CHAPTER 7

Summary of Findings and Conclusion.

7.0 This study has attempted to identify the long term and short term impact of the exchange rate and share prices on each other in the Indian equity capital market by drawing evidence from different platforms in the market scenario. The foregoing chapters record the theoretical and empirical exploration in this respect. The findings from the test results and the empirical analyses are summarized and conclusions presented under the following framework.

- Impact of the exchange rate fluctuations in the long run.
- Structural breaks and time varying dynamic relationship between them.
- Response to specific events.
- Interaction of exchange rates and stock prices during good times and bad times
- Sensitivity of various industry groups to the fluctuations in exchange rate.
- Evidence at the micro level on how the individual companies respond to exchange rate fluctuations.
- Presence of any systematic pattern across various indices.
7.1 The threadbare analyses carried out at different scale and scope bring to light the following. The presence of a unit root at levels indicated that there is an evolutionary component in both exchange rate and share price as they are auto correlated. The exchange rate and the share prices do follow a dynamic empirical relationship in the short term and in the long term, there is co-movement leading to an equilibrium relationship. These are evidenced by causality and co-integration test results of the high frequency daily data on share prices at various levels and exchange rates for the period of fifteen years (1991-2006) presented in the previous chapter.

7.1.1 There are structural breaks which are distinguishable and the correlations are vulnerable to change from period to period. While equilibrium long run relationship was seen in the fifteen years period taken at a stretch, there was no evidence of such interrelationship within the shorter periods of the different phases identified. The causality was varying for the three time buckets. In the later years causality was running from stock prices to exchange rates in line with the stock oriented or portfolio balance approach of exchange rate theory in which stock prices lead exchange rates with a negative correlation.

Causality is a matter of short term dynamics. While in time zone 1996-2000 neither causality nor co-integration was evidenced for the five year period in toto, traces of causality were observed for in between periods,
suggesting that the impact can be time varying. The case was of reverse order for Phase 2. The direction of causation also was varying within the period for shorter span of time. Similarly, where as the causality was seen for longer stretches of periods, in the shorter sub periods it was absent. Thus time varying nexus of a dynamic relationship was observed for different time zones during the period. The study replicates previous work by Granger et.al.( 2000) who proved that causality is time varying and movements in both capital markets and foreign exchange markets are known to be “intrinsically a short run occurrence.”

7.1.2 There were several notable episodes during the period which caused rising volatility of the exchange rate that mostly set contemporaneous impact on the share prices. These events which were generally in the nature of negative shocks in the form of a crisis, had resulted in a cyclical impact depreciating the rupee, followed by volatility and run down in the stock market, which had spillover effects on the exchange rate.

7.1.3 Integration of Indian markets to global markets was evidenced by the behaviour of the Indian markets both in times of calm and crisis. Events of global slowdown affected the liquidity of the Indian stock market and the market went through a dull phase during 2001 and 2002. Incidents relating to US market were the most impacting ones. In May 2002 with the hardening of
Fed – rate, there was outbound capital flight and the rupee bottomed out. And some co-movements and short term dynamic relationships were observed in the recessionary trends when economic slowdown prevailed globally. Recovery resumed from 2003 onwards recording a smart rally. By and large the two markets remained independent for most of the period since 2003. The markets appeared to be freer but a tamed one with frequent RBI interventions through open market operations of stabilizations/ sterilization keeping the exchange rate manageable.

7.1.4 The two variables were found to be significantly linked in the stable periods but unpredictable during the crisis hit periods. A strengthening rupee supported the momentum in stock market demonstrating the fundamental strength of the economy. If the causes of appreciation are good and strong founded on fundamentals and triggered by natural course and not artificially injected or diffused by market participants, the relationship between exchange rate and share prices are reflected as highly integrated co-movements.

The stock market was slow in responding to positive news. When partial convertibility of currency was instituted, rupee became stable. Share prices responded positively to the relatively stable rupee. It was also seen that a stable exchange rate causes and supports rising prices in the stock market and this held true for the fairly long stretches of placidity. In bad times, sudden negative shocks can impact significant repercussions in the stock prices and
can set the market in a mood of frenzy. In such circumstances the volatility in the stock market takes the lead in sending negative shock waves to the currency market making both parameters run on reverse gear with a domino effect. With the negative shock waves stock prices lead the down slide in both markets. While the response to sudden depreciations in rupee are stronger and faster, resulting in wild gyrations, the stock market responds at a slower pace to a fast appreciating rupee making it a process than an event.

These findings are consistent with Dornbusch’s (1976) findings that “Exchange rates can temporarily overshoot in the wake of certain disturbances.”

7.1.5 Sensitivity of industry groups and firms to exchange rate fluctuations. Different industry groups responded differently to the change in exchange rate fluctuations. There appeared to be long-term relationship between exchange rate and stock prices at industry level in banking, healthcare and technology sector. Exchange-rate changes have negative effects on some industries but positive effects on others. Import intensive sectors like Automobile, Oil, Metals, responded negatively to the weakening rupee. All other sectors were found to be negatively correlated with the appreciating rupee during 2002 to 2006 and thus testifying differing effects of exchange-rate changes on the performance of stock prices across different industries.
7.1.6 The study also analysed the sensitivity of performance of individual firm’s share price to exchange rate fluctuations.

