

**THE EFFECT OF DIVIDEND ANNOUNCEMENTS ON STOCK RETURNS OF  
COMPANIES QUOTED ON THE NAIROBI SECURITIES EXCHANGE**

**PRESENTED BY**

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## DECLARATION

I, the undersigned declare that this research project is my original work and has not been presented in any other University.

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## **DEDICATION**

This project is dedicated to my parents for their continued support in more ways than one and my brothers who have been a source of encouragement and aspiration.

## TABLE OF CONTENTS

<b>DECLARATION.....</b>	<b>ii</b>
<b>ACKNOWLEDGEMENTS .....</b>	<b>iii</b>
<b>DEDICATION.....</b>	<b>iv</b>
<b>LIST OF TABLES .....</b>	<b>viii</b>
<b>LIST OF FIGURES .....</b>	<b>ix</b>
<b>LIST OF ABBREVIATIONS .....</b>	<b>x</b>
<b>ABSTRACT.....</b>	<b>xi</b>
<b>CHAPTER ONE: INTRODUCTION.....</b>	<b>1</b>
1.1 Background of the Study .....	1
1.1.1 Dividend Announcements.....	2
1.1.2 Stock Returns .....	4
1.1.3 Dividend Announcement and Stock Returns.....	5
1.1.4 Nairobi Securities Exchange .....	6
1.2 Research Problem.....	8
1.3 Research Objective .....	12
1.4 Value of the Study.....	12
<b>CHAPTER TWO: LITERATURE REVIEW.....</b>	<b>13</b>
2.1 Introduction.....	13
2.2 Theoretical Framework.....	13
2.2.1 The Information Content of Dividends Hypothesis.....	13
2.2.2 Efficient Market Hypothesis .....	15
2.2.3 Random Walk Theory.....	16

2.3 Determinants of stock returns .....	17
2.3.1 Earnings .....	17
2.3.2 Dividends .....	18
2.3.3 Size of the firm.....	18
2.3.4 Dividend Announcements.....	19
2.4 Empirical Review.....	19
2.4.1 International Studies .....	19
2.4.2 Local Studies.....	23
2.5 Summary of Literature Review.....	27
<b>CHAPTER THREE: RESEARCH METHODOLOGY .....</b>	<b>30</b>
3.1 Introduction.....	30
3.2 Research Design.....	30
3.3 Population .....	30
3.4 Sample and Sampling Design. ....	30
3.5 Data Collection Methods .....	31
3.6 Data Analysis Techniques.....	31
<b>CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION .....</b>	<b>35</b>
4.1 Introduction.....	35
4.2 Abnormal Returns .....	35
4.3 Descriptive Statistics.....	36
4.4 Average Abnormal Returns and Cumulative Average Abnormal Returns.....	38
4.4.1 Average Abnormal Returns and Cumulative Average Abnormal Returns 201238	
4.4.1.1 Test of significance for year 2012 .....	39
4.4.2 Average Abnormal Returns and Cumulative Average Abnormal Returns 201340	

4.4.2.1 Test of significance .....	41
4.4.3 Average Abnormal Returns and Cumulative Average Abnormal Returns 2014	
4.4.3.1 Test of significance .....	43
4.4.4 Average Abnormal Returns and Cumulative Average Abnormal Returns 2012-	
2014.....	43
4.4.4.1 Test of Significance .....	45
4.5 Discussion of Findings.....	46
<b>CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS ..</b>	<b>47</b>
5.1 Introduction.....	47
5.2 Summary of the Findings.....	47
5.3 Conclusion and Recommendations.....	49
5.4 Limitations .....	50
5.5 Suggestions for Further Research. ....	51
<b>REFERENCES.....</b>	<b>52</b>
<b>APPENDICES .....</b>	<b>57</b>
Appendix I: Average Abnormal Returns and Cumulative Average Abnormal Returns Total for 2012 .....	57
Appendix II: Average Abnormal Returns and Cumulative Average Abnormal Returns Total for 2013 .....	58
Appendix III: Average Abnormal Returns And Cumulative Average Abnormal Returns Total for 2014.....	59
Appendix IV: Average Abnormal Returns and Cumulative Average Abnormal Returns Total for Period 2012-2014. ....	60

## **LIST OF TABLES**

Table 4.1 Descriptive statistics .....	37
Table 4.2 2012 AAR and CAAR test of significance .....	39
Table 4.3 2013 AAR and CAAR test of significance.....	41
Table 4.4 2014 AAR and CAAR test of significance.....	42
Table 4.5 2012-2014 AAR and CAAR test of significance.....	43



## LIST OF FIGURES

Figure 4.1 2012 AAR and CAAR Chart.....	38
Figure 4.2 2013 AAR and CAAR Chart.....	40
Figure 4.3 2014 AAR and CAAR Chart.....	42
Figure 4.4 2012 AAR and CAAR Chart.....	44

## LIST OF ABBREVIATIONS

<b>AAR</b>	Average Abnormal Returns.
<b>AR</b>	Abnormal Returns.
<b>CAAR</b>	Cumulative Average Abnormal Returns.
<b>CAR</b>	Cumulative Abnormal Returns.
<b>CER</b>	Cumulative Excess Returns.
<b>EMH</b>	Efficient Market Hypothesis.
<b>MAAR</b>	Market Adjusted Abnormal Returns.
<b>MM</b>	Modigliani and Miller.
<b>NASDAQ</b>	National Association of Securities Dealers Automated Quotations
<b>NSE</b>	Nairobi Securities Exchange.
<b>NYSE</b>	New York Stock Exchange
<b>P/B</b>	Price to Book Value.
<b>P/E</b>	Price to Earnings.

## **ABSTRACT**

In an efficient market of the semi strong form stock prices of firms reflect all publicly available information. This implies that investors will not gain abnormal returns from the market. This further implies that dividend announcements will have no effect on stock returns in a semi strong form efficient market. There are varied results on the studies done on the effect of dividend announcement and stock returns at the Nairobi Securities Exchange. The objective of this study was to determine the effect of dividend announcement on stock returns of firms quoted at the Nairobi Securities Exchange. The study employed the event study methodology. An 11 day event window was used, 5 days before the announcement, 5 days after the announcement and the event day being day 0. Out of a population of 61 companies quoted at the NSE a sample of 15 companies were selected that constantly announced dividends on a yearly basis. The study period was 2012- 2014. Data was collected from the NSE listing services. Abnormal returns were first determined by using the market model whereby daily stock returns was regressed with the corresponding market return on the estimation period then deducting expected returns from the daily returns. The average abnormal returns and the cumulative average abnormal returns were calculated and graphs plotted for each year and for the whole study period. Data was analyzed using MS Excel and SPSS. The significance of the AAR and CAAR for each years 2012, 2013 and 2014 was tested. Then the significance for the AAR and CAAR for the whole period 2012-2014 was also tested. The empirical results showed varied results with the overall results suggesting that there is an effect of dividend announcements on stock returns at the NSE hence implying that the NSE market is not of the semi-strong form efficient.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Generally, higher dividend increases the market value of the share and vice versa. Shareholders prefer current dividend to future income so, dividend is considered as an important factor which determines the shareholders' wealth. Dividend has information content and the payment of dividend indicates that the company has a good earning capacity (Azhagaiah and Priya, 2008). Hence management should consider the effects of paying dividends with regard to shareholders wealth and the information signal they are sending by paying dividends. Miller and Modigliani (1961) stated that the value of a firm that pays dividend is the same as that of a firm that does not with underlying assumptions. Hence shareholders wealth is not affected. On the other hand a firm that has a high payout ratio the less volatile its stock price would be (Hussainey, Mgambe and Chijoke-Mgbame, 2010). Hence the more dividends a firm is likely to pay the more the stock returns are likely to be affected. Nishat, Irfan and Ramadan (2013) and Kenyuru, Kundu and Kibiwott (2013) supported that dividend policy affects stock price volatility and on that account have an on effect stock returns.

Announcing dividends might have an effect on shareholders wealth. McLaney (2009) stated that paying any dividend let alone one that showed an increase over the previous year, might well indicate that the directors cannot find sufficient investment opportunities to use all the finance available to them, so they are returning some to shareholders. This would not suggest great confidence in the future on the part of the directors. Managers of most corporations have a tendency to give out good news quickly and to give out bad

news slowly, (Black 1976). Hence managers are quick to announce dividends to be paid. Announcement of dividends results in an effect on stock price hence have an effect on stock returns. Kadioglu (2008) observed that there was an effect on stock price after the announcement of cash dividends. Aamir and Shah (2011) also supported this, that dividend announcements depicts positive impact on share prices of the companies at the time of announcement as well as immediately after such announcements.

Fama (1970) stated in his paper that in semi strong form tests prices were assumed to fully reflect all obviously publicly available information. Therefore this implied that if there was a relationship between dividend announcement and stock returns then the market efficiency was that of a strong form. In an ideal world dividend announcements should not have an effect shareholders value, (Miller and Modigliani, 1961). Odhiambo (2013) supported this theory. He found that there was no significant contribution by dividend announcements to the values of the shares in the market. Mollah (2001) in a similar study found that dividend announcement did not carry new information to the market. Studies have been conducted to find the relationship between dividends, dividend announcements and share price and the results have been inconclusive. Black (1976) stated that the harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don't fit together. In this study, the relationship between dividend announcements and stock returns would be determined.

### **1.1.1 Dividend Announcements**

Kibet, Joel, Cheruiyot, Maru, and Kipsat (2010) defined dividends as distribution of earnings. Hence where a payment of dividends was made there was a corresponding decrease in earnings. Laabs and Bacon (2013) stated that the announcement of a dividend

was up to expectations of shareholders, the market price of the shares would be positively affected. Otherwise if not, the market price of the shares will be negatively affected. They further stated that dividend announcements, whether a surprise or an increase to an already existing dividend, were one of the most common actions firms take in order to attract new investors. These announcements by firms were usually seen as a sign of strength, which suggested that the firm had a substantial amount of excess capital.

Jensen (1976) asserted that corporate managers are the agents of shareholders, this brought about conflict of interest which was known as the agency theory. Dividend announcements has implications of reducing resources under the manager's control hence reduce agency costs. This also meant that the management would have to source the capital markets in raising funds when the firm must obtain more capital hence incurred monitoring costs. Black (1976) expounded that to an investor, dividend announcements implied a return on their investment or a chance to sell their shares at a higher price in future. On the other hand dividends have no implications on shareholders wealth (Modigliani and Miller, 1961). On that account dividend announcements are not that important.

Brealey, Myers, and Allen (2011) stated that a company's dividend is set by the board of directors. The announcement of the dividend states that the payment will be made to all stockholders who are registered on a particular record date. Then a week or so later dividend checks are mailed to stockholders. Stocks are normally bought or sold with dividend (or cum dividend) until two business days before the record date, and then they trade ex-dividend. If stock is bought on the ex-dividend date, the purchase will not be entered on the company's books before the record date and the purchaser will not be

entitled to the dividend. Mukora (2014) stated that a company will pay an interim dividend and a final dividend. An interim dividend is a dividend payment that is announced during the company's half year announcement of the profit while a final dividend is announced during the full year announcement of the profit.

### **1.1.2 Stock Returns**

Ross (2011) stated that if an investment is made the gain or loss from that investment is the return on that investment. A return has two components, first is cash received directly from the investment. This is the income component of the return. Second is that the value of the asset will change. This implied a capital loss or gain on that investment. Dividends is a cash flow from stock. They were expressed as a percentage of the beginning stock price results. That is the dividends paid divided by the price of stock. This was known as the dividend yield. The second component was known as the capital gains yield and was given by the difference between the current stocks and previous stock prices all divided by the previous stock price.

Morck, Yeung, and Yu (1999) stated that stock pricing is more based on firm-specific information, hence stock price movements is less correlated with the market. This was essentially true in advanced manager tend sophisticated accounting standards. Stock price movements in emerging economies were mainly due to either politically driven shifts in property rights or noise trading, numb invisible hands in their stock markets may allocate capital poorly, thereby retarding economic growth. The function of an efficient stock market was to process information, and thereby guided capital towards its best economic use.

