TITLE SHEET

CONFIDENTIALITY STATEMENT

Stock Market Efficiency: How does It Reflect on the Securities Trading

Abstract:

Stock market efficiency has been the subject matter of research studies for periods well over the past three decades. Several theories have been established about basically how the competition will drive all information into the prices of securities quickly. Centering this idea the concept known as Efficient Market Hypothesis has been evolved which also has been the subject of intense debate among academics and financial professionals. Efficient Market Hypothesis states that at any given time security prices fully reflect all available information. It is stated that if the markets are efficient and current prices fully reflect all information then buying and selling securities in an attempt to outperform the market will effectively be a game of chance rather than skill. Several stock market anomalies have also been uncovered to undermine the efficient market hypothesis. This dissertation paper attempts to report on the efficiency of the stock market advocated by the efficient market hypothesis and its effect on the trading of securities on the basis of a review of the available literature. . While trying to support the premises that trading in the securities to outperform an efficient market is a game of chance rather than skill, the paper also make a critical analysis of various stock market anomalies.

Stock Market Efficiency: How does It Reflect on the Securities Trading

Table of Contents

Abstract 3

Table of Contents 4

Chapter 1 Introduction 6

Chapter 2 Objectives, Scope and Methodology of the Dissertation 7

2.1 Objectives of the Study 7

2.2 Scope of the Study 8

2.3 Research Approach 8

2.3.1. Research Strategy 9

2.3.2 Data Collection Methods 9

2.4 Structure of the Dissertation 10

Chapter 3 Literature Review 11

3.1 Efficient Market Theory 11

3.2 Types of Market Efficiency 12

3.3 Need for Market Efficiency 12

3.4 Levels of Market Efficiency 13

3.5 Reflections of an Efficient Market on Securities Trading 14

3.6 Stock Market Anomalies 16

3.6.1 Kinds of Stock Market Anomalies 17

3.7 Fundamental Anomalies 17

3.7.1 Value Investing 17

3.7.2 Low Price to Book 18

3.7.3 Low Price to Sales 18

3.7.4 Low Price to Earnings 18

3.7.5 High Dividend Yield 18

3.7.6 Neglected Stocks 18

3.8 Technical Anomalies 19

3.8.1 Moving Averages 19

3.8.2 Support and Resistance 19

3.9 Calendar Anomalies 20
3.9.1 The January Effect 20
3.9.2 Turn of the Month Effect 21
3.9.3 Monday Effect 21
3.10 Other Anomalies 21
3.10.1 Size Effect 21
3.10.2 Announcement Based Effect 22
3.10.3 IPOs, Seasoned Equity Offerings and Stock Buybacks 22
3.10.4 Insider Transactions 22
3.10.5 The S&P Game 23
Chapter 4 Findings and Analysis 24
4.1 Findings 24
4.2 Analysis 25
Chapter 5 Conclusion and Recommendations 27
5.1 Conclusion 27
5.2 Recommendations 28
References 30

Chapter 1

Introduction

The Stock market movements are often influenced by the availability of information on the various securities that is being dealt with in the market. Depending on the information flow, the stock's price moves up and down reflecting the mood of the market. Under an efficient market, since the stock prices already represent the available information, they will move only when new, unexpected information becomes available. The movement of the stock prices is largely determined by the relative merits and demerits of the information and how it is going to affect the performance of the company which the stocks represent. Just the same way the predictability of the information is impossible as to whether it is good or bad, it is equally impossible to predict the direction in which the stock prices will move in the future based on such information. Generally it is assumed that it is not necessary for everyone in a financial market to be well informed about a security and also that all the participants should have the ability to perceive, analyse and use the information to their advantage. All the efficient market requires is that a few people have the information and based on the information of the few people, the entire market will be well informed. Thus the efficiency of the market is determined purely on the basis of the availability of the information. With this background this paper brings out the determinants of the stock market efficiency and its relative effects on the trading of the securities being undertaken in the market.

