THE IMPACT OF DIVIDEND ANNOUNCEMENT ON STOCK RETURNS OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

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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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D63/80806/2015

This research project has been submitted for examination with my approval as the University Supervisor.

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To my friends and family who took the time to support me and encourage me even when I felt like giving up, am forever grateful.

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DEDICATION

I would like to dedicate this project to my parents Mr & Mrs Peter Malel. To my siblings Vinny,

Betty, Faith and Sheila. God bless you all. To my fiancée, Lois, you are blessed.

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LIST OF ABBREVIATIONS

AAR- Average Abnormal Returns

BBK-Barclays Bank of Kenya

BOD-Board of Governors

CAAR- Cumulative Average Abnormal Returns

AAR-Average Abnormal Returns

CAR-Cumulative Average Returns

CMA- Capital Market Authority

DSE- Dhaka Stock Exchange

EMH-Efficient Market Hypothesis

IPO- Initial Public Offering

KCB-Kenya Commercial Bank

NASI- NSE All Share Index

NSE -Nairobi Securities Exchange

NYSE-New York Stock Exchange

SCBK- Standard Chartered Bank of Kenya

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ABSTRACT

Dividend announcement should not have an impact on shareholder's value in an ideal world. This is not the case however in the real world since announcement of dividend is often followed by significant changes in the stocks market price. Empirical studies show mixed evidence about the relationship between the announcement of dividend and the stock returns. The main objective of this study was to determine the effect of dividend announcement on stock returns of firms listed at the NSE. The event study methodology was used with a 61-day event window, 30 days before and 30 days after the announcement of dividend and day 0 being the announcement date of the dividend. A sample of four firms was chosen out of the population of 65 firms listed at the NSE as at the time this study was conducted. The analysis conducted was for a five year period. The abnormal returns were calculated by subtracting the expected returns from the daily returns and adding the dividend payment announced during the period for each of the days after announcement. The cumulative average returns were then calculated by summing daily abnormal returns before and after the announcement. A graph was plotted for the AAR and CAAR for the period for each of the years to show the trend of Abnormal Returns over the window. It was observed that AAR was negative before the dividend announcement date and positive after the date of the announcement. The graph for the CAAR sloped downwards before the announcement date and sloped upwards after the announcement date for all the years. The graph for the average abnormal returns fluctuated for all the years. The test of significance was conducted for both the average abnormal returns and the cumulative average abnormal returns. The null hypothesis that dividend announcement does not have an effect of stock returns of firms listed at the NSE was rejected. This led to a conclusion that dividend announcement indeed has a positive effect on stock returns for firms listed at the NSE. This study recommends that firms should consider distributing its dividends to the shareholders since it has a positive effect on stock returns

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The use of event study methodology in analysis of corporate actions, in this case announcement effects on the value of the firm dates back to first study published by Dolley, (1933). He took a keen interest on price effects of splits. This study opened the avenue for other studies which analysed the impact of various corporate actions like earnings announcements, change of management and change in the regulatory environment among others, on prices of stocks of listed companies. One of the early studies on dividend announcements was by Lintner, (1956). He postulated that, dividends normally tend to be inflexible downwards for large firms.

He also claimed that, firms tend to make positive dividend announcements only when it is highly likely that future cash flows would be enough to support high payment rate.

Watts (2001) suggested that the future value of which is conveyed by dividend announcement is normally very small. He however in agreement that dividend announcement contain crucial information.

Miller and Modigliani (1961) on their side suggested that dividend announcement should have very minimal or no effect at all in an ideal world. However this is not the case as evidenced by the studies done which shows a link between the dividend announcement and the changes in stock prices. Some of the studies done that backs up this kind of observation is the one for Gordon (1959), Stevens and Jose (1992).

This study's objective was to find out the extent to which dividend announcements of a selected sample of Nairobi Stock Exchange (NSE) stocks determined its returns, so that market participants could make rational decisions depending on what dividend announcements by these firms portended for them as per the findings of the study. Dividends given to shareholders differ with across the firms hence the effect on stock returns.

1.1.1 Dividend Announcement

Dividend is the one of the main corporate action that can easily be understood by people Grooves, (2008). It is also the most common type of corporate action .A dividend is the act of sharing or distribution of cash to shareholders. This is done in accordance with the proportion to their equity holding. No company is compelled to declare a dividend and those that do may vary the amount. Typically, a company will from time to time pay two types of dividends, interim and final dividend. Interim dividend refers to that dividend that is announced when a company is releasing its interim results. Those announced at the release of full year profits is the final dividend. The importance of dividends naturally varies from one company to another and there are also cultural differences in attitudes to dividends from one country to another. For Dividends to be paid, the Board of Directors have to approve the payout from time to time. Dividends are measured using he dividend payout ratio which shows how earnings support dividends. This shows the relationship between amounts paid and the market value of shares.

1.1.2 Stock Returns

In the case where stock market is efficient, trading process is frictionless. Information of past transactions is available and information that is sensitive in determination of price is timely and accurate. Fama(1970) noted in Efficient Market Hypothesis that an efficient market should be externally and informationally efficient. New information is the only factor that should influence price hence price is expected to be random and independent.

The semi-strong, efficient market is a case where the information is incorporated into prices and the stock value performance which is accepted as the best measure of estimating whether firms are creating value for shareholders or not Brealey and Myers,(1991).

The event studies examine the stock returns to determine the impact of a corporate events on stock prices. Most of the studies relates stock price changes to announcement of particular events.

Strong form suggests that all public and private information determines share prices. This includes firm's market value of debt and its equity.

It comprises the market value of company's equity plus its debt's market value. Hermuningsih, (2013) noted that, company's value is characterized by a higher ROI to the shareholders.

The value of a firm can be determined in several ways. These includes book value, capitalized value, market value and adjusted net worth. Accounting net worth or book value is the most commonly used measure since it's simple and readily available. Goosen, Jensen, & Wells, (1999) suggested that it could be problematic because of accounting rules and simulation. Market value of shares is also commonly used in firm valuation. However, it requires an efficient real market for shares. The Capitalized value can also be used to measure the value of the firm. The projected future performance will show the firm's value

1.1.3 The Effect of Dividend Announcement on Stock Returns

The market normally reacts to the reduction in dividend paid by a firm. The stock becomes less attractive to investors leading to a fall in share price. When dividends increase, the stock becomes more attractive to buyers hence sellers would make more profits. There is a tendency of investors rising dividends as a sign of a company's good health.

Miller and Modigliani (1961), noted the tendency of investors affecting returns on stock regardless of stock's dividend hence dividend announcement has no impact on stock prices. Investors would thus be indifferent on whether firms pay dividends or not. Lack of investment opportunities by investor would cause them to re-invest.

Gordon (1963) and Lintner (1962) observed that value of the firm was affected by dividend in bird-in the-hand theory. Gordon noted that the factors that would determine the value of the

firm were firm's current stock price, dividends the firm is expected to pay and the annual growth rate of dividends

Stock returns are examined to analyze the impact of a corporate event on studies. Event studies are commonly used to establish this. In most cases the event studies have demonstrated stock price changes before announcement of a particular event. The strong form states that all the public and private information are reflected by share price.

1.1.4 Firms Listed at Nairobi Securities Exchange

The Nairobi Securities Exchange (NSE) is a leading African Exchange, based in Kenya. Founded in 1954, NSE has a six decade heritage in listing equity and debt securities. It offers a world class trading facility for local and international investors looking to gain exposure to Kenya and Africa's economic growth.

Since 1964, the NSE has been using the NSE 20-Share Index. It measures the performance of 20 blue-chip companies. This companies are those that have strong fundamentals and have over time recorded positive results.

NSE is playing a vital role in the growth of Kenya's economy. They do this by ensuring provision of cost effective capital and also encouraging savings and investment. NSE Operates under CMAs jurisdiction. It's affiliated to World Federation of Exchange. It's a member of Association of Futures Market and is a partner exchange in the United Nations

As at the 31st December 2016, Nairobi Stock Exchange had 65 listed companies. Due to variations in market performance, shareholder expectations and company policy among other factors, not all of these listed companies made dividend announcements in the period 2012-2016.

The major types of dividends announced in the period 2012-2016 were: Interim dividends, Final dividends, Special dividends, Bonuses, 2nd interim dividends and rights issues

1.2 Research Problem

According to the Information Content Hypothesis (ICH), dividend announcements crucial information about the value of a firm. However, some studies like the one conducted by Uddin (2003) do not reach at the same conclusion. According to this school of thought, dividend announcements have no significant impact on firm value. Miller and Modigliani (1961) concluded that firm's value was not affected by its dividend policy. An efficient market is the one that security prices reflects in total all publicly available information. In such an instance, the possibility of making excess profits from information is eliminated because it's already reflected in market prices Fama,(1970).

