CHAPTER VI
FINDINGS, CONCLUSIONS AND SUGGESTIONS

6.1 INTRODUCTION

This chapter presents findings, conclusions and suggestions to the policy makers and directions for further study.

6.2 PURPOSE OF THE STUDY

Investors trade on exchanges based on the information they receive about the company’s shares and based on their expectations about the future performance of the company. The process of trading in the Stock Exchanges at the selling or buying price is called Asset Pricing and it is one of the most challenging fields of study. Issues in asset pricing are studied in Market Microstructure. The most important metric of Market Microstructure is the bid-ask spread. It is defined as the price at which investors quote the buying and selling price.

The “informed investors” fix the price of the asset and trade in such a way that they get maximum profit. The other groups of investors, who do not get the information on time, hold the asset or postpone their buying activity. These investors face “inventory cost” for holding unwanted positions on shares.

The National Stock Exchange of India, where the study was undertaken, was highly volatile. The information received about the companies makes the investors trade in the way they do. They either buy or sell shares at whatever price, based on the information they receive and based on their expectation. Lack of knowledgeable traders too is a very big challenge to the NSE. It is necessary that the investors know about the factors influencing the trading process. There are very few traders with knowledge on the movement of shares and common investors rely on these traders. Traders trade on behalf of themselves or on behalf of their clients. A better understanding of the price formation process would increase the efficiency of their trading activity. The rules and guidelines formulated too require proper updating.
6.3 METHODOLOGY

For the study the trading that took place during March 2010 are considered. This list excludes the instruments other than equity shares and shares which had minimum trading days. Shares which had at least one negative correlation day alone are considered. Spread is calculated on the market price. A daily average is found from all the trading that took place on a trading day. This daily average is used to calculate spread. These shares are then classified into industries. Altogether, there are 106 industries. These industries are classified into sectors. A group of related industries form a sector. A comparison is done among the different industries within a sector. The classification of shares is based on index too. During March 2010, whatever indices were there in the NSE was considered. A comparison was made between the index forming and the non-index forming companies.

The Market Price per Share, the Capitalization and the Number of Shares Traded are called the control variables. The non control variables include Beta of the security, the Return Variance, the Debt Equity ratio, the Percentage of Promoters’ Holdings and the Price Earning ratio. The control and non control variables were placed in ascending order and divided into ten percentiles. Spread for these ten percentiles were found and a study was done to find the relationship between these variables and the spread. A series of regressions, analysis of variance test and t-tests were conducted to compare the mean spread for all the sets of data.

The study explored the link between the spread and various factors affecting spread in the F&O segment too. Though the first month contracts were most heavily traded contracts, an attempt was made to find the link between the variables for the second month contracts too.

Corporate announcement made during March 2010 were taken and the performance of the companies before and after the corporate announcements were found. The corporate announcements were classified into four categories, namely Bonus on Shares, Dividends, Share Split and Bonus on Debentures. An attempt was made to compare the performance of the company before and after the announcements. The influence of FII on capital market, on Futures and Options were also found.

6.4 SUMMARY OF FINDINGS
The summary of findings are presented in subsequent paragraphs.

6.4.1 The 1290 shares of the NSE which were taken for the study were classified into different industries. 106 such industries were formed during March 2010. These industries were further divided into 16 sectors, where each sector represented a group of related industries. On comparing whether there was any significant difference between the spread among different industries in each of the sixteen sectors, it was found that there was no difference in spread for each industry and each sector. The sixteen sectors are Agriculture, Automobile, Banking and Financial Institutions, Capital Goods, Chemicals, Construction and Infrastructure, Food and Food Processing, IT and ITeS, Manufacturing, Mining and Metals, Miscellaneous Sector, Pharmaceutical Sector, Power and Energy sector, Printing and Stationery, Services Sector and Textiles Sector.

6.4.2 In the sector wise classification of industries, the following industries in each sector had the lowest spread. These industries are Fertilizer, Car industry, Public Sector Banks, Engines manufacturing industry, Paints and Varnishes industry, Ceramics industry, Cigarettes industry, Large Software companies, Power Cables industry, Steel Sponge Iron industry, Trading industry, Pharmaceutical companies manufacturing bulk drugs, Oil Drilling and Gas industry, Packaging industry, Recreation industry and Silk industry in the Textile sector have performed well as far as the bid ask spread is concerned.

