hypothesis of weak efficiency in view of the persistence in stock returns. A test of stationarity of the daily returns in respect of the BSE Sensex with a one-period lag in terms of the autocorrelation function (ACF) reveals that the daily returns can be predicted by past values and therefore do not follow a random walk[1] (Chart VI. 22).

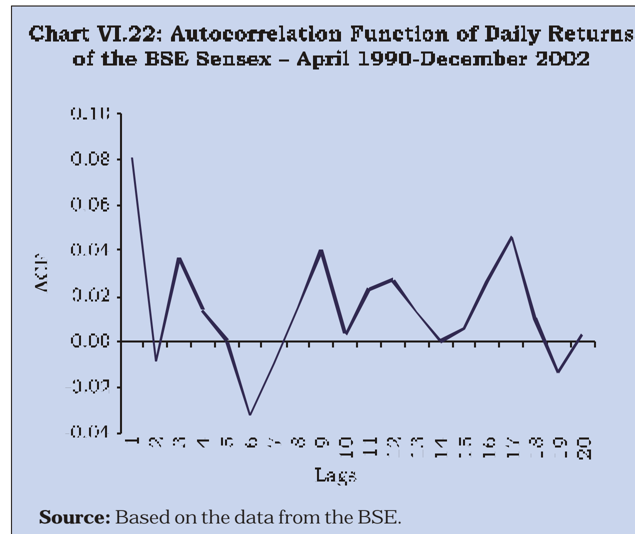


Chart VI.22: Autocorrelation Function of Daily Returns of the BSE Sensex – April 1990-December 2002

Source: Based on the data from the BSE.

1 A positive and significant first order autocorrelation coefficient (estimated as the slope of the regression of the daily returns on the BSE Sensex on the one period lagged return) indicates that BSE returns are autocorrelated and, therefore, time dependent,

i.e.,
dBSES =0.06 + 0.08 dBSES (-1) *
(0.08) (0.0)
(* Significant at 1.0 per cent level.)
where, dBSES is daily percentage returns and figures in brackets are p values.

The autocorrelation coefficients for 20 lags show that the series is not stationary and the Box Pierce Q statistics reject the null hypothesis that all autocorrelation coefficients are zero.

Informational Efficiency

6.147 Efficiency test conducted using data up to December 2002 reveals that in terms of informational efficiency the Indian stock markets are not efficient (Box VI.5). However, it is significant to note that many studies conducted in the context of advanced economies also suggest that most markets are not informationally efficient, *i.e.*, markets do not as such follow a random walk especially as they seldom satisfy the stringent criteria of stationary, independent, identical and normally distributed stock returns.

Allocative Efficiency

6.148 Reforms in the Indian capital market during the 1990s fostered a steady process of

financial disintermediation, with corporates increasingly accessing the equity route, while on the supply side, investors earmarked an increasing portion of their savings in risk capital. Although the stock market has gained in importance in terms of channellisation of resource flows, the key macroeconomic issue is whether this has led to an increase in the allocative efficiency of the system. This assumes added significance as the recent literature has emphasised that the contribution of the financial system to economic growth comes as much through the efficiency of investment as the increase in saving and investment (De Gregario and Guidotti, 1995; Levine and Zervos, 1998).

6.149 The allocative efficiency of the Indian capital market was tested using two measures [8], *viz.*, synchronicity of equity prices and R^2. The results indicate that market-wide factors (as against company-specific factors) play a predominant role in determining the behaviour of stock markets in India. In a select sample of 66 scrips in the BSE-100 list during 1995-96 to 2001-02, about 70 per cent of stocks moved in the same direction. Although this would suggest that the stock markets in India do not allocate resources efficiently, the allocative efficiency of the Indian stock market compares well with several emerging market economies. In many emerging market economies, the synchronicity was much higher, *i.e.*, 80 per cent in China, 82.9 per cent in Poland and 75.4 per cent in Malaysia (Chart VI.23). The proportion of stocks moving together in the case of Brazil (64.7 per cent) and Indonesia (67.1 per cent) were more comparable with the results for India. Similar results were obtained in respect of the R^2 measure (Chart VI.24).