During share trading, investors are faced with fallacious information generated by speculation and misinformation. Dividend announcement is treated as new information by the investors. Investors tend to over react to new information Fama,(1970). Gordon (1963) and by Lintner (1962) observed that in determination of firm's value, dividends are considered.

Walter (1963) suggested through a model that, in determination of firm value, it's important to consider the existing dividend policy.

Other studies have also been done locally though they are not conclusive. Bitok (2004) observed that the dividend pay-out had a relationship with the firm's value. This was during his study on how the firm's value was affected by its dividend policy. Mulwa (2006) was of the view that at least in a year of dividend, a relationship exists. Muigai (2012) noted that, there was no observed pattern during the window. This was during his analysis on the influence that dividend declaration had on its share prices. This shows that there exists a research gap.

Given this difference of opinion, market specific empirical studies are necessary to put the record straight. In the case of the NSE market, participants in the market have been making critical investment decisions on when to invest after a dividend announcement, without basing those decisions on some empirical evidence so that they are assured about receiving positive

net return on their investment. Additionally, no known study has been done to establish the exact relationship between these two variables for the companies listed on the NSE, and whether or not this relationship is significant.

This study sought to fill this research gap using the event study methodology. Company dividend announcements and stock price values of sample stocks on the Nairobi Stock Exchange as the key variables. Does dividend announcement have an impact on the stock returns of firms listed at the NSE?

1.3 Objective of Study

To determine the impact of dividend announcement on stock returns of firms listed at the Nairobi Securities Exchange

1.4 Value of Study

In modem times, a country's stock market plays an important role as a vehicle for mobilizing capital for rapid economic growth. The stability of stock market is generally determined by firm's economic performance. Information signalling can take various forms and can be used as an indicator of future prospects. In the case of dividend announcements, the question as to whether or not, dividend announcements have an impact on stock price can have an influence on the decisions that managers, brokers, dealers, merchant bankers and generally market participants take to maximize their net returns.

In the case of Managers for instance, a finding that stock prices positively respond to dividend announcements at the NSE could lead to use of dividend announcements by managers as a way of transmitting future firm's prospects assessment to the market. The managers expect the market to interpret this as a management's expectation about the future. This would eventually lead to an upward movement of the firm's stock price. Conversely, if was found that dividend announcements have no information content for the sample companies at the NSE, then,

managers taking note of this would take steps to find another event that could be used as a signal to market participants as to their firms' expected future performance. On the other hand, if it was found that dividend announcements have a negative impact on stock price, then they would either reduce the frequency of announcements or stop the corporate action altogether for the sake of the firm's economic performance in the future.

Additionally, the stock market regulatory authorities, example NSE and CMA could use our findings to review their policy on some aspects of company evaluation, which may have been emphasizing on dividend announcements and subsequent payments by listed companies as a basis for measuring company performance, depending on what the findings will be.

Furthermore this study will be important to investors. It will help the investors to make decisions from an informed angle as pertains the stock to invest in and also be able to understand how the announcement of dividend may affect the prices of stocks. This will help them to know when to buy and sell shares so as to maximize profit.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

In this chapter, we delved into the theoretical and empirical studies have that have been conducted and examine what they have yielded under the topic of study. The studies have shown both positive and negative results of the impact that the announcement of dividends will have on the firm's value.

2.2 Theoretical Literature Review

Dividend theories focus into the major arguments and rationale for payment of dividends by firms. Firms are always in a dilemma of whether to pay dividend or reinvest their profits into the business. We started from a theoretical context before embarking on the empirical and analytical discussions about the impact of dividend announcement on firm value. This enabled us to understand how past researchers viewed the impact of corporate actions, in this context, dividend announcement. These theories are as follows:

2.2.1 Information Content of Dividends Hypothesis

(Millert & Modiglinit, 1961) Modigliani and Miller (1958) came up with this hypothesis. In their argument, dividend announcement does not influence the value of the firm. This hypothesis is however possible only when the capital market is perfect, there are zero taxes and also rational behaviour.

Durand (1959) challenged their finding mainly because of the previous findings of mostly cross-sectional correlations between the price and dividends which are strong. Modigliani however replied to Durand that the expected future value determines firm's market value. The permanent and transitory components which is the firm's market performance determines the firm value. Cross-sectional studies exists because of the depended relationship that exists between expected future value and dividend announcement.

We shall investigate this argument by Modigliani if the corporate actions, in this case the dividend announcement, will affect the firm's stock returns. We will also look at Durands' arguments if the hold on the case under study.

2.2.2 Cash Flow Signalling Hypothesis

Kalay & Loewenstein(1986) came up with this theory. This theory was based on a model that studied the signal being sent to market in case of unexpected dividend announcement.

He argued that it would not be an easy decision by the managers take a cut in dividends just as a condition for conveying of the information. He suggested that the dividend announcement that is not expected leads to an increase in dividend will show the firms strong financial position. This means there are good investment projects hence cash flows will be positive in the long run. Consequently, stock price will increase.

This study was the same as that of Kalay & Loewenstein(1986) hypothesis. An observation of abnormal returns by firms announcing dividends was normally recorded

We shall check the signals that will be sent to the market upon announcement of unexpected dividend. Will the announcement of unexpected dividend lead in share price?

2.2.3 The Free Cash Flow Hypothesis

Jensen & Johnson, (1995) came up with this hypothesis. They observed that, managers would be tempted to over invest whenever they experience large cash flows not seriously considering the margins on the investments. This would lead to unexpected dividend announcement which translates into reduced cash flows hence limiting investing.

It was observed that, whenever we have an accurate projection, there will be an increase in market value. As a result, the stock price will increase. On the other hand, reduced dividends lends to over investing and hence fall in stock price.

This theory will help us in determining the impact of the company's free cash flows on the decision to take advantage of the investments opportunities in the market. The impact of this move will also be analysed on the overall impact on stock returns.

2.2.4 The Coarse Dividend-Signalling Theory

Warther (1994) developed this theory as he tried to establish whether a cut in dividend level would result from dividend announcement. His prediction was that dividends will always have more information when they are decreased as opposed to a corresponding increase. In a instance where a company has been making losses, any kind of announcement concerning the decrease of dividend would compel many investors to sell. Consequently, stock price will reduce.

We analysed the firms listed at NSE which had a cut in their dividend level. We shall be able to see the impact of those that decreased their dividend against those that increased in firm's stock return.

2.2.5 The Tax Preference Hypothesis

Several studies have been done to establish the relationship that exists between tax and dividend announcement. The impact of dividend announcement when faced with taxation was the main areas under study in this hypothesis. Brennan (1970 and 1973), Litzenberger & Ramaswamy,(1979) suggested that if the marginal tax is greater than zero, the firm should not make a positive dividend announcement. The implication is that dividend announcement might have some effects on the firms share price as a result of tax. They argued that investors are tax averse hence their preference to re-investment if cash dividend is subject to tax. Optimal dividend size is inversely proportional to personal income tax Pye,(1972). This explains why there is a tendency of reduction of stock price after announcement of dividend increase.

We made reference to this theory in determining the shareholder's attitude when it comes to preference of cash dividend. Most shareholders would prefer non cash dividend in case the said dividend has tax implications.

2.3 Determinants of Stock Returns

Stock return is a commonly used indicator by investors for investment decisions. It has been observed that stock returns is influenced by market factors hence the effect on returns. Some of the factors are discussed below;

2.3.1 Dividends

Dividend refers to the cash distributed to stockholders proportionally to their shareholding. It is not mandatory for a company to declare dividend. Increase in dividend makes stock attractive to investors and vice versa. There will be an increase in demand hence sellers will increase their gains

2.3.2 P/E Ratio

Wilcox (1984), Rappoport (1986) and Downs (1991) observed that stock price is affected by changes in fundamental variables like pay-out ratio. Undervaluation of stock happens when the stock's price is lower than the earnings of the company. On the other hand, a stock is overvalued if the price is higher than actual earnings. Basu (1977) found out that stocks with high P/E ratios generate lower stock returns.

2.3.3 Capital Structure

Sharpe (1964) and Hamada (1972) observed a direct relationship between stock price changes and capital structure. The argument was that a high-risk firm generate returns consistent with investors expected return which is high. A firm with high debt has a greater change rate of share price hence the direct relationship between capital structure and share price volatility.

2.3.4 Size of the Firm

According to Atiase (1985), as the firm size increases, stock price volatility decreases. Firm's assets have been found to be affected by its size. Small stocks have high average returns. Bigger firms are expected to be diversified hence less risky than smaller firms.

