CHAPTER 7
Summary and Conclusion

The findings of this study (analyzed in chapters 4, 5, and 6) are summarized and discussed as follows:

7.1 Empirical Examination of Random Walk Hypothesis

Economists, scholars, market analysts and academicians have been searching for ways to predict the movement of individual stocks from many years in developed and developing economies like India. Theoretically it is believed that historical patterns can be used to project future price direction. While the RWH claims that such movements cannot be accurately predicted because market absorbs the information and it is incorporated in stock prices and investors cannot outperform the market. Many empirical studies have debated this issue since 1900. This study is an attempt to see whether any predictable trend is available in Indian stock market. We use Runs test, Augmented Dickey Fuller (ADF) test, Phillips-Perron (PP), Autocorrelation Test, LOMAC variance ratio test (Lo and MacKinlay 1988) GARCH (1, 1), EGARCH (1, 1) TGARCH (1, 1) and PGARCH (1, 1) models to test the RWH. The results of this study are presented below.

The descriptive statistics show that the daily returns have a high kurtosis, suggesting that the return distributions are more fat-tailed than a normal distribution. The inference from the skewness and kurtosis results is that the return series of sample companies are not likely to be normal distribution. The Jarque-Bera’s statistics for testing normality confirms the significant non-normality. The result of Runs test reveals that the p values are insignificant at 5% level of
significance for majority of the companies. Out of 500 companies, the p values of 322 companies are insignificant, and therefore, we conclude that the observed price series are random. The unit root tests are applied to find out the unit root component in the price series. The ADF and PP test results show that the observed price series are insignificant for most of the scripts at 5% level of significance. This indicates that all of the returns series examined are non-stationary. The results fail to reject the null hypothesis at the 5% critical value. This means that the daily return series of sample companies contains unit root. Possessing a unit root implies non-stationarity, leading to the preliminarily conclusion that these companies follow RWH.

The autocorrelation test is performed by taking the 6 lags for each sample companies. The autocorrelation coefficients are statistically significant for more than 65% of the stocks at 5% level of significance. Therefore, the null hypothesis of no autocorrelation is rejected. The result of variance ratio shows that the most point estimates of the variance ratios are less than unity except Indiabulls Housing Finance Ltd. and S J V N Ltd. The variance ratios are decreasing when there is an increase in lag intervals for all the companies. The basic assumption is that the variances grow consistently with time when the variance ratios are equals to one. Further, the variance ratios are statistically significant under the hypothesis of homoscedasticity for majority of the stocks. Therefore, the null hypothesis that observed series are martingale is rejected. These empirical evidences fail to support RWH and therefore, we infer that market is inefficient.

The coefficients of $\alpha + \beta$ are the measure of persistence of volatility clustering. The closer the value is to 1, the high the persistence of volatility clustering. From the results, we observed that the sum of ARCH and GARCH
(α+β) coefficients of GARCH (1, 1) model is very close to one for majority of the companies. The existence of leverage effect is examined by using TGARCH, EGARCH and PGARCH models. The TGARCH parameters must satisfy the positive condition to observe leverage effect in the observed series. The estimated results of this model show that, the coefficients are positive and statistically significant for majority of the stocks in the sample companies. An alternative model to test for asymmetry is the EGARCH model. In the case of EGARCH model, the estimated coefficients should be negative and significant if there is leverage effect indicating that negative shocks imply a higher next period volatility than positive shocks of the same sign. The results show that, coefficients of EGARCH model are negative and statistically significant for more than 80% of the stocks. The other version of asymmetric GARCH model applied in this study is the PGARCH. The result of PGARCH model shows that the coefficients are positive and significant for most of the stocks. This indicates that positive shocks are associated with higher volatility than negative shocks. Therefore, we reject the null hypothesis that there is no leverage effect. The results of TGARCH, EGARCH and PGARCH models show the presence of leverage effect in the Indian stock market.

### 7.2 Stock Price Reactions to Earnings Announcements:

**Evidence from Indian Stock Market**

The EMH implies that future security prices should not be predictable conditional on the current information set. This study examines the stock market reaction to quarterly earnings information releases using data on the BSE. Using the event study method, the speed of reaction of the market to quarterly earnings information releases for a sample of BSE-500 firms listed on the exchange is
tested. We have classified our data into portfolios as good news and bad news based on net sales and net profits of the sample companies. The EMH theory states that if the market is perfectly efficient, the abnormal returns equal to zero. If the market is an imperfect, it implies delay in change of stock prices and gives the opportunity to traders to trade by absorbing new information flow. Fama (1965, 1970) claims EMH, but practically it will not materialize (Bernard & Thomas, 1990) and much literature argued and debated this view empirically. The literature shows the empirical evidence for the existence of abnormal returns. The aim of this research is to investigate how the Indian stock market reacts to both positive and negative quarterly earnings announcements and to assess the extent to which the Indian stock market is informational efficient. The major findings of this study are presented below.