Chapter 2

Objectives, Scope and Research Methodology of the Dissertation:

Having studied the broad outline of the research on the stock market efficiency as outlined in the introduction, this paper proceeds to define the boundaries of this research field namely the Objectives and Scope of this study, Research approach, Research Strategies, Data Collection Methods and dissemination of the data and information to arrive at the conclusions of the research.

2.1 Objectives of the Study:

This dissertation paper aims to achieve the following objectives with respect to the chosen topic of the 'Efficiency of the Stock Market'. The objectives are:

- To establish that there exists a concept of the efficiency of the stock market which implies that at any given point of time the prices of securities react to all the market information positively or negatively depending on the nature of the information.
- To make a complete report on the above efficient market hypothesis that forms the basis for this dissertation. In order to substantiate the claim put forward under the efficient market hypothesis, the study will make a review of all available literature and compile a repot thereon
- To make an in-depth study of all the available literature and make a report on the stock market anomalies that seems to contradict the efficient market hypothesis.
- To present a comprehensive and critical analysis of the efficient market hypothesis and present arguments to drive home the central theme of this paper that "trading in the securities to outperform an efficient market is a game of chance rather than skill"

- To arrive at a conclusion on the basis of the presentation of reports made on the efficient market hypothesis, stock market anomalies and other factors affecting the stock market efficiency and the securities trading at the stock markets.

2.2 Scope of the Study:

To achieve the objectives outlined, scope of the study and reporting undertaken by this dissertation extend to the following areas for an extensive research and analysis:

- As an introduction to the efficient market theory the report details the types, need and levels of market efficiency
- The study extends to the analysis of the stock market operations and the relative effect of market information on the buying and selling of the securities
- The study also covers the issue of insider trading and the effect of such insider trading on the stock market efficiency
- While detailing the anomalies of the stock market the report envisages to bring out the effect of those anomalies on the efficiency of the stock market
- In addition, the scope of the study covers the reflections of the market efficiency on the capital formation of the corporate entities.

2.3 Research Approach:

Research is defined by Saunders as: 'the systematic collection and interpretation of information with a clear purpose, to find things out.' **(Saunders et al., 2003)**

The quantum and nature of the date provides the alternative methods of collecting them. The Research may follow a '***Deductive Approach'*** by testing the theoretical propositions with the adoption of suitable testing methods or an ***'Inductive Approach'*** by collecting relevant empirical data and evolving the necessary theories based on the data collected. For

the present study on the Stock Market Efficiency, the inductive approach will be followed as there is no previous theory or hypothesis which needs to be proved by testing.

2.3.1 Research Strategy:

Due to the nature of the report and the decision to use an inductive approach, it has been chosen to use The Grounded Theory where the procedures are designed to build and explain or to 'generate a theory' around the central theme that emerges from research data. It also provides the structure often lacking in other qualitative approaches without sacrificing flexibility or rigor **(Saunders et al., 2003)** By Research Strategy we mean the dissemination of the data collected by whatever means, presenting them in a coherent and comprehensive manner which provides the necessary conclusive information on the research project and the issues connected therewith.

2.3.2 Data Collection Methods:

The general belief of business research is often thought of as collecting data, constructing questionnaires and analysing data. But it also includes identifying the problem and how to proceed solving it **(Ghauri et al., 1995)**.

Data sources can be described as the carriers of data (information). There are to types of data sources **(Ghauri et al., 1995)**

1. ***Primary data (field)*** is collected specifically for the research project. This will be in form observations and interviews.
2. ***Secondary data (desk)*** is collected by others. These include academic and non-academic sources.

Since the study of the Stock Market efficiency will be using the 'Secondary data collection' method, sources like books, articles appearing in journals and other publications, research papers submitted to the Universities and sources available in electronic media of the internet will be used to collect the necessary information on the subject under study to arrive at a comprehensive report.