6.4.3 Among the remaining industries in each sector, Pesticides, Motor cycles and Mopeds industry, Term Lending institutions, Bearings industry, Dry Cell industry, Cement Products industry, Sugar industry, Computer Education industry, Pumps industry, Plastic Products industry, Shipping industry, Indian Personal care industry, Power Generation and Supply industry, Telecommunications Services providers industry and Cotton and Blended Textiles industry had very poor performance as their bid-ask spread was highest in their respective sector. Thirty five companies in the poor performing segment had a high debt equity ratio and forty five companies were low capitalization firms.

6.4.4 The NSE has divided the companies into major categories of indices. During March 2010, there were four indices called Broad Market Index, Sectoral index, Thematic index and Strategy index. The Broad Market Index was classified into four types called CNX Nifty, CNX Nifty Junior, CNX 100, CNX 200 and CNX 500. A comparison was made between the
index forming companies and the companies which do not form the index. The index forming companies have performed well in the stock markets, than the non index forming companies. But there were a few exceptions too. CNX Nifty, the benchmark index had a spread of 1.23 whereas Nifty Junior, the index representing the next 50 best performing companies had a spread very close to Nifty’s at 1.24. CNX 100, a combination of Nifty and Nifty Junior had obviously performed better than the non index forming companies. In case of CNX 200, the mean spread for the 200 index forming companies was at a lower level of 1.54, compared to a spread of 1.86 for the non index forming companies. CNX 500, in index used to represent the top 500 companies had a spread close to the non index forming companies. There was very little difference between index forming and non index forming companies, in terms of number of companies. The spread for CNX 500 was 1.793 and for the remaining 790 non index forming companies, the spread was 1.809.

6.4.5 Seventeen indices were formed by the NSE, under the sectoral indices. Automobile index was formed with fifteen top performing automobile companies. The mean spread for these fifteen companies was 1.258 whereas the spread for non index forming companies in this sector was 1.90. The results indicated that the Automobile sector index is better in performance than the companies which do not form the index. The CNX Bank index, formed with best performing top twenty banks had a mean spread of 1.177. This index was formed with both private and public sector banks. On comparing the mean spread of the index forming banks with that of those which do not form the index, it was found that the other category had a spread of 1.811. So the CNX bank index performed well. The CNX Energy index is formed with top ten best performing companies. The mean spread of index forming companies was 1.113, which is very low. The non index forming companies had a spread of 1.35. The CNX Finance index was formed with top performing fifteen companies including banks and financial institutions. It was surprising to note that the index forming companies had a mean spread of 1.72 and the non index forming companies had a spread of 1.89. The results are very surprising as the mean spread is very high compared to Bank index. The Foreign Institutional Investments in this segment was highest. The FMCG index, formed with fifteen companies had a mean spread of 1.62 against a spread of 1.67 for the non index forming companies. This sector too has not shown much difference in spread. The CNX IT index was formed with a high number of twenty companies which includes software companies and companies which offer training. It was found that the index forming companies had a low level of spread of 1.24, whereas the non index forming companies had a
spread of 2.41, almost twice that of the index forming companies. The media index formed with top fifteen entertainment companies had a mean spread of 1.558. The other category had a mean spread of 2.1. Seven out of fifteen of the companies forming the CNX Metal index are the steel companies. The average spread for these fifteen companies was 1.44 and for the non index companies, the mean spread was 1.91. The spread for the companies forming the metal index was high at almost the spread for all the companies taken together. The CNX Pharmaceutical index, which had seen the highest growth rate, had a mean spread of 1.26, for ten companies. For the other companies, the mean spread was 1.51, at a slightly higher level than the index forming companies. The PSU bank index which was formed with top twelve PSU banks had a very low spread of 1.109. This is a sector with one of the lowest spread. The spread for non index forming PSU were 1.90. For the CNX Realty sector which is formed with best performing top twenty realty companies, the mean spread was high at 1.43. The non-index forming category had a spread of 1.87.

