Chapter IV
Conclusions

This is a study to test the semi-strong form of market efficiency in six selected sectors of Bombay Stock Exchange. The main issue investigated was whether the behaviour of the price series in the market was consistent with the semi-strong form of the Efficient Market Hypothesis. The EMH states that asset prices in financial markets reflect all available information. As a consequence, prices should always be consistent with “fundamentals”.

Examining the semi-strong form of market efficiency and the impact of dividend announcements on stock prices, stock indices performance were the major aims of the study. In an efficient market, prices adjust instantly to the information contained in the announcements. The investors readily welcome relevant information and the prices adjust quickly and fully to the new information. The literature review presented in Chapter II provides ample evidence to conclude that dividend announcements resulted in either positive abnormal gains or negative gains (losses) to investors. When shareholders expectations meet the firm announcements, there are abnormal gains and when the expectations are larger than the actual dividend announcements, investors experience abnormal losses. Developed capital markets are efficient; they incorporate information contained in dividend announcements more quickly than emerging markets. Most of the previous studies on EMH were conducted on developed stock markets. However, in the last two decades, the stock markets of developing economies have witnessed remarkable growth and gained considerable relative importance. A study such as this one wherein large data spread across 6 sectors over 9 years is essential to understand the current trend in growing economy like India which will help one interpret the effects of dividend announcements on stock prices.

The Bombay Stock Exchange, India’s oldest Stock Exchange, ranks at number 11** amongst the world’s most prominent stock exchanges. With a huge investor base and growing market capitalization, BSE is seen as an important destination for investment by the investing community. The focus of this study is to study the semi-strong form of market efficiency with respect to dividend announcements of 6 select sectors of BSE, the ones mostly preferred for

**http://en.wikipedia.org/wiki/List_of_stock_exchanges#India
investments by investors. The sectors selected are Auto, Bankex, Consumer Durables, Fast Moving Consumer Goods, Health Care and Information Technology. They are considered for the study based on their contribution to the economy’s growth and development and on the basis of the tremendous growth in volume and value of trades over the years. These sectors contribute 6% to 7% to the GDP of the country. The following table presents the volume and value details (as on 15th March 2014).

<table>
<thead>
<tr>
<th>Sector</th>
<th>Volume (in lakhs)</th>
<th>Value (Rs. in cr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto</td>
<td>7.6</td>
<td>47.63</td>
</tr>
<tr>
<td>Banking</td>
<td>35.44</td>
<td>214.33</td>
</tr>
<tr>
<td>Consumer Durables</td>
<td>6.31</td>
<td>8.93</td>
</tr>
<tr>
<td>FMCG</td>
<td>7.61</td>
<td>39.93</td>
</tr>
<tr>
<td>Health care</td>
<td>22.89</td>
<td>114.66</td>
</tr>
<tr>
<td>Information Technology</td>
<td>45.85</td>
<td>74.87</td>
</tr>
</tbody>
</table>

Source: [http://www.bseindia.com](http://www.bseindia.com)

An exhaustive and elaborate study and analysis of 10 BSE Auto index stocks, 14 Bankex Stocks, 10 CD index stocks, 10 FMCG index stocks, 15 HC index stocks and 10 IT index stocks, totalling 69 securities for the period 1st Sept 2005 to 30th Sept 2013 has been made. Correlation analysis is used to summarize the stock price movements. Correlation helps us determine the strength and significance of the association between 2 variables. To pursue the objectives, event study methodology was applied to check the abnormal stock returns, around 61 days, 30 days pre and post event window. A total of 518 dividend declarations across 69 securities were analysed in detail. Event study is a major research tool for examining market efficiency. An event study is a research method that uses transactions data from financial markets to predict the financial gains and losses associated with newly disseminated information. It is a technique which analyses how the flow of information to the market about a particular event affects stock returns.

**Correlation Analysis**

Correlation is one of the most widely used statistical methods to summarize scientific data. It is often used to determine if any relationship exists between 2 variables. If there is a
relationship, how significant and strong the association between the 2 variables is. A positive correlation coefficient indicates that an increase in the first variable would correspond to an increase in the second variable, thus implying a direct relationship between the variables while a negative correlation coefficient indicates that an increase in the first variable would correspond to a decrease in the second variable, thus implying an inverse relationship between the variables. A correlation coefficient of 0 indicates that there is no association between the measured variables.