2.4 Structure of the Dissertation:

To present a comprehensive and coherent report this dissertation adopts the following structure with respect to the presentation; Chapter 1 provides a brief description of the subject this study intends to analyse followed by Chapter 2 detailing the objectives and scope of the study along with the description of the research methodology. Chapter 3 representing the body of the text covers a detailed review of the available literature on the topic of the Stock market efficiency to provide the reader an extensive knowledge on the concept of efficient stock market as also on the various anomalies that exist in the stock market operations. Chapter 4 goes to enlighten the reader on the finding of the study and conclusions drawn there from. Chapter 4 is followed by a concluding paragraph and the author's recommendations on the subject matter.

Chapter 3

Literature Review

In line with the objectives of the study, this part of the dissertation paper makes a detailed review of the available literature on the stock market efficiency and the anomalies of the stock market. In order to enable the readers understand the term market efficiency in a nutshell the following words of Robert C. Higgins aptly describe the market efficiency:

"Market efficiency is a description of how prices in competitive markets respond to new information. The arrival of new information to a competitive market can be likened to the arrival of a lamb chop to a school of flesh-eating piranha, where investors are - plausibly enough - the piranha. The instant the lamb chop hits the water there is turmoil as the fish devour the meat. Very soon the meat is gone, leaving only the worthless bone behind, and the water returns to normal. Similarly, when new information reaches a competitive market there is much turmoil as investors buy and sell securities in response to the news, causing prices to change. Once prices adjust, all that is left of the information is the worthless bone. No amount of gnawing on the bone will yield any more meat, and no further study of old information will yield any more valuable intelligence."

3.1 Efficient Market Theory:

The efficient market theory states that "prices of securities in financial markets fully reflect all available information." **(Mishkin, 1997)** Thus market efficiency can be defined as the degree to which any new information is very quickly reflected accurately in the share prices. This theory gives rise to the phenomenon of an 'Efficient market Hypothesis' which states that all relevant information is fully and immediately reflected in a security's market price, thereby assuming that an investor will obtain an equilibrium rate of return. In other words an investor should not expect to earn an abnormal return through either technical analysis or fundamental analysis. This hypothesis implies that *"if new*

information is revealed about a firm it will be incorporated into the share price rapidly and rationally, with respect to the direction of the share price movement and the size of that movement." **('elearn' –NetTel)**

Stock market efficiency does not mean that investors have perfect powers of prediction; all it means is that the current level is an unbiased estimate of its true economic value based on the information revealed.

3.2 Types of Market Efficiency:

To understand the concept clearly, market efficiency can be synthesized into:

- **Operational Efficiency**: referring to the cost to buyers and sellers of transactions in a security exchange
- **Allocation Efficiency**: helping in the process of allocating society's resources between competing real investments
- **Pricing Efficiency**: enabling investor to expect to earn merely a risk-adjusted return from an investment as prices move instantaneously and in an unbiased manner to any news.

It is 'pricing efficiency' that is the focus of this paper.

3.3 Need for Market Efficiency:

The Stock Market should be efficient for discharging the following values expected of the market:

- To Ensure Proper Pricing of Securities and thereby to encourage the trading in the shares and other securities
- To enable company managers take sound financial decisions by giving correct signals to them

- To help in an efficient allocation of resources based on the operating efficiency and the pricing efficiency by providing timely information on the securities

3.4 Levels of Market Efficiency:

Economists have defined different levels of efficiency according to the type of information, which is reflected in prices. Three levels of market efficiency can be identified which are as follows:

- **Weak-Form Efficiency**- where the share prices fully reflect all information which were revealed by past price movements of the shares. This form of efficiency will not do any good to the investor as the future cannot be predicted on the basis of the historic price data.
- **Semi-Strong Form Efficiency**-where the share prices fully reflect all the relevant information which are publicly available like earnings and dividend announcements, rights issues, technological break through, resignation of directors etc. along with the past price movements of the shares
- **Strong-Form Efficiency**-where all relevant information including those privately held is reflected in the price. In this form of efficiency **'Insider Trading'** plays a vital role, in which a few privileged individuals like director or other senior executive of a company who is in possession of a valuable information (positive or negative) about the company and uses it to take a personal profit by trading in the company's shares.

