CHAPTER 6

FINDINGS, POLICY IMPLICATIONS AND FUTURE RESEARCH

This chapter presents the findings that have emerged from the current study, suggests policy implications and the scope for future research. For this purpose, the chapter has been broadly divided into four sections. The first section 6.1 is further categorised in to five parts to present the findings based on the four major objectives framed in the study and to summarize the same. These findings would help the retail investors in understanding the Foreign Institutional Investors investment behaviour and Indian stock market in a better way and frame their investment strategies accordingly. The second section suggests few policy measures that would help the regulators to effectively handle the Foreign Institutional investors and also to strengthen the stock market from any adverse impact. The third section concludes the present research study and the final section of this chapter outlines the future path of the research in relation to FIIs and Indian stock market.

6.1 FINDINGS

In order to disclose the linkage between the FII investments and Indian stock market from the perspective of objectives framed and also to relate them and provide overall depiction, this section of the chapter has been further divided in to five parts. The first part offers the findings on nature and direction of relationship exists between the FII investments and stock market.
The outcomes of the determinants of FII are discussed in part two of this section. The third part discloses the results pertaining to impact of FII investments on stock market volatility. The forecast results of FII investments by having stock market index as an independent variable has been discussed in the part four. The fifth part of the findings relates the outcome all study objectives to give overall result of the research undertaken.

6.1.1 Nature and Direction of FII Investments and Stock Market Relationship

This section comprises the major findings regarding the nature and direction of FII investments and stock market relationship. The variables considered for the study are FII investments, Nifty return and CNX 500 return.

The result of Augmented Dickey Fuller Unit root test indicates FII investments, Nifty return and CNX 500 return were stationary at level. The correlation analysis for the entire study period was carried out and the result displayed that both Nifty and CNX 500 were having extremely higher positive correlation coefficient of 99.7%. The correlation between FII investments and Nifty was 18.9% which signifies a low positive association between them. The correlation between FII investments and CNX 500 was also low at 18.8%. All these correlation values were significant at 1% inferring that they are significant despite the low relationship between them.

The result of phase wise correlation test reflected that the correlation between daily FII investments and Nifty return was low in all the six phases. This indicated that there was no concurrent relationship between FII investments and Nifty returns on daily basis. The correlation result for FII investments and Nifty return based on monthly data for the entire period of
study was 52.4% which was a significant and moderate positive correlation. Moreover the phase wise monthly correlation disclosed the existence of positive correlation in all the phases. This clearly revealed that the daily lead-lag relationship got adjusted over a monthly period. The monthly correlation during recession (bear market) periods (phase 3: 84.7% and phase 5: 85.2%) were extremely positive and high indicating the association between these variables was direct and more felt in a recession period than in a bull market period.

The granger causality test revealed Nifty return granger cause FII investment in all six phases. This direction of influence moving from Nifty return to FII investment shows that Nifty returns precedes FII investments, i.e. FII investments follows the direction of Nifty return irrespective of bull or bear market phase. The variance decomposition result displayed that Nifty return defines FII investments more than FII investments define Nifty return in all the phases. This is more evident in bear phases as nifty return defines FII investments more during these period compared to bull period indicating downward trend in Nifty return has more influence on FIIs to withdraw the investment quickly than the upward surge in Nifty influencing FII to invest. The Impulse Response Function identified that response of FII investment to Nifty return’s innovation is high compared to the response of Nifty return to FII investment’s innovation.

6.1.2 Determinants of FII Investments

The major findings pertaining to the determinants of FII investments are summarized here. The variables included for this study are categorized into host country and home country variables. The host country (India) variables included in the study are IIP, WPI, USD-INR exchange rate, Nifty index returns and Nifty index volatility. The home country (USA)
variables included in the study are IIP, PPI, S&P 500 index returns and S&P 500 index volatility. These variables are taken as determinants of FII investments in ARDL model.