7.2.1 Full Sample Portfolio

In the case of mean adjusted model, the AARs are statistically significant for majority of the days of Jun-06, Dec-06, Jun-07, Sep-07, Dec-07, Mar-08, Jun-08, Sep-08, Dec-08, Mar-09, Jun-09, Sep-09, Dec-09, Mar-10, Dec-10, Jun-11, Sep-11, Dec-11, Mar-12, Sep-12, Dec-12 and Sep-13 quarters. The AARs are statistically insignificant for majority of the days of Mar-06, Sep-06, Mar-07, Jun-10, Sep-10, Mar-11, Jun-12, Mar-13, Jun-13 and Dec-13 quarters. The CAARs are significant for most of the days in the event window of 61 days all 32 quarters and therefore, we reject the null hypothesis that AARs and CAARs are close to zero. The market adjusted model shows that the AARs of Mar-06, Jun-06, Sep-06, Dec-06, Mar-07, Jun-07, Sep-07, Dec-07, Mar-08, Jun-08, Sep-08, Dec-08, Mar-09, Jun-09, Sep-09, Dec-09, Mar-10, Jun-10, Sep-10, Dec-10, Mar-11, Jun-11, Sep-11, Dec-11, Mar-12, Jun-12, Sep 12, Dec-12, Mar-13, Jun-13, Sep-13 and Dec-13
quarter are statistically insignificant for majority of the days and therefore, we infer that AARs are close to zero. The CAARs are statistically significant for Jun-06, Dec-06, Sep-07, Sep-08, Mar-09, Jun-09, Sep-09, Dec-09, Mar-10, Jun-10, Dec-10, Mar-11, Sep-11, Dec-11, Sep-12, Dec-12, Mar-13 and Jun-13 quarters and statistically insignificant for Mar-06, Sep-06, Mar-07, Jun-07, Dec-07, Mar-08, Jun-08, Dec-08, Sep-10, Jun-11, Mar-12, Jun-12, Sep-13 and Dec-13 quarters. Therefore, we reject the null hypothesis that CAARs are close to zero. The AARs of market model are statistically significant for Jun-06, Dec-06, Jun-07, Sep-07, Dec-07, Jun-08, Sep-08, Dec-08, Mar-09, Jun-09, Dec-09, Mar-10, Jun-10, Sep-10, Dec-10, Mar-11, Sep-11, Dec-11, Sep-12 and Jun-13 quarter. The CAARs of all the 32 quarters shows significant values for majority of the days in the event window of 61 days. Based on the result, we reject the null hypothesis that AARs and CAARs are close to zero.

The results of Runs statistics shows that AARs are statistically significant for all the quarters under mean adjusted model. The Runs statistics of market model are statistically significant for all the quarters except Dec-12 quarter. Therefore, we reject the null hypothesis that the AARs are random. Whereas, the Runs statistics of market adjusted model are statistically insignificant for Mar-07, Jun-07, Dec-07, Mar-08, Jun-08, Sep-08, Mar-09, Mar-10, Dec-10, Mar-11, Jun-11, Sep-11, Dec-11, Jun-12, Sep-12, Mar-13 and Dec-13 quarter and therefore, we accept the null hypothesis that AARs are random at 5% level of significance. The sign statistics of mean adjusted model shows that the AARs are significant for Mar-06, Jun-06, Dec-06, Mar-07, Sep-07, Dec-07, Mar-08, Mar-09, Jun-09, Sep-09, Dec-09, Mar-10, Sep-10, Jun-11, Sep-11, Dec-11, Jun-12, Sep-12 and Dec-12, Mar-13, Sep-13 and Dec-13 quarter. In the case of market adjusted mode, the
sign statistics shows significant values for Mar-06, Sep-06, Sep-07, Jun-08, Dec-08, Mar-09, Jun-09, Sep-09, Mar-10, Jun-10, Sep-10, Dec-10, Sep-11, Mar-12, Sep-12, Dec-12, Mar-13 and Sep-13 quarter. The sign statistics of market model show significant values for Mar-06, Jun-06, Sep-06, Dec-06, Mar-07, Sep-07, Dec-07, Mar-08, Mar-09, Jun-09, Sep-09, Dec-09, Mar-10, Jun-10, Jun-11, Sep-11, Dec-11, Mar-12, Jun-12, Sep-12, Dec-12, Sep-13 and Dec-13 quarter. Therefore, we reject the null hypothesis that there is no significant difference between the number of positive and negative AARs for the entire event window at 5% level of significance.