Correlation study is widely used to study the interaction of various securities and markets. Since these relationships are dynamic, it is useful to measure them historically and to monitor them in real time. This analysis will be useful in revealing which securities in a portfolio provide diversification and which may be duplicating unwanted risk. The r coefficient can be used to identify non-correlated securities, which is important in developing a diversified portfolio. Correlation between securities and indices are sometimes mistakenly assumed to indicate market conditions. Some securities can at times be highly positive such as ICICI bank and Infosys which have consistently high r values. These stocks are the forerunners in their respective sectors serving as a leader to the other stocks. Balancing risk and expected return is a challenge for any investor considering different investment choices. Portfolio diversification may help reduce risk, and the lower the correlation between returns from different securities in a portfolio, the greater the diversification benefit. Correlation is one statistical tool helping an investor to understand the dynamic relationship between securities.

All BSE sectors are mostly positively correlated with the BSE indices. Some stocks in the auto, bank and IT sector with r values remaining at more than 0.75 and above in all the years are more positively correlated than others. For example, ICICI bank in the banking sector and Infosys in the IT sector with r values of 0.9 and above have a very strong positive correlation with the BSE.

**Auto Sector**: Tata Motors had a commendable correlation with the benchmark index in 5 of the 9 years under study, followed by Maruti in 3 years in the Auto sector. Stocks, such as, Ashok Leyland, Bharat Forge, M&M and Maruti with r values in the 0.50 to 0.70 range. Bajaj, Bosch, Cummins, Exide and Hero have very little correlation with the index which are probably due to firm specific reasons.
Banking Sector: The banking sector have very good relation with the index with all the r values at more than 0.50. ICICI bank was a trend setter in the sector and its correlation with the banking index is laudable. Its r value ranged between 0.84 and 0.94 for 7 years. In one of the years, 2005, BOI had an r value of 0.99 indicating a perfect and an exemplary correlation with the index. In the same year, the Federal bank’s r value was as low as 0.06 which as a statistical observation was markedly different from others in the sample. Federal bank and the index did not have any reliable correlation in many years.

CD Sector: Titan had the highest and insurmountable correlation with the index in the CD sector. The stock is testimony to the fact that it is an undisputed leader in the sector and a pace-setter in many years. However, stocks like Bajaj, Symphony, TTK and VIP had less than moderate relation with the index indicating that the stock price movements and the index movements were not linear.

FMCG Sector: FMCG stocks had correlation values ranging between 0.06 and 0.93. With an eye for excellence, ITC stocks consistently performed well and had high r values with the index. Notwithstanding this trend, other index stocks like Colgate, Dabur, Godrej, Nestle, Tata Global, UB and US had very small r values. These stocks’ journey throughout the period of study was formidable.

HC Sector: Many HC stocks had moderate relation with the index with the r values being close to 0.70. Some aberrations were seen in the sector, such as, Sun Pharma whose r value was 0.01 in 2011. This stock is an outlier as the statistical observation is markedly different in value from the others in the sample. However, the stock saw a major turn-around in 2013 with a moderate r value of 0.63.

IT Sector: Infosys in the IT sector is a bellwether stock serving as a consistent performer and a leading indicator of the trend in the sector. A stock for all seasons, Infosys’ correlation with the index indicates that the stock price movements and the index movements are similar has a direct relationship. Many a time, being first to race to the finish line, Infosys marched ahead of others in 8 years. Stocks like Fin Tech, Hexaware and Tech Mahindra had r values at less than 0.50 which indicates a moderate relation between the stock and the index.