6.4.5 The National Stock Exchange had a permitted five thematic indices during March 2010. The commodity index was formed with thirty top performing commodity companies. Commodities include cement, oil, power, sugar and aluminium. It was found that the spread for these thirty companies was 1.229 and for the other companies belonging to these industries, the spread was 2.02. The commodity index forming companies performed better than the other companies. Consumption companies include Personal care products, health care, vehicles, entertainment and telecommunications. Again it was found that the index forming companies performed better than the other companies which do not form the index. The infrastructure index which was formed with the top performing infrastructure companies showed similar results. The mean spread for the twenty five companies forming the index was 1.16, at a very low level compared to the spread of the non index forming companies at 1.96. The Public Sector Enterprises, consisting of all companies where the government has at least 51% of shares had performed slightly better than the other non index forming public sector companies. The difference in spread was very low at 1.505 and 1.68 respectively. The CNX Services index which includes banks, power, media, entertainment and telecommunications was formed with thirty companies and had a spread of 1.35. The non index forming companies’ spread was 1.72. In all these cases, the index forming companies performed better than the non index forming companies. It is also noted that most of the companies appear in more than one index. This shows that these companies have performed better than their counterparts.
During March 2010, two strategic indices alone were considered. The Alpha index represented the fifty high returns companies and the Beta index represented top fifty high risk companies. A comparison was made between the performance of the Alpha index and the Beta index companies. It was found that the Alpha index had a spread of 1.47, slightly higher than the spread for Beta index at 1.29. High risk companies performed better than high return companies.

It was found that spread ranged from 0.005 to 102, having a mean value of 1.821. The median spread was 1.3. The percent spread ranged from 0.00037 to 0.823, with a mean of 0.059. During the period of study, on an average, 16.435 shares were the minimum number traded. The maximum number of shares traded was 31985441, with a mean of 492666.2. Market Price of shares ranged from Re. 0.4675 to Rs. 32901. This showed the wide range of share prices. The mean share price was 284.61. Capitalization ranged from a low value of Rs. 4322.3 to a high of Rs. 3,88,65,866.

The findings provide new empirical evidence that some factors which reflected the investors’ behavior influenced spread whereas non-stock market activity did not affect spread. Firm specific characteristics, also called market microstructure variables which included Capitalization, Market Price per Share and Number of Trades and the other variables which included Beta of the security, Percentage of Promoters’ Holdings, Price Earnings ratio, Debt Equity ratio, and Return Variance were divided into ten percentiles and the spread was compared in each percentile. It was found that Capitalization, MPS, Number of Trades, and Beta had an inverse relationship with spread. Return Variance had a positive relationship with spread. This is a positive indication. The other characteristics which included Percentage of Promoter Holdings, Price Earnings ratio and Debt Equity ratio did not have any obvious relationship between these variables and spread. It is also concluded that volatility is indirectly related to returns. Being an emerging market exchange, the NSE features significant proportion of less liquid securities and this has enabled the investigations of the differences in the impacts concerning more and less liquid securities in the market.

It was found that the actual spread calculated from the Limit Order Snapshot book, computed directly by finding the difference between the number of buying and selling activity is 1.47, much lower than the estimated spread of 1.821. The number of buying activity was greater than the selling activity.
6.4.11 This study added new empirical evidences with the existing evidences that for the F & O segment, contracts maturing in the first month were more liquid than the contracts maturing in the second and third months. A comparison was made between the near month and next month futures contract and the above results were supported. On comparing spread for the first month with number of shares, open interest, strike price and total traded value, there were significant differences in spread among these variables. For the futures contracts for the second month, a comparison was made and it was found that Number of Shares, Number of Trades and Strike Price had an inverse relationship with spread. The other firm specific characters did not have any relationship with spread. On comparing the spread for Futures and Spot markets, it was found that the futures market performed better than the spot market. Futures market had a lower spread than spot market.