Stock returns can be of good use to resolve agency problem. Hubbard and Paulia (1995) found out that when a manager's stake in a firm increases the interests of the manager tends to be more aligned with the shareholders' interests. A favorable stock return meant more wealth for investors. Modigliani and Miller (1961) described rational behavior as investor always preferring more wealth to less and are indifferent as to whether a given increment to their wealth takes the form of cash payments or an increase in the market value of their holdings of shares. Kalay (1980) theorized that managers are reluctant to cut dividends since doing that may send a signal that may affect stock prices negatively which implied negative stock returns. Therefore managers ensured a steady stock return. Hence stock returns were important to investors as an indicator of how well a firm was performing. This was emphasized by Jensen (1986) who stated that managers with substantial free cash flow could increase dividends which would have otherwise been invested in low-return projects or wasted. Investing in low return projects would lead to a fall in stock price hence negative stock returns.

### **1.1.3 Dividend Announcement and Stock Returns**

Modigliani and Miller (1961) asserted that the current value of a firm is independent of its dividend decision. The price of a stock fell by the almost the magnitude as that of the dividend .As the dividend increased the less the investor received in capital appreciation. This implied that dividend announcements would have no effect on stock returns. Gordon (1959) stated that investors are interested in the cash flow of dividends and not the value of the share. The higher the dividends paid the higher the value of a share. Hence dividend announcement would have an effect on stock returns. Litzenberger and Ramaswamy (1982) based on the assumption that dividends are taxed higher than capital



gains, found that there was a low cost of capital when the dividend payout ratio was low which led to an increase in stock value.

A number of studies have been conducted to establish if there was an effect of dividend announcement on stock returns. Hamid (2003) found that investors seemed to gain no value from the dividend announcements. He also found that investors lost more value in the ex-dividend period than the value gained in the pre-dividend period. Mollah (2001) found that announcement of dividends do not carry any new information to the market. However, his results also strongly rejected the signaling theory of dividend. Thus they supported Modigliani and Miller (1961) that dividends do not affect the value of a firm. On that account dividend announcements had no effect on stock returns. Laabs and Bacon (2013) analyzed and observed that the announcements of increased dividends had a significant positive impact on the firm's share price. Vazakidis and Athianos (2010) observed that the market reacted positively during the period before the dividend announcements, while throughout the first days of the post announcement period. Aamir and Shah (2011) observed that dividend distribution was relevant for future price determination.

#### **1.1.4 Nairobi Securities Exchange**

Dealing in shares and stocks started in the 1920's when the country was still a British colony. However there was no formal market. In 1953 Nairobi Stock Exchange was set up as an overseas stock exchange. In 2006 live trading on the automated trading systems of the Nairobi Stock Exchange was implemented. The NSE 20-share index has been in use since 1964 and measures the performance of 20 blue-chip companies with strong fundamentals and which have consistently returned positive financial results. A Wide

Area Network (WAN) platform was implemented in 2007 eradicating the need for brokers to send their staff (dealers) to the trading floor to conduct business. In 2008, the NSE All Share Index (NASI) was introduced as an alternative index. Its measure was an overall indicator of market performance. In 2011, the Nairobi Stock Exchange Limited, changed its name to the Nairobi Securities Exchange Limited. In the same year it commenced the Broker Back Office operations which is a system that has the capability to facilitate internet trading which improved the integrity of the Exchange trading systems and facilitated greater access to the securities market

As per the NSE listing manual approved by the Capital Markets Authority, announcements of dividends and/or interest payments on issued securities should be notified to the securities exchange, the Authority and the holders of the relevant security within twenty four hours following the Board's resolution in the case of an interim dividend or recommendation in the case of a final dividend, by means of a press announcement. The resolution should be at least twenty one days prior to the closing date of the register and should contain, the closing date for determination of entitlements, the date on which the dividend or interest would be paid and the cash amount that would be paid for the dividend or interest. Where the shareholders at the annual general meeting did not approve a dividend recommended by the Board, the Board announced this fact by means of a notice within twenty four hours following the annual general meeting. Dividends declared by an issuer was to be paid out within ninety days of the date of the books closure in case of interim dividends, and ninety days of approval of the shareholders in the case of the final dividend. Notification of non-declaration of

dividends should be published either in the interim or quarterly report, the annual financial statements or by way of a press announcement.

Studies at the NSE indicate a semi strong form market efficiency though it was still inconclusive. Mukora (2014) supported that the NSE was of semi strong form efficiency. This meant that current stock prices incorporated material public information and changes in stock prices was as a result of unexpected public information. Ochuodho (2013) and Mohamed (2010) supported this. Hence investors won't do any better at the NSE unless they had information which was not publicly available. This also implied that for companies listed at the NSE would not earn abnormal returns. Investors at the NSE were not capable of consistently outperforming the market if they continued to use information contained in past stock prices (Muragu, 1990). He further suggested that for investors to have succeeded in obtaining favorable stock returns then would have to select a well-diversified portfolio. On the contrary, other studies (Odhiambo, 2013; Kihara, 2011; Kiio, 2006) revealed that the NSE was not of semi strong efficiency. For that reason investors could not use information to value stock price thus consequently could not be able to value stock returns.

## **1.2 Research Problem**

In the semi-strong form of market efficiency, stock prices incorporate all expected future dividends (cash and stock) hence, their public announcement should not result in abnormal earnings for any investor because such dividends are fully accounted for in current stock prices. This implies that stock returns prior to the announcement date and after the announcement date should not exhibit abnormality. Therefore, both abnormal mean returns and cumulative abnormal mean returns in the event window should be

statistically not different from zero. Also the semi strong form suggested that stock prices rapidly adjusted to any unexpected material information, (Akbar and Baig, 2010). Therefore, an investment strategy based on public information could not result in above average returns. Andres, Betzer, Bongard, Haesner and Theissen (2009) stated that, the announcement of dividend increases should have a positive effect on stock prices in firms whereas the announcement of dividend decreases will have a negative reaction. This was known as the dividend announcement effect.

Gupta, Bedi, and Lakra (2014) revealed that peoples investing failures are a natural consequence of the special traits of human behavior. Investors are human beings and that emotions, biases, and illusions could not be rationalized; in addition, they emphasized that information is inefficient. Hence stock prices were not random; they were rather unpredictable as people's reaction to new information was unpredictable, as well. In addition to that investors could not be cut off from their own investing past as they were human beings and, for human beings, past actions were a vital part of one's own history. Hence investors were expected to use past prices and fundamental values of previous years to guide their decision making. Contrary to this, information played an important role in setting the prices of shares (Watts, 1973). Since information was different on a daily basis, the present share price could not be the same as that of the previous day. Therefore there would be a flaw to investors' decisions if they used past prices.

Information at the NSE could be negative but the effect on share prices be varied. This was according to Cheruiyot (2006) who stated that rights issues at the NSE had information content. Therefore firm managers had to be cautious when they delivered information regarding rights issues. They had to ensure that investors received right and

easily understood messages to avoid misinterpretation that might negatively affect security prices at the NSE. This was supported by Njoroge (2003) who observed that rights issue announcement had a significant impact on issue of a security. At the NSE stock splits sent a signal to the market according to Nkonge (2010) findings. The market interpreted a stock split as good information as returns were observed to increase significantly around the time of stock split announcement. On the other hand there were instances where there was information inefficiency such as what was observed by Oyuga (2014). Prices at the NSE did adjust after a dividend announcement, and that the announcement sent a signal though due to the inefficiency investors were able to take advantage and obtain an abnormal return. Information at the NSE listed firms could adjust security prices and investors could use this to benefit from it according to Odumbe (2010). Hence it was not conclusive whether the NSE was efficient or inefficient.

In a semi strong form market efficiency, stock prices reflected all publicly available information (Fama, 1976). Hence an adjustment to stock price would follow when a dividend announcement was made. Furthermore investors would not be able to obtain abnormal returns. Vazakidis and Athianos (2010) examined the reaction of the Stock Exchange (ASE) to dividend announcements. They observed that the market reacted positively during the period before the dividend announcements, while throughout the first days of the post announcement period strong negative abnormal returns were observed. They further stated that the abnormal returns on the event day are insignificant which implied that the stock market was efficient. Olatundun (2009) investigated the Nigerian stock market on whether it reacted efficiently to dividend announcements in terms of price adjustments and found out that the market was not semi-strong efficient

and that share prices absorbed information of dividend announcements. These studies were done in a different context from that of the NSE. Odhiambo (2013) studied the influence of dividends and earnings announcement on shareholders' value of companies listed at the NSE and observed that there was no significant effect of the announcements on share prices. His study was limited to companies that comprise of the NSE 20 share index and he used data between 2008- 2011 which may not reflect the current market. According to Waithaka (2014) the NSE all share index reflects stock prices for the entire stock market. In that account it implies that the NSE 20 share index may not reflect all the stock price changes of the entire market. Ochuodho (2013) in his study to find the effect of dividend announcements on the market value of shares in the agricultural companies listed at the NSE found out that share prices absorb information hence the NSE was efficient. Mukora (2014) studied firms at the NSE to find the effects of dividend announcements on their stock returns. She concluded that dividend announcement had a positive effect on stock returns for firms listed at the Nairobi Securities Exchange. They both focused on companies in one sector which may not reflect the whole market. Using the most current data the study sought to fill the gaps by answering the research the question; what were the effects of dividend announcements on daily stock returns for quoted companies at the NSE? The study will also sought to answer the question: How efficient is the Nairobi Securities Exchange market?

### **1.3 Research Objective**

The objectives of the study were

- (i.) To determine the effect of dividend announcements on stock returns of firms listed at the NSE.
- (ii.) To determine the efficiency of the Nairobi Securities Exchange market.

### **1.4 Value of the Study**

This study will enable academicians and scholars to further their studies by adding adequate information on dividend announcements and their effect on stock returns. The research will also establish the relevance of dividend announcements on stock returns. It will also provide a useful basis upon which further studies on variables that affect stock returns will be conducted.

This study will help investors understand the relevance of information at the NSE. Whether dividend announcements affect stock returns will enable them make decisions on the actions when to make investments, or when to pull out or if they should be indifferent.

The study will also assist managers of companies quoted at the NSE examine the impact of decision making and hence will help in formulating corporate policy decisions especially those that focus on short term horizons since event studies focus on announcement for a short time around the event period.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter summarizes the information from other researchers that have carried out their research in the same field of study. It consists of several theories that have been used to explain dividend announcements and their effect on stock returns. This chapter also consists of empirical studies on dividend announcement and other related events and their effect on stock returns.

#### **2.2 Theoretical Framework**

Investors pay attention to dividends because they receive a return on their investment or they get a chance to sell their shares at a higher price in the future. Corporations pay dividends to reward shareholders. A corporation that pays no dividend is demonstrating confidence that it has attractive investment opportunities that might be missed if it paid dividends (Black, 1976).

##### **2.2.1 The Information Content of Dividends Hypothesis**

Watts (1973) defined information content of dividends as the hypothesis which stated that dividends conveyed information about future earnings – information that enabled market participants to predict future earnings more accurately. Modigliani and Miller (1961) in their discussion of dividend policy under uncertainty stated that dividends have no effect on the value of the firm. Yet in the real world a change in the rate of dividend was often followed by a change in the market price. This implied that whenever there was a dividend change a corresponding change in stock returns would follow. They elaborated



that in a case where a firm has been paying a 'satisfactory' payout ratio, a change of dividend rate was interpreted as a change in management's views of future profit prospects for the firm. The dividend change, caused the price change though not its cause, since the price was still an indicator of future earnings and growth opportunities. They further note that investors might well be mistaken in placing this interpretation on the dividend change, since the management might really only be changing its payout target or possibly even attempting to "manipulate" the price. Kadioglu (2008), stated that the managers of a firm have private information about future prospects of the firm and this leads to asymmetric information between managers and shareholders. Therefore, the dividend was used to reduce the level of the asymmetric information.