3.5 Reflections of an Efficient Stock Market on the Securities Trading:

"An 'efficient' market is defined as a market where there are large numbers of rational, profit-maximizers actively competing, with each trying to predict future market values of individual securities, and where important current information is almost freely available to all participants. In an efficient market, competition among the many intelligent participants leads to a situation where, at any point in time, actual prices of individual securities already reflect the effects of information based both on events that have already occurred and on events which, as of now, the market expects to take place in the future. In other words, in an efficient market at any point in time the actual price of a security will be a good estimate of its intrinsic value." **(Eugene F. Fama 1965)**

As stated above, the Efficient Market Hypothesis states that at any given point of time, the prices of securities in the stock market fully reflect all available information. The **Efficient Market Hypothesis** implies that the while individuals buy and sell securities on the assumption that the worth of the securities are more or less than the price the market offers. But if markets are efficient and current prices fully reflect all information, then buying and selling of securities in an attempt to outperform the market will effectively be a game of chance rather than skill. This is so because there are various other factors which have a direct or indirect influence on the stock prices and which affect the movements of the prices upwards or downwards depending on their positive or negative impact on the buying or selling moods of the investors.

There is another theory known as **'Random Walk Theory'** which advocates that the stock price movements will not follow any patterns or trends. The theory also asserts that the past price movements cannot be used as a basis to predict the future price movements

With more and more numbers of intelligent investors and traders entering the stock markets for transacting on various over valued and undervalued securities, the market tends to become more efficient to take the faster dissemination of information flowing from all directions and from all these people dealing in the securities.

While the Efficient Market Hypothesis generalize the situation of stock price movements, technical analysis like moving averages and Support and Resistance techniques have tried to provide some scientific bases to predict the reactions of the stock prices.

The efficiency of the stock market operation has its own reflections on the trading in securities both from the angle of the investor and the company whose shares are being traded. As it is implied that the public information cannot be used to earn abnormal returns, the average investor should decide on a particular portfolio with the minimum cost of trading and base his decision on a host of information which are timely and valuable to make the otherwise efficient market to his advantage. The companies should be encouraged by investor pressure, accounting bodies, government ruling and stock market regulations to provide as much information as possible to enable the stock market to react sharply and accurately to ensure a proper pricing.

As far as the companies are concerned the market efficiency will be greatly affected by the company either manipulating or withholding of information and which consequently will reflect on the prices of their securities. With the short term profitability in view if the company reacts in an undesirable way it will be detrimental not only to its shareholders but to the society as well. This is so because based on the incorrect information, the stock market may react in an incorrect pricing which will affect the wealth of the old shareholders and new shareholders alike who would have transacted in the shares.

The Stock Market Anomalies unearthed by researchers are in contrast to the efficient market hypothesis. *"The search for anomalies is effectively the search for systems or patterns that can be used to outperform passive and/or buy-and-hold strategies."* **(Invest Home)**. The general theory is that once an anomaly is discovered, the investors' attempts to exploit the anomaly and thereby to enhance their profit taking will make the anomaly disappear in the course of time.

One additional point to be noted is that numerous anomalies that have been documented have subsequently either disappeared from the market or they have been proved to be impossible to exploit because of the transaction costs.

3.6 Stock Market Anomalies:

Despite the existence of strong evidences to advocate the efficiency of the stock markets there are also theories that have documented long-term anomalies in the stock market which seem to act against the efficient market hypothesis. However the following points with respect to such anomalies need to be taken into consideration:

- The investors while trying to exploit the anomalies to earn higher returns should keep in mind that although the anomalies existed historically, there is no guarantee that they will persist in the future
- Even if they persist the transaction and hidden costs may prevent the out-performance in the future. **(Investor Home)**
- Investors should also consider the tax effects in their taxable portfolios when evaluating stock strategies on the basis of using anomalies.

3.6 1 Kinds of Stock Market Anomalies:

The stock market operations are often influenced by various factors internal as well as external to the functioning of the companies. These are known as Anomalies which tend to out perform or under perform the stock market operations based on the fact that whether such anomalies have positive or negative impact on the stock prices. Some of the different kinds of anomalies are detailed below.

