Chapter Eight

SUMMARY OF FINDINGS, SUGGESTIONS AND CONCLUSION
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The following inferences were drawn from the processing and analyzing of the data related to 20 scrips under study for the period from 1999 to 2009.

Findings

1. Mean returns of the scrips were between 0 and 1% for the 10 year period. On an average the stocks under study during 1999-2009 earned only 0.1% in contrast to the market return of 0.11%
2. Mean returns of the companies were very low during the period.
3. The arithmetic mean of returns of 20 stocks under study 0.1% coincides with mean return of the market index 0.11%
4. Companies had not drawn negative returns during the period.
5. The distribution of returns was highly asymmetrical. The presence of high degree of skewness -positive as well as negative, right and left to the mean- was found. The skewness on an average for the companies was -2.54.
6. Peaks of leptokurtic nature were commonly found in the distribution of returns of the companies. The measure of kurtosis on an average for the companies was 80.52 in contrast to the market index of 5.9.
7. High degree of price and returns volatility was found. Average daily returns, annual returns and Holding Period Yields of the companies were found with alternating peaks and troughs denoting the presence of overwhelming uncertainty in the pattern, timing and magnitude of returns.
8. The risk exposure of individual shares vis-à-vis market portfolio was more since the standard deviation and variance were more than the market. But this excess risk exposure of the individual shares over the market was not indicated by the beta coefficients.
9. In contrast to the daily returns and annual average returns, Holding Period Yields of the stocks were very high.

10. The general trend of the daily returns of the companies was to vary within a range of 0 and 1%.

11. The general trend of the Holding Period Yield of the Companies was to go up.

12. The $\sigma$ Standard deviation of the scrips was above 3 except for three companies, namely, Asian Paints, Colgate Palmolive and ITC Ltd. There was high volatility in price and returns of the scrips during the period.

13. The average return of the market index represented by BSE30 was low.

14. The standard deviation and the variance of the market index represented by BSE30 was lower than the individual scrips.

15. The price and returns of the individual shares showed more volatility than the market. The average Standard deviation of the shares under study was 3.42 whereas the standard deviation of the market index BSE30 was only 1.79. Similarly the average variance of the 20 stocks was 12.6 while the market variance was only 3.2.

16. The covariance of the scrips with market index was statistically not significant.

17. Beta coefficient of the scrips were all less than 0.25. The systematic risk of the scrips in relation to market was negligible. The average of beta coefficient of the scrips was 0.007 in relation to the market beta of 1.

18. There was no significant correlation between the scrips and the market index for the period.

19. The contribution to the total variance of the scrips by the market was insignificant as denoted by the $R^2$ values. The average of the $R^2$ values of the stocks was 0.007. It was found that 99.3% of the total variance of the shares was due to own factors of the companies and only an insignificant portion of the total variance, say, less than 1% that is 0.7% was explained by the market.

20. Distribution of returns of all companies including the market index had peakness of leptokurtic nature.
21. The holding period yield of the companies was considerably higher than the mean returns. HPY of the companies were even greater than the mean return of the market.

22. In the year 2008 all companies earned negative returns. Annual average returns and Holding Period Yield of the companies had fallen sharply and marked as the lowest of the decade in this year.

23. In 2003 almost all companies performed their best and had the higher returns for the 10 year period.

24. The year 2009 could be considered as prosperous since all companies performed their maximum and won the maximum annual returns and HPY.

25. The closing prices of 20 stocks under study were found to have interdependence.

26. The coefficients of auto correlation for 20 stocks under study for the period from 1999 to 2009 were found significant in all 16 lags of study. The student ‘t’ test also confirmed the significance of the auto correlation. The coefficients of auto correlation for all scrips in 16 lags lie in between 0.9 and 1.0. Hence, it was found during this period stock prices had inter-dependency. The prices of stocks under study for the period 1999-2009 were not random.

27. The standard deviations and variances of the individual stocks tell the risk perceptions of the stocks more than that of the market. The beta of the market index is usually assumed to be 1. In that case the betas of the individual scrips ought to be more than 1. But betas are found less than 1. The averages of beta was only 0.007. It shows that beta is not the right statistic to measure the relative volatility of individual stocks vis-à-vis the market portfolio.

28. The rate of return of the market portfolio 0.11% is considerably lower than the Risk-free rate (RFR) of 7.31%. There was no incentive for the investors to invest in risky stocks in the market for 0.11% while the risk-free securities are available at the rate of 7.31%.

29. It is found that the market was depressed and sustaining losses to the extent of -7.2% that is (0.11-7.31).

30. The required rate of return was badly affected due to the deficit between market return and risk-free return.
The stocks of 17 companies were found undervalued since they had positive alpha or excess returns (excess of Holding Period Yield or expected return over the required rate of return).

The stocks of 3 companies were found overvalued since they had a negative alpha.

Whether overvalued or undervalued, it was a case of mispricing of risky assets. It was a clear evidence of market inefficiency.