The correlation analysis revealed that stock market returns of India and USA are well associated with FII investments during the study period as they hold positive significant correlation of 52.3% and 48.7% respectively. This specifies that higher the stock market returns both in India and also USA might have created the confidence among the institutional investors to bring more investments to Indian stock market. At the same time, it also states that negative stock market returns resulted in withdrawal of FII investments made in India.

The F-statistic 3.5369 was higher than the upper bound critical value at 5% level signifying the long-run cointegration relationship between the selected exogenous variables and FII investments. The long-run coefficient estimate revealed Nifty returns (RN) was the only selected variable which significantly determine FII investments in long-run. Though WPI of India and volatility in S&P 500 also determine FII investments in India, they were found to be significant only at 10% level. In short-run, the significance of Nifty return in determining FII investment is more felt as the it was significant at 1% level. Apart from Nifty returns, volatility (risk) of S&P 500 also positively determines FII investment in short-run at 5% significance level. Finally, the estimated ARDL model has undergone series of diagnostic test and the model was found to be stable.

6.1.3 FII Investments and Indian Stock Market Volatility

This section of findings is related to the impact of FII investments on stock market volatility. The study considers Nifty log returns as a dependent variable.
The result of the correlogram displayed that AR (1) was the best fit ARIMA model for this study. The t-statistics of 4.1474 was significant at 1% level. The diagnostic test conducted proves that the error terms (residuals) of the model have heteroscedasticity features which warrant the application of ARCH family models for studying stock market volatility. Among the ARCH family models, GARCH (1,1) was found to be a best model based on the significance of conditional variance having lower Akaike Information Criterion and Schwarz Information Criterion.

The outcome of GARCH (1, 1) model exhibited that sum of ARCH and GARCH coefficients were 97.5% and positive which indicates the model chosen was good and having positive impact on dependent variable. Higher GARCH coefficient compared to ARCH indicate the conditional variance depends mostly on the previous periods forecast variance. The small but significant negative coefficient of FII investments in GARCH (1,1) model is similar to Kumar (2000) and Bawa (2011) indicates the negative consequence of FII investments on stock market volatility. The negative coefficient of FII indicates that FII investments are having negative relationship with stock market volatility. This proves that FII investments helped to dampen volatility by bringing liquidity to the stock market. This is supported by Bansal (2009). The diagnostic study results indicate the model formulated to study the FII investments and Stock Market volatility was stable and reliable model.

6.1.4 Forecasting FII Investments in Indian Stock Market

The findings related to Forecasting FII investments using Nifty returns (RN) and the past lag of FII investments are discussed here. The monthly data from July 2012 to September 2013 (15 monthly observations) were used for estimating the forecast model. The FII investments were forecasted from October 2013 to March 2014 (6 monthly forecast values).
The forecast values were compared with the actual data to verify whether the estimated model is reliable or not.

The ADF unit root test identified both FII investments and Nifty returns data series as stationary. The estimated regression model characterizes the requirement of worthy model as both Nifty return (RN) was found to be significant at 1% level. The R-squared was 63.5% and Durbin-Watson test value is closer to an ideal value of 2 stating the model does not suffer from serial correlation. The statistical properties of the model are found to be stable through various diagnostic tests.

The Dynamic forecast result was compared with actual FII investment values. The result indicates that estimated forecast model captured all the turning points and the direction of FII investments correctly. The forecast error (Root Mean Square Error in Figure 5.16) was 5361.37. Considering the size of investments, the error value was not huge. The various evaluation of the forecast model indicates that model was stable and good in forecasting.

6.2 POLICY IMPLICATIONS

This research study has presented numerous useful facts based on which policy makers can identify a way to make stronger the Indian stock market and can impose suitable policy measures on FIIs for the benefit of economy, stock market stability and other investors. The suggestions based on the findings of this study are specified in this chapter. The policy suggestions specified here are categorized into two parts. The first one is for Indian stock markets and the other is for managing FII investments.
First, the study identified that Indian stock market Granger cause FII investments. Therefore, the quantum of FII investments in Indian stock market would be led by the performance and stability of Indian stock market i.e. the higher return in stock market would invite more FII investments and a decline in return may stimulate FIIs to withdraw their investments. FII activities cause some variation in the country’s Foreign exchange rate and reserves. Hence, any policies related to easing financial regulation for foreign investors should be properly planned before implementation. For example, a move towards full capital account convertibility may pose a severe threat of sudden withdrawal of investments by foreign investors during the time of crisis which might result in huge adverse impact on stock market.