3.7 Fundamental Anomalies:

These anomalies depend on the value of the stock and performance of the companies based on which the stock prices move upward or downward. There are several such anomalies related to the value, growth and profitability of the companies concerned.

3.7.1 Value Investing:

One of the most publicized historical stock market anomalies is 'Value Investing' which is also considered as the best strategy for investing. **Professors Josef Lakonishok, Robert W. Vishny, and Andrei Shleifer** concluded that *"value strategies yield higher returns because these strategies exploit the mistakes of the typical investor and not because these strategies are fundamentally riskier."* A common technique is to divide an index into high price to book value (growth) stocks and low price to book value (value) stocks. The following are the anomalies based on fundamental and value that have documented to outperform the market in long-term studies. The effects are related to varying degrees and investors using the different techniques will commonly select many of the same stocks.

3.7.2 Low Price to Book:

This concept was developed by **Eugene Fama and Kenneth French** advocating the theory that the value stocks had lower risk and growth stocks had the highest risk. However there are contradicting views that whether the value is a risk factor to be considered for compensating the investor at all.

3.7.3 Low Price to Sales (Low P/S):

A number of studies have concluded that stocks with low price to sales ratio outperform the market than stocks with high price to sales ratios. **James P. O'Shaughnessy** argues that Price/Sales are the strongest single determinant of excessive returns.

3.7.4 Low Price to Earnings (Low P/E):

Numerous studies have shown that stocks with low P/E ratios outperform the market than those with high P/E ratios. **O'Shaughnessy** found that the P/E ratio is particularly relevant with large stocks. However, he argued that Price/Sales are an even better indicator of excessive returns.

3.7.5 High Dividend Yield:

Similarly high dividend yielding stocks have a tendency to outperform the market as against the low yielding stocks.

3.7.6 Neglected Stocks:

Neglected stocks are selected by those that follow a contrarian strategy of buying stocks that at out of favour. **Werner F.M. DeBondtand Richard Thaler** conducted a study of the 35 best and worst performing stocks on the New York Stock Exchange (NYSE) from 1932 through 1977. They studied the best and worst performers over the preceding five and three year periods. They found that the best performers over the previous period subsequently

underperformed, while the poor performers from the prior period produced significantly greater returns than the NYSE index.

3.8 Technical Anomalies:

Technical anomalies are based on 'Technical Analysis' implying the investing techniques that attempt to forecast securities prices by studying past prices and related statistics. Common techniques include strategies based on relative strength, moving averages and support and resistance. "The majority of researchers that have tested technical trading systems (and the weak-form efficient market hypothesis have found that prices adjust rapidly to stock market information and that technical analysis techniques are not likely to provide any advantage to investors who use them. However others argue that there is validity to some technical strategies." **(Investor Home)**

3.8.1 Moving Averages: Under this technique it was proved that all the buy-sell differences are positive and the reaction of the market is significant to these differences.

3.8.2 Support and Resistance: It is generally believed by the technical analysts that investors sell at the resistance level and buy at the support level. A buy signal was generated when the price penetrated the resistance level and a sell signal was generated when the price penetrated the support level. **William Brock, Josef Lakonishok, and Blake LeBaron** concluded:

- That the results are consistent with technical rules having predictive power. However, transactions costs should be carefully considered before such strategies can be implemented.

- That the returns-generating process of stocks is probably more complicated than suggested by the various studies using linear models. It is quite possible that technical rules pick some of the hidden patterns.

Another technical analysis covered the study whether strong performance from one period continues or reverses in future periods. Some studies have concluded that positive correlation exists in the short term of weeks and months while negative autocorrelation exists over longer periods of time.