The study titled Stock Price Movement in India was undertaken with the objective of the following:

1. To study the behavior of equity returns in India during the period 1999-2009.
2. To study the randomness of stock prices in India.
3. To study the beta effect of equity returns.

The study was related to the period from 1999 to 2009 for a period of 10 years. The data required for the study were collected from the secondary sources. Accordingly data were collected from the Directory of Bombay Stock Exchange, from the official website of Bombay Stock Exchange, from newspapers like Hindu, and Business Line, data were also collected from the Department of Commerce, Bharathiar University.

The approach of the study was empirical. Data were classified, processed and analysed with the statistical tools like mean, Standard deviation, variance, covariance, correlation, beta, skew, kurtosis, auto correlation and $R^2$.

20 scrips were selected as samples randomly for the study. The study was reported in eight chapters. The First chapter was devoted for the introduction. Second Chapter was related to the presentation of theoretical perception on stock market. Third chapter was concerned with the survey of literature. The fourth chapter was expended for profiling the details of the 20 companies which were selected for the study. Chapter fifth was for the analysis of behavior equity returns. Sixth chapter was devoted for the analysis of randomness of the stocks. Seventh chapter was for the analysis
equity returns with the help of beta. And the eighth chapter was for the summary of findings, suggestions and conclusion.

Accordingly the data were analysed and interpreted and drawn conclusion.

Suggestions

1. In order to curb price and return volatility, market intervention by the regulatory authority should be strengthened.
2. Insider trading should be prohibited.
3. Stock trading should have the required transparency.
4. Fundamental details of the stocks listed and set for trade should be available to all investors easily and quickly.
5. The regulatory authorities should take necessary steps to ensure that announcements of the events like declaration of dividends, the details of takeovers, amalgamations and such buyouts reach the market without any hindrances so as to enable the investors to take appropriate investment decisions.
6. Beta was not found to be representing the measure of market driven risk of an individual stock. It is high time for searching for an alternative yardstick to measure the relative volatility.

Conclusions

The study of Stock price movement in India was undertaken with a view to understand the functioning of Indian stock market. Stock market is a promising avenue for prospective investors. In the post-recessionary period there has been a general apathy towards stock market among the investing community. Needless to say, the investors have lost their confidence in the stock market due to the extreme form of price and return volatility. Over and above that excessive sophistication and insider trading both made Indian stock market totally strange to the retail investors. Stock market is supposed to be perfect like commodity market. But perfect market is never found
anywhere in the world. Similarly if a market is efficient investors will be insulated from all types of volatility. When Fama thought about the Efficient Market, he may be dreamful of such a situation.

In the study it was found that there was overwhelming price and return volatility in the market during 1999-2009. Average returns earned by the scrips were all low. The return on market portfolio represented by BSE30 index also was low. But the holding period yield which can be interpreted as the expected rate of return of the companies were in spite of the frequent upheavals found increasing during the period. The risk perception of the individual stocks was found higher than the market portfolio. But the beta to measure such risk when shares were part of the portfolio did not reveal the true position of the risk. Beta showed only insignificant market related risk proving time out of number that it was unsuitable to measure the systematic risk of a stock.

The risk exposure of an individual stock was found to be more due to own reasons than the market related. When shares are diversified the own risks of investment in a portfolio ought to have eliminated. After diversification the only risk that should remain will be the systematic risk. But in the present study of the samples of twenty shares which were part and parcel of the portfolio of market index had risks substantially belonging to the unsystematic component. The individual stock and market had not co-moved. The low correlation of the stocks with the market index was a sign of unsystematic practices in the market and only will defeat the causes of stock diversification and the objectives of portfolio management. The situation would only increase the risk perception of the stock investment and highly undesirable.

The prices of the stocks under study were tested for their randomness. Auto correlation was employed and found that the coefficients of auto correlation in all the 16 lags were more than 0.9 and they were statistically significant. The student’s t test was also employed to confirm the significance of the auto correlation. Thus it is concluded that the stock prices had inter-dependence and the prices were not random.

There was difference between the expected return represented by the holding period yield and the required rate of return calculated on the basis of CAPM. Accordingly it is found that assets were mispriced. Under conditions of equilibrium and in presumption of the prevalence of efficient market, the
assets prices should not have been mispriced. In the study it was found that there was difference between HPY and RRR. If the HPY is more than the RRR (required rate of return) asset is construed as undervalued. On the contrary, if the RRR is in excess over HPY, then the asset is overvalued. In the study 17 scrips were found undervalued and 3 shares overvalued. This was due to mispricing of risky assets. It was a market anomaly. It shows the inefficiency of the market. If the market is efficient the RRR should be equal to the HPY or somewhat they will be nearer to each other.

To put it in a nutshell, beta as a measure of relative volatility fails to disclose the whole of the systematic risk of an individual stock in relation to the market portfolio. The auto correlation test provides evidence of interdependence and lack of randomness of stock prices. There is evidence of stocks being mispriced. In the market high degree of price and return volatility was prevailing. The variance of the stock’s return was largely due to own reasons rather than the market-related.