7.2.2 Good News Portfolio

The AARs of mean adjusted model shows statistically insignificant values for majority of the days for Mar-06, Sep-06, Mar-07, Jun-07, Mar-08, Dec-08, Dec-09, Mar-10, Jun-10, Sep-10, Dec-10, Mar-11, Jun-11, Sep-11, Dec-11, Mar-12, Jun-12, Sep-12, Dec-12, Mar-13, Jun-13, Sep-13 and Dec-13 quarter. The CAARs are statistically significant for Mar-06, Sep-06, Mar-07, Jun-07, Mar-08, Dec-08, Dec-09, Mar-10, Jun-10, Sep-10, Dec-10, Mar-11, Jun-11, Dec-11, Mar-12, Jun-12, Sep-12, Dec-12, Jun-13 and Sep-13 quarter. Therefore, we accept the null hypothesis that AARs are close to zero and reject the null hypothesis that CAARs are close to zero. In the case of market adjusted model, the AARs of Mar-06, Jun-06, Sep-06, Dec-06, Mar-07, Jun-07, Sep-07, Dec-07, Mar-08, Jun-08, Sep-08, Dec-08, Mar-09, Jun-09, Sep-09, Dec-09, Mar-10, Jun-10, Sep-10, Dec-10, Mar-11, Jun-11, Sep-11, Dec-11, Mar-12, Jun-12, Sep-12, Dec-12, Sep-13 and Dec-13 quarter are statistically insignificant for most of the days in the event window and therefore, we conclude that AARs are close to zero. Whereas, the CAARs are statistically significant for Jun-06, Dec-06, Mar-07 Sep-
07, Jun-09, Sep-09, Dec-09, Mar-10, Jun-10, Mar-11, Jun-11, Sep-11, Sep-12, Jun-13, Sep-13 and Dec-13 quarter and therefore, we reject the null hypothesis that CAARs are close to zero. The AARs of market model are statistically significant for Jun-06, Sep-06, Dec-06, Jun-07, Sep-07, Dec-07, Jun-08, Sep-08, Mar-09, Jun-09, Sep-09, Mar-10, Jun-10, Sep-10, Sep-12 quarter and CAARs are statistically significant for Mar-06, Jun-06, Sep-06, Dec-06, Mar-07, Jun-07, Sep-07, Dec-07, Mar-08, Jun-08, Sep-08, Dec-08, Mar-09, Jun-09, Sep-09, Dec-09, Mar-10, Jun-10, Sep-10, Dec-10, Mar-11, Jun-11, Dec-11, Jun-12, Sep-12, Dec-12, Mar-13, Sep-13 and Dec-13 quarter. Therefore, we reject the null hypothesis is that AARs and CAARs are close to zero.

The Runs statistics of mean adjusted model are significant for all the quarters except Mar-07 and Jun-10 quarter. The Runs statistics of market model are insignificant for Mar-07, Jun-10 and Mar-13 quarter and significant for other quarters. Therefore, we reject the null hypothesis that AARs are random. Whereas, The AARs of market adjusted model shows insignificant values for the quarters Mar-06, Mar-07, Jun-07, Dec-07, Mar-08, Jun-08, Sep-08, Dec-08, Mar-09, Sep-09, Dec-09, Mar-10, Jun-10, Dec-10, Mar-11, Jun-11, Sep-11, Mar-12, Jun-12, Sep-12, Dec-12, Mar-13, Sep-13 and Dec-13 quarter and therefore, we accept the null hypothesis that AARs are random at 5% level of significance. The sign test statistics of mean adjusted model are significant for Mar-06, Jun-06, Dec-06, Mar-07, Sep-07, Dec-07, Mar-08, Mar-09, Jun-09, Sep-09, Dec-09, Mar-10, Jun-10, Sep-10, Dec-10, Mar-11, Sep-11, Dec-12, Mar-13, Sep-13 and Dec-13 quarter. In the case of market model, the sign statistics of all the quarters are significant except for Jun-07, Jun-08, Sep-08, Sep-10, Dec-10, Mar-11, Dec-12, Mar-13 and Jun-13 quarter. Therefore, we reject the null hypothesis that there
is no significant difference between the number of positive and negative AARs for the entire event window at 5% level of significance. Whereas, the sign statistics of market adjusted model shows insignificant values for Dec-06, Mar-07, Jun-07, Dec-07, Mar-08, Sep-08, Dec-08, Dec-09, Mar-10, Jun-10, Dec-10, Mar-11, Jun-11, Dec-11, Mar-12, Mar-13, Jun-13 and Dec-13 quarter. Therefore, we accept the null hypothesis that there is no significant difference between the number of positive and negative AARs for the entire event window at 5% level of significance.