The following table is a summary of stocks with the highest and least correlation coefficients with their respective BSE indices:
Table 4.2 Summary of Highest and Least Correlated Stocks with BSE Indices

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Auto</td>
<td>Highest r</td>
<td>TM (0.84)</td>
<td>M&amp;M (0.75)</td>
<td>TM (0.78)</td>
<td>Maruti (0.82)</td>
<td>TM (0.82)</td>
<td>M&amp;M (0.79)</td>
<td>M&amp;M (0.75)</td>
<td>TM (0.82)</td>
<td>TM (0.85)</td>
</tr>
<tr>
<td></td>
<td>Least r</td>
<td>Cummins &amp; Exide (0.26)</td>
<td>AL (0.17)</td>
<td>Bajaj (0.18)</td>
<td>Bosch (0.24)</td>
<td>Cummins (0.44)</td>
<td>Bosch (0.38)</td>
<td>Exide (0.17)</td>
<td>BF (0.10)</td>
<td>Cummins (0.29)</td>
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<td>Bankex</td>
<td>Highest r</td>
<td>ICICI (0.90)</td>
<td>ICICI (0.92)</td>
<td>ICICI (0.89)</td>
<td>ICICI (0.94)</td>
<td>HDFC (0.88)</td>
<td>ICICI (0.92)</td>
<td>ICICI (0.92)</td>
<td>ICICI (0.84)</td>
<td>BOI (0.99)</td>
</tr>
<tr>
<td></td>
<td>Least r</td>
<td>Fed (0.61)</td>
<td>BOI (0.66)</td>
<td>Kotak (0.39)</td>
<td>BOI &amp; Fed (0.64)</td>
<td>ICICI (0.47)</td>
<td>Fed (0.50)</td>
<td>Kotak (0.50)</td>
<td>Fed (0.39)</td>
<td>Fed (0.06)</td>
</tr>
<tr>
<td>CD</td>
<td>Highest r</td>
<td>Titan (0.93)</td>
<td>Titan (0.55)</td>
<td>Titan (0.80)</td>
<td>Rajesh (0.95)</td>
<td>Videocon (0.83)</td>
<td>Titan (0.77)</td>
<td>Titan (0.78)</td>
<td>Titan (0.86)</td>
<td>Titan (0.78)</td>
</tr>
<tr>
<td></td>
<td>Least r</td>
<td>Blue Star (0.19)</td>
<td>VIP (0.19)</td>
<td>Symphony (0.16)</td>
<td>Bajaj (0.11)</td>
<td>Symphony (0.09)</td>
<td>Bajaj (0.28)</td>
<td>Blue Star (0.35)</td>
<td>Bajaj (0.22)</td>
<td>VIP (0.21)</td>
</tr>
<tr>
<td>FMCG</td>
<td>Highest r</td>
<td>ITC (0.91)</td>
<td>ITC (0.91)</td>
<td>HUL (0.59)</td>
<td>ITC (0.92)</td>
<td>ITC (0.90)</td>
<td>ITC (0.89)</td>
<td>ITC (0.93)</td>
<td>HUL (0.70)</td>
<td>ITC (0.83)</td>
</tr>
<tr>
<td></td>
<td>Least r</td>
<td>US (0.06)</td>
<td>UB (0.18)</td>
<td>Dabur (0.09)</td>
<td>Nestle (0.25)</td>
<td>Godrej (0.24)</td>
<td>Godrej (0.39)</td>
<td>Godrej (0.07)</td>
<td>Dabur (0.14)</td>
<td>US (0.06)</td>
</tr>
<tr>
<td>HC</td>
<td>Highest r</td>
<td>Cipla (0.68)</td>
<td>Dr. Reddy (0.64)</td>
<td>Cipla (0.62)</td>
<td>Cipla (0.59)</td>
<td>Cipla (0.70)</td>
<td>Cipla (0.77)</td>
<td>Cipla (0.78)</td>
<td>Ranbaxy (0.78)</td>
<td>Cipla &amp; Dr.</td>
</tr>
<tr>
<td></td>
<td>Least r</td>
<td>Piramal (0.16)</td>
<td>Piramal (0.14)</td>
<td>Sun (0.01)</td>
<td>Apollo (0.07)</td>
<td>Apollo (0.31)</td>
<td>Opto (0.42)</td>
<td>Opto (0.23)</td>
<td>Apollo (0.20)</td>
<td>Apollo (0.05)</td>
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</tr>
<tr>
<td><strong>IT</strong></td>
<td>Highest r</td>
<td>Infy (0.92)</td>
<td>Infy (0.95)</td>
<td>Infy (0.95)</td>
<td>Infy (0.96)</td>
<td>Infy (0.93)</td>
<td>Infy (0.95)</td>
<td>Wipro (0.83)</td>
<td>Infy (0.93)</td>
<td>Infy (0.92)</td>
</tr>
<tr>
<td>Least r</td>
<td>Fin Tech (0.17)</td>
<td>Hexaware (0.26)</td>
<td>Wipro (0.26)</td>
<td>Hexaware (0.24)</td>
<td>Hexaware (0.47)</td>
<td>Fin Tech (0.42)</td>
<td>HCL (0.24)</td>
<td>Fin Tech (0.11)</td>
<td>Hexaware (0.07)</td>
<td></td>
</tr>
</tbody>
</table>
Efficient Market Hypothesis