Kalay (1980) used Ross's signaling model to the dividend decision to show that managerial reluctance to cut dividends was a necessary condition for them to convey information. He tried to assert whether dividend changes have the potential to convey information. Bulan (2010) argued that managers will cut their dividend only when there are visible signs of poor performance. Hence if there were signs of poor performance management expectations was that the value of the firm would go down. Unexpected dividend announcements that express an increase in dividends signaled a healthy financial position of a firm. Which meant that it would have a positive cash flow in the long time. In turn this affected the stock price positively. On the other hand an unexpected announcement that leads to a dividend cut indicates that the firm was going to experience poor performance in future. This was a negative signal that would lead to a fall in the firm's stock price.

Jensen (1986) defined free cash flow as cash flow in excess of that required to fund all projects that have positive net present values when discounted at the relevant cost of capital. He went on to state that managers with substantial free cash flow could increase dividends or repurchase stock and thereby pay out current cash that would otherwise be invested in low-return projects or wasted. The implication of this was that managers had control over the use of future free cash flows, but they could promise to pay out future cash flows by announcing a "permanent" increase in the dividend. The way the world runs was that such promises were weak because dividends could be reduced in the future. A fall in dividend payments would lead to stock price deduction.

### **2.2.2 Efficient Market Hypothesis**

The theory of efficient market hypothesis was concerned with whether prices at any point in time fully reflected the available information. It was based on the assumption that the conditions of the market equilibrium could be stated in terms of expected returns. The empirical work was divided into three: Strong form tests were concerned with whether individual investors or groups have monopolistic access to any information relevant for price formation. This was an extreme model best viewed as a standard against which the importance of deviations from market efficiency could be judged. In the semi strong form, the information subset of interest includes all obviously public available information, while in the weak form the information subset was just historical price or return sequences (Fama, 1970). In the weak form prices reflected the information contained in the record of past prices. Thus it was difficult to make superior profits by studying past returns. The semi strong efficiency reflects past prices and all other public information. In this form prices would adjust whenever there was a public announcement

such as a dividend or earnings announcement. In the strong form efficiency prices reflected all the information that could be acquired by analyzing a firm and the economy.

### **2.2.3 Random Walk Theory**

Malkiel (1999) defined a random walk as one in which future steps or directions cannot be predicted on the basis of past actions. When the term was applied to the stock market, it meant that short-run changes in stock prices could not be predicted. Kendal (1953) in his analysis of economic time series found out that stock prices were independent of each other and that they were random hence supported this theory. His findings supported the efficient market hypothesis. Though it's important to note that the random walk theory and efficient market hypothesis are not the same. Malkiel (2003) stated that if there was a free flow of information and that if information was immediately reflected in stock prices, then tomorrow's price change will reflect only tomorrow's news and would be independent of the price changes today. Though news were uncertain hence resulting price changes were unpredictable and random. Fama (1965) corroborated this and stated that successive price changes were independent, identically distributed random variables. Hence the past prices could not be used to predict future prices. He continued to state that the theory of random walks in stock prices had two separate hypotheses. The first being successive price changes were independent. This implied that the sequence of price changes in a time period was unique for that period. Secondly, the changes conformed to some probability distribution. Dupernex (2007) supported the random theory and stated that since prices are random, past prices cannot be used to predict future prices. If prices can be predicted then the random walk theory would not hold.

## **2.3 Determinants of stock returns**

A number of studies (Anlin & Eva, 2002; Artmann, Finter & Kempf, 2011; Corradi Distaso & Mele, 2008; Tarazi & Gallato, 2012) have been conducted to establish the determinants of stock returns. The results were varied and that there was no conclusion as to which were the specific factors that affect stock returns. Variance occurred due to the analyses being done in different markets. Furthermore there were various models (Fama-French 3-factor model, The Carhart 4-factor model, State Variable Model, The factor-based model) that were used for determining stock returns hence the varied results. Below are the basic factors that influenced stock returns.

### **2.3.1 Earnings**

Gordon (1959) hypothesized that earnings had an influence on stock price. Though his findings were that dividends had more influence. Seetharaman and Raj (2011) found a strong positive correlation between earnings per share on stock prices. Though there was also a significant impact of earnings announcements on stock prices. Sare, Akuoko and Esumanba (2013) observed earnings announcements carried weight when it came to investors making decision on share prices. It was observed that any time earnings increment announcement hits the market; investors reacted accordingly pushing the stock price either upward or downward after the declaration day according to the type of announcement. Mohamed (2010) found that announcement of earnings payments could carry information to the market and that stock prices may be adjusted accordingly hence affecting stock returns.

### **2.3.2 Dividends**

A higher current dividend reduced uncertainty about future cash flows hence a high payout ratio would reduce the cost of capital thus would lead to an increase in stock value (Gordon, 1959). This had implications on stock returns. Habib, Kiani and Khan (2012) viewed that the dividend yield and share prices positively relate but payout ratio was negatively related. Dividend policy had an effect on share price volatility and that dividend signaling effect was also relevant in determining the share price volatility which affected stock returns. Munyua (2014) found a strong positive relationship between dividend per share and the share prices and that share prices were affected by the dividends per share paid out. Milhem and Altroudi (2013) results indicated that there was a positive and significant relationship between the cash dividends and the stock prices, which implied that the cash dividends per share might lead to increase the closing price of the firm's stock hence a corresponding adjust of stock returns.

### **2.3.3 Size of the firm**

Shwert (1983) stated that the 'size effect' as an anomaly that affected stock returns. Kazemi & Kazemikhasragh (2012) found out that firm size had a positive significant relationship with stock returns. Banz (1981) found that smaller firms had higher risk adjusted returns, on average, than larger firms. Though the relationship was not linear. According to Chaibi, Alioui and Xiao (2014) small firms generally generated greater returns than large firms. Their studies supported this. Also firm size in the Pakistani stock market had an effect on stock returns, (Tahir, Sabir, Punjab, and Ismail, 2013). This is also supported by Fama and French (1992).

### **2.3.4 Dividend Announcements**

Muriuki (2010) study revealed that announcement of a dividend by a firm had a short term influence on share prices. In a semi strong form market efficiency, stock prices reflected all publicly available information (Fama, 1976). This would lead to an adjustment to stock price when a dividend announcement was made. Vazakidis and Athianos (2010) observed a positive market reaction during the period before the dividend announcements, while negative abnormal returns were observed in the first days of post announcement period. Mukora (2014) found a positive effect of dividend announcement on stock returns for firms listed at the Nairobi Securities Exchange. Andres et al. (2009) showed that stock market returns were affected by unexpected dividend changes. According to Gurgul and Majdosz (2005), dividend announcements do affected stock returns in the Polish stock market.

## **2.4 Empirical Review**

Research on dividend announcements to date have varied results. There are a number of studies done both from different markets and locally and from different periods hence the varied results.

### **2.4.1 International Studies**

Mollah (2001), in a similar study in the Dhaka Stock Exchange, a part of the market data (1988-1991) was collected from the Dhaka Stock Exchange price quotations, published and unpublished records of the Dhaka Stock Exchange, and the Dhaka Stock Exchange computer database. The rest of the market data (1992-1997) was collected from the data channel (DataStream). The sample consisted of 380 cash dividend announcements amongst 213 dividend increasing announcements, 84 dividend decreasing

announcements, and 83 dividend maintaining announcements. His objective was to investigate the security price reaction to the announcement of increasing dividends, decreasing dividends, and maintaining dividends. The study employed event study methodology. *T*-test approach to compare abnormal returns of the event study periods ( $\pm 60$  days,  $\pm 30$  days,  $\pm 20$  days,  $\pm 10$  days). The *T*-test showed that the mean abnormal returns of the observation period and comparison period were not significantly different from zero, i.e., securities did not gain abnormal returns for the announcement of dividends. Therefore, announcement of dividends did not carry any new information to the market. Hence the results strongly reject signaling theory of dividend.

Hamid (2003) looked at 137 companies listed on the Dhaka Stock Exchange (DSE) who announced dividends between October 2001 and September 2002. He used a market adjusted rate of return as his analysis tool. Prior to dividend announcement, Market adjusted abnormal return (MAAR), found significant the days -6, -11, -12 and -20. However the percentage return on those days are less than on day -4. On other days MAARs was insignificant. Hence evidence confirmed that the market reacted a few days before the announcement of dividends was made. During post announcement periods (day 1 to day 30) all MAARS were insignificant except those on day +7, +23, and +28. Overall all MAAR results suggest that the effect of dividend announcement was not strong in Dhaka Stock Exchange. Therefore the Dhaka stock market did not conform to the semi strong form of market efficiency.

Olatundun (2009) used a modified market model to investigate whether the Nigerian stock market reacts efficiently to dividend announcements in terms of price adjustments. Data was obtained from the Lagos Branch of the Nigerian Stock Exchange, the Securities

and Exchange Commission (SEC), and the Central Bank of Nigeria (CBN). The study covered all companies drawn from all sectors of the Nigerian Capital Market quoted on the securities markets that continued to pay (either increases, reductions or no change), initiated or omitted cash or stock dividends between 1991 and 1999. The event time period was in three parts, a 3, 9, 21 and 60 day event window. The study found out that the cumulative excess returns (CERs) for dividend paying firms were positive and significant for 30 days from the day of the announcement, while the CERs for dividend omitting firms for the same period were significant and negative. The CERs for the subsamples were statistically significant around the event window. Hence the Nigerian stock market was not semi-strong efficient and that share prices did react to dividend announcements.

Vazakidis and Athianos (2010) studied a sample of 60 companies listed in the Athens Stock Exchange (ASE) with an objective to examine the reaction of the Stock Exchange (ASE) to dividend announcements. The event study period was from the 1st of January 2004 until the 31st of December 2008 and secondary data was used (daily closing stock prices and announced dividends from 2004 to 2008). The event study used logarithmic returns. They observed that the market reacted positively during the period before the dividend announcements, while throughout the first days of the post announcement period strong negative abnormal returns were observed. More particularly, for the whole event window (-20, +20) the CAR seemed to be marginally positive, but statistically insignificant. On the other hand, throughout the event windows that preceded the announcement day, (-20, -1) and (-20, 0), there were positive and statistically significant cumulative abnormal returns. Hence the stock returns in the Athens stock market did not efficiently absorb information.



Aamir and Shah (2011) with an objective to investigate the impact of dividend announcements on stock market returns observed that impact on returns on dividend announcement date and few days after were positive. Their study involved data of two industrial sectors known as Cement and Oil sector and the Gas sector. The data was collected from the Karachi Stock Exchange and Business Recorder. Data spanned from 2004 -2008. A total of 26 dividend announcements during this time period were taken and their effect was investigated on event firms and its rivals. Impact of dividend announcements on stock prices of 21 days before this announcement and 21 days after this announcement had been checked. Impact of dividend announcement on stock prices of event and rival firms were analyzed and it was found out that dividend announcement depicts positive impact on share prices of the companies at the time of announcement as well as immediately after such announcements. Hence the Karachi Stock Exchange was an efficient market since share prices absorb information and there was no arbitrage gain by investors due to the information.

Laabs and Bacon (2013) took a sample of 15 randomly selected increased dividend announcements between the time period November 20, 2008 and July 26, 2012 from companies that trade in either the NYSE or NASDAQ with an objective of testing the semi-strong form efficient market hypothesis by analyzing the effects of increased dividend announcements on stock price. The study used the standard risk adjusted event study methodology from the finance literature. A regression analysis was performed using the actual daily return of each company (dependent variable) and the corresponding S&P 500 daily return (independent variable) over the pre-event period (day -180 to -31 or period prior to the event period of day -30 to day +30) to obtain the intercept alpha

and the standardized coefficient beta. From the analysis they observed that the announcements of increased dividends had a significant positive impact on the firm's share price up to twelve days prior and ten days after to announcement day 0, the increased dividend announcement date. His findings were consistent with the EMH theory.