2.3.5 Inflation

Fama and Schwert (1977) studied the on stock returns in New York Stock Exchange and the impact that inflation had on it. They concluded a negative impact in terms of returns. Inflation generally means consumer prices are high hence slower rate of sales leading to reduced profits. Higher price leads to increased interest rates. Stock prices and interest rate are inversely related. Lower prices generally means lower profits and decreased activity. This means that inflation does have a huge role in stock value

2.4 Empirical Literature Review

Uddin (2003) studied the corporate action effect on the wealth of shareholders. He narrowed down his study to the dividend announcement. The case study used was the Dhaka Stock Exchange (DSE). A sample of 137 dividend paying companies was his basis of research. All this companies were listed at the NSE. The firms were classified in accordance with the sectors they belonged and picked a random sample from the firms. He collected 10-20 stocks. He used event study methodology to examine the security return, the value of the *MAAR,* the expected return and also the daily cumulative abnormal return. Uddin (2003) used two measures to determine how the firm value was affected by the impact of dividend announcement;

1. Daily Market-Adjusted Abnormal Return (*MAAR*) and
2. Daily Cumulative Abnormal Return *(CAR).*

The relative daily percentage price change was determined by calculating the *MAAR* by comparing it with the average market price change.

The window period used by Uddin (2003) was 61 day. Thirty days before (-30) to Thirty days after (+30).

The cumulative abnormal returns were computed as:

$$CARt = \sum_{t=1}^{t=j} MARRt \qquad (2)$$

The statistical Market Adjusted Average Abnormal Return was determined by the use of parametric test. The t statistics was established by using the standard deviation of abnormal returns of the portfolio. Uddin concluded that the announcement of dividends was not beneficial to the investors.

Pettit,(1972) sought to understand whether a relationship existed between announcement of dividends, market's security performance and the capital market efficiency.

He sought to determine if the value of security was affected by dividend announcements. He selected a sample from daily data and monthly data.

Pettit suggested that the model followed a liner relationship. This relationship existed between individual security and the rate on the market.

$$R_{it} = \alpha_i + \beta_i R_{m,t} + \mu_{it} \qquad (1)$$

R_{it} represents investment which is relative to i^{th} security in time period t. Investment relative of the market is given by $R_{m,t.}$. The random errow is given by $\mu_{it.}$. β_i is a relative measure of holding i^{th} security. It gives a measure of security's return, which are the factors that affect returns. An assumption is made that error term μ_{it} satisfies the conditions of a well-specified linear regression model.

The study concluded that the firm value was affected by dividend announcement.

Woolridge wanted to establish whether the unexpected dividend of stock behave in the same way around information point. Abnormal Performance Index (*API)* measure was used establish the behaviour of residuals for each dividend announcement as follows;

$$\text{API} \quad = \sum_{t=-5}^{+10} (\hat{\mu})it = \sum_{t=-5}^{+10} (\text{r } i, t - \text{r } m, t)$$

They employed the Kruskal-Wallis one-way analysis of variance test statistical procedure. Chi-square statistic was used to test the residuals with same median and same mean rank from the distribution

Tierry et al (1984) studied investor behaviour in case of dividend announcement dates so as to add to the existing body of knowledge when it comes to information content of dividend hypothesis. They used methodologies not previously employed to develop a deeper understanding of investor behaviour in periods of dividend change.

Tierry(1984) used the following criteria to select the appropriate sample for analytical purposes. First, each firm had to have a large dividend change (between1969-1977) after two years of a stable dividend pattern. A firm was considered "stable" only if its cash dividend stream, adjusted for any capitalization changes, was uncharged for at least two years. By "large" they meant either an omission of resumption of dividend (or an initial dividend) or change in indicated yearly rate of at least 25 percent (a new yearly rate of either less than 75 percent or more than 125 percent) of the previous rate. Also, at least two years of monthly return data and two months of daily return data had to be available both prior to and subsequent to the dividend changes, with such data available of the (CRSP). Lastly, announcement dates of dividend resumption, increase, decrease and all regular (and extra) dividends must had to be available in Moody's Annual Dividend Records for each firm for the period of the study. Announcement dates for omissions had to be available in the Wall Street journal's index for all firms omitting a dividend.

Tierry(1984) argued that restrictive dividend is easily identified by a trader simply because it can be interpreted as unambiguous deviation from a simple, naïve model of expectations of no dividend change.

Additionally, it was expected that some traders might trade on large changes such as those defined in the sample selection criteria. Monthly and daily security returns were obtained from the CRSP tapes, as were the value-weighted market indices used in the study. The risk free rate of return used was the monthly rate on three-month treasury bills. For each firm included in the study, monthly (daily) returns were collected for up to eight years (130 days) before the dividend change announcement, and for up to five years (60 days) subsequent to announcement.

The methodology used in the study differs from the abnormal return analysis, although it also allows examination of the average effect on return of dividend announcements.(Kwan, 1981) evaluated and extended (Watts, 1973) methodology. The aim was to solve the different literature in finance about the information content of dividends.

Three methodological issues were put into consideration; First, the standard Lintner,(1956) and Fama, Fisher, Jensen, & Roll,(1969) annual dividend models were designed to look at the dividend data and the quarterly earnings.

The second issue about the misclassification of information was addressed by application of the concept of prediction interval which entails filtering. The third methodology involved setting aside information on dividend announcement from other publicly available information. They concluded that informational content of dividends was found to be very minimal though there was a relationship between the market value and dividend announcement

Laub (1976) sought to show dividends do convey information about future firm value that helps in prediction of future earnings more accurately as opposed to Watts (1973). Laub(1976) relied on a sample of 30 large corporations over 1946-1965 by using a quarterly model .

He observed that about two thirds of the regular dividends announcements occurred in the first and third quarters of the fiscal year, while about one third occurred in the second and fourth quarters. He concluded that there is no good basis for disregarding the information provided

by quarterly reports. This is actually the main reason that lead Laub to attempt to build a quarterly model of the dividends firm-value relationship

Laub (1976) used the comparisons of mean squared forecast errors implied by Watts (1973) model, the Fama-Babiak (1968) model and his own model to arrive at conclusions on the information content of dividends. The first two models used by Laub were the annual dividend model while the third forecast is majorly based on the quarterly earnings forecasting model used to develop the earnings proxy for the model of the future earnings

According to Laub, information about future earnings prospects is contained in dividend announcements

2.5 Conceptual Framework

The efficiency of the market is measure by how fast it reacts to corporate reports. New information should be reflected by the security prices on the actual day the dividend is made. This is only achieved if dividends contains information and given that this information is incorporated efficiently into the common stock.

The impact of the arrival of unexpected information is different though. In their study on the announcement of dividend and the behaviour of stock prices around those announcements, K.im and Verrechia (1991a, 1991b, 1992) postulate that, an anticipation of a public announcement in itself leads to increased trading volume and price volatility. If the announcement was unanticipated, this would lead to even more excess returns.

The literature on announcement of dividends on stock starts with the study by Miller and Modigliani (1958). They recognized that firm's future value might be affected by information content in the dividend announcement. This led to further research as evidenced by a series of studies by Chavest (1978), Ghosh and Woolridge (1988) and Eades et al.(1985), to mention but a few. Most research on the relationship between company announcements and stock price has used event study methodology. The first published study that used this methodology was

by Dolley (1933). To study the a relationship between dividend announcements and stock price using a sample of stocks of the Nairobi Stock Exchange, the event study methodology will be used because it has been proven to be reliable in measuring the effect of any economic event on firm value. The Model to be used closely follows that used by McWilliams and Siegel (1997) and Mackinlay et al (1997) and event study tests as postulated by Serra (2002).