### 7.2.3 Bad News Portfolio

The result of mean adjusted model shows that the AARs are statistically significant for Jun-08, Sep-08, Mar-09, Jun-09, Dec-09, Sep-11, Dec-11, Dec-12, quarter and statistically insignificant for Mar-06, Jun-06, Sep-06, Dec-06, Mar-07, Jun-07, Sep-07, Dec-07, Mar-08, Dec-08, Sep-09, Mar-10, Jun-10, Sep-10, Dec-10, Mar-11, Jun-11, Mar-12, Jun-12, Sep-12, Mar-13, Jun-13, Sep-13 and Dec-13 quarter. Therefore, we conclude that AARs are close to zero. The results of CAARs show statistically significant for all the quarters except Jun-06, Jun-07 and Sep-10 quarter. Therefore, we reject the null hypothesis that CAARs are close to zero. In the case of market adjusted model, the AARs are statistically insignificant for majority of the days in the event window of 61 days for Mar-06, Jun-06, Dec-06, Mar-07, Jun-07, Sep-07, Dec-07, Mar-08, Jun-08, Sep-08, Dec-08, Mar-09, Jun-09, Sep-09, Dec-09, Mar-10, Jun-10, Sep-10, Dec-10, Mar-11, Jun-11, Sep-11, Dec-11, Mar-12, Jun-12, Sep-12, Dec-12, Mar-13, Jun-13, Sep-13 and Dec-13 quarter. The CAARs are statistically significant for Mar-06, Jun-06, Sep-06, Jun-07, Sep-07, Dec-07, Sep-08, Mar-09, Dec-09, Mar-10, Sep-10, Mar-11, Sep-11, Dec-11, Dec-12, Mar-13, Jun-13 and Dec-13 quarter. Therefore, we accept the null
hypothesis that AARs are close to zero and reject that the null hypothesis that
CAARs are close to zero. The results of market model shows that AARs are
statistically significant for Jun-06, Sep-06, Jun-07, Dec-07, Jun-08, Sep-08, Dec-
08, Mar-09, Jun-09, Sep-09, Dec-09, Mar-10, Jun-10, Sep-11 and Dec-11 quarter
and statistically insignificant for Mar-06, Dec-06, Mar-07, Sep-07, Mar-08, Sep-
10, Dec-10, Mar-11, Jun-11, Mar-12, Jun-12, Sep-12, Dec-12, Mar-13 Jun-13,
Sep-13 and Dec-13 quarter. The CAARs are statistically significant for all the
quarters except Mar-12 quarter. Therefore, we reject the null hypothesis that
CAARs are close to zero.

In the case of Runs test, the mean adjusted model shows significant Runs
statistics for all the quarters except Mar-07, Sep-08 and Jun-10 quarter. The Runs
statistics of market model shows insignificant values for the quarters Mar-07, Sep-
08, Jun-10, Sep-10 and Dec-12 and significant AARs for other quarters at 5% level
of significance. Therefore, we reject the null hypothesis that AARs are random.
The AARs of market adjusted model shows insignificant values for Mar-06, Sep-
06, Mar-07, Jun-07, Dec-07, Mar-08, Jun-08, Sep-08, Dec-08, Mar-09, Jun-09,
Sep-09, Mar-10, Sep-10, Dec-10, Mar-11, Jun-11, Sep-11, Dec-11, Jun-12, Sep-
12, Dec-12, Mar-13 and Dec-13 quarter. Therefore, we accept the null hypothesis
that AARs are random. The results of sign statistics shows significant values for all
the quarters except Jun-07, Jun-08, Sep-08, Dec-08, Jun-10, Dec-10, Mar-11,
Mar-12 and Jun-13. The AARs of market model shows significant values for all
the quarters except Sep-06, Mar-07, Jun-07, Jun-08, Dec-10, Mar-11, Dec-11,
Mar-13 and Jun-13 quarter. Therefore, we reject the null hypothesis that there is no
significant difference between the number of positive and negative AARs for the
entire event window at 5% level of significance. Whereas, the market adjusted
model show insignificant values for Mar-06, Jun-06, Dec-06, Mar-07, Jun-07, Dec-07, Mar-08, Jun-08, Mar-09, Jun-09, Sep-09, Mar-10, Jun-10, Mar-11, Jun-11, Dec-11, Mar-12, Jun-12, Sep-12, Jun-13 Sep-13 and Dec-13 quarter at 5% level of significance. Therefore, we accept the null hypothesis that there is no significant difference between the number of positive and negative AARs.