### **2.4.2 Local Studies**

Kiio (2006) studied firms quoted at the NSE with an objective of evaluating the impact of cash dividend announcements on stock returns and to examine the speed with which stock prices incorporate dividend. The sample consisted of companies making up the 20 NSE share index. The event period was from January 2000 to December 2004. Data was collected from NSE database. The event window was 21 days which included the date of announcement and ten days before and ten trading days after the cash dividend announcement. The market adjusted buy and hold returns for the samples for the twenty one day event period The results revealed that the cumulative market adjusted returns to be significant for ten days before and ten days after the announcement for dividend paying firms. This indicated that share prices were responsive to cash dividends. She found out that the Nairobi Stock Exchange did not efficiently react to cash dividend announcements. Hence the NSE was not of the semi strong form.

Njuru (2007) studied companies listed at the Nairobi Stock Exchange with the objective of examining the behavior of stock prices following stock dividend announcements if they showed evidence of "under reaction" anomaly. His research was based on an event study design with stock dividend announcements being the event of importance. A comparison of the returns on the event day and the succeeding was done through the

analysis of average cumulative abnormal returns. Population consisted at the NSE was between January 1999 to December 2006. Data was collected from the NSE database. The normal or expected return was calculated for each stock. A comparison period approach (CPRA) was used in analyzing price movements. In this approach a security's mean return is estimated from a time series of the security's returns over a representative period (not including the announcement period) which is defined as the comparison period. The comparison period taken was the 50 days period starting 60 days before the event and ending 10 trading days prior to the event was used to avoid possible price lead up preceding announcements that could be occasioned by insider trading. 20 NSE all share index was used as proxy for market return. The results of the analysis showed evidence in favor of existence of under reaction to stock dividend announcement at the NSE for the period of study. This meant that NSE portrayed evidence of inefficiency.

Mohamed (2010) carried an event study to analyze the effect of earnings announcements on stock prices of companies listed (45) in the Nairobi Stock Exchange with form designed for that purpose to measure cumulative abnormal returns. Secondary data was collected from the NSE. *T* value was estimated to test the significance between abnormal return and market return at the NSE. The study consisted all companies quoted on the Nairobi stock exchange and the study period was from January 2004 to December 2008. He took an event window of 61 days. Day 0 as the announcement day and a time frame of day +30 to day -30. SPSS was used for data analysis. He measured the MAAR and CAR. His implications of his study was that announcement of earnings normally carried surprise to the market. He found that earnings announcements contain relevant information to investors which were fully impounded in stock prices prior to or almost

instantaneously at the same time of announcement as long as the announcement date had positive excess returns. Consequently investors did not benefit from earnings announcements.

Kihara (2011) studied companies quoted on the NSE that announced dividends from the years of 2006 to 2010 with an objective of establishing a relationship between stock returns and dividend announcements. It sought to find out whether there was any element of abnormal returns after a dividend announcement. The observation window was 15 days prior to the announcement, the actual date of the announcement and 15 days after dividend announcement. Regression analysis was used to analyze the data. Statistical analysis was carried out using SPSS, Excel and Access. He found that there was no significant evidence that stock price react significantly on the announcement of dividends. That being the case, it implied that stock returns at the NSE did not absorb information making the NSE an inefficient market.

Ochudho (2013) studied eight agricultural companies listed in the NSE between 2009 and 2012. The study sought to establish the relationship between share prices and dividend announcements. He used secondary data from NSE database. The period of the study was a 31 day window period starting from -15 day to +15 day relative to the dividend announcement day (0 day). The market model was used and the market adjusted abnormal return (MAAR) and the daily cumulative abnormal return (CAR) determined. The NSE share index was used as the proxy for average market price. Regression analysis was used to analyze the data. He found that there were firms whose abnormal return were negative on the dividend announcement date but became positive immediately after the dividend announcement date. He concluded that there was a

significant relationship between unexpected dividend announcements and share prices and hence supported the hypothesis that dividend announcements had information content and that this information had influence on share prices.

Odhiambo (2013) looked at firms quoted in the Nairobi Securities Exchange with the objective to determine the effects of dividend and earnings announcement on shareholders' value on selected companies quoted in the NSE. The study was limited to companies that announce their dividends constantly within the period and used the NSE 20 market index. He used the event study methodology where two measures were used; the daily market adjusted abnormal return MAAR and the daily CAR. These were calculated over a period of -15 to +15 days. The study used the Nairobi Stock all share price index as the proxy of average market price. Finally the study used the parametric tests to determine the statistical significance of the MAAR and the CAR. Based on the 10 NSE listed firms declaring dividends during 2008- 2012, it was found that investors do not benefit from dividend announcement. He found that there was no significant contribution by dividend announcements to the values of the shares in the market. The changes in the share value were erratic after the announcement of the dividend and there were no consistent abnormal returns. Hence implying that the NSE was inefficient.

Mukora (2014) selected 5 companies from the banking sector as at 31<sup>st</sup> December 2013 out of a population of 61 companies in 11 sectors to find the effects of dividend announcements of stock returns in the NSE. She used the event study methodology with a 61 day event window, 30 days before the dividend announcement date and 30 days after the dividend announcement date and day 0 being the dividend announcement date. The analysis was conducted for a period for five years. The daily normal stock returns were

calculated and from it the abnormal returns were determined. Then the cumulative average abnormal returns were calculated. Trend analysis was conducted to determine whether there was a change before or after the dividend announcement. The test of significance was conducted for both the AAR and the CAR. The null hypothesis that dividend announcement does not have an effect on stock returns of firms listed at the NSE was rejected. This led to a conclusion that dividend announcement had a positive effect on stock returns for firms listed at the Nairobi Securities Exchange. The study recommended that more firms should consider distributing dividends since there was a positive effect on the stock returns.

## **2.5 Summary of Literature Review**

Dividends conveys information about future earnings – information that enabled market participants to predict future earnings more accurately (Watts, 1973). Therefore a dividend announcement would have an effect on stock returns. Kalay (1980) supported this theory. Furthermore a fall in dividend payments would lead to stock price deduction (Jensen, 1986). Fama (1970) discerned that in a semi-strong form market efficiency it was expected that prices adjusted whenever there was a public announcement such as a dividend or earnings announcement. This was supported by the random walk theory that stock prices tended to be random. Gordon (1959) found that dividends had greater influence on stock value than retained earnings. According to Modigliani and Miller (1961) dividends had no effect on the value of the firm hence a corresponding dividend announcement would have no effect on stock returns.

Studies undertaken in international stock markets have varied results, Vazakidis and Athianos (2010) observed the existence of abnormal activity in the Athens stock market both before and after the dividend announcements. Aamir and Shah (2011) with an objective to investigate the impact of dividend announcements on stock market returns observed that impact on returns on dividend announcement date and few days after were positive. Hamid (2003) concluded that investors seemed to gain no value from the dividend announcements. Mollah (2001) noted that announcement of dividends did not carry any new information to the market. Olatundun (2009) observed that the Nigerian stock market was not semi-strong efficient and that share prices did react to dividend announcements.

There wasn't enough evidence to indicate that the NSE market is of the semi strong form efficient. Njuru (2007) empirical work indicated evidence of inefficiency at the NSE. This was noted by the under reaction of stock prices due to dividend announcement. Kiio (2006) observed that NSE did not react to cash dividend announcement. Both data used from the two studies were obsolete as the NSE had made major transitions. The automation of the NSE which was done in October 2006 had increased volume of trading, increased volatility of quoted stocks and increased liquidity which could have an impact on market efficiency, (Mbugua, 2007). Ochuodho (2013) concluded that there was a significant relationship between unexpected dividend announcements and share prices and hence supported the hypothesis that dividend announcements have information content and that this information had influence on share prices. Mukora (2014) led to a conclusion that dividend announcement had a positive effect on stock returns for firms listed at the Nairobi Securities Exchange. Though they both investigated one sector of the

NSE and that might not represent the whole market. Mohamed (2010) found that announcement of earnings payments might carry information to the market and the stock prices might be adjusted accordingly. Though his data was obsolete and he used the NSE 20 Share index as the proxy for the market returns. In contrast to these conclusions, Odhiambo (2013) who also used the NSE 20 Share index found that there was no significant contribution by dividend announcements to the values of the shares in the market. Kihara (2011) found that there was no significant evidence that stock price reacted significantly on the announcement of dividend announcement information. He used regression analysis to analyze the data.

Not only have the studies that have been done in different environment have conflicting results, studies done in the Kenyan context have different conclusions. Furthermore the market is changing continuously. Investors have easier ability to access information. To add to that that they now have complex tools to analyze stock markets implying that they have more reliable indication of the Kenyan equity market's performance.



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter describes the methodology that was adopted in order to arrive at the research findings. It presents the study design and methodology.

#### **3.2 Research Design**

The study was a descriptive study which adopted an event study methodology that was carried out to analyse the effects of dividend announcements on stock returns of companies listed at the NSE. Sitthipongpanich (2011) described an event study as an empirical analysis that is normally used to measure the effect of an event on stock prices (returns).

#### **3.3 Population**

The population of the study was all 61 companies listed at the NSE which announced dividends at least once a year in the period selected. Listed firms were preferred because of the availability of the information at the NSE. The companies that were listed in various sectors comprised of; agricultural, automobile and accessories, banking, commercial and services, construction and allied energy and petroleum, insurance, investment, investment services, manufacturing and allied, telecommunications and technology.

#### **3.4 Sample and Sampling Design**

The sample framework was all the listed companies at the NSE whose announcement dates were available for the period of study. The period of study of three years was

chosen as it was sufficient to establish a relationship between dividend announcements and stock returns. The firm should have been continuously paying dividends for all the five years under the period of observation. Two companies from each of the sectors would be selected for the study. Priority would be given to the company with the highest number of shares traded cumulatively for the three year period regardless of the value.

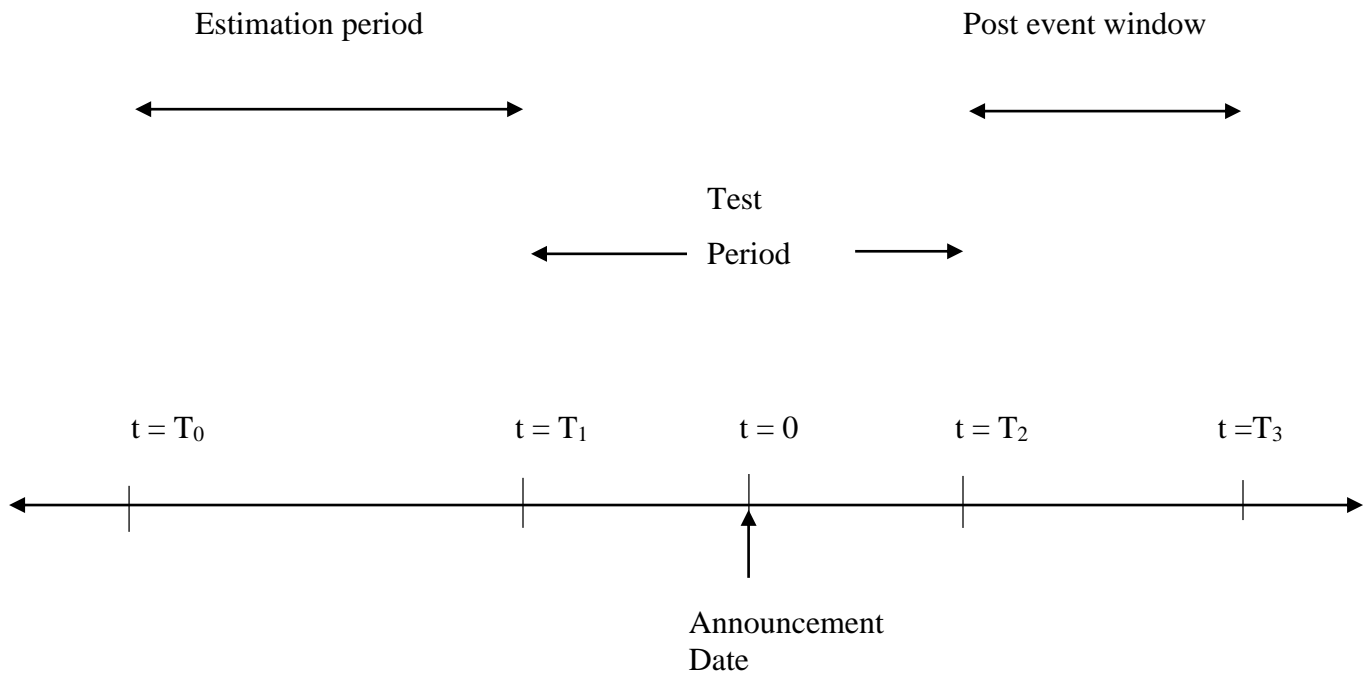
### **3.5 Data Collection Methods**

Secondary data was used in the research and was obtained from Nairobi Securities Exchange information services. The data was comprised of stock prices of all companies between 2012 and 2014, the NSE all share index, dividend announcements dates, payments dates, dividend amounts and volume of shares traded of each stock for the same period.