Figure 2.1 Conceptual Model

We will consider the independent variables, in this case the different types of dividends and how they affect the stock value. We will borrow from a model used by Kothari and Warner,(2007) when they studied the behaviour of firms 'stock prices around corporate events

Independent Variables   **Dependent Variables**

```
┌─────────────────────┐
│ Interim dividend    │──────────────┐
│ Announcement        │              │
└─────────────────────┘              ▼          ┌─────────────────────┐
                                                │ Stock Returns       │
┌─────────────────────┐              ┌─────────►│                     │
│ Final dividend      │──────────────┤          └─────────────────────┘
│ Announcement        │              │
└─────────────────────┘              │
                                     │
┌─────────────────────┐              │
│ Special dividend    │──────────────┘
│ Announcement        │
└─────────────────────┘
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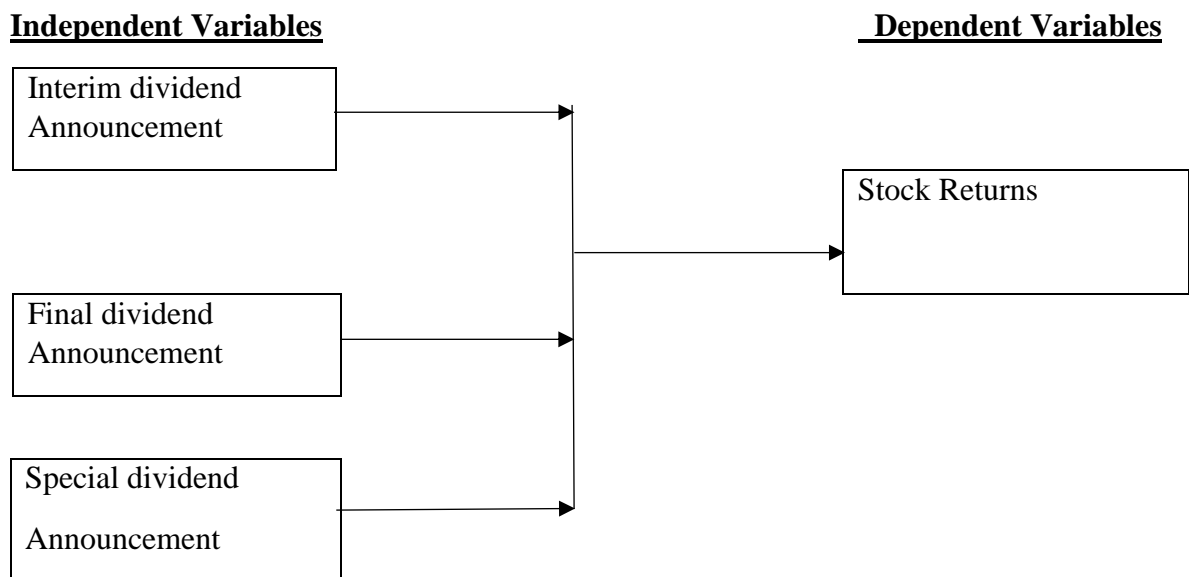
2.6 Summary of the Literature Review

The subject of effect of dividend announcements of firm's stock value has been subjected to different studies since Modiglaini and Miller's study on the Information Content of dividends Hypothesis (ICH).

Alternative explanations of the relationship between two variables have since seen the postulation of various hypotheses to explain the likely impact of dividend announcements on

stock price. The cash flow signalling hypothesis, the free cash flow hypothesis, the coarse dividend signalling theory and the tax preference hypothesis are among these theories.

Empirical evidence on the dividend announcements effects on stock price is also varied. Whereas some researchers like Woolridge (1982) have come up with findings strongly in support of the fact that dividends have information content, others like Uddin (2003) have found dividends to be irrelevant in determining the firm value.

It is also noteworthy that in comparing between Developed and emerging economies, the results are mixed. For instance, Ray et al (1990) in their study of Istanbul stock Exchange (ISE) found no significant effect of dividend announcements on firm value, while Uddin (2003) in studying the Dhaka Stock Exchange (DSE) found the opposite. Similarly, studies using the NYSE stocks by Pettit (1972) found a positive impact of dividend announcements of stock price, while Watts (2001) using CRSP data found a positive but insignificant relationship. Further empirical research is therefore necessary to shed more light on the exact relationship between stock price and dividend announcement

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter embarks on the methodology used in achieving the research objectives. The study looked at the targeted population, the methods of data collection and how the analysis was done. The chapter highlighted the market model that was be used in the analytical modelling of the data.

3.2 Research Design

This study employed a descriptive research design, specifically the event study methodology. This methodology is normally used to study and analyse various corporate events that might affect stocks returns. This was outlined by Campbell, Lo and MacKinlay (1997).

This methodology considers both the normal and the abnormal returns and their effects on dividend announcement. The study used event window of thirty days prior to and after the announcement date.

3.3 Population

The population considered under the study was the firms listed at the NSE as of 31st December 2016. There were a total of 65 companies as at the time of study. Companies in the NSE are classified in accordance with their sectors namely; telecommunication and technology sector, automobiles and accessories, agricultural, insurance sector, manufacturing and allied, banking sector, construction and allied and the commercial and services. Also the energy and petroleum and growth enterprise market segment as classified among the sectors.

However the shares are grouped into 4 sectors namely Financial and Industrial & Allied sector, the Agricultural Sector and the Commercial and Services Sector.

3.4 Sample design

In order to come up with the sample of firms that we were to use in our analysis, we set up minimum conditions that a firm had to meet to be among the sample

The conditions were:-

a) It should have announced its final dividends in the period between January 2012 and December 2016. The objective of this was to use the most current data so that the most recent effects would be captured to ensure relevance of the findings to the market participants.

b) Its final dividend announcements fell within the calendar years 2012 - 2016.

c) It should not have announced earnings after dividend announcement day(at least 7 days)

d) It should have been consistent in announcing dividends(at least 5 years under the study)

e) It has been trading for not less than100 days in the six month period.

From the conditions set, four companies (Barclays Bank, East African Breweries, NIC bank and Standard Chartered Bank) qualified for the study. The four companies made a total of 20 announcements during the period 2012-2016.

3.5 Data Collection

The study relied on the secondary data on announcement of dividends from the NSE for the analysis.

3.6 Data Analysis

This was done using the event study methodology

3.6.1 Model Specification

An event is corporate action that may lead a significant price change of a listed asset over some period in time, this is according to financial economics literature.

The event study methodology follows some six steps to determine if there is a relationship between the price change and the event;

Identification of the event of interest

It's the first step and normally involves definition of the event under study. The reasons for choosing the event should be highlighted