6.4.12 Spread was found for different types of options contracts. Options were classified based on their nature of transaction as put and call options. Options maturing in the first and second month alone were considered. So four types of contracts were studied. They include Put options maturing in the first month, Call options maturing in the first month, Put options maturing in the second month and call options maturing in the second month. Based on the firm specific characters the spread was divided into portfolios. It was found that spread and capitalization had an inverse relationship. As the capitalization increased, there was a decrease in spread. Except for the second month put options, open interest had a positive impact on spread. Spot markets showed a lower spread compared to options markets. Hence, spot markets have performed better than the options markets. Call options have performed better than the put options. Call options denotes the right to buy shares at a future date at a predetermined price. Since the buying activity was greater than the selling activity, call options performed better than the put options.

6.4.13 On analyzing whether the market became more volatile during the period of new information, it was found that in most of the cases, the information which results in pay off for the shareholders resulted in reduced volatility. The corporate action was divided under four types called Bonus on Shares, Dividends, Share Split and Bonus on Debentures. Six companies had made a bonus on shares. For Crompton Greaves Limited, the spread after announcement of share split was slightly higher at 1.60 compared to the spread before the corporate announcement, at 1.59. For Hindustan Dorr-Oliver Ltd, the difference in spread was quite high. The values were 1.77 and 1.13. Spread drastically declined after the announcement of bonus on shares. For IVRCL Infrastructure too, there was a decrease in
spread after the announcement on bonus. Liquidity increased and so spread declined after 18 March 2010, the date of announcement. Pidilite Industries had a spread of 2.22 before the announcement on bonus on shares and declined to 2.04 after the announcement. Shree Renuka Sugars and Sterlite Technologies too had seen a decline in spread after the announcement on bonus on shares. Eight companies had made interim Dividend payments. For all these companies, the spread after payment of dividends reduced in value. Payment of dividend had been good news for the investors. So the trading on these shares increased, thus reducing the spread. Three companies had announced split on shares. The cases of two companies alone are considered. The face value of these companies reduced from Rs 10 to Rs 5 and Rs. 2 respectively. It was found that the spread for Ipca Laboratories and Murali Industries has reduced. Only one company had issued bonus on debentures. Britannia Industries Limited had a spread of 1.7 for trading days before the bonus issue and after the issue of bonus, the spread came down to 1.57.

6. 4. 14 In an attempt to find whether the Foreign Institutional Investments had an impact the performance of the companies in the stock market, it was found that there was no relationship between these variables. However, the results showed a significant relationship between FII and options markets.

The study has led to the following conclusions:

1. Among the sixteen sectors, Fertilizers industry, Car industry, Public Sector Banks, Engines Manufacturing industry, Paints and Varnishes industry, Ceramics industry, Cigarettes industry, Large Capitalization Software companies, Power Cables industry, Steel – Sponge Iron industry, Trading industry, Pharmaceutical companies manufacturing bulk drugs, Oil Drilling and Gas industry, Packaging industry, Recreation industry and Silk industry perform well in the Stock Exchange. However, these are the industries which has poor performance in the stock exchange as far as the bid ask spread is concerned. These industries are Pesticides industry, Motor Cycles and Moped industry, Term Lending institutions, Bearings industry, Dry Cell industry, Cement Products industry, Sugar industry, Computer Education industry, Pumps industry, Plastic Products industry, Shipping industry, Indian Personal care industry, Power Generation and Supply industry, Telecommunications – Services providers industry and Cotton industry.

2. Performance of the Index forming companies is good in general. The volatility in the market prices is minimum and their transaction cost is very low. The indices on the NSE
have four broad classifications. They are the Broad market index, Sectoral index, Thematic index and the Strategy index. Nifty, Nifty JuniorCNX 100 and CNX 200 perform well in terms of bid ask spread. Companies in the Automobile index, Bank index, Energy index, finance index, FMCG index, IT index, Media index, Metal index, Pharmaceutical index, PSU Banks index, Realty index, CNX Commodity index, CNX Consumption index, CNX Infrastructure index, CNX Public Sector Enterprises index and the CNX Service Sector index are performing well compared to their counterparts.

3. Market microstructure variables are inversely related to Spread. When the value of these variables increase, there is a decrease in Spread.

4. The first month contracts are most liquid and highly traded contracts. These contracts have the lowest spread and highest trading volumes. Since the put call ratio is less than one, the call options perform better than the put options.