3.9 Calendar Anomalies:

Apart from the value anomalies and technical anomalies, there are calendar anomalies which affect the stock market operations:

3.9.1 The January Effect:

Stocks in general and smaller stocks in particular have historically generated abnormally high returns during the month of January. According to **Robert Haugen and Philippe Jorion,** *"the January effect is, perhaps the best-known example of anomalous behavior in security markets throughout the world."* The intriguing fact about January effect is that it has continued for nearly two decades, as theoretically an anomaly should disappear as traders attempt to take advantage of it in advance. It is also argued that some other anomalies also occur in January. This may be due to the rebounding of the small stocks following year-end tax selling. Studies have revealed that there may be other reasons also for such effect other than just the tax effects.

3.9.2 Turn of the Month Effect:

Stock consistently shows higher returns on the last day and first four days of the month. Frank Russell Company examined returns of the S&P 500 over a 65 year period and found that U.S. large-cap stocks consistently show higher returns at the turn of the month

Chris R. Hensel and William T. Ziemba found that returns for the turn of the month were significantly above average from 1928 through 1993 and "that the total return from the S&P 500 over this sixty-five-year period was received mostly during the turn of the month." The study implies that investors making regular purchases may benefit by scheduling to make those purchases prior to the turn of the month.

3.9.3 Monday Effect:

Monday tends to be the worst day to invest in stocks. **Lawrence Harris** has studied intraday trading and found that the weekend effect tends to occur in the first 45 minutes of trading as prices fall, but on all other days prices rise during the first 45 minutes. This anomaly might be the result of the moods of the people before and after the weekend holidays. Investors should however, keep in mind that the difference is small and virtually impossible to take advantage of because of trading costs.

3.10 Other Anomalies:

In addition to calendar anomalies there are certain other issues which affect the stock market operations like the size effect, announcement based effect, IPOs, Seasoned equity offerings, Stock buybacks, insider transactions and the S & Pgame.

3.10.1 Size Effect: Some studies have shown that the small stocks representing capitalization or assets have tendency to outperform the market on the impact of trading costs and liquidity on the analysis of small-cap performance, **Marc R. Reinganum**

commented that "Several academic papers have been written on this topic, .. some have negated the fact that a small-cap effect exists. Others support the notion that, even taking the transaction costs into account, small caps carry some premium. The answer depends on how the studies are structured

3.10.2 Announcement based Effects: Stock prices have a tendency to persist after the initial announcements. Stocks with positive surprises tend to drift upward and those with negative surprises tend to drift downward. It is surprising to note that the price reactions that took three to four weeks in the 80's have occurred over only two days in the more recent period thanks to the internet and other technological development for the dissemination of information at a faster speed.

3.10.3 IPOs' Seasoned Equity Offerings and Stock Buybacks: Several studies have indicated that IPOs under-perform the market and there is also evidence to prove that secondary offerings also under perform. Stock repurchases on the other hand had opposite effects and studies have shown that firms announcing stock repurchases out perform in the following years.

3.10.4 Insider Transactions: The managers and executives of the companies including the directors tend to have inside information regarding the value their companies' stock and their decision to whether to issue or buyback their stock may signal over or under valuation. "*There have been numerous studies which conclude that insider buying by more than one insider is considered by many to be a signal that the insiders believe the stock is significantly undervalued and their belief that the stock will outperform accordingly in the future. However, many researchers question whether the gains are significant and whether they will occur in the future."* **(Investor Home)**

3.10.5 The S&P Game: This involves buying stocks that will be added to the S&P 500 index. The transactions will be effected after the announcement but before the stock is added to the list. Studies have proved that stocks rise immediately after being added to S&P 500.

Chapter 4

Findings and Analysis

This part of the dissertation presents the findings and analysis of the various information gathered from the available literature and incorporated under Chapter 3 of this study paper.

4.1 Findings:

From the review of the available literature on the stock market operations, efficient market hypothesis and the stock market anomalies the following points emerge as findings from this study.