### **3.6 Data Analysis Techniques**

Sitthipongpanich (2011) stated that an event study is commonly developed to attempt to measure whether an unanticipated event could have an effect on stock prices and the direction and magnitude any perceived effects might have on those stock prices. The study was based on the assumption that under the market efficiency hypothesis, the impact of an event would be instantly reflected in stock prices. Therefore, the market reaction to the event can be measured by stock returns over the study time period. That the event was unforeseen. Abnormal (excess) stock returns indicated the market reaction to the unanticipated event. That during the event window, there were no confounding effects, meaning that the effect of other events was isolated.

In this study the first step was to identify the event of interest and to specify the event date. This date was known as the announcement date of the event or ‘day 0’. Using the defined date, sample firms (stocks) were selected and classified according to their event date. Secondly, was to identify the event period of the time study. In the event period the test period (event window) and the estimation period were identified. The impact of the dividend announcement on stock returns were observed in the test period which were in the range of  $T_1$  to  $T_2$  around the announcement date (day 0) as shown below.



Stock returns will be calculated as:

$$R_{it} = \frac{D_{it}}{P_{it-1}} + \frac{P_{it} - P_{it-1}}{P_{it-1}}$$

Where

$P_{it}$  is the closing stock price of firm I at day t.

$P_{t-1}$  is the closing stock price of firm I at day t-1

$D_{it}$  is the dividend paid at time t.

Event period on stock prices can be as short as 2 day (-1, 0) period (Bruner 1999). The estimation period  $T_0$  to  $T_1$  and the post event window  $T_2$  to  $T_3$  was the period in which the expected return on sample stocks was estimated.

The expected return for each sample stock was estimated over a sample period. The expected return  $E(R_{it})$  was used to compare with the actual return during the event window. It represents the return that was not related to the event of interest. The model to estimate expected returns will be the market-adjusted return model given below as:

$$E(R_{it}) = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$$

Where  $R_{it}$  and  $R_{mt}$  were the period- $t$  returns on security  $i$  and the market portfolio, respectively, and  $\varepsilon_{it}$  was the zero mean disturbance term. . The parameters  $\alpha$  and  $\beta$  were estimated using the ordinary least square regression over an estimation period. This model related the return of any given security to the return of the market and assumed joint normality of asset returns (MacKinlay, 1997). The estimation period was 30 days prior to the event window and 10 days after the event window also known as the post event window. This design provided estimators for the parameters of the normal return model which were not influenced by the returns around the event.

After determining the expected returns from the regression model over the event window abnormal returns will be determined from the same period. An abnormal return for an individual stock was determined as the difference between the actual return on time (t) in the event window and the expected return of an individual stock.

$$AR_{it} = R_{it} - E(R_{it})$$

The cumulative abnormal return (CAR) for an individual stock was calculated by aggregating the abnormal return of each stock over the event window, (Brown, 1985). ( $T_1$  to  $T_2$ ).

$$CAR_{(T_1, T_2)} = \sum_{t=T_1}^{T_2} AR_{it}$$

The average abnormal return for all sample stocks on time (t) was calculated as follows.

$$\overline{AR}_t = \frac{1}{N} \sum_{i=1}^N AR_{i,t}$$

The cumulative average abnormal return for all sample stocks on time (t) was calculated as follows.

$$\overline{CAR}_t = \sum_{t=1}^{T_2} \overline{AR}_t$$

A parametric test of statistics was used to test the significance of abnormal returns for an individual firm  $i$ , whether or not the abnormal return was different from zero was tested by  $t$ -statistics. The significance of the average abnormal returns and the cumulative average abnormal returns was tested. Graphs of the average abnormal return and cumulative average abnormal return were plotted to give out the trend of the two variables.

## **CHAPTER FOUR**

### **DATA ANALYSIS, RESULTS AND DISCUSSION**

#### **4.1 Introduction**

This chapter presents a summary of the findings on the influence of dividends announcements on the shareholders' value of 15 companies that constantly announced their dividends and are listed at the Nairobi Securities Exchange, for the period 2012-2014.

The population of the study comprised of 61 selected companies that have been continuously listed in the NSE as at January 2012 to December 2014. The data for this study comprised of stock prices of all companies between January 2012 and December 2014, the NSE all share index, dividend announcements dates, payments dates, dividend amounts and volume of shares traded of each stock for the same period. It was expected that the dividend announcements do not affect stock returns since they do not have information content.

The methodology was based on the assumption that, given rationality in the marketplace, the effect of an event would be reflected immediately in asset prices, (Ma, Pagan and Chu, 2009).

#### **4.2 Abnormal Returns.**

The event period was determined as 5 days before the announcement, 5 days after the announcement and the dividend announcement day making it a total of 11 days. The stock returns and market returns were determined as follows

$R_{it}$  was the time  $t$  on security  $I$ , calculated as

$$R_{it} = \frac{D_{it}}{P_{it-1}} + \frac{P_{it} - P_{it-1}}{P_{it-1}}$$

Where  $P_{it}$  was the market closing price of share  $I$  on day  $t$ .  $P_{t-1}$  is the market closing price of share  $I$  on day  $t-1$ .

$R_{mt}$  was the time return on NSE all share index calculated as

$$I_t - I_{t-1}/I_{t-1}$$

Where  $I_t$  was the market index on day  $t$ .  $I_{t-1}$  is the market index on day  $t-1$

The expected returns were determined using the market-model adjusted returns given as

$$E(R_{it}) = \alpha_i + \beta_i R_{mt}$$

Where  $\alpha_i$  and  $\beta_i$  were estimated using the ordinary least square regression over the estimation period. The prediction error (the difference between the actual return and the predicted normal return), also known as the abnormal return (AR), was calculated as below;

$$AR_{it} = R_{it} - \alpha_i - \beta_i R_{mt}$$

### **4.3 Descriptive Statistics**

The AAR values determined from daily returns of the 15 NSE selected companies were analyzed using SPSS for descriptive statistics analysis. The data was divided in yearly

basis then done cumulatively. Table 1 represents the SPSS output of the descriptive statistics.

**Table 4.1 Descriptive Statistics**

	2012 AR	2013 AR	2014 AR	2012-2014 AR
N	165	165	165	165
Mean	.0034	-.0017	.0006	0.0008
Std. Error of Mean	.0019	.0017	.0024	0.0012
Std. Deviation	.0244	.0224	.0305	0.0151
Variance	.0006	.0005	.0009	0.0002
Skewness	.3235	-.0805	-.4742	-0.4997
Std. Error of Skewness	.1890	.1890	.1890	0.1890
Kurtosis	3.8913	2.3590	3.7702	2.6636
Std. Error of Kurtosis	.3758	.3758	.3758	0.3758
Minimum	-.0914	-.0847	-.1202	-0.0606
Maximum	.0922	.0655	.0866	0.0499

**Source: Research Findings**

15 companies were analyzed with an 11 day event window implying 165 values for AR for each data set. The 2012 AR mean is higher than for years 2013, 2014 and for the whole period 2012-2014. This implied that there was high abnormal returns for this year. The standard error of the mean indicated that the mean for 2013 is closer to the population mean compared to the other study periods. The 2013 data set had more variance and standard deviation compared to other periods. The skewness of the data sets were in between 1 and -1 indicating that the skewness was not significant. 2013 data was less skewed since it was closer to zero compared to the others. A symmetrical distribution has a skewness of zero according to the Engineering Statistics Handbook. On the other hand a normal distribution should have a kurtosis of 3. A kurtosis less than 3 indicates a flatter distribution and a greater than 3 kurtosis indicates a distribution more peaked than a normal distribution. From the analysis the kurtosis for the 2012 and 2014 data sets were greater than 3 which indicated a distribution peak greater than that of the normal



distribution. On the other hand the kurtosis for the 2014 and 2012-2014 data sets are less than 3 which indicated a flatter peak than the normal distribution.

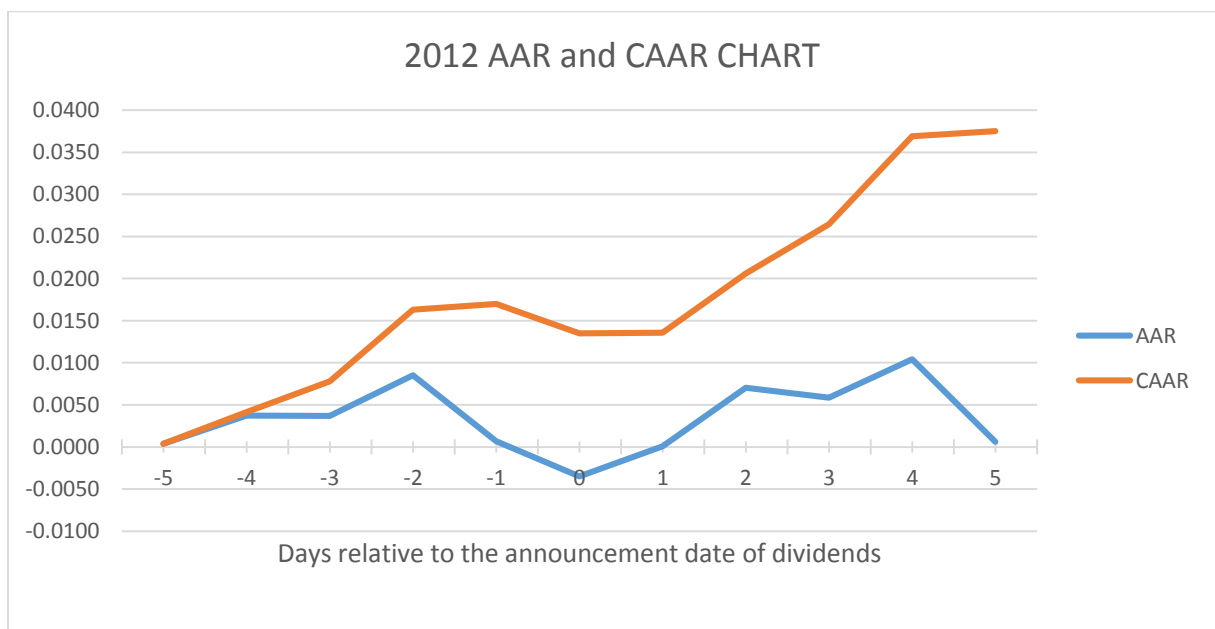
#### 4.4 Average Abnormal Returns and Cumulative Average Abnormal Returns

The average abnormal and cumulative returns from 51 dividend announcements were calculated from the daily and expected returns. The results are reported in appendix I - IV. They were then plotted as shown below to bring out the trend for the periods of 2012, 2013, 2014 and 2012-2014. The significance of AAR and CAAR for the days in each year was calculated and tested using a 5% level of significance.

##### 4.4.1 Average Abnormal Returns and Cumulative Average Abnormal Returns 2012

Abnormal returns from 17 dividend announcements of 2012 were determined and a graph of AAR and CAAR plotted to bring out the trend.