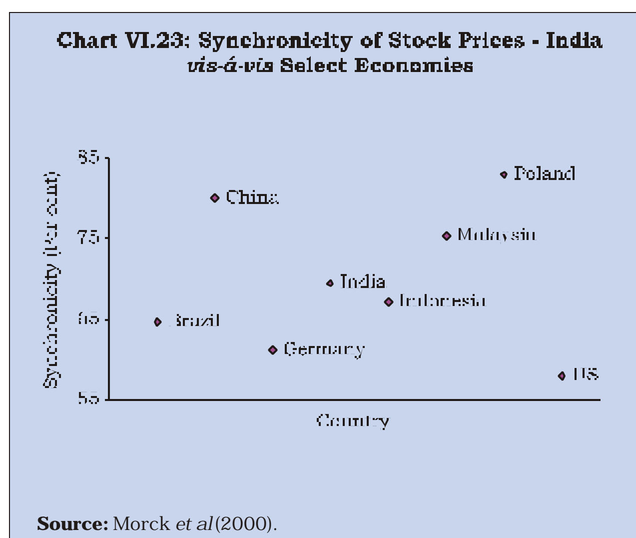


Chart VI.23: Synchronicity of Stock Prices - India *vis-á-vis* Select Economies

Source: Morck *et al* (2000).

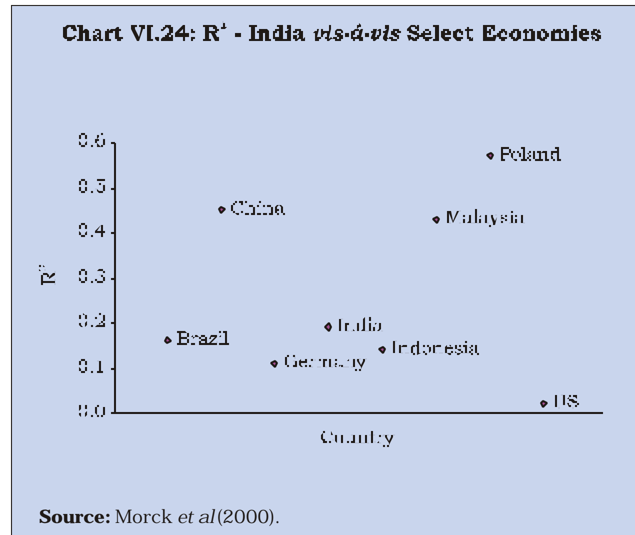


Chart VI.24: R^2 - India *vis-à-vis* Select Economies

Source: Morck *et al* (2000).

6.150 Thus, reforms in the capital market have had a multi-dimensional impact. Notwithstanding the recent depressed conditions, the significance of the capital market has improved in providing a mechanism for allocation of resources as is reflected in increase in its share in the sources of finance for the corporates. Various indicators such as reduced volatility are pointers in the direction of increase in the safety of the market. The safety of the market has also been considerably enhanced by adoption of risk management practices and the setting up of settlement guarantee funds and investor protection funds. The integrity and transparency of the market has also gone up with the wider availability of information regarding the corporates' performance. The trading and settlement framework in the Indian stock exchanges now compares favourably with the international best practices. The liquidity in the market has improved considerably.

6.151 While reforms in the capital market have had a significant impact, there are some issues which need to be addressed. A major concern has been the depressed state of the primary capital market. Resources raised from the primary capital market have declined sharply in comparison with the first half of the 1990s. The subdued environment in the primary market in the second half of the 1990s stands in sharp contrast to the buoyant first half. Another major area of concern is the primary corporate debt market, which is yet to develop. The secondary market for corporate debt is virtually non-existent. Though some debt securities are listed on the stock exchanges, there is not much trading in these securities. In the secondary market for equity, there is concentration of liquidity among few prominent scrips. Although as a result of electronic trading, investors are able to trade in the securities listed on the premier exchanges from any location in the country, this has reduced the significance of regional stock exchanges, which have witnessed a sharp decline in volumes rendering them financially vulnerable. The truthful compliance of listed companies with the corporate governance standards is another issue, which needs to be addressed.