Second, the findings show that Nifty returns is a significant determinant of FIIs both in long-run and in short-run. This indicates that higher Nifty returns induce FIIs to invest more in Indian stock market. Therefore, India can attract FII investments as long as it is able to manage better macroeconomic conditions and its business firms are able to perform better than the firms in other developing countries. Though, this study has not revealed that macroeconomic variables such as exchange rate, IIP and inflation of both host and home country are significantly influencing FII investments, any contrary movement in these figures will certainly affect FII investments in India. Hence the proper flexible measures should be adopted according to the necessity to ensure stable economic environment.

Third, the study reveals that FIIs are significant players (Table 1.9: FIIs have 22.9% of NSE’s cash market turnover in 2013-14) in Indian stock market and though their investment has no adverse impact on volatility (in fact, it marginally reduces the volatility), still it is necessary for Securities Exchange Board of India (SEBI) to ensure the higher participation of domestic institutional investors and retail investors in the Indian equity
market. This move not only strengthens and brings more liquidity in to stock market but it also proves to be handy in preventing the destabilization when FIIs withdraw the money suddenly from the market owing to fulfilment of their home market commitment at the time of crisis. The institutional investment funds like New Pension Fund scheme of Government of India should be aggressively promoted to have domestic institutional investment share in the stock market.

Fourth, the policy makers in India can further classify the FIIs based on the nature of institutions and investments in Indian stock market. The policies can be framed in such a way to motivate FIIs having objectives of making profit through medium to long term commitment of funds in Indian stock market. For instance, diverse group of institutions have registered themselves as FIIs with SEBI. The FIIs like Sovereign Funds and Pension Funds are different from other short-term profit expectation funds such as Hedge funds. Imposing certain control on very short-term FIIs investments may reduce the FII flows but certainly help in improving stock market stability.

Fifth, the findings revealed that the direction and quantum of FII investments can be predicted with reasonable accuracy. The policy makers can effectively use such forecasting techniques which may help them in effective policy framing. This is particularly important in managing foreign exchange reserves and keeping current account deficit under control.

6.3 CONCLUSION

This study discloses sufficient proof that FIIs follow the market trends in India. The ARDL bounds test approach to cointegration shows that the variables of interest are bound together in the long-run. Nifty returns is the
only variable which has significant relationship with FII investments in both long run coefficient estimation and short run error correction dynamics whereas volatility of home country (USA) stock market is found to be significant only in short run error correction dynamics.

It is also revealed that FII investments do not have any adverse impact on stock market volatility rather it reduces volatility. The GARCH (1,1) model using Nifty returns as an exogenous variable gives a fair forecast result for FII investments. Overall, FII investments and Nifty return are closely related to each other with former preceding the direction and the later following it.

6.4 FUTURE RESEARCH

Even though plenty of research has already been done on the Foreign Institutional Investors, still there exists knowledge gap.

➢ The role of FIIs in equity derivatives segment is much higher than cash segment, but hardly studies have been conducted in this context. It will be of great use to the policy makers if quality research can be undertaken to study FIIs significance in derivative market segment.

➢ Lot of research has been carried out in equity market with specific attention to FIIs, but rarely FIIs in debt market has been investigated despite of its recent surge in debt market (SEBI Bulletin, March 2014).

➢ A more detailed study on various groups of FII investments such as Pension Funds, Hedge funds, Portfolio management funds etc., may be useful for further in-depth research as one
can expect differing investment patterns among these groups of FIIs.

➢ It is also useful to study the degree to which FIIs participation has helped in lowering the cost of capital to Indian business firms.

➢ The research on other Foreign Portfolio investments such as Foreign Venture Capital funds etc., are to be encouraged as they are useful in nurturing new business entities in India.