Definition of the event window

This involves the identification of the period in which examination of security prices of the sampled companies will be done.

Determination of the event selection criteria

The decision of inclusion of any given firm in the study is identified in step one above. The restrictions may include data availability, listings or industry memberships

Normal Returns measurements.

The normal return can be calculate as;

$$E (R_{i},t/ \Omega_{t-1})\dots\dots\dots\dots\dots\dots\dots \tag{1}$$

Where:

E= Time expectation of period r

R_{i},t = The actual return and

$q \Omega_{t-1}$ = Normal return model for conditioning information.

Estimation window definition and abnormal returns

Estimation window is the period before the event window.

From equation 1 above, market model is estimated as;

$$R_{i,t} = \hat{\alpha} + \hat{\beta}_i + R_{m\tau} + \hat{\varepsilon}_{i,\tau}\dots\dots\dots\dots\dots\dots\dots \tag{2}$$

$$E (\varepsilon_{i, \tau}) = 0$$

$$Var (\varepsilon_{i, \tau}) = \hat{\delta}^2_{\varepsilon}$$

Where:

$R_{i,t}$ = Period τ returns on security I,

$R_{m\tau}$ = Period τ returns on market portfolio and

$\varepsilon_{i,\tau}$ = Mean disturbance term

$\hat{\alpha}$, $\hat{\beta}$ and $\hat{\delta}^2{}_\varepsilon$ are the parameters estimated for the model.

Abnormal returns are calculated by;

$$AR\, i,\tau = R\, i,\tau - E(R\, i\, \tau) \qquad\qquad\qquad (3)$$

We will estimate the above model by the following equation;

$$AR\, i,\tau = \varepsilon_{i,\tau} = R\, i,t - \hat{\alpha} - \hat{\beta}_i - R_{m\tau} \qquad\qquad\qquad (4)$$

$\hat{\varepsilon}\, i,\tau \sim N(O, V_{i,\tau})$

$$CAR_i = \sum_{\tau=T1}^{T2}(\hat{\varepsilon}\, i,\tau) \qquad\qquad\qquad (5)$$

$$ACAR = \hat{\varepsilon} = 1/N \sum_{i=1}^{N}(\hat{\varepsilon}\, i,\tau) \qquad\qquad (6)$$

$$Var(ACAM) = \delta^2{}_{ACAR} = N^2 \sum_{i=1}^{N} \hat{\delta}^2 CAR i$$

Diagnostic Tests

Significance of abnormal returns is tested by parametric tests.

Mathematically;

$$SAR i,\tau = \frac{AR i,t}{S(SAR it}} \qquad\qquad\qquad\qquad (7)$$

Where:

$SAR i,\tau$ = Standard abnormal returns of firm i at time r

$AR i, t$ = Abnormal returns of firm i at time t

S= Standard error

$$Z = \frac{SAR i,\tau}{S(SAR 1)} = N^{-1} = \frac{\sum_{i=1}^{n} SAR i,\tau}{S(SAR it)} \qquad\qquad\qquad (8)$$

Considering independence in the firm,

$$S(SAR i\tau) = \frac{1}{\sqrt{N}} \qquad\qquad\qquad\qquad (9)$$

3.6.2 Model Estimation Procedures

The standard event study methodology that follows six steps was used to establish how the dividend announcements affects the stock price at the Nairobi Stock Exchange.

The following is the procedure that was used:

(i) Identification of the event of interest.

As explained in the problem statement, dividend announcements of a selected sample of firms at the NSE were identified as the event of interest. The event day was labelled day 0. The estimation window for the companies sampled was chosen to be 6 months.
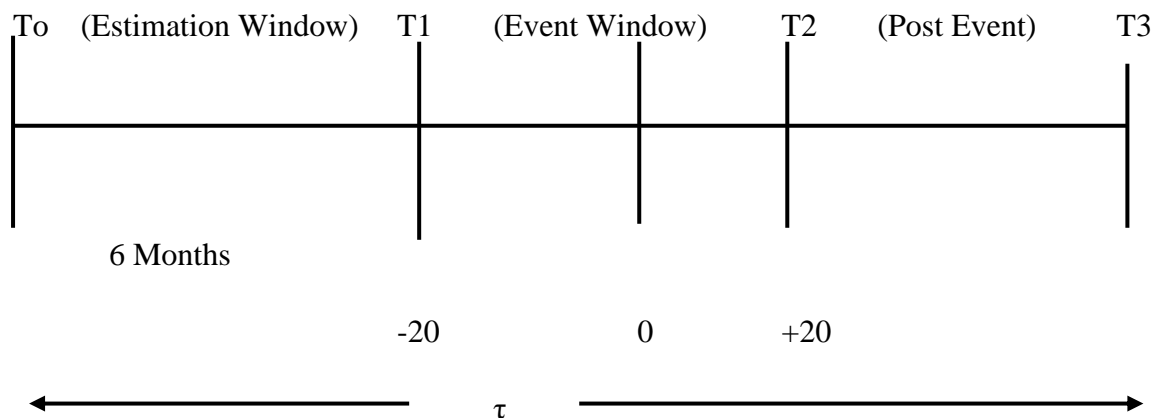
(ii) Identification of the event window

In our model we sampled firms that consistently announced final dividends in period between January 2012 and December 2016. The event window that was used to show the behaviour of average cumulative abnormal returns was $\pm$ 20 days from the day of the final dividend announcement.

(iii) The sample selection criteria

This has been adequately covered under sample design.

(iv) Measurement of normal returns.

Market model was used to measure the normal returns. We assumed that stock prices were not affected by announcements of dividends. The premise of no unanticipated dividend announcement was the basis of generating normal returns.

Mathematically, the model is given as;

$$R_{st}=\beta_0 + \beta_1 R_{mt}+\varepsilon_{st}\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.\quad.(1)$$

The above model was estimated using OLS.

Where;

$R_{s,t}$ = Return rate of common stock of firm s on day t.

$R_{s,t}$ =The *ln Prices $_{s,t}$* - *ln Price $_{s,t-i}$*

$R_{m,t}$ = The NSE 20 share index return at time t.

$R_{m,t}$= ln Si_t- ln Si_{t-1}

ln = Natural logarithm.

Si= stock market index

β_1 = Coefficients of daily returns on daily market index .

$\varepsilon_{s,t}$ = The residual for stock s at time t with E($\varepsilon_{s,t}$)= 0. From equation (1) above, the estimated coefficients β_0 and β_1, were estimated.

(v) Estimation window definition and the abnormal returns framework

Our estimation window was 6 months before the event. There is need to separate the event window and estimation window. This is to avoid any form of overlapping and remove bias on the results

The abnormal return was calculated as;

$$AR{s,t}= \hat{\varepsilon}_{s,t} =R_{st} - \hat{\beta}_0 - \hat{\beta}i R_{m,t}\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (2)$$

Where: -

$\hat{\varepsilon}_{s,t}$ = Residual generated above(equation 2)

$R_{s,t}$ = The event window returns .

$R_{m,t}$ = Market returns event window.

The abnormal returns were found to be normally distributed jointly. The assumption of normal distribution is observed, also follows the *t*-distribution. The assumption of normal distribution was used in the study to support the behaviour of abnormal returns under the null hypothesis *Ho.*

$$\hat{\varepsilon}_{s,t} \approx N(0, V_{st}) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots. \tag{3}$$

Where V is the variance.

ACAR is the cumulative average abnormal return for the given event period.

$$\text{ACAR} = \bar{\varepsilon} = \frac{1}{N} \sum_{i=1}^{N} \hat{\varepsilon}_{s,t} \ldots\ldots\ldots\ldots\ldots\ldots..\ldots\ldots\ldots \tag{4}$$

$$\text{Var}(\bar{\varepsilon}_s) = V = \frac{1}{N2} \sum_{i=1}^{N} V_{s,t} \ldots\ldots\ldots\ldots\ldots..\ldots\ldots\ldots\ldots \tag{5}$$