Integration of Markets

6.152 Before initiation of reforms, the Indian financial sector remained largely segmented due to an administered interest rate regime and directed credit controls, which prevented proper pricing of instruments. At the shorter end, the inter-bank market, with caps on the interest rate, was the

only avenue for trading short-term funds. Since the Government raised resources from the banking system at interest rates, which were not market-related, there was hardly any trading in the government securities. Also, participants could not move freely from one market to another with most of the financial intermediaries confining themselves to markets in their own area of operations.

Furthermore, banks' exposures in foreign currency in their *nostro* accounts abroad were extremely restricted, prohibiting any interplay between their domestic and foreign currency assets.

6.153 Various financial sector reforms initiated in the 1990s included, among others, deregulation of interest rates, introduction of new products, relaxation in investment norms for financial intermediaries, especially banks, emergence of new institutions such as primary dealers and mutual funds. These coupled with the gradual deepening of the foreign exchange market, easing of restrictions in respect of banks' foreign currency investments, withdrawal of reserve requirements on inter-bank borrowings (which facilitated pricing of 14-day money), the process of emergence of a yield curve and other policy measures paved the way for increasing integration among various segments of the financial market, such as money, foreign exchange, debt and equity markets. The correlation results for some key rates/ instruments for the period April 1993 to September 2002 are presented in Table 6.36.

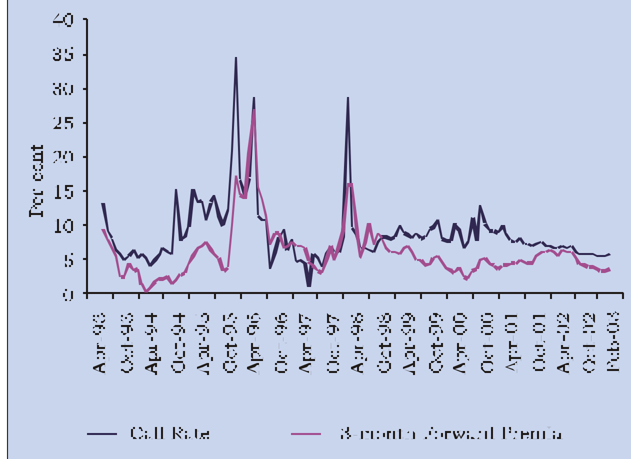
Table 6.36: Correlation Coefficient Matrix - April 1993 - September 2002

Instrument	Call	FR3	T-91	BSES
	1	2	3	4
Call	1.000	0.662	0.617	-0.051
FR3	0.662	1.000	0.448	-0.314
T91	0.617	0.448	1.000	-0.083
BSES	-0.051	-0.314	-0.083	1.00

Call: Call money rate. FR3: 3-month forward rate.
T-91: 91-day treasury bill rate. BSES: BSE Sensitive index.

6.154 Interest rates in the inter-bank market (call rate) and the government securities market (proxied by 91-day treasury bill rate) displayed a high degree of positive correlation between April 1993-September 2002. As commercial banks often arbitrage between their balances with the Reserve Bank in view of reserve requirements on an average basis and their investments in gilts, especially after the introduction of daily repo/reverse repo auctions under LAF, this, in turn, creates an informal corridor of interest rates created by the lending (reverse repo) and deposit (repo) rates of the Reserve Bank. Positive correlation is registered between the foreign exchange market (proxied by the forward premia) and the money market (proxied by call money rate) especially as the gradual flexibility accorded to banks in respect of their *nostro* investments allowed them to operate across the two markets (Chart VI.25). An increase (decrease) in the forward premia typically pushes up (pulls down) the call rates, especially if banks fund foreign exchange positions through call borrowings.

Chart VI.25: Call Rate and 3-month Forward Premia



6.155 There is a negative correlation between movements in the equity prices and the forward premia, partly reflecting the operations of foreign institutional investors. The portfolio allocations of FIIs are guided by returns earned in the Indian *vis-à-vis* foreign markets. The money market and the equity market were found to be negatively correlated. The relationship, however, was found to be weak.