The efficient market hypothesis states that if the capital market is efficient with respect to dividends, any information about the event is incorporated instantaneously into the corresponding stock prices. The stock markets react efficiently to information about a forthcoming dividend announcement. Publication of firm specific news is instantly reflected in the stock price of the company. The study is about testing two questions; whether the effect of the announcements is statistically significant on the day of action and whether this effect was statistically significant when taking into account the time period under examination.

The results of the study support the hypothesis that the BSE Auto, BSE Bankex, BSE CD, BSE FMCG, BSE HC and BSE IT indices do not react to dividend announcements and hence the semi-strong form of market efficiency is not found. The stock prices reactions suggest that dividends do not convey relevant information to the market, as there were no statistically significant abnormal returns on the announcement day at 5% level of significance.

The following table is a summary of findings of the instantaneous stock price adjustment to new information. The table provides an immediate assessment of whether the null hypothesis, “the stock prices do not adjust instantaneously to new information”, is accepted or rejected over the 9 years of study among various sectors.

Table 4.3: Summary of EMH Acceptance and Rejection of Various Sectors
The table above summarizes the findings of the research that the CD, FMCG and IT sector stocks did not adjust to new information in 6 of the 9 years of study, Auto and HC stocks in 4 years and Banking stocks in 3 years.

**Auto Sector:** On the dividend announcement day (t0), the auto sector as a whole reacted positively in 5 of the 9 years of study. There were encouraging reactions to auto stock prices in 2013, 2012, 2009, 2007 and 2005. The null hypothesis, the stock prices do not adjust instantaneously to new information, is therefore rejected as there were encouraging responses from the markets.

**Banking Sector:** Positive responses to dividend announcements were observed in 6 years, 2013, 2012, 2008, 2007, 2006 and 2005 in the banking sector. Stock price reactions were positive in these years.

**CD Sector:** The consumer durables sector’s reactions were positive on the dividend announcement day only in 3 years—2012, 2010 and 2009.

**FMCG Sector:** The FMCG sector reacted positively in 3 years—2013, 2010 and 2005 to dividend proclamations.

**Health Care Sector:** There were positive responses to dividend related news in 5 years—2012, 2011, 2008, 2007 and 2005 in the HC sector.
**IT Sector:** Finally, the IT sector reacted positively in 3 years—2007, 2006 and 2005 to dividend declarations.

It is clear from the study that none of the sectoral indices is semi-strong efficient.

**Information Content of Dividend Announcements**

One of the important signalling devices about a firm’s performance available to investors is through dividend announcements. In an efficient market, if the announcements contain relevant information to investors, it is expected that prices adjust quickly and fully to new information. The stock prices adjust efficiently to the information content in the announcements and are seen to influence the stock market performance. A firm’s announcement about dividends results in an immediate integration into the corresponding stock prices. In other words, the publication of firm specific news is reflected instantly in the stock price of the company.

The study reveals that stock markets look forward to dividend declarations well in advance of the actual announcement dates. The markets interpret the news in a positive or negative way depending on the anticipation and expectations of the investors. A higher than expected dividend announcement results in markets reacting positively and positive abnormal returns ensuing the investors. However, an announcement of a smaller rate results in negative abnormal returns.