Significant abnormal price reactions around earnings announcements suggest the earnings announcements contain value-relevant information. We found that the cumulative abnormal returns is dominated by significant reactions, especially after the earnings release date, which suggests delayed price response and is inconsistent with the EMH, and therefore, suggests that the Indian stock market does not efficiently adjust to earnings information for the sample firms within the study period.

7.3 A Study of P/E Effect in Indian Stock Market

The result shows that the average monthly return of high P/E portfolios (1 to 5) are highest i.e. 4.5967, 3.5785, 2.9949, 2.3028 and 2.3880 and the returns of low P/E portfolios (6 to 10) are lowest i.e. 2.0106, 1.8297, 1.8167, 1.5295 and 0.9227. When we move from highest P/E portfolio to the lowest P/E portfolio, decrease in average monthly returns is observed. In the case of monthly excess return we found similar results. The excess return of 1st portfolio is 4.4199 and the excess return of 10th portfolio is 0.7459. The result shows a decreasing trend in annual excess return from highest to lowest portfolio. The beta which shows the systematic risk is more than unity for all the portfolios except 2nd portfolio. The higher the Sharpe’s reward to variability measure ratio, the more efficient portfolio is. The results show positive return for all the portfolios per unit. The return of 1st
portfolio per unit is 0.8011 and the return of 10th portfolio per unit is 0.1355. Further, decrease in Sharpe’s reward to variability measure ratio is observed when we move from the highest P/E portfolio to the lowest P/E portfolio. The Treynor’s ratio is a measurement of efficiency. It shows the relationship between annualized risk-adjusted return and the risk. The portfolio with high Treynor’s ratio shows good performance efficiency. The Treynor’s ratios indicate the superior performance of highest P/E portfolio to that of lowest P/E portfolio in Indian capital market. The coefficients of Jensen’s differential return are positive and statistically significant for 1st and 2nd portfolio, which represent the highest P/E portfolio. The coefficient of Jensen’s differential return is negative and significant for 10th portfolio which represents the lowest P/E portfolio. Therefore, we reject the null hypothesis of no difference between the returns of lowest P/E portfolio and highest P/E portfolio at 5% level of significance. In case of portfolios 3 to 8, statistically insignificant positive differential return is observed and for 9th portfolio statistically insignificant negative differential return is observed. The coefficient of correlation values between the portfolio return and the market returns are higher which shows that all the portfolios are well diversified. The coefficient $\alpha_{P_{10} \tau - P_{1} \tau}$ is negative and significant and it shows inferior performance of lowest P/E portfolio. Therefore, we reject the null hypothesis at 5% level of significance and infer that lower P/E portfolio exhibits inferior performance in Indian stock market.
7.4 Conclusion

Understanding the stock market efficiency is important to the investors who seek to find whether the opportunity of making excess return does exist in a given stock market. If market is efficient, no arbitrage opportunity can be taken to make excess return as all the available information is incorporated in current prices. This study investigated the EMH of Indian stock market. The RWH of Indian stock market is examined for the period 1990 to 2013 by employing various econometric models. The result of Unit root test and Runs test support the RWH whereas, the results of Variance ratio test, Autocorrelation test, GARCH(1, 1), TGARCH, EGARCH and PGARCH models fail to support the RWH in Indian stock market. In sum, the overall results show significant evidences of market inefficiency.