- In a perfectly efficient market which includes many well-informed and intelligent investors securities will be appropriately priced and reflect all available information.
- Similarly if a market is really efficient no information or analysis can be expected to out perform the market.
- The efficient market hypothesis takes three forms namely weak, semi-strong and strong based on the availability of past and present information on prices and other issues concerning the prices of stocks being dealt with in the stock market.
- Technical Anomalies offer some help to the analysts to predict the stock price movements more or less approximately. However the transaction costs may hamper any advantage of such technical analysis.
- There are several stock market anomalies based on factors internal to the company as well as external which have a tendency to create stock market vibrations resulting in positive or negative movements of stock prices.
- The stock market anomalies although short lived operate against the efficient market hypothesis and try to find patterns or systems that can be used to out perform passive and/or buy and hold strategies on the stock price movements.

- The paradox of efficient market is that if every investor believes that the market is efficient and would react on its own on the stock prices, no analysis of the prices would be made by the investors before risking their money. In fact stock markets operate on the strength of the participants who do not believe the market is efficient and they can manipulate the prices by their actions.
- While the advocates for efficient market hypothesis believe that it is not possible to beat the market by the actions of the individuals or firms some people believe that stocks can be divided into categories based in risk factors and corresponding higher and lower expected returns.

4.2 Analysis:

Form the findings of the study it emerges that:

- The stock markets are neither perfectly efficient nor completely inefficient. It appears from the results of the various studies that the markets are efficient to a certain extent in reacting to the information.
- It may happen that in markets with substantial impairments of efficiency more knowledgeable investor will take an upper hand and try to out perform those investors who do not have enough knowledge or information on the stocks.
- In an efficient market the primary responsibility for the investment managers will be not to try to beat the market with the available information; but to decide on optimal portfolios taking into account the factors like age, tax bracket, risk aversion and employment. Hence there will be no opportunity for the investment managers to analyse the underlying information which may affect the stock market and make their investment decisions. This is so because they are given a set of values and

attributes to consider the investments rather than the efficiency factors of the stock market.

- It may be argued that due to inefficiency of the market some out performance of the market can be exhibited by one or more participants. However with this it is not possible to generalize the situation. The performance of such participants has to be analysed on the basis of the ratio of such out performances to the number of participants. This may not really be possible due to the complexities involved in such a process. Hence it boils down to it that such out performances can only be attributed to luck rather than the skill of the participants concerned.
- It may also happen that strong performers in a certain period may turn out to be under performers in the subsequent periods. This point strongly supports the efficient market hypothesis theory as it has been found that there is little or no correlation between strong performers from one period to another.
- While deciding on the categories of the stock on the basis of the risk factors, some believe that 'value' stocks are riskier than 'growth' stocks and therefore are entitled to claim higher expected returns.

Chapter 5

Conclusion and Recommendations

The final part of this dissertation makes the concluding remarks on the basis of the findings from and analysis of the detailed review of the literature on the stock market efficiency and the effect of stock market anomalies on the stock market operations.

5.1 Conclusion:

Since the year 1960 the efficient market hypothesis founded by Eugene Fama has been dominating the financial theory, which states that stock prices fully reflect the most complete and best information available has posted an obstacle for active investors to find ways to beat the market. It has all along been emphasized that if the market is efficient the investors have to play with a simple rule that they cannot beat the index of stock prices. However in contrast to the theory of efficient market hypothesis a behavioural finance theory has recently been evolved which challenges the foundation of the efficient market hypothesis.

This dissertation however advocates that *if markets are efficient and current prices fully reflect all information, then buying and selling of securities in an attempt to outperform the market will effectively be a game of chance rather than skill.*

This is so because of the fact that the stock market is neither perfectly efficient nor completely inefficient. All markets are efficient to a certain extent some more so than others. This phenomenon supports the theory being put forth by the dissertation that any trading activity in the stock market can not be predetermined to react in a certain way simply because either the market is efficient and adjusts itself for the prices in the basis of information or it is inefficient and can be maneuvered according to the skill of the people dealing..

Stock Market Anomalies do play an important role in enabling the players to beat the market by exploiting the various anomalies to the maximum extent. However the investors should consider the possible effects of the transaction costs while trying to exploit the anomalies of the market. Hence the anomalies also have a limitation in their operation on the stock market efficiency.