**Abnormal Gains Hypothesis**

Another hypothesis put to test in the study is the Abnormal Gains Hypothesis. The abnormal returns on a particular day within the event window represent the difference between the actual stock return and the normal return. The two requirements to calculate the abnormal returns are based on the relationship between the stock and the reference index and the actual
market return. An investigation performed on multiple stocks of the same event type (dividend announcement, in this study) yields the typical stock market response patterns. Through the analysis, it was found that there are sectoral differences in abnormal returns to shareholders. The results are consistent with conclusion of Baker, Farrelly, and Edelman (1985) and Ho Horace (2002) that firm’s industry type influence dividend policy. A factor which may be relevant for one industry may become irrelevant for another depending upon the industry characteristics like growth phase, ownership pattern, size, systematic risk and earnings variability. A brief of the findings of the abnormal returns study are presented below:

**Auto Sector:** The abnormal returns of the Auto sector on the dividend announcement day of 2013, 2012, 2011, 2007 and 2005 provide evidence that the information is incorporated quickly. This shows that the auto sector investors reacted positively to final dividend announcements by various auto firms. In the pre-event window of 30 days, the auto sector reacted positively for 15 days and above in 4 of the 9 years under study which is a pointer to the fact that the dividend announcement news was looked forward to by investors. However, the news was not greeted with much enthusiasm during the rest of the 5 years. Post the dividend announcement, there were positive AR for 15 days and above accruing to investors only in 3 years. This could possibly be due to the higher expectations of investors and higher percentage of dividend declaration by auto firms.

**Banking Sector:** The abnormal returns of 2013, 2012, 2008, 2007 and 2006 of banking stocks are positive on the dividend announcement day and this confirms that the information is incorporated quickly. The banking sector investors reacted positively to final dividend announcements of banking companies. In the 30 day run-up to the dividend announcement, the banking sector reacted positively for 15 days and above only in 2009 and 2007 which indicates that the dividend announcement news was looked forward to by investors only in these 2 years. In the rest of the 7 years, the news was not looked at with excitement. This may probably due to information leakage which excited or subdued investors’ interest. In the post dividend announcement period of 30 days, there were positive AR for 15 days and above accruing to investors only in 2009. Because of investors higher expectations and lesser percentage of dividend declaration by banking firms, the investors reacted adversely leading to a negative AR in the rest of the years.
CD Sector: The abnormal returns of the CD stocks, on the dividend announcement day in 2012, 2010 and 2009 provide evidence that the information was incorporated quickly. The consumer durables sector investors reacted positively to final dividend announcements in 3 years. In the pre-event window of 30 days, the CD sector reacted positively for 15 days and beyond in 2 years. This shows that the dividend announcement news was being anticipated by investors. However, the news was not greeted with much liking during the rest of the 7 years. Post the dividend announcement, there were positive AR for 15 days and beyond accruing to investors only in 3 years. Higher expectations of investors and lesser percentage of dividend declaration by CD firms could possibly be the reason for investors’ unpleasant reaction to dividend announcements.

FMCG Sector: Dividend related information were incorporated quickly by the FMCG stocks as evidenced by the abnormal returns of 2013, 2010 and 2005 dividend announcement day market reactions. The FMCG sector investors reacted positively to final dividend announcements in 3 years. In the 30 day run-up to the dividend announcement, the FMCG sector reacted positively for 15 days and beyond in 6 years which indicates that the dividend announcement news was eagerly looked forward to by investors. In the remaining 3 years, the investors did not greet the news with great expectation. In the post dividend announcement period of 30 days, there were positive AR for 15 days and above accruing to investors in 6 years. There was a very positive reaction to the announcement in 6 years probably because of their expectations meeting the company’s declarations. FMCG stocks are therefore called as “dividend yield” stocks as these companies are consistent dividend payers.