(vi) Diagnostic Tests

Parametric tests were used. A statistical inference will be made by comparing the values at N-1 degrees of freedom from the table and the critical t-value. The results gotten are then standardized by the equation as follows;

$$AR_{st} = \frac{AR_{st}}{S(AR)} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \tag{6}$$

Where:

$AR_{s,t}$ = Abnormal returns of firm *s* at time *t*.

S = Standard error (firms abnormal returns)

The test statistic will be computed. It was found out that average standardized residuals was zero across the firms. This is from the Hypothesis statistics.

$$Z = AR_{st} = \frac{AR_{st}}{S(AR)} = \frac{\frac{1}{N} \sum_{i=1}^{N} \hat{\varepsilon}_{s,t}}{S(AR)} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (7)$$

Due to independence in the firm, the independency in distribution of abnormal returns shows that: -

$$S(AR_{s,t}) = \frac{1}{\sqrt{N}} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (8)$$

The abnormal returns would follow a student-t distribution. A test will be done to determine average cumulative abnormal return's significance. This is to be achieved by comparing the critical value of t-statistic from the tables

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter contains the summary of the findings and makes conclusion based on the study's objective. The main objective was to determine how stock returns will be influenced by the announcement of dividend of the listed firms at the NSE.

4.2 Findings

We used daily stock price for four firms listed at the NSE. We considered 30 days before and after the event as our event window translating to 61-day event window. An analysis for the four selected firms was done. Comparison approach was used in analysis of the returns before and after the announcement. The abnormal returns were calculated by subtracting the expected returns from the daily returns and adding the dividend payment announced during the period for each of the days after announcement. To bring out the behaviour, the CAR returns were calculated by summing daily abnormal returns before and after the announcement. A graph of the CAAR for the period was then plotted for each of the years to show the trend of abnormal returns over the event window. The daily abnormal returns, AAR and the CAAR five companies under study are represented in figures below for the 61 day event window.

4.2.1 Analysis for 2012

The abnormal and cumulative returns were calculated from the daily and expected returns. They were then plotted to bring out the trend for the year 2012. The trend analysis is as follows;

Figure 4.1 Trend of AAR and CAAR for the year 2012
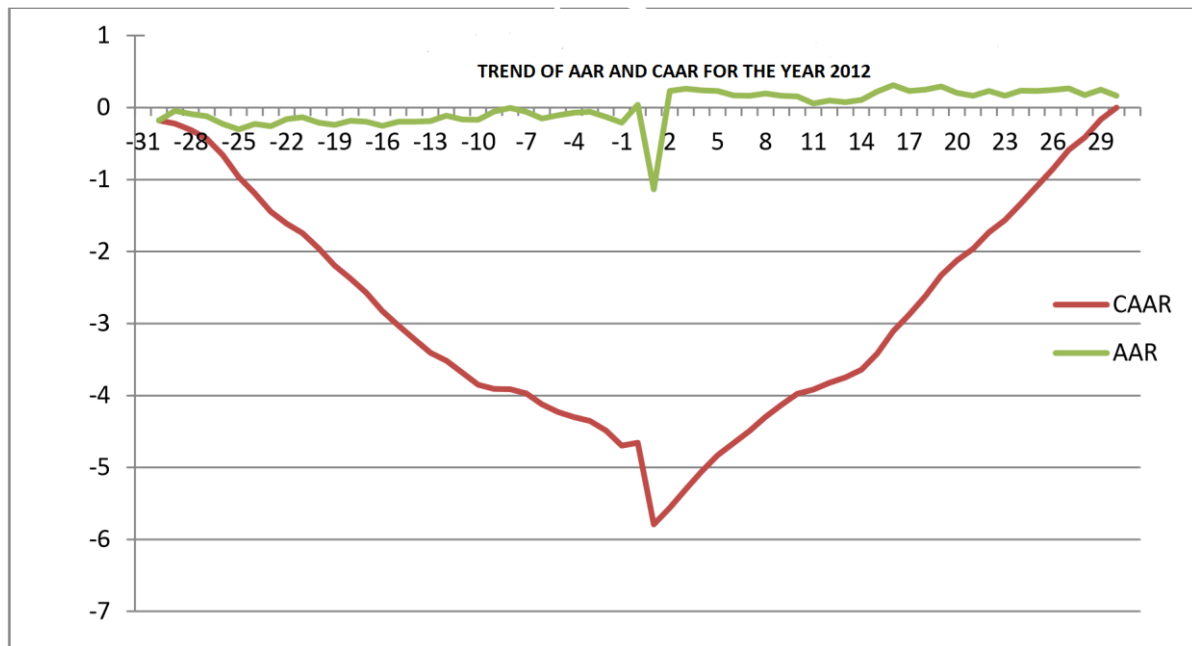
Source: Research Findings

The curve for cumulative average abnormal returns for 2012 slopes generally downwards for the 30 days prior the dividend announcement date, generally upward sloping for the 30 days after the announcement. The AAR Curve tends to fluctuate before and after the announcement date of the dividend. It is positive after the date of the dividend announcement but negative before the date of the dividend announcement. Both the curves have a sharp kink on the day of announcement. This clearly shows that dividend announcement has a significant effect of stock returns as depicted by Figure 4.1.

4.2.2 Analysis for 2013

The abnormal and cumulative returns were calculated from the daily and expected returns. They were then plotted to bring out the trend for the year 2013. The trend analysis is as follows;

Figure 4.2 Trend of AAR and CAAR for the year 2013

The curve for cumulative average abnormal returns for 2013 slopes generally downwards for the 30 days prior the announcement date of the dividend and is generally upward sloping for the 30days after the announcement. The CAAR increase rapidly on the day of announcement and stagnate slightly after the announcement date then decrease thereafter.

The curve for AAR fluctuates both before and after dividend announcement date. The effect is however negative before the dividend announcement date and positive thereafter. The AAR and the CARR are slightly higher on the announcement date compared with the rest of days.

From figure 4.2, dividend announcement has considerable effect on stock returns. This is evidenced by the observation that the cumulative abnormal returns curve slopes downwards depicting a decrease in the returns before the announcement day. After the announcement day

the curve slopes upwards depicting a positive reaction by the returns. The abnormal and cumulative returns were calculated from the daily and expected returns. They were then plotted to bring out the trend for the year 2013. The trend analysis is as follows;

Figure 4.3 Trend of AAR and CAAR for the year 2014

Source: Research Findings

The curve for cumulative average abnormal returns for 2014 slopes generally downwards for the 30 days prior the announcement date of the dividend. It is generally upward sloping for the 30days after the announcement. The curve for the AAR fluctuates both before and after the announcement date of the dividend. It is however negative before and positive after dividend announcement date respectively. Both curves are generally smooth with a fair kink on the announcement date.

From figure 4.3, it is evident that dividend announcement has a significant effect on stock returns. This is evidenced by the cumulative abnormal returns curve slopes downwards depicting a decrease in the returns before the announcement day. After the announcement day the curve slopes upwards depicting a positive reaction by the returns.

4.4 Analysis for 2015

The abnormal and cumulative returns were computed from the daily and the expected returns. They were then plotted to bring out the trend for the year 2012. The trend analysis is as follows;

Figure 4.4 Trend of AAR and CAAR for the year 2015