**Figure 4.1 2012 AAR and CAAR Chart**



**Source: Research Findings**

An upward trend is observed. There was a gradual increase of the abnormal returns from day -5 to day -2 to 0.85%. Then a decrease from day -2 to the announcement day to -0.35%. Then a gradual increase to day 4 and a decrease on day 5 to 0.06%.

The curve for cumulative abnormal returns generally sloped upwards from day -5 to the day before the event date. Then there was a sharp decrease of the curve during the announcement date and the day after. Afterwards there was a gradual increase of the curve to 3.75% on day 5.

#### 4.4.1.1 Test of significance for year 2012

The  $t$  values for both the AAR and the CAAR was calculated using the standard deviation of the AAR and the CAAR respectively. 5% level of confidence and a two tailed test was used. Using 14 degrees of freedom  $t_c = 2.145$  for year 2012.

**Table 4.2 2012 AAR AND CAAR test of significance**

Day	AAR	$t$ values	CAAR	$t$ values
-5	0.0004	0.0637	0.0004	0.8669
-4	0.0037	0.5936	0.0041	1.9593
-3	0.0037	0.5839	0.0078	3.1512
-2	0.0085	1.3518	0.0163	0.1098
-1	0.0007	0.1073	0.017	0.037
0	-0.0035	-0.5566	0.0135	2.1534
1	0.0001	0.0133	0.0136	0.9617
2	0.007	1.1188	0.0206	1.9601
3	0.0059	0.932	0.0265	1.9053
4	0.0104	1.6584	0.0369	2.7921
5	0.0006	0.0971	0.0375	2.7511

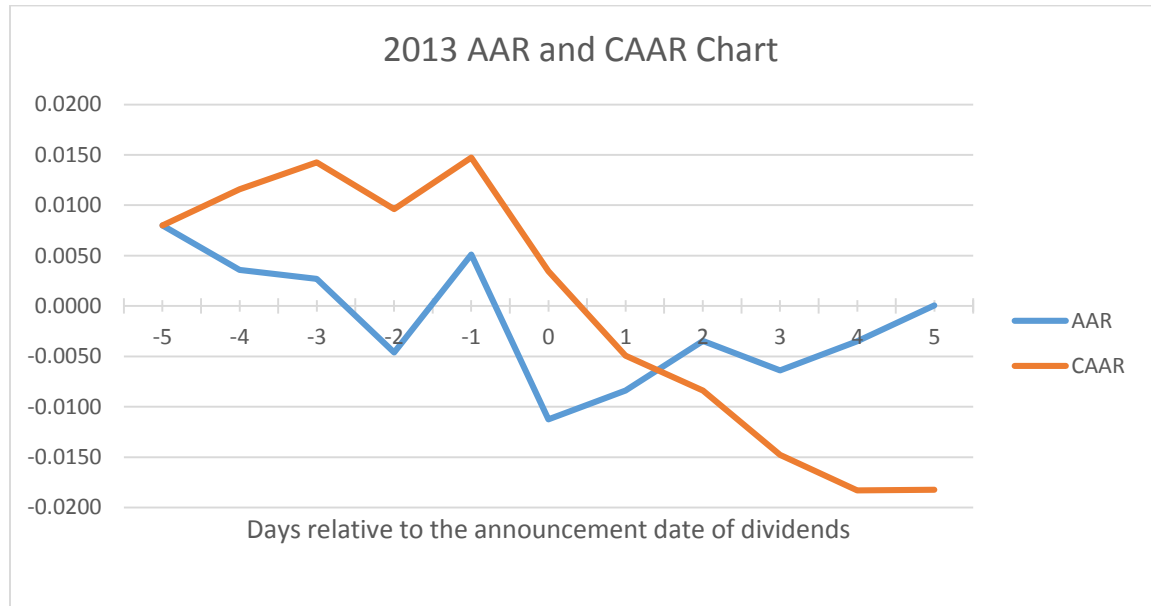
**Source: Research Findings**

It was noted that for the AAR  $t$  values lied in the acceptance region implying that dividend announcements had no effect on stock returns. On the other hand CAAR values for days -3, 0, 4 and 5 were significant.

#### 4.4.2 Average Abnormal Returns and Cumulative Average Abnormal Returns 2013

Abnormal returns from 17 dividend announcements of 2013 were determined and a graph of AAR and CAAR plotted to bring out the trend.

**Figure 4.2 2013 AAR and CAAR Chart**



**Source: Research Findings**

The figure above shows the AAR and the CAAR before and after the announcement for the year 2012. A downward trend was observed. There is a gradual decrease of the abnormal returns from day -5 to day -2 to 0.46%. Then an increase from day -2 to day -1. Then there was a steep decrease on the day of the announcement to 1.13%. Then followed by a gradual increase to day 5 of the event window.

The curve for cumulative abnormal returns generally sloped upwards from day -5 to the day before the event date. Then there was a gradual decrease up to the end of the event window to -1.82%.

#### 4.4.2.1 Test of significance

The  $t$  values for both the AAR and the CAAR was calculated using the standard deviation of the AAR and the CAAR respectively. 5% level of confidence and a two tailed test was used. Using 14 degrees of freedom  $t_c = 2.145$  for the year 2013.

**Table 4.3 2013 AAR AND CAAR test of significance**

Day	AAR	$t$ values	CAAR	$t$ values
-5	0.008	1.3841	0.008	0.3944
-4	0.0036	0.6161	0.0116	0.57
-3	0.0027	0.4639	0.0143	0.7021
-2	-0.0046	-0.8	0.0096	0.4742
-1	0.0051	0.8801	0.0147	0.725
0	-0.0113	-1.9459	0.0035	0.1705
1	-0.0084	-1.4507	-0.0049	-0.2429
2	-0.0035	-0.6006	-0.0084	-0.414
3	-0.0064	-1.1025	-0.0148	-0.7282
4	-0.0035	-0.6064	-0.0183	-0.901
5	0	0.0084	-0.0182	-0.8986

**Source: Research Findings**

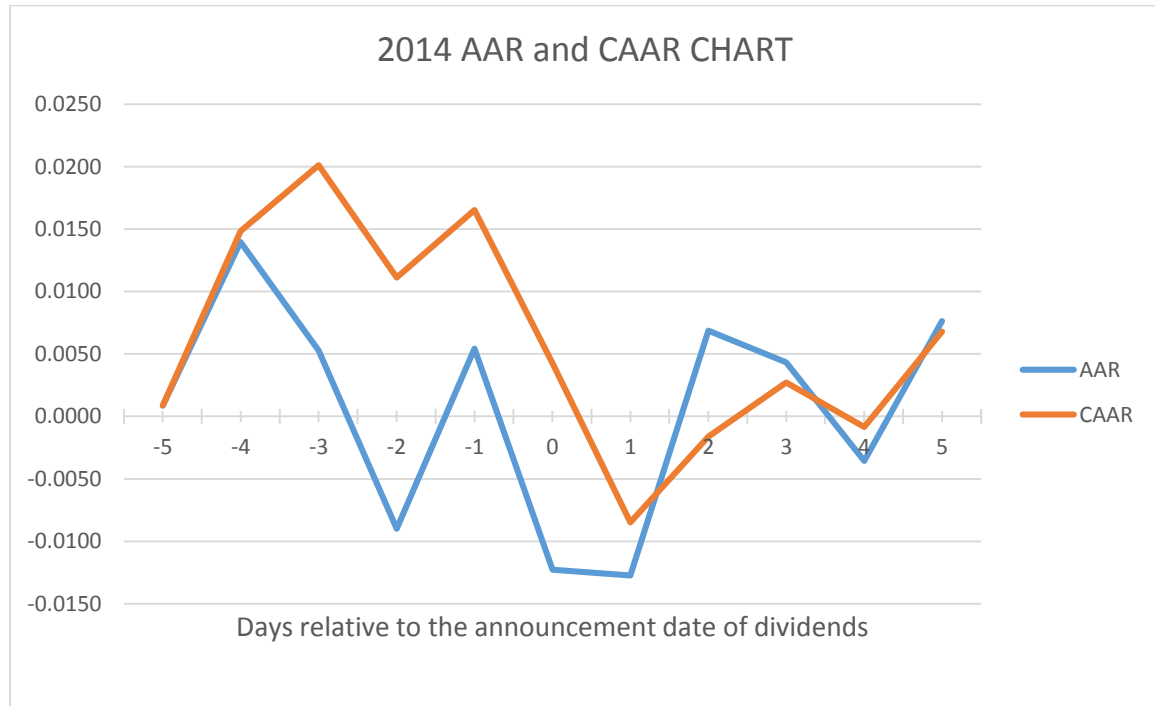
The AAR and CAAR  $t$  test values lie in the acceptance region indicating no significance on effects of dividend announcements on stock returns. This implies that the null hypothesis that dividend announcement have no effect on stock returns is accepted.

#### 4.4.3 Average Abnormal Returns and Cumulative Average Abnormal

##### Returns 2014

Abnormal returns from 17 dividend announcements of 2014 were determined and a graph of AAR and CAAR plotted to bring out the trend.

**Figure 4.3 2014 AAR and CAAR Chart**



**Source: Research Findings**

The figure above shows the AAR and the CAAR before and after the announcement for the year 2012. No trend was observed for the AAR and CAAR. There was a gradual increase of the abnormal returns from day -5 to day -4 to 1.4%. Then a decrease from day -4 to day -2. Then a sharp increase on day -1. On the day of the announcement there was a rapid decrease of the returns to -1.23%. Then followed by a gradual decrease to negative abnormal returns to 1.27%. There after a steep increase on the day after the announcement. Negative abnormal returns were observed on day 4.

For the CAAR curve, there was a sharp increase of the curve from day -5 to day -3 to 2.01%. A downward trend was observed up to the day after the announcement. A gradual increase is observed up to the end of the event window to 0.68%.

#### 4.4.3.1 Test of significance

The  $t$  values for both the AAR and the CAAR was calculated using the standard deviation of the AAR and the CAAR respectively. 5% level of confidence and a two tailed test was used. Using 14 degrees of freedom  $t_c = 2.145$  for the year 2014.

**Table 4.4 2014 AAR AND CAAR test of significance**

Day	AAR	$t$ values	CAAR	$t$ values
-5	0.0009	0.1101	0.0009	-2.1376
-4	0.014	1.7718	0.0148	-1.2152
-3	0.0053	0.6705	0.0201	-2.3242
-2	-0.009	-1.1423	0.0111	-2.1459
-1	0.0054	0.6881	0.0165	-1.5785
0	-0.0123	-1.5574	0.0043	-1.7907
1	-0.0127	-1.6172	-0.0085	-4.1325
2	0.0069	0.8715	-0.0016	-4.3462
3	0.0043	0.5502	0.0027	-1.6933
4	-0.0036	-0.4524	-0.0008	-0.2527
5	0.0076	0.9679	0.0068	0.2404

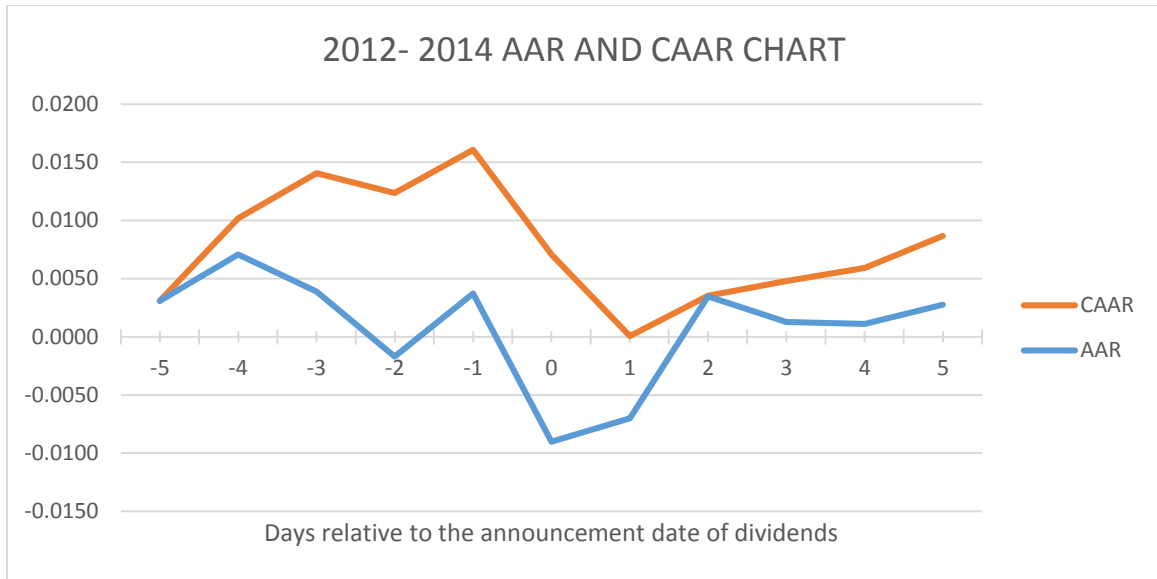
**Source: Research Findings**

The  $t$  values for AAR indicate no significance meaning that the hypothesis dividend announcements have no effects on stock returns is accepted. On the contrary there is significant effect on CAAR on days -3, 1 and 2 which implied that dividend announcements have an effect on stock returns.