In the fifth chapter, we examined the semi-strong form of market efficiency by considering quarterly earnings announcements as publicly available information. The results show that AAR and CAAR values are positive for majority of the quarters and the earnings announcements had a positive impact on the market. The t test results show that the AARs of mean adjusted model and market model are significant and the AARs of market adjusted model are insignificant for most of the days in the event window for all the three portfolios. Therefore, we reject the null hypothesis that AARs are close to zero for mean adjusted model and market model and accept the null hypothesis for market adjusted model. The CAARs of all the three portfolios of all the three models show significant values for majority of the quarters. Therefore, we reject the null hypothesis that CAARs are close to zero. The Runs test statistics are significant at 5% level of significance for most of the quarters and hence, we reject the null hypothesis that AAR occurs randomly except for the AARs of market adjusted
model. This shows that the AARs are non-random. The Sign statistics rejects the null hypothesis that there is a significant difference between the number of positive and negative AARs for the mean adjusted model and market model. Overall, the mean adjusted model and market model gives similar results which indicate that AARs are not close to zero, non-randomness in AARs and significant difference between the number of positive and negative AARs. Whereas, the results of market adjusted model are contradictory. The CAARs of all the three models shows significant value which shows that CAARs are not close to zero. This shows delayed price response which is a sign of market inefficiency. Brown and Warner (1980, 1985) found that mean adjusted model and market models yield results similar to those of more sophisticated models. Further, the market model considers market-wide factors and the systematic risk of each sample security. Therefore, based on mean adjusted model and market model, we conclude that market is inefficient in semi-strong form of market efficiency.

In the sixth chapter, we examined P/E effect in Indian stock market. The results show that the average returns of high P/E portfolio is higher than low P/E effect portfolio. Average monthly excess returns also decreased when we moved from highest P/E portfolio to lowest P/E portfolio. Sharpe’s reward to variability measure ratio and Treynor’s ratios show superior performance of highest P/E portfolios to that of lowest P/E portfolios. The Jensen’s differential return coefficients of high P/E portfolio are positive and statistically significant and Jensen’s differential return coefficient of the lowest P/E portfolio is negative and significant. Therefore, we infer superior performance of high P/E portfolio to low P/E portfolio in Indian stock market. This result also shows the presence of a premium associated with the investment in high P/E stocks in Indian stock market.


The possible reason for market inefficiency is market imperfections, infrequent trading of few stocks and existence of financial anomalies. Another reason why we found this evidence is that, the impact of 2008 financial crisis
which spread from developed countries to emerging economies like India because of cross-market correlation dynamics. Stock market investors lost their investments as the downward fall in the prices of stocks. The market tanked with huge volatility. Further, in an inefficient market, some securities will be overpriced and others will be underpriced, which means some investors can make excess returns while others can lose by their level of risk exposure. The evidence on P/E anomaly shows that investment in high P/E portfolio generates excess return to the investors in Indian stock market. One interpretation from our result is that investors can invest in high P/E portfolios for high returns. The main implication of this study is that, since the market is inefficient, technical and fundamental analysis can be used to predict the pattern or trend in the market to develop the trading strategies. The investor can predict the upward or downward trend in the security prices. The investors can buy the stocks which have high serial correlation and earn returns. This is because, high serial correlation indicates that if the prices have gone up consistently in the past, they will rise further and vice-versa. But one of the natural questions that arise is how long such stocks, which have higher serial correlation, go on rising? This is a relevant research question which has not been addressed in this study. We leave this question for future research. The practical implication of this study is that investors can benefit from the publicly available information like the earnings announcements. The findings show that corporates are not successful in disseminating the earnings information to a wide section of the market participants. The corporates seem to follow the mandatory regulation of announcing the quarterly earnings rather than concentrating on wide dissemination of the earnings information. Since the market is slow in absorbing the quarterly earnings content, the market exhibits the characteristics of inefficiency. Our results
are useful as a piece of information to the regulatory authorities to frame the policies. The above empirical evidences of Indian stock market call for appropriate regulatory and policy changes to ensure proper dissemination of information and quick and correct price aggregation in the market. Results are also helpful for the individual and institutional investors as they show that the market offers opportunity to make profit if the markets are followed closely by the investors.

7.5 Suggestions for Further Research

Since our research deals with a specific stock index based companies, we have following suggestions that will strengthen the research of EMH in Indian stock market.

- This study examined the RWH and market reactions to the quarterly earnings announcements by taking the BSE-500 index based companies. The question of using a larger sample set can be taken up for further work.
- The market efficiency can also be investigated by taking up the market reactions to other corporate actions such as dividend announcement, mergers and acquisitions, stock split, rights issue etc.
- There is also scope to study the long run stock price reactions in Indian stock market.
- There is also scope to study the seasonality effect in Indian stock market by taking the large sample of different stock indices based companies.