6.156 Thus, analysis of correlation coefficients suggests that various market segments are integrated in varying degrees. Integration of financial markets was found to be more pronounced during the episodes of volatility in the financial markets, which began during the mid-1990. For example, sharp changes in overnight interest rates tend to impact longer-run gilt prices, especially in the case of sharp movements (Chart VI.26). It was also observed that excess returns emerged contemporaneously across market segments – call money, treasury bills and forwards – in the first half of 2000-01 during the extended bout of financial market volatility. The excess returns tended to vanish with the restoration of stability during October-November 2000. Furthermore, there was a close correlation between the movements in the bid-ask spread in the foreign exchange market and the Government securities market and the high-low spread (of the BSE Sensex) in the equity markets during 2000-01, especially during times of uncertainty such as the terrorist attacks in the US (on September 11, 2001) and at the Indian Parliament (on December 13, 2001) (Charts VI.27 and VI.28).

Chart VI.26: Call Rate and 5-year Gilt Rate

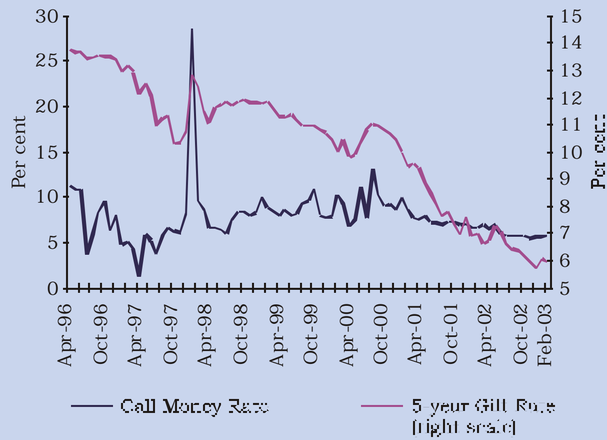
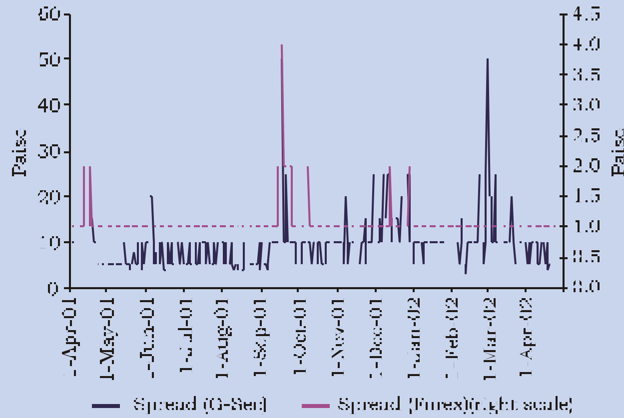
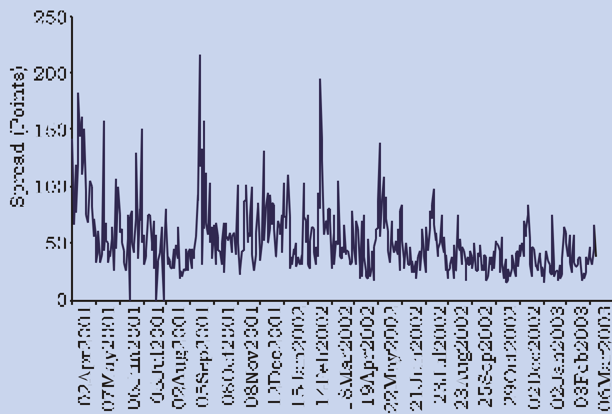


Chart VI.27: Spread in Government Securities and Forex Market



Source: Based on the data from the DFHI.

Chart VI.28: High-Low Spread in the BSE Sensex



Source: BSE.

6.157 To sum up, financial sector reforms have been successful in bringing significant improvements in various market segments. Reforms have helped in improving the depth, liquidity and efficiency of markets. The money market is now reasonably developed with an array of instruments. The character of the Government securities market has changed from a captive market to a broad-based market. It has also become deep and liquid, which has enabled the Reserve Bank to pursue its monetary policy through market-based instruments. Various reform measures have resulted in sharp growth of the foreign exchange market. Reforms have also been successful in creating, by and large, orderly conditions in the market. The capital market has become a safer place for investors as various risks involved at various stages of trading and settlement have been either completely eliminated or reduced considerably. Liquidity in the stock market has improved considerably. Various market segments have also become inter-linked. However, it needs to be noted that various market segments are still developing and there are some deficiencies, which need to be removed. In the case of money market, the term money market segment has not yet developed. Depth and liquidity of the government securities market and the foreign exchange market need to be improved further. The capital market has yet to show signs that it is processing the information more efficiently than before reforms. Various market segments also need to be integrated further.