#### 4.4.4 Average Abnormal Returns and Cumulative Average Abnormal Returns 2012-2014

The average abnormal and cumulative returns from 51 dividend announcements were calculated from the daily and expected returns. They were then plotted as shown below to bring out the trend for the period of 2012 to 2014.

**Figure 4.4 2012-2014 AAR and CAAR Chart**



**Source: Research Findings**

The figure above shows the AAR and the CAAR before and after the announcement the period 2012-2014. There was a gradual increase of the abnormal returns from day -5 to day -1 to 0.71%. Then a decrease from day -4 to -2. Then an increase on day -1. On the day of the announcement there was a sharp decrease of the returns .Then followed by an increase to day 2 to 0.35%. There after a gradual decrease to day 4 then a gradual increase of the abnormal returns to 0.28% on day 5.

There was no trend for CAR curve. The curve generally slopes upwards from day -5 to the day before the event date. Then there was a sharp decrease of the curve during the announcement date and the day after. Afterwards there was a gradual increase of the curve to day 5 to 0.87%.

#### 4.4.4.1 Test of Significance

The  $t$  values for both the AAR and the CAAR was calculated using the standard deviation of the AAR and the CAAR respectively. 5% level of confidence and a two tailed test was used. Using 14 degrees of freedom  $t_c = 2.145$  for the period 2012-2014.

**Table 4.5 2012-2014 AAR AND CAAR test of significance**

Day	AAR	$t$ values	CAAR	$t$ values
-5	0.0031	0.7934	0.0031	0.0801
-4	0.0071	1.8181	0.0102	0.9508
-3	0.0039	0.9955	0.0141	1.3003
-2	-0.0017	-0.4385	0.0123	-0.2327
-1	0.0037	0.9570	0.0161	0.0363
0	-0.0090	-2.3119	0.0071	0.6469
1	-0.0070	-1.8006	0.0001	-0.7938
2	0.0035	0.8919	0.0035	-0.4812
3	0.0013	0.3265	0.0048	0.0099
4	0.0011	0.2871	0.0059	0.7099
5	0.0028	0.7086	0.0087	0.8235

**Source: Research Findings**

The table revealed that the abnormal returns on the event day are significant. This implied that dividend announcements had an effect of stock returns at the NSE. According to Fama (1970) semi-strong market efficiency implied that stock returns should not have abnormal returns both before and after the announcement. This indicated that the NSE market was not of semi-strong form of market efficiency. This implied that any reaction by the market was not instantaneous and the adjustment process was not rapid. This was in contrast with the random walk theory that stated stock returns would adjust to new information. The CAAR was not statistically not significant from day -5 to day 5 of the announcement suggesting that the NSE was efficient of the semi-strong form as revealed by the reaction of stock returns around the dividend announcement.



## 4.5 Discussion of Findings

On the study of period 2012 to 2014, it was observed that the abnormal returns were significant on the announcement day. This implied that dividend announcements had an effect on stock returns. This was not the case if the  $t$  test were done separately on a yearly basis. There were no significant returns for years 2012, 2014 and 2015. This was validated by the findings of  $t$  values of CAAR where no significance was observed on the 2012-2014 period. This indicated that investors did not gain from dividend announcements. It also implied that dividends did not contain information. Furthermore there was no significant CAAR observed for year 2013. Though there was significant CAAR for year 2012 for days -3, 0, 4 and 5 and for year 2014 for days -3, 1 and 2.

It was concluded that the study had varied results. Based on the period 2012 to 2014 test of significance, dividend announcements contained information since there was significant abnormal returns. According to the random walk theory if there was free flow of information then tomorrow's stock price would be different to today's. This implied that at the NSE there was no free flow of information since dividend did not contain information. According to MM (1961) dividends have no effect on the value of a share hence stock returns would not be affected. This also implied that the NSE was not of the semi-strong form market efficiency. This also meant that at any point in time at the NSE the actual price of a security will not be a good estimate of its intrinsic value (Fama, 1965). On the other hand no significant AAR was observed for year 2012, 2013 and 2014 which implied that the NSE was of the semi-strong form efficient. This was supported by Oyuga (2014). Variation of the study was also emphasized by the behavior of the CAAR whereby the 2013 graph has a downward trend, the 2012 has an upward trend and the 2014 and 2012-2014 have no trend.

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter presents the summary of the research findings, the conclusion drawn from the finding, recommendations, limitations of the study and suggestions for further research. From the data collected and analysis done the following findings, conclusion and recommendations were made based on the objective of the study.

#### 5.2 Summary of the Findings

This section provides the summary of the findings of the study and the researcher's conclusion derived from the findings. The study covered a period of three years from 2012 to 2014 and considered a total of 15 companies listed on the NSE. The study sought to determine the effect of dividend announcement on the stock returns of firms listed on the NSE using the event study methodology. Analysis was done on a yearly basis and the whole period. The descriptive tests were done using SPSS and  $t$  tests statistics were conducted for each day for the all the years for the CAAR and AAR. Then graphs for the CAAR and AAR were plotted for each year. Finally the results of the sample were presented.

A high mean of 2012 AR implied that there was a high chance of significant returns for the year. Though the standard deviation was also high which may have had a neutralizing effect on the  $t$  values calculated with regard to the mean. It should also be noted that the standard deviation was very high for all the data sets. For example if compared to the mean (coefficient of variation) for 2012 is 7.716 times that of the mean which has implications on the  $t$  tests. Investors earned a minimum abnormal returns in the year 2014

and maximum in year 2012. It's important to note that the AR for 2012-2014 was determined by getting the average for the years 2012, 2013 and 2014 for each company. A minimum and a maximum may have an effect on the mean calculated which implied an effect on  $t$  values.

For the year 2012 there is no significant abnormal returns. This implied that dividend announcements have no effect on stock returns. This was supported by findings for the year 2014 in which no significant AAR was observed. Furthermore for the year 2013 there were no significant abnormal returns or CAAR. Lastly for the year 2013 no significant abnormal returns or CAAR were observed. This implied that dividend announcements had no effect on stock returns hence the market had all information. On the contrary it was observed that investors CAAR was significant for years 2012 and 2014. This indicated that dividend announcements had an effect on stock returns and that the market was inefficient. This was supported by the significant  $t$  values observed of AAR for the period 2012-2014 on the dividend announcement day which implied that investors enjoy a significant cumulative abnormal returns. This implied that the market does not have all information hence inefficient.

The results indicated that there was no enough evidence to support the hypothesis that dividend announcements had no effect on stock returns of securities quoted at the NSE. Therefore it was concluded that dividend announcements might have an effect on stock returns at the NSE. This was not consistent with existing literature on dividend announcements, that dividends have no information content and that dividend announcements have no effect on stock returns. This implied that chartist techniques which use knowledge of the past behavior of a price series to predict the probable future

behavior of the series could be used to predict future prices of companies quoted at the NSE. This meant that successive price changes in individual securities were dependent. Lastly, on that account the NSE was not of the semi-strong form efficiency market.

### **5.3 Conclusion and Recommendations**

Based on the analysis of the 15 NSE listed companies that declared dividends during 2012 and 2014 period it was concluded from the above summarized observations that the results were varied. Based on the analysis of AAR for 2012, 2013 and 2014 the study established that investors did not gain from the event of dividend declaration. This implied that an individual couldn't be able to profit by acting on the announcement of the dividend. According to (Fama, 1970) a test of semi-strong form efficiency indicated investors were not able to earn an above normal return on publicly available information. This suggested that the NSE was semi strong efficient. These results were consistent to what Aharony and Swary (1980) found when they carried out an empirical analysis on quarterly dividend and earnings announcements and stockholders' returns and found that investors do not gain value from dividend announcement. The study found payment of dividend was not relevant since dividend announcement did not cause significant change in stock returns before and after the announcement. This also meant that dividend announcements have no information implying that all information may have been revealed to the public and that the market has already absorbed this information. This also perceived that there was no insider trading and that there was a good financial system in place at the NSE. This might be good news to local and international investors as it implied lack of biasness at the NSE. This also meant that no investor would

speculate that when information is released publicly that they would get an unfair advantage. Thus the NSE should attract more investors.

On the other hand the study seemed to suggest that NSE may not be semi strong form efficient as significant CAAR are observed on years 2012 and 2014. Also a significant AAR is observed on the announcement day in the 2012-2014 period analysis. This implied that dividend may have information content. It also implied that random walk theory does not hold at the NSE and that chartist techniques can be used to determine future prices. Hence a conclusion was made that dividend announcements had an effect on stock returns which implied the NSE market was not of the semi strong form efficient.

#### **5.4 Limitations**

Though the sample size should have been 20 only 15 companies qualified to be used for analysis. This was because some companies did not pay dividends yearly for the period of the study. As a result some sectors were not well represented since they had none or only one company that qualified for the analysis. The conclusions were based on the samples selected. Furthermore the study's population consisted of quoted companies. It did not include companies that were unquoted at the NSE.

The study did not take into account other events such as earnings announcements. According to Oyuga (2014) earnings announcements have information which are impounded in stock prices hence will have an effect on stock prices. To add to that the study did not take account of other factors that affect stock returns.

Sorokina, Booth and Thornton (2013) stated that robust methods are important for obtaining accurate measurement of event effects in event studies. They established that the OLS market model was problematic since stock market returns, were characterized by

non-normality, significant outliers and high leverage data points; and, that inferences from OLS can be distorted by outliers and high leverage points. They recommend using robust Huber smooth M estimator and MM regression estimator to improve inferences from the event study model.

## **5.5 Suggestions for Further Research**

The efficient market hypothesis is a broad topic that can yield varied results in the same context depending on the approach used. A number of research have been done on the effects of dividend announcements on stock returns but none has been done whereby the researcher isolates the dividend announcements into decrease, increase and unchanged dividends to find if the market reacts to one and not the other at the NSE. As per the findings of this research paper these three situations would yield different results. The researcher can use different models for research and the event windows can be increased.

Test statistics for different event windows can be used to analyze data whilst maintaining consistency of using one model. Mukora (2014) conducted a study for a 61 day event window. Kiio (2006) used a 21 day event window and Ochuodho (2013) used a 31 day event window. Varying event windows has implications on the standard deviations hence have an effect  $t$  value test statistics. The researcher should also look into other levels of efficiency the weak form and the strong form.

The study has established an existence of the strong form market efficiency at the NSE. More studies should be done to test whether dividends have information. Furthermore can the researcher can try to find out how fast share prices absorb information.