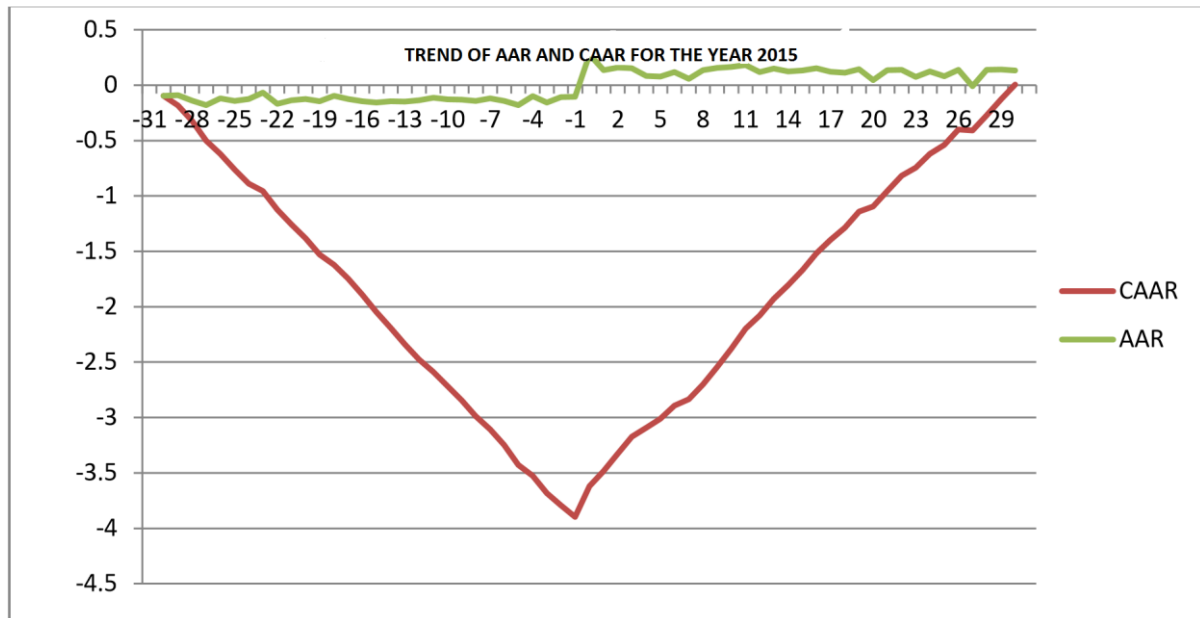
Source: Research Findings

The curve for cumulative average abnormal returns for 2014 slopes generally downwards for the 30 days prior the announcement date of the dividend, and is generally upward sloping for the 30 days after the announcement. The curve for AAR fluctuates both before and after the date of the dividend announcement. It is curve is negative before the date of the dividend announcement and positive after the date of dividend announcement. On the day of announcement the average abnormal returns increases rapidly as depicted by the curve. There is an upward kink on the average abnormal returns as evidenced by the curve.

From figure 4.4, we can observe that dividend announcement has an effect on stock returns. This is evidenced by the cumulative abnormal returns curve slopes downwards depicting a decrease in the returns before the announcement day. After the announcement day the curve slopes upwards depicting a positive reaction by the returns.

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4.2.5 Analysis for 2016

The abnormal and cumulative returns were calculated from daily and expected returns. They were then plotted to bring out the trend for the year 2016. The trend analysis is as follows;

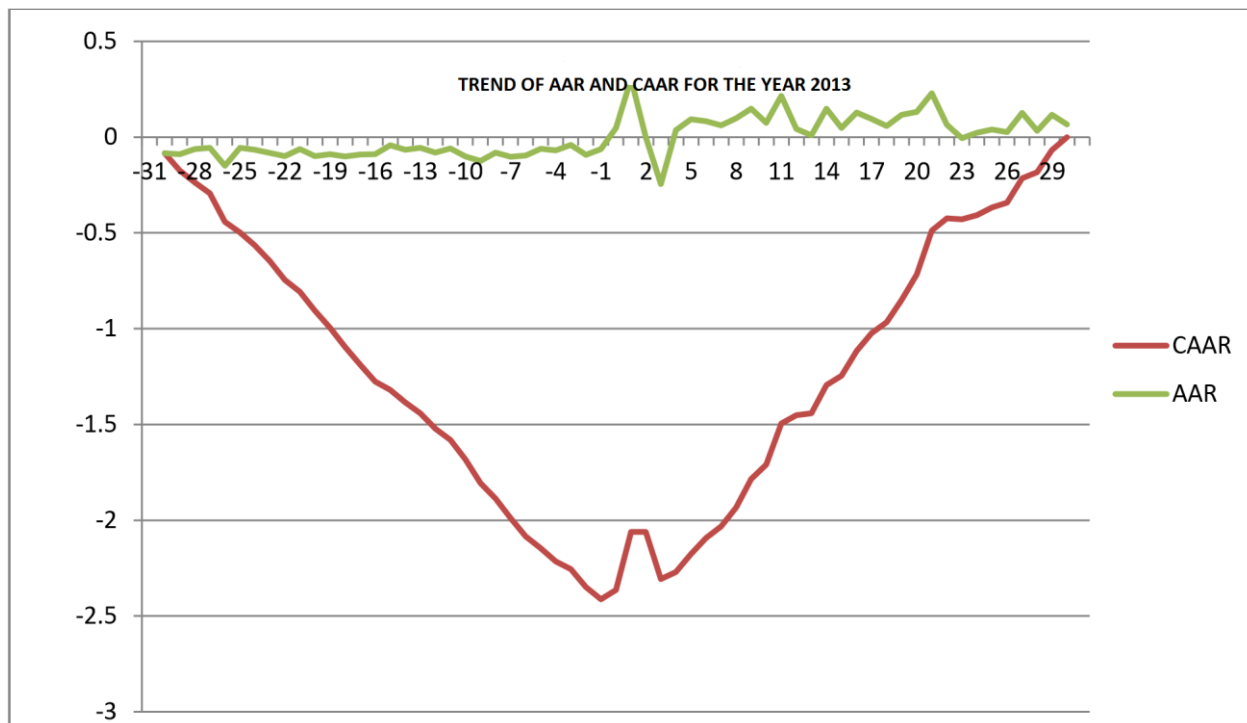**Figure 4.5 Trend of AAR and CAAR for the year 2016**
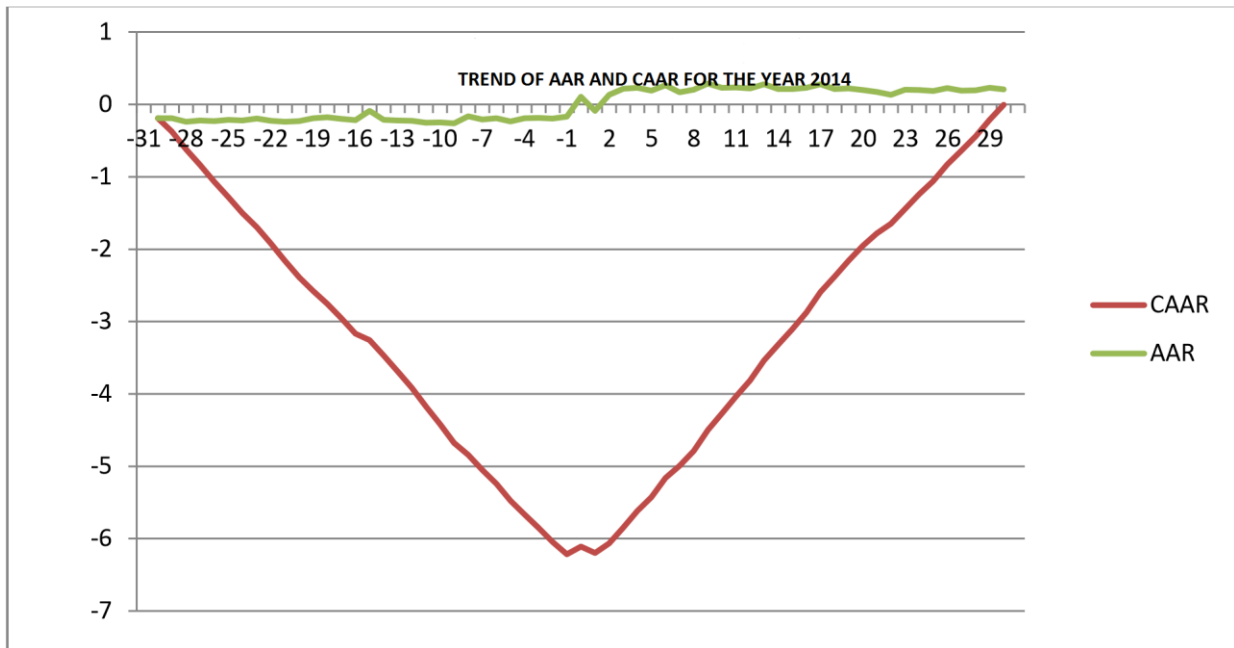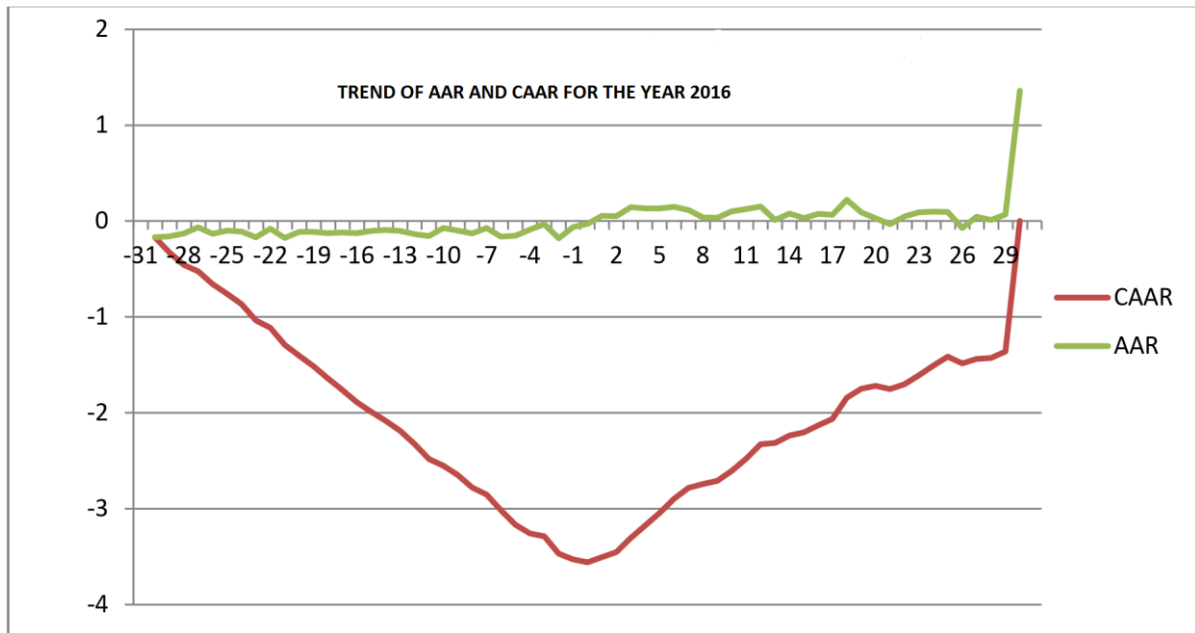

Source: Research Findings

The curve for cumulative average abnormal returns for 2015 slopes generally downwards for the 30 days prior the dividend announcement date, and is generally upward sloping for the 30days after the announcement. The curve for AAR fluctuates both before and after the dividend announcement date. It is however negative before the dividend announcement date and positive thereafter. Both curves are fairly smooth other than day 28 as evidenced by both curves.

From figure 4.5, it is clear that the announcement of dividend has a considerable effect on the stock returns. This is evidenced by the cumulative abnormal returns curve slopes downwards

depicting a decrease in the returns before the announcement day. After the announcement day the curve slopes upwards depicting a positive reaction by the returns.

4.2.6 Analysis for all years

The sum for the abnormal and cumulative returns for all years was calculated and then plotted to bring out the trend for the combined years. The trend analysis is as follows;

Figure 4.6 Trend of TAAR and CAAR for all years
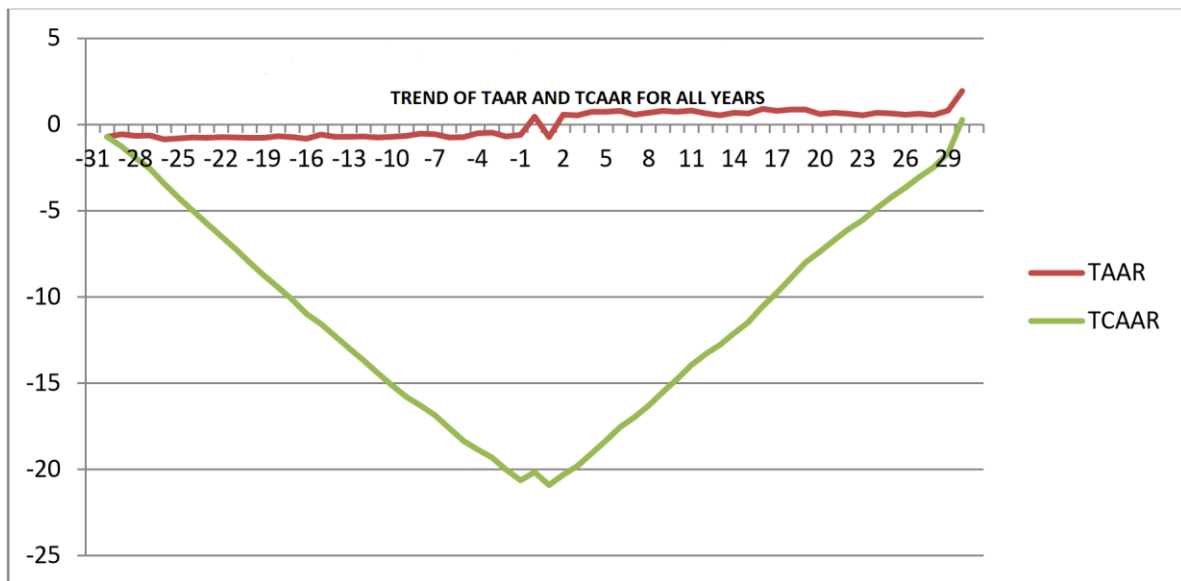
Source: Research Findings

The curve for total cumulative average abnormal returns for all years slopes generally downwards for the 30 days before the dividend announcement date, and is generally upward sloping for the 30days after the announcement. The curve for the total AAR fluctuates both before and after the dividend announcement date. It is negative before and positive after the dividend announcement date.

From figure 4.6, we can observe that dividend announcement has a considerable effect on stock returns. This is because the cumulative abnormal returns curve slopes downwards depicting a decrease in the returns before the announcement day. After the announcement day the curve slopes upwards depicting a positive reaction by the returns.

4.3 Test of Significance

The t-statistics for both the AAR and the CAAR average was calculated using the standard deviation of the AAR and CAAR returns respectively.

Table 4.1 Test of Significance for Average Abnormal Returns for the Year 2012

			Test Value = 1.62459		95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
AAR	-21.433	61	.000	-4.42205	-4.8346	-4.0095

Source: Research Findings

The t-test statistics was calculated using a 5% level of significance. The t-test is -21.433 which lies in the rejection area. Hence we reject the null hypothesis that dividend announcement does not have an effect on stock returns of firms listed at the NSE for the year 2012. The p-value for AAR in the year 2012 is zero which also leads us to rejecting the null hypothesis since the value is less than the level of significance.

Table 4.2 Test of Significance for Cumulative Average Abnormal Returns for the Year 2012

			Test Value = 0.23935		95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
CAAR	-7.763	61	.000	-.23596	-.2967	-.1752

The t-test statistics was calculated using a 5% level of significance. The t-test is -7.763 which lies in the rejection area. Hence we reject the null hypothesis that dividend announcement does not have an effect on stock returns of firms listed at the NSE for the year 2012. The p-value for CAAR in the year 2012 is zero which also leads us to rejecting the null hypothesis since the value is less than the level of significance.

Table 4.3 Test of Significance for Average Abnormal Returns for the Year 2013

	Test Value = 0.75050				95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
AAR	-20.625	61	.000	-1.96583	-2.1564	-1.7752

The t-test statistics was calculated using a 5% level of significance. The t-test is -20.625 which lies in the rejection area. Hence we reject the null hypothesis that dividend announcement does not have an effect on stock returns of firms listed at the NSE for the year 2013. The p-value for AAR in the year 2013 is zero which also leads us to rejecting the null hypothesis since the value is less than the level of significance.

Table 4.4 Test of Significance for Cumulative Average Abnormal Returns for the Year 2014

	Test Value = 0.10657				95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
CAAR	-7.627	61	.000	-.10322	-.1303	-.0762

The t-test statistics was calculated using a 5% level of significance. The t-test is -7.627 which lies in the rejection area. Hence we reject the null hypothesis that dividend announcement does not have an effect on stock returns of firms listed at the NSE for the year 2014. The p-value for CAAR in the year 2014 is zero which also leads us to rejecting the null hypothesis since the value is less than the level of significance.

