Chapter V

Findings, Suggestions, Conclusion and Scope for Further Research
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FINDINGS, SUGGESTIONS, CONCLUSION AND
SCOPE FOR FURTHER RESEARCH

INTRODUCTION

The data collected to study the influence of macroeconomic variables on Indian stock market with foreign institutional investments as an intervening variable were analysed and appropriate tests were conducted in different stages in Chapter IV. The results of tests in different stages have been summarized in this chapter, Chapter V.

FINDINGS OF THE STUDY

Findings of Stage I

The Descriptive Statistics has been conducted to check the normality of variables. After the analysis, it is found out that there is normality among the variables under this study.

Findings of Stage II

The Augmented Dickey Fuller test (ADF) has been conducted to find out the stationarity/non-stationarity of variables.

It is to be noted that as per the result of ADF test, none of the variable attains stationarity before applying the 1st difference in BSE, BSE AUTO, BSE FMCG, BSE IT, and BSE METAL and in NSE, NSE AUTO, NSE FMCG, NSE IT, and NSE METAL.

Out of four macroeconomic variables only two variables CPI and FII attains stationarity before applying 1st difference.

All the variables (BSE, BSE AUTO, BSE FMCG, BSE IT, BSE METAL, NSE, NSE AUTO, NSE FMCG, NSE IT, NSE METAL, CPI, CMR, DP and FII) attain stationarity only after applying the 1st difference in the Augmented Dickey Fuller test.
Findings of Stage III

The Johansen Co-Integration test has been conducted to know the existence of long run equilibrium relationship among the indices of BSE and NSE and FII.

The BSE, BSE AUTO, BSE FMCG, BSE IT, and BSE METAL with macroeconomic variables CPI, CMR, DP and FII do have long-run equilibrium relationship.

Through analysis it could be noted that NSE, NSE AUTO, NSE FMCG, NSE IT, and NSE METAL with CPI and NSE with FII co-moved together and do have long-run relationship during the study period.

The macroeconomic variables, CPI, CMR, and DP, with FII co-moved, i.e., moved together, and do have long-run relationship during the study period.

Findings of Stage IV

The Ganger Causality test is to find out the cause and effect relationship between the variables BSE, NSE, FII and macroeconomic variables.

There is an unidirectional relation between DP and BSE, CMR and BSE FMCG, BSE FMCG and DP, BSE FMCG and FII, and BSE METAL and FII. It means that DP influences the BSE stock market, CMR influences the BSE FMCG, BSE FMCG influences the DP, BSE FMCG influences the FII and BSE METAL influences the FII. However, BSE Sensex does not influence the DP, BSE FMCG does not influence the CMR, DP does not influence the BSE FMCG, FII does not influence the BSE FMCG and FII does not influence the BSE METAL.

In addition to that there is an unidirectional relation between NSE and FII, CMR and NSE FMCG, NSE FMCG and DP, NSE FMCG and FII, NSE METAL and DP, and NSE METAL and FII. It means that NSE influences the FII stock market, CMR influences the NSE FMCG, NSE FMCG influences the DP, NSE FMCG influences the FII, NSE METAL influences the DP and NSE METAL influences the FII. However, FII does not influence the NSE, NSE FMCG does not influence the CMR, DP does not influence the NSE FMCG, FII does not influence the NSE FMCG, DP does not influence the NSE METAL and FII does not influence the NSE METAL.
As per the result of Granger Causality test FII does not affect DP and DP does not affect CMR. On the hand, CMR influences the DP and DP influences the FII.

**Findings of Stage V**

Correlation Matrix test has been conducted for identifying the association between CPI, CMR and Dollar Price--the selected macro economic variables and the indices of BSE and NSE.

There is a positive correlation between BSE, BSE AUTO, BSE FMCG, BSE IT, and BSE METAL and CMR. However, there are some negative correlation between CPI and BSE AUTO, CPI and BSE FMCG, CPI and BSE IT, DP and BSE, DP and BSE AUTO, DP and BSE FMCG, DP and BSE IT and DP and BSE METAL.

There is a positive correlation between CPI and NSE, CPI and NSE METAL, NSE AUTO, NSE FMCG, NSE IT, and NSE METAL and CMR and FII. However, there are some negative correlation between CPI and NSE AUTO, CPI and NSE FMCG, CPI and NSE IT, DP and NSE, DP and NSE AUTO, DP and NSE FMCG, DP and NSE IT and DP and NSE METAL.

There is a positive correlation between CPI and CMR. However, there are some negative correlation between DP and CPI and CMR. In addition to that FII has a negative correlation with CPI, CMR and DP.