Health Care Sector: The abnormal returns on the dividend announcement day of the HC stocks during 2012, 2011, 2008, 2007 and 2005 show that the dividend related information was incorporated quickly into the stock prices. The HC sector investors reacted positively to final dividend announcements in 5 years. In the pre-event window of 30 days, the HC sector reacted positively for 15 days and beyond in 4 years under study which is an indicator to the fact that the dividend announcement news was anxiously looked forward to by investors. However, the news was not greeted with much zest in the rest of the 5 years. In the post dividend announcement period, there were positive AR for 15 days and above accruing to investors only in 3 years. This could possibly be due to the higher expectations of investors and lesser percentage of dividend declaration by HC firms.
**IT Sector**: On the day of dividend announcement, the abnormal returns of 2007, 2006 and 2005 were positive endorsing that the information is incorporated quickly into the stock prices. The IT sector investors reacted positively to final dividend announcements. In the 30 day run-up to the dividend announcement, the FMCG sector reacted positively for 15 days and above only in 3 years which proves that dividend announcement news was enthusiastically welcomed by investors. In the remaining 6 years, the investors did not greet the news with great expectation. In the post dividend announcement period of 30 days, there were positive AR for 15 days and above accruing to investors in 5 years. There was a very positive reaction to the announcement in these years probably because of their expectations meeting the company’s declarations.

**Value Maximization Hypothesis**

This study also empirically tested the effect of dividend declaration on stock prices and the investors’ value maximization. From the analysis, it is clear that shareholders value has increased in some of the years in all the sectors. The following table is a summary of value additions and losses to shareholders’ stock holding of six sectors:

<table>
<thead>
<tr>
<th>Sector</th>
<th>Positive value addition (years)</th>
<th>Negative value addition (years)</th>
<th>No value addition (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto</td>
<td>2</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Banking</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>CD</td>
<td>1</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>FMCG</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>HC</td>
<td>3</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>IT</td>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

The table above reveals that the auto sector shareholders added value to their wealth in 2 years and suffered 1 year of loss in value and there were neither gains nor losses in the
remaining 6 years. The investors of banking sector were able to add some value to their shareholding in 2 years and they lost value in 4 years. There were 2 years of no profits or losses. Consumer Durables sector shareholders added value to their shareholding in 1 year, they lost value in 5 years and there were no gains or losses in 3 years. FMCG stocks followed by HC and IT stocks score high on dividend stability and consistency as per the results of the study. In the FMCG section, investors value maximization to their share-holding occurred in 4 years and there were value losses in 2 years and in the remaining 3 years, there were no profits or losses. The shareholders of the HC segment added value to their wealth in 3 years and they lost value in 1 year and there were no additions or deletions during 5 years. And finally, the IT sector investors added value to their wealth in 3 years and they lost value in 4 years and there were no profits or losses in 2 years.

From the above results, it can be concluded that largely, the investors of 3 sectors—FMCG, HC and IT stocks have added value to their wealth while shareholders of the CD and Banking sector have lost value. Auto sector investors have neither gained nor lost over the 9 years of study.

The results of the study conclude that markets seem to get knowledge concerning the event well in advance of the actual announcement date. This is evident in the increased abnormal returns accruing to shareholders in the pre-event announcement date of 30 days. It was also noticed that markets took some time to fully interpret the news and absorb it in their prices. This can be seen in sectors like the auto sector where the CAR were negative initially and later they start rising (in 2013). It can therefore be concluded that, on the event date the effect of firm specific news has a significant positive effect on the stock price. The following are the graphical depictions of CAR and a brief summary of conclusions drawn:

Exhibit 4.1: Summary of CAR of Auto Stocks
The highest CAR in the auto sector was recorded in 2005 followed by 2007 and 2013. This provides evidence to the fact that the shareholding community welcomed the dividend related announcements. There was high correlation between the index and the stocks in these 2 years. They experienced a mixed reaction in 2 years—2010 and 2009, wherein they experienced high returns initially and later the returns decreased. This feature is characteristic of the fact that shareholders expectations and company announcements did not match. On the whole, the auto sector investors had a mixed response to dividend declarations.

**Exhibit 4.2: Summary of CAR of Banking Stocks**
The highest CAR in the banking sector was recorded in 2009 followed by 2007. The investing community welcomed the dividend related announcements only in 2 years wherein the returns are continuously on the rise in the entire event period of pre and post event period. There are initial advances in 2008, 2010 and 2011 after which a declining trend set declining in. 2005, 2006, 2012 and 2013 see continuous declines in the entire event window of 61 days. This is typical of the fact that the shareholders expectations and company announcements had no correlation. In conclusion, the banking sector investors had a mixed response to dividend declarations.