5. Corporate announcements have great impact on bid ask spread. These have direct link with their performance. Because of announcements, the bid ask spread is low. However, there is no impact on bid ask spread for Crompton Greaves Ltd.

6.5 SUGGESTIONS

1. The poor performance companies have high debt equity ratio, low trading volume and low capitalization. Therefore the debt equity ratio is very high among the airlines, power generation and shipping industries.

The administrative authorities should come forward to reduce debt by issuing equity shares after getting approval in the appropriate body of the corporate. In this regard, the government should form an Accelerating Committee for Capital Structure (ACCS) consisting of one representative from Securities and Exchange Board of India, one from the Company Law Board, one from Institute of Chartered Accountants of India, one from the Reserve Bank of India and one from the Stock Exchanges. This committee should monitor the trend of the debt equity ratio of all corporate and regulate immediately in order to avoid financial crunches.
2. Forty five companies have very low volume of trading. The administrative authorities should increase volume of trading by reducing the return variance. In this regard, the corporate should reduce the retained earnings level in order to increase the rate of dividend. The Company Law Board and Securities and Exchange Board of India should fix retained earnings separately for large, medium and small companies for avoiding window dressing.

3. The market capitalization of forty seven companies is low. Therefore, these companies have a high bid ask spread. This shows the performance of these companies is poor. These are due to low volume of trading and low Market Price per Share. In addition to the suggestions mentioned for volume of trading, the authorities should take appropriate steps to maintain optimum level of capital structure and proper dividend policies.

4. There is a direct relation between tick ratio and bid ask spread. In India, the current tick ratio is Re.0.05 which is comparatively high with a tick ratio of 0.01 in developed nations where bid ask spread is very low. Therefore the CLB, the NSE and the SEBI should jointly take efforts to fix low tick ratio for all shares.

5. Under the aegis of globalization, there is a wide scope for expanding corporate in large size in India. This would naturally reduce the sole traders and proprietary firms. Therefore creating awareness on corporate and its share trading is a must at present in order to become a developed nation and economic super power in 2020. In this context, the government of India should make an appropriate amendment of the UGC regulation and NCERT regulation for including share trading as apart of syllabi in mathematical education at school level and a unit in both mathematics and social sciences subjects at higher secondary and college level.

6. As far as the NSE is considered, other types of orders along with Limit Orders can also be permitted. If this is not possible due to extraneous factors, adjustable limit orders could be permitted, which are automatically updated depending on market movements.

6.6 SUGGESTIONS FOR FURTHER RESEARCH

Monday morning effects are caused by accumulation of news during weekends. So the trading on Monday morning is information intensive. The movement of share prices during this information intensive time would be of great use to our stock exchanges. Detailed research can be done to find the effect of trading on Monday mornings on spread.
There is a wide scope to conduct a study on the same in a broader way by taking the quarterly, half yearly and annual earning announcements.

Corporate actions which have a long term effect on the performance of the company can be considered. Therefore announcements regarding acquisition of other companies, expansion into new areas and new businesses and change in the management can be studied in depth.

An indepth study can be conducted on the results of different methods such as inventory and information issues used in calculating spread.

There is a wide scope to conduct a study on Market Microstructure in financial assets like bonds, currency, insurance and housing.

6.7IMPLICATIONS FOR THE SOCIETY

Knowledge on the trading costs and liquidity issues influences the investing pattern of investors. It affects the traders’ net returns from their equity portfolio. Investors could pick up shares which has the lowest spread among alternatives. Unlike the study of technical analysis, a knowledge of bid ask spread can reduce the cost of trading. Investors need not have technical knowledge on the returns on the shares.

Companies which seek to be to listed could take the cost of listing. Although listing fee of a particular exchange is the direct cost paid by the firm, a much more important issue is the liquidity in firm’s stock. Improved liquidity can reduce the cost of equity for listed firms. The bid ask spread is the most important metric that captures liquidity. A good knowledge on spread would help policy markers achieve their goals, by reducing the cost of trading.

Trading in stock is also an entrepreneurial opportunity. Good knowledge of the trading activity and the price formation process would result in profits to investors. Traders possessing such knowledge could enter into this business where he and the other investors would be benefitted.