**Findings of Stage VI**

Simple Linear Regression analysis has been conducted for knowing the percentage of impact of selected macro economic variables and the Indian stock market.

Both DP and FII have an impact on Indian stock market (BSE and select samples of BSE as well as NSE and select samples of NSE). However, the CPI and CMR do not have an impact on Indian stock market i.e. BSE and NSE. In addition to that, DP do not have an impact on BSE IT.

As per the results of simple regression between FII and macroeconomic variables, it could be understood that none of the macroeconomic variables influences the FII except DP. It means that DP has an impact on FII.
Findings of Stage VII

The Sobel test has been conducted to identify FII has an intervening variable between macroeconomic variables and the Indian stock market.

FII acts as an intervening variable between macroeconomic variables (CPI, CMR and DP) and BSE. However, FII does not act as an intervening variable between the other samples like BSE AUTO, BSE FMCG, BSE IT and BSE METAL.

In addition, FII acts as an intervening variable between macroeconomic variables and NSE.

SUGGESTIONS OF THE STUDY

The following are the suggestions, which emerge from the analysis.

The US dollar is the most determining foreign currency used for trading and investment in the Indian stock market and plays a vital role in influencing the prices of shares of BSE and NSE. Hence the investors are advised to carefully analyse the movement of share price.

Though there is a positive influence of FII on BSE sensex and NSE, the impact of FII on them is very low. Hence the investors are advised not to be worried too much about the fluctuations caused by FIIs in the Indian stock market.

From this study it has been understood that FII is one among the macroeconomic variables that impact the Indian stock market and definitely not the only one. There are other variables which are directly or indirectly influencing the Indian stock market. Hence the investors are advised to analyse the influence of all the macroeconomic variables.

The impact on FII in the Indian stock market is, though positive, is very small and hence FII cannot cause serious volatility. The government and other regulators should take steps to remove the fear of impact of FII on Indian stock market from the minds of investors and may take steps to admit the inflows of FII.

The investors are advised to appreciate the inflows of FII into the Indian business since a large amount of capital created by it will enhance the return to the investors and adds to the foreign reserves which can be used for imports.
CONCLUSION

The study performed necessary analyses to answer the research question of the influence of select of the macroeconomic factors on the Indian stock market with FII as an intervening variable. The macroeconomic variables are represented by the Consumer Price Index (CPI), Call Money Rate (CMR), Dollar Price (DP), and Foreign Institutional Investment (FII). Indian stock market is represented by BSE SENSEX and NSE.

The main objective of this study is to investigate the, “The influence of macroeconomic variables on Indian stock market with foreign institutional investments as an intervening variable”. The present study explains the linkage between Indian stock market and macroeconomic variables in the Indian context using techniques like Simple regression, Granger causality test, ADF test, Unit root test and Sobel test with the help of SPSS and E-views. A time span of 12 years has been chosen for this study from January 2005 to September 2016 uses monthly data to portray a larger view of the relationship. The study also attempts to analyze the impact of macroeconomic variables on Indian stock market sector wise. Four sectors have been taken for this analysis namely Auto, FMCG, IT and Metals of BSE and NSE. Not only the domestic economic variables have been considered but the linkage with the external world through the exchange rate movement has also been included in the analysis. The study does not assume any prior relationship between these variables and the Indian stock market and is open to the possible two-way relationship between them which has been tested through Granger causality test.

On the basis of overall analysis it has been concluded that two of the four variables are relatively more significant and likely to influence Indian stock market. These factors are dollar price and foreign institutional investment. There is a positive relation between FII and Sensex, CMR and Sensex whereas DP and Sensex, CPI and Sensex show a negative relation.

With the help of results of Granger causality test it has been ascertained that dollar price have affected FII and that dollar price and FII have influences over BSE

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and NSE. Hence it may be concluded that in the long-run, the Indian stock market is more driven by global factors rather than domestic factors.

As per the results of Sobel test it could be concluded that FII acts as an intervening variable with the overall indices of BSE and NSE, and does not act as an intervening variable with the indices of select sectors of BSE and NSE individually.

From this study it has been understood that FII is one among the macroeconomic variables that impact the Indian stock market and definitely not the only one. There are other variables which are directly or indirectly influencing the Indian stock market.

The impact on FII in the Indian stock market is, though positive, is very small and hence FII cannot cause serious volatility. The government and other regulators should take steps to remove the fear of impact of FII on Indian stock market from the minds of investors and may take steps to admit the inflows of FII.

**SCOPE FOR FURTHER RESEARCH**

The research may be conducted in future in the following areas,

The study may be further extended to longer period for future research and may be further extended to other micro and macro economic variables like balance of payments, supply and demand, pricing, competition, costs and production and economic value added.