Hence it can be concluded that the stock market behaves in its own way and any prediction on the future course of the movement of the market will prove only to be a failure. Hence buying and selling of securities in an attempt to outperform the market will effectively be a game of chance rather than skill as such acts can never alter the course of the market trends.

5.2 Recommendations:

Based on the study conducted under this dissertation the following general recommendations can be made for the benefit of the investors.

- Any investment decision should be based on an intelligent analysis of the past and historical data about the relative stock prices and a study of the performance of the company over a period in respect of its profitability and intrinsic value addition, dividend yield and other usual key financial indicators. It will be suicidal to depend only on the historical price movements of the stocks.
- The investors should try to take advantage of the stock market anomalies to the maximum possible extent but of course subject to an analysis of the effect of hidden and transaction costs on the investments.
- While making investment decisions the value and growth aspects of investing need to be taken into account by the investment managers to ensure that the investments

represent the optimal ones in the available securities. This reflects on the efficiency of the investment manager in discharging his responsibilities.

- The investment manager should as far as possible avoid acting on the insider information since this practice sometimes may result in a negative way and would also result in huge monetary losses. If at all some decision is taken for making such investments adequate care should be taken to verify the veracity of the inside information.
- More than anything else the investors should be able to get and assess the market information in advance and be proactive according to the information gathered than reacting after the information is made public and has since affected the stock market.

References:

1. Chris R. Hensel and William T. Ziemba (1996)"***Investment Results from Exploiting Turn-of-the-Month Effects,***" Journal of Portfolio Management, Spring 1996.

2. Elearn – NetTel ***Financial Analysis Revised: Session 1: Market Efficiency***
[Online] Available From:
http://cbdd.wsu.edu/kewlcontent/cdoutput/TR505r/page4.htm

3. Eugene Fama and Kenneth R. French (1992)***"The Cross-section of Expected Stock Returns,"*** The Journal of Finance, June 1992.

4. Eugene F. Fama (1995) ***"Random Walks in Stock Market Prices,"*** Financial Analysts Journal, September/October 1965 (reprinted January-February 1995).

5. Ghauri, P., Gronhaug K and Kristianslund I., (1995) ***"Research methods in business studies – a practical guide"*** Hempstead, Prentice Hall

6. Investor Home ***Historical Stock Market Anomolies***
http://www.investorhome.com/anomaly.htm

7. James P. O'Shaughnessy (1998) ***What Works on Wall Street: A Guide to the Best-Performing Investment Strategies of All Time*** Edition II McGraw Hills

8. Lawrence Harris (1986) ***"A Transaction Data Study of Weekly and Intradaily Patterns in Stock Returns,"*** *Journal of Financial Economics, June 1986.*

9. Marc R. Reinganum (1997) ***"The Size Effect: Evidence and Potential Explanations,"*** Investing in Small-Cap and Microcap Securities, Association for Investment Management and Research, 1997.

10. Mishkin, Frederic.(1997) ***The Economics of Money, Banking, and Financial Markets*.** New York, NY: Addison-Wesley, 1997.

11. Professor Josef Lakonishok, Robert W. Vishny, and Andrei Shleifer,(1993) **"*Contrarian Investment, Extrapolation and Risk*,"** Working Paper No. 4360, National Bureau of Economic Research, May 1993. See also in *The Journal of Finance*, December 1994.

12. Ray Ball (1995)***"The Theory of Stock Market Efficiency: Accomplishments and Limitations."*** Journal of Corporate Finance (May 1995).

13. Robert Haugen and Philippe Jorion, (1996)"***The January Effect: Still There after All These Years***," Financial Analysts Journal, January-February 1996.

14. Robert C. Higgins (1992) ***Analysis for Financial Management*** 3rd edition 1992 McGraw Hill

15. Saunders, M., Lewis, P. and Thornhill, A. (2003) “Research Methods for business students” 3rd ed., Harlow, Essex, FT Prentice Hall

16. Werner F.M. DeBondtand Richard Thaler (1985)***"Does the Stock Market Overreact?***" The Journal of Finance, July 1985.