IV. CONCLUDING OBSERVATIONS

6.158 Financial sector reforms introduced in the early 1990s in a gradual and sequenced manner, were directed at the removal of various deficiencies from which the system was suffering. The basic objectives of reforms were to make the system more stable and efficient so that it could contribute in accelerating the growth process.

6.159 The most significant achievement of financial sector reforms has been a marked improvement in the financial health of the commercial banking sector, which constitutes the most important segment of the Indian financial system. Asset quality of commercial banks, which before the initiation of reforms was at a very precarious level, improved significantly even as the norms were tightened over the years and the economy slowed down. Capital position of commercial banks also improved significantly and was somewhat higher than the prescribed level. Profitability of the commercial banking sector improved despite decline in spread , which itself is a measure of efficiency. Although commercial banks still face the problem of overhang of NPAs, high spread and low profitability in comparison with banks in other emerging market economies, reforms have been successful in enhancing the performance of commercial banks in terms of both stability and efficiency parameters.

6.160 The empirical evidence suggests that public ownership impinged on the efficiency of the banking sector as old private sector banks and those PSBs, which divested their equity recently, outperformed fully Government-owned banks. However, significant improvement was observed in the performance of fully Government-owned banks in the recent years and their performance tended to converge with that of other bank groups. In the context of the Indian banking sector, it was found empirically that various measures introduced to enhance the stability of the Indian banking system have not adversely affected their efficiency. In fact, stability and efficiency measures were found to be mutually reinforcing and complimentary.

6.161 While commercial banking sector showed significant improvement, the impact was not so evident in respect of other financial intermediaries operating in the system. Co-operative banking sector as a group did not show any improvement in either the stability or efficiency parameters. The state cooperative banks and district co-operative banks, which were incurring losses, turned around and made profits. However, asset quality and profitability of scheduled urban co-operative banks deteriorated in the recent years. Although one reason for this appears to be late start of the reform process for the co-operative banks in comparison with commercial banking sector, the condition of co-operative banks remains a cause of concern. DFIs, which traditionally played an important role in financing investment activity, find themselves at the crossroad. In the initial phase of reform, DFIs were able to sustain their business and profitability due to several factors, which worked to their advantage. However, on the whole, they have not been able to sufficiently reposition themselves in the changed operating environment. While all DFIs are able to maintain adequate CRAR, the profitability and asset quality of some of them are becoming a cause of concern.

6.162 NBFCs have been witnessing significant changes. While the capital adequacy position of most of the NBFCs improved in the recent years, their profitability was adversely affected due mainly to rise in the cost of funds. This, in turn, was due to decline in the share of public deposits and rise in the share of borrowings. In the coming years, the importance of deposits in their sources of funds is expected to decline further. This, however, should not be a cause of concern as in several other countries, borrowings is the main source of funds for NBFCs.

6.163 Reforms have been able to create competition in the insurance sector and give customers a wide choice not only in the matter of insurance companies but also in terms of insurance products. However, impact of increased competition is yet to be felt on the insurance penetration. In the case of mutual funds, although the competition has increased with increase in the number of mutual funds, their growth slowed down sharply in the recent years. This should be a cause of concern as mutual funds in several countries play an important role in the development of the capital market.

6.164 Thus, insofar as intermediaries are concerned, reforms have had a mixed impact. Improvement in the stability and efficiency parameters of the commercial banks has been the major achievement of the reform process. Reforms have also been able to enhance stability of other intermediaries, in general, as reflected in their increased capital position. Reforms have, however, not been so successful in bringing improvement in the efficiency as profitability of some intermediaries such as cooperative banks, NBFCs and DFIs declined in recent years due to various sector-specific reasons. Decline in the asset quality should be a matter of concern as this could also have adverse impact on the capital position of these intermediaries in future. Reforms in future would need to focus on efficiency and soundness of co-operative banks, DFIs and NBFCs.