Exhibit 4.3: Summary of CAR of Consumer Durable Stocks
The highest CAR in the banking sector was recorded in 2009 followed by 2007. Investors of CD sector received high returns in 2009 and 2007. This is typical of the fact that shareholders expectations and company announcements had high correlation. In the year 2009, the CAR rose to 22% and in 2007, there was a nominal increase of 5%. The shareholding community welcomed the dividend announcements only in 2 years. There are initial advances in 2008 after which a declining trend set declining in. 2005, 2006, 2010, 2011, 2012 and 2013 see continuous declines in the entire event window of 61 days. In conclusion, the CD sector investors had very little value maximization through dividend declarations.

Exhibit 4.4: Summary of CAR of FMCG Stocks
Shareholders of FMCG stocks received high abnormal returns in 2010, 2009 and 2006. This provides evidence to the fact that the shareholding community welcomed the dividend related announcements. The CAR reached an all-time high of 43% in 2010 and there were 12% and 5% increase in 2009 and 2006. These 2 years saw shareholders expectations and company announcements having high correlation. Nominal increases in CAR were seen in 2008 and 2007. In the rest of the years, 2013, 2012, 2008, 2007 and 2005, small increases and declines were recorded. However, 2011 records a continuous decline from the beginning of the 61 day event window.

Exhibit 4.5: Summary of CAR of Health Care Stocks
HC sector investors looked forward to dividend announcements with great expectations in 2012, 2009, 2008 and 2007 and later they welcomed the declaration. This phenomenon is exhibited by their stock market behaviour. The cumulative abnormal returns were close to 10% in 2007 and 2009. In 2012, CAR was close to 8% and in 2008; it was a nominal 3%. In the rest of the years, 2013, 2012, 2008, 2007 and 2005, small increases and declines were recorded. There was a declining trend in 2013 in CAR to reach an all-time low of 26% which is an indicator of the fact that the shareholders expectations and company announcements had very low correlation.

Exhibit 4.6: Summary of CAR of IT Stocks
Investors of IT sector experienced high CAR in 2011, 2009, 2007 and 2005. This is a proof to the fact that shareholders were expecting dividends and the company’s announcements matched their expectations which in turn was reflected in higher share trading. The cumulative abnormal returns touched 19% on some days in 2009 and later declined to close at 16%. In 2005, CAR was close to 16%, in 2011, it was around 11% and in 2007; it was 8%. In year 2008, CAR records initial small increases and later declines to close at about 0. In the rest of the years, 2013, 2012, 2010, and 2006, declines were recorded, which is an indicator of the fact that the shareholders expectations and company announcements had very low correlation. The declining trend in 2010 in CAR reached a low of 19%

In conclusion, the results of dividend announcements and stock market behaviour analysed for 6 sectors of BSE for the period 2005 to 2013 under event study methodology summarizes that the 6 BSE sectoral indices are not semi-strong efficient though some stocks have very high relation with the indices. Stock markets do not adjust quickly and fully to new information about dividend announcements. However, the announcements convey new and valuable information to the market, as some significant market reaction, both in terms of share prices and trading volume can be seen. These results are consistent with the results obtained by other researchers in developed stock markets. However, a study over the period by 1991 to 2008, by Rajnish Mehra\textsuperscript{151}, concluded that Indian equity markets were
fairly priced. The research examined the relationship between the value of the capital stock in the Indian corporate sector and the valuation of claims to the capital stock in capital markets. The inference was arrived at by relating the price earnings ratio and Tobin’s q. The interpretation of this study is not in conjunction with the current research findings

Possible areas of further research

Some suggestions for future research are presented at this juncture. This study restricts to 69 securities listed in 6 BSE sectoral indices. The sectors were chosen because of their importance and contribution to the national economy and GDP. It is prudent that all the 13 sectors are studied in depth before arriving at BSE’s market efficiency levels. Another possible area of future research would be to categorize dividend announcements as good (when dividends are declared more than previous years), bad (when dividends are reduced compared to previous years) or no news (when dividends are constant). This distinction will have better clarity and can distinguish market reactions enabling it to distinguish and recognize the market responses to information conveyed by the announcements and the investors’ expectations.

Bibliography