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## APPENDICES

### APPENDIX I: AVERAGE ABNORMAL RETURNS AND CUMULATIVE AVERAGE ABNORMAL RETURNS TOTAL FOR 2012

Day	Kakuzi Ltd	Sasini Ltd	KCB Ltd	The Co-op Bank	Scangroup Ltd	Uchumi Ltd	ARM Cement Ltd	Bamburi Cement Ltd
-5	0.0136	-0.0030	-0.0081	0.0069	0.0016	0.0285	-0.0010	-0.0072
-4	0.0134	-0.0025	-0.0007	0.0165	0.0207	-0.0046	-0.0010	-0.0375
-3	-0.0008	-0.0367	-0.0033	0.0078	-0.0080	0.0101	0.0003	-0.0071
-2	0.0456	-0.0037	0.0068	0.0817	0.0012	0.0107	0.0059	0.0157
-1	-0.0266	0.0329	0.0067	0.0202	-0.0175	0.0020	-0.0004	-0.0005
0	0.0260	-0.0068	-0.0057	-0.0332	-0.0737	-0.0914	0.0062	-0.0060
1	0.0078	0.0006	0.0307	-0.0143	-0.0533	0.0147	-0.0002	0.0760
2	-0.0005	-0.0037	0.0412	-0.0039	0.0179	-0.0009	0.0002	-0.0020
3	0.0237	-0.0036	0.0056	-0.0069	0.0427	0.0009	-0.0004	0.0324
4	0.0011	-0.0025	-0.0499	0.0057	-0.0179	0.0023	0.0549	0.0521
5	0.0006	0.0217	-0.0287	-0.0021	-0.0271	-0.0004	-0.0002	-0.0065

KenGen Co. Ltd	BRITAK	Kenya Re	Trans-Century Ltd	Carbacid Ltd	EABL Ltd	Safaricom Ltd	AAR	CAAR
0.0067	0.0004	0.0002	-0.0537	-0.0051	0.0141	0.0121	0.0004	0.0004
0.0064	-0.0011	0.0236	-0.0073	0.0058	0.0088	0.0153	0.0037	0.0041
0.0007	-0.003	-0.0054	0.0031	0.0922	-0.0116	0.0167	0.0037	0.0078
0.0063	-0.0089	0.0055	0.0035	-0.0017	0.0016	-0.0426	0.0085	0.0163
-0.0104	0.0017	0.0176	0.0035	-0.0181	0.0002	-0.001	0.0007	0.017
0.0609	-0.0215	-0.0007	0.0043	0.0847	-0.0252	0.0296	-0.0035	0.0135
-0.0053	-0.0364	0.0098	0.0164	-0.0292	0.0006	-0.0167	0.0001	0.0136
0.0057	0.0006	-0.0038	0.0285	0.0192	-0.007	0.014	0.007	0.0206
-0.0158	0.0006	-0.0014	0.0041	-0.0042	0.0112	-0.0008	0.0059	0.0265
-0.0109	0.0246	-0.0125	0.0642	0.0236	0.009	0.0124	0.0104	0.0369
0.0069	0.0243	-0.0042	0.0042	0.0153	0.006	-0.0006	0.0006	0.0375

**Source: Research Findings**

**APPENDIX II: AVERAGE ABNORMAL RETURNS AND CUMULATIVE AVERAGE ABNORMAL RETURNS TOTAL FOR 2013**

Day	Kakuzi Ltd	Sasini Ltd	KCB Ltd	The Co-op Bank	Scangro up Ltd	Uchumi Ltd	ARM Cement Ltd	Bamburi Cement Ltd
-5	-0.0025	-0.0029	0.0071	-0.0110	0.0138	0.0031	-0.0150	0.0311
-4	-0.0026	-0.0048	0.0074	-0.0016	0.0153	0.0056	-0.0100	-0.0156
-3	-0.0089	0.0026	0.0432	-0.0031	-0.0172	0.0132	-0.0378	-0.0497
-2	-0.0025	-0.0010	-0.0263	-0.0009	-0.0111	-0.0420	-0.0074	-0.0023
-1	0.0397	0.0215	-0.0127	0.0038	0.0032	0.0292	0.0104	-0.0002
0	0.0005	-0.0003	-0.0716	0.0269	-0.0032	-0.0350	-0.0070	-0.0092
1	0.0655	-0.0021	-0.0294	0.0062	-0.0847	0.0163	-0.0162	-0.0055
2	-0.0008	-0.0140	-0.0137	0.0252	0.0055	0.0057	-0.0164	0.0107
3	0.0007	0.0084	-0.0042	-0.0195	0.0065	0.0031	-0.0244	-0.0041
4	-0.0040	-0.0027	0.0238	-0.0058	-0.0115	0.0031	0.0061	-0.0052
5	-0.0022	0.0114	-0.0089	-0.0016	-0.0182	-0.0020	-0.0072	0.0531

KenGen Co. Ltd	BRITAK	Kenya Re	Trans-Century Ltd	Carbacid Ltd	EABL Ltd	Safaricom Ltd	AAR	CAAR
-0.0013	0.0595	0.0238	-0.0004	0.0146	-0.0069	0.0071	0.0080	0.0080
-0.0016	0.0299	-0.0154	0.0119	0.0243	0.0076	0.0031	0.0036	0.0116
-0.0041	0.0253	0.0054	0.0104	0.0560	0.0028	0.0024	0.0027	0.0143
-0.0072	0.0415	-0.0079	-0.0059	0.0423	-0.0349	-0.0041	-0.0046	0.0096
0.0100	-0.0311	0.0136	0.0034	0.0147	-0.0337	0.0045	0.0051	0.0147
0.0158	-0.0401	-0.0124	-0.0663	0.0652	-0.0223	-0.0099	-0.0113	0.0035
-0.0218	-0.0423	-0.0132	-0.0119	0.0203	0.0004	-0.0074	-0.0084	-0.0049
-0.0074	0.0158	-0.0165	0.0256	-0.0164	-0.0524	-0.0031	-0.0035	-0.0084
-0.0043	0.0171	-0.0254	0.0111	-0.0181	-0.0369	-0.0056	-0.0064	-0.0148
-0.0104	-0.0091	0.0169	-0.0106	-0.0243	-0.0158	-0.0031	-0.0035	-0.0183
-0.0076	-0.0064	-0.0065	-0.0185	-0.0015	0.0166	0.0000	0.0000	-0.0182

**Source: Research Findings**

**APPENDIX III: AVERAGE ABNORMAL RETURNS AND CUMULATIVE AVERAGE ABNORMAL RETURNS TOTAL FOR 2014.**

Day	Kakuzi Ltd	Sasini Ltd	KCB Ltd	The Co-op Bank	Scangroup Ltd	Uchumi Ltd	ARM Cement Ltd	Bamburi Cement Ltd
-5	-0.0049	-0.0143	0.0098	-0.0050	0.0127	-0.0173	0.0056	-0.0057
-4	-0.0042	0.0480	-0.0121	0.0095	0.0341	-0.0204	0.0273	0.0055
-3	0.0866	-0.0177	-0.0008	0.0037	0.0252	0.0299	0.0141	0.0050
-2	-0.0878	-0.0030	-0.0050	0.0001	-0.0008	-0.0089	-0.0002	-0.0009
-1	0.0863	-0.0104	0.0013	0.0016	0.0103	0.0021	0.0083	0.0109
0	-0.0046	-0.0103	0.0244	0.0564	-0.0036	-0.0004	0.0018	0.0048
1	-0.0712	0.0015	-0.0205	0.0099	0.0032	-0.0870	-0.0103	0.0164
2	0.0672	0.0404	0.0081	-0.0078	0.0040	0.0294	-0.0061	-0.0016
3	-0.0045	-0.0248	0.0019	-0.0144	-0.0009	0.0026	0.0116	0.0175
4	-0.0045	-0.0025	-0.0002	-0.0010	-0.0020	-0.0277	-0.0047	-0.0017
5	-0.0043	-0.0957	0.0186	0.0027	0.0101	0.0349	-0.0040	0.0633

KenGen Co. Ltd	BRITAK	Kenya Re	Trans-Century Ltd	Carbacid Ltd	EABL Ltd	Safaricom Ltd	AAR	CAAR
-0.0016	0.0046	0.0136	-0.0048	0.0162	0.0208	-0.0168	0.0009	0.0009
0.0048	0.0371	-0.0031	-0.0055	0.0859	-0.0046	0.0073	0.0140	0.0148
0.0043	0.0230	0.0106	-0.0164	-0.0993	0.0196	-0.0087	0.0053	0.0201
-0.0015	-0.0118	-0.0133	0.0107	-0.0131	-0.0010	0.0014	-0.0090	0.0111
0.0102	0.0047	0.0103	-0.0008	0.0037	-0.0615	0.0045	0.0054	0.0165
0.0042	-0.1202	-0.0644	-0.0139	-0.0001	-0.0566	-0.0017	-0.0123	0.0043
0.0157	-0.0554	0.0292	-0.0005	0.0019	-0.0057	-0.0185	-0.0127	-0.0085
-0.0071	-0.0225	-0.0159	-0.0103	-0.0020	0.0288	-0.0017	0.0069	-0.0016
0.0218	-0.0222	-0.0214	-0.0105	0.0097	0.0779	0.0209	0.0043	0.0027
-0.0073	-0.0319	0.0116	-0.0301	-0.0479	0.0852	0.0114	-0.0036	-0.0008
0.0626	-0.0309	0.0196	0.0126	0.0019	0.0192	0.0039	0.0076	0.0068

**Source: Research Findings**

**APPENDIX IV: AVERAGE ABNORMAL RETURNS AND CUMULATIVE AVERAGE ABNORMAL RETURNS TOTAL FOR PERIOD 2012-2014.**

Day	Kakuzi Ltd	Sasini Ltd	KCB Ltd	The Co-op Bank	Scangroup Ltd	Uchumi Ltd	ARM Cement Ltd	Bamburi Cement Ltd
-5	0.0021	-0.0067	0.0029	-0.0030	0.0094	0.0048	-0.0035	0.0061
-4	0.0022	0.0136	-0.0018	0.0081	0.0233	-0.0065	0.0054	-0.0159
-3	0.0257	-0.0173	0.0130	0.0028	0.0000	0.0177	-0.0078	-0.0173
-2	-0.0149	-0.0025	-0.0082	0.0270	-0.0036	-0.0134	-0.0006	0.0042
-1	0.0331	0.0147	-0.0016	0.0085	-0.0014	0.0111	0.0061	0.0034
0	0.0073	-0.0058	-0.0176	0.0167	-0.0269	-0.0423	0.0003	-0.0035
1	0.0007	0.0000	-0.0064	0.0006	-0.0449	-0.0187	-0.0089	0.0289
2	0.0220	0.0076	0.0119	0.0045	0.0091	0.0114	-0.0075	0.0024
3	0.0066	-0.0067	0.0011	-0.0136	0.0161	0.0022	-0.0044	0.0153
4	-0.0024	-0.0026	-0.0088	-0.0004	-0.0105	-0.0074	0.0188	0.0151
5	-0.0020	-0.0209	-0.0063	-0.0004	-0.0117	0.0108	-0.0038	0.0366

KenGen Co. Ltd	BRITAK	Kenya Re	Trans-Century Ltd	Carbacid Ltd	EABL Ltd	Safaricom Ltd
0.0013	0.0215	0.0125	-0.0197	0.0086	0.0093	0.0008
0.0032	0.0220	0.0017	-0.0003	0.0387	0.0039	0.0086
0.0003	0.0151	0.0035	-0.0010	0.0163	0.0036	0.0034
-0.0008	0.0069	-0.0052	0.0028	0.0092	-0.0115	-0.0151
0.0033	-0.0082	0.0139	0.0020	0.0001	-0.0317	0.0026
0.0270	-0.0606	-0.0258	-0.0253	0.0499	-0.0347	0.0060
-0.0038	-0.0447	0.0086	0.0013	-0.0023	-0.0016	-0.0142
-0.0029	-0.0020	-0.0121	0.0146	0.0003	-0.0102	0.0031
0.0005	-0.0015	-0.0161	0.0016	-0.0042	0.0174	0.0048
-0.0096	-0.0055	0.0053	0.0079	-0.0162	0.0261	0.0069
0.0206	-0.0043	0.0030	-0.0006	0.0052	0.0139	0.0011

**Source: Research Findings**