6.165 The 1990s saw the significant development of various segments of the financial market. At the short end of the spectrum, the money market saw the emergence of a number of new instruments such as CP and CDs and derivative products including FRAs and IRS. Repo operations, which were introduced in the early 1990s and later refined into a Liquidity Adjustment Facility, allow the Reserve Bank to modulate liquidity and transmit interest rate

signals to the market on a daily basis. The process of financial market development was buttressed by the evolution of an active government securities market after the Government borrowing programme was put through the auction process in 1992-93. The development of a market for Government paper enabled the Reserve Bank to modulate the monetisation of the fiscal deficit. The foreign exchange market deepened with the opening up of the economy and the institution of a market-based exchange rate regime in the early 1990s. Although there were occasional episodes of volatility in the foreign exchange market, these were swiftly controlled by appropriate policy measures. The capital market also deepened during the 1990s. While the sharp increase in resource mobilisation through equity in the mid-1990s could not be sustained, there was a steady increase in the turnover in the secondary market. In terms of trading and settlement practices, risk management and infrastructure, capital market in India is now comparable to the developed markets. The development of the financial markets was well supported by deregulation of balance sheet restrictions in respect of financial institutions, allowing them to operate across markets. This resulted in increased integration among the various segments of the financial markets.

6.166 Apart from increasing integration of various segments of financial markets, the distinctions between banks and other financial intermediaries are also getting increasingly blurred. Another important aspect of reforms in the financial sector has been the increased participation of financial institutions, especially banks, in the capital market. These factors have led to increased inter-linkages across financial institutions and markets. While increased inter-linkages are expected to lead to increased efficiency in the resource allocation process and the effectiveness of monetary policy, they also increase the risk of contagion from one segment to another with implications for overall financial stability. This would call for appropriate policy responses during times of crisis. Increased inter-linkages also raise the issue of appropriate supervisory framework.

6.167 In India, while the banking system continues to play a predominant role, it is significant to note that, as a result of various reform measures, the relative significance of financial markets has increased. This augurs well for the overall stability of the financial system. The recent East Asian crisis underlined the need for a balanced financial system wherein financial markets also play an important role in providing necessary liquidity, especially during times of crisis. Banking system may also require liquidity in times of stress, which only deep and liquid financial markets can provide.

6.168 Financial sector reforms have supported the transition of the Indian economy to a higher growth path, while significantly improving the stability of the financial system. In comparison of the pre-reform period, the Indian financial system today is more stable and efficient. However, the gains of the past decade have to be consolidated, so that these could be translated to drive the institutions, markets and practices into a mature financial system that can meet the challenges of sustaining India on a higher growth trajectory. The financial system would, therefore, not only need to be stable but would also need to support still higher levels of planned investments by channelling financial resources more efficiently from deficit to surplus sectors. The banks would need to reassess their core banking business to view how best they could undertake maturity transformation to step up the lendable resources in support of real economic activity. Competitive pressures as well as prudential regulatory requirments have made banks risk-averse

and their investment in relatively risk-free gilt instruments have far exceeded the stipulated requirements. The behaviour and strategies of bank business would need to change from the present so that they can factor in their own risk assessment even while performing their core activities. There is a need to ensure long-term finance to support development and growth in the economy, even as restructuring takes place through mergers and universal banking. Also, the functioning of the capital markets requires to be toned up so that the levels of primary resource mobilisation seen in the early years of reform period are reached and perhaps surpassed. The key to attaining higher levels of investments by way of direct finance routed through capital markets lie in bringing about institutional improvement. Improved corporate governance practices can go a long way in bringing the retail investors back to capital markets. Institutional reforms supporting risk capital is important in broad-basing the entrepreneurship culture in the economy. While financial sector reforms till date have been helpful, more needs to be done so that greater gains from the financial sector reforms could be realised for the real economy.

6 Although the public issues market for last few years witnessed depressed conditions, corporates were able to mobilises sizeable from the private placement market.

7 Measured as percentage of the value of trade.

8 The allocative efficiency can be tested using a measure of synchronicity of equity prices (calculated as the fraction of stocks traded moving in the same direction). This measure signifies the relative importance of the market-related factors *vis-à-vis* company-specific factors, and the explanatory power (*i.e.*, the R^2 measure) of market returns (taken as a proxy for market factors) in a set of individual return generating functions (Roll, 1988; Morck *et al*, 2000). The allocative efficiency would be higher if investors pay greater attention to company-specific factors rather than market specific factors.