Different companies exhibited differing patterns of impact from exchange rate fluctuations. Theoretically, the relationship should mostly depend on the multinational characteristics of the firm. There is believed to be an inverse relationship between the level of currency volatility and the stability/growth of the earnings stream of exporting firm. The extent of impact would depend on their exposure to foreign exchange risk and efficiency of the risk management strategies adopted by them. Sudden depreciation of the rupee would affect a firm’s foreign operation and overall profits which would, in turn, affect its stock prices. The earnings stream of a company with international exposures could remain broadly anchored to its medium-term growth rate if what is lost in one year on account of volatility in exchange rates, is made up in another year. In such a scenario, the stock market also may not worry much about companies with currency exposures even if the exposures are not hedged. As for a major part of the period of study the rupee was appreciating while only some of the export intensive firms’ share prices were affected. Sudden changes or shocks in exchange rate appeared to have a pronounced impact on export oriented companies, where the hedging or risk management was incomplete. It would have otherwise faced considerable erosion of its local currency earnings base or could face pressure on the expenditure side. Such details remained
outside the scope of this study, to facilitate any conclusive proof in this regard.

Relatively permanent diminution or appreciation in exchange value may affect the cost of production and the global price competitiveness of products and services in the long term. This could cause structural shifts in product portfolios and markets. It could be argued that while firms may tide over temporary volatility by efficient risk management mechanisms, in the long run, they may have to shift to newer markets and/or diversify their product portfolios to remain competitive. This is reflected in the cyclicality in the share prices over long stretches of time.

7.1.7 Perceptible pattern of relationship was observed across various indices. The results for the co-integration and causality tests extended over broad based BSE indices series vouched that stock prices share a common pattern of relationship despite their coverage. In all cases causality was running from stock prices to exchange rates for the period 2001 to 2006. The findings are in support of the Portfolio Balance Approach which postulate a negative relationship between exchange rates and stock prices.

7.2 Conclusion.

Over the tenure of fifteen years under review India has come through different regimes of foreign exchange management. Starting from a controlled fixed exchange rate regime it came through the dual exchange system
and a managed float system before moving to the current near free float system
and almost on the verge of full capital convertibility. Contrary to the experience
of many other developing countries where the transition was directly from fixed
to floating exchange rates, it has been relatively smooth, calibrated and gradual
for the Indian market. The constituent factors of the financial matrix that
determine the exchange rate has also been under transition too. The demand
and supply of foreign currency, movement of interest rates and inflation, the real
external and domestic economic fundamentals are now more important
determinants of exchange rate for the Indian rupee than trade flows. Foreign
exchange is also emerging as an asset class in the portfolio of investment. India
has become vulnerable to global flows both in the form of portfolio investment,
foreign direct investment, and foreign currency borrowings. Portfolio flows are
mainly motivated by the risk-adjusted differentials between nominal interest
rates in different markets across the globe. Under a floating exchange rate
regime, capital inflows lead the exchange rate to appreciate, again resulting in a
loss of competitiveness and, possibly, a deterioration of the current account
balance. If confidence weakens, portfolio flows could easily go into reverse,
potentially leading to the negative effects of ‘sudden stop’ of capital flows, i.e
tighter credit conditions, output contraction, fiscal sustainability problems etc.

Of late, the foreign exchange market has been serving as a propagation
channel for capital flows from one market to the other. Foreign capital flows and
therefore foreign exchange policy may take an upper hand in macroeconomic management. Financial markets will have to play an even more important role in future to sustain the current growth momentum being experienced by the Indian economy. This would mean that an understanding of the short run dynamics can offer useful recommendations on formulation of foreign exchange policies and capital market policies and improve the predictability of exchange rates. It appears there is an impending role reversal for the foreign exchange policy which is still sub-serving the monetary policy.

With the Exchange rate policy the Government has attempted to make the Indian Rupee more market driven although previously RBI intervened at times in the market, to maintain stability of the exchange rate. Restrictions to capital mobility reduced the vulnerability of the exchange rate and its impact on other sub markets in the early part of 1990s. In a period of managed exchange rate regime, volatility was kept under control. Exchange rate was used as the strategic tool to synchronise the conflicting objectives of maintaining export competitiveness and attracting foreign investment.

However, with the major reforms furthering the liberalisation in the foreign exchange market and the resultant large sized foreign capital flows, the exchange rate has become more market determined. In such a scenario, should exchange rate stemming from vastly increased private foreign capital flows become the anchor? Evidence suggests that growing integration of various
financial market segments in India has been accompanied by lower volatility in exchange rates. In an open economy, increased integration should lead to more efficient dispersal of risks across the various segments. In the context of the vanishing nation state, the global investor in his pervasive pursuit of higher yields, will shift from one market to the other. The strength of Indian economy belies in the young sect of economically empowered investors. Its internal strengths are far wider than what it derives from exports. Capital flows are becoming more relevant than trade flows in the determination of foreign exchange rates. Foreign exchange policy is expected to assume greater lead and importance in the policy framework of the country. In this context, regulators will have to institute stricter surveillance and accountability to track down the identity of the source and direction of flow of capital to protect the country from unwarranted crisis in future. One cannot expect the three - an open economy, a floating exchange rate and a truly national monetary policy- to independently co-exist as was enlightened by Nobel Laureate Robert Mundell in his axiomatic “impossible Trinity.”