Table 4.5 Test of Significance for Average Abnormal Returns for the Year 2015

					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
AAR	-20.885	61	.000	-5.06685	-5.5520	-4.5817

Test Value = 1.91032

The t-test statistics was calculated using a 5% level of significance. The t-test is -20.885 which lies in the rejection area. Hence we reject the null hypothesis that dividend announcement does not have an effect on stock returns of firms listed at the Nairobi Securities Exchange for the year 2015. The p-value for AAR in the year 2015 is zero which also leads us to rejecting the null hypothesis since the value is less than the level of significance.

Table 4.6 Test of Significance for Cumulative Average Abnormal Returns for the Year 2016

	Test Value = 0.2107				95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
CAAR	-7.929	61	.000	-.21217	-.2657	-.1587

 Source: Research Findings

The t-test statistics was calculated using a 5% level of significance. The t-test is -7.929 which lies in the rejection area. Hence we reject the null hypothesis that the announcement of dividend does not have an effect on stock returns of firms listed at the NSE for the year 2016. The p-value for CAAR in the year 2016 is zero which also leads us to rejecting the null hypothesis since the value is less than the level of significance.

 Table 4.7 Test of Significance for Average Abnormal Returns for the Year 2016

	Test Value = 1.13787				95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
AAR	-20.614	60	.000	-3.00332	-3.2947	-2.7119

Source: Research Findings

The t-test statistics was calculated using a 5% level of significance. The t-test is -20.614 which lies in the rejection area. Hence we reject the null hypothesis that dividend announcement does not have an effect on stock returns of firms listed at the NSE for the year

2016. The p-value for AAR in the year 2016 is zero which also leads us to rejecting the null hypothesis since the value is less than the level of significance.

Table 4.8 Test of Significance for Cumulative Average Abnormal Returns for the Year 2012

	Test Value = 0.13471					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
CAAR	-7.806	60	.000	-.13463	-.1691	-.1001

Source: Research Findings

The t-test statistics was calculated using a 5% level of significance. The t-test is -7.806 which lies in the rejection area. Hence we reject the null hypothesis that dividend announcement does not have an effect on stock returns of firms listed at the NSE for the year 2016. The p-value for CAAR in the year 2016 is zero which also leads us to rejecting the null hypothesis since the value is less than the level of significance.

Table 4.9 Test of Significance for Average Abnormal Returns for the Year 2016

	Test Value = 0.92624					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
AAR	-25.168	60	.000	-2.98476	-3.2220	-2.7475

Source: Research Findings

The t-test statistics was calculated using a 5% level of significance. The t-test is -25.168 which lies in the rejection area. Hence we reject the null hypothesis that

dividend announcement does not have an effect on stock returns of firms listed at the NSE for the year 2016. The p-value for AAR in the year 2016 is zero which also leads us to rejecting the null hypothesis since the value is less than the level of significance.

Table 4.10 Test of Significance for Cumulative Average Abnormal Returns for the Year 2016

	Test Value = 0.20720				95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
CAAR	-7.810	60	.000	-.20720	-.2603	-.1541

Source: Research Findings

The t-test statistics was calculated using a 5% level of significance. The t-test is -7.810 which lies in the rejection area. Hence we reject the null hypothesis that dividend announcement does not have an effect on stock returns of firms listed at the Nairobi Securities Exchange for the year 2016. The p-value for CAAR in the year 2016 is zero which also leads us to rejecting the null hypothesis since the value is less than the level of significance.

4.4 Interpretation of the Findings

The main objective of the analysis was to find out whether the announcement of dividend has an effect on stock returns of firms listed at the NSE. The AAR were calculated by subtracting the expected returns from the daily returns and adding the dividend payment announced during the period for each of the days after announcement. The cumulative average returns were the calculated by summing up the average abnormal returns before and after the announcement.

The graphs for the AAR and the CAAR were then plotted to bring out the trend on all the years. Finally a test of significance was conducted using the t-test for both the AAR and CAAR for all the years. As observed from research findings, the average abnormal returns for all the years were negative before the announcement date and were positive after the announcement date. From figure 4.1, there is a decrease in the AAR and the CAAR on the day of the announcement as evidenced by the curves. From figure 4.2, there is a slight increase in the AAR and CAAR as evidenced by the curves. The rest of the figures indicate smooth curves for the CAAR and fluctuating curves for the AAR.

Generally, the CAAR for all the years decrease before the announcement date but increase after the announcement date. The curve for CAAR slopes downward for all the years and upward after the announcement date. This shows that stock returns the selected firms listed at the NSE react positively towards the dividend announcement in all the five years. From the test of significance, the null hypothesis that dividend announcement does not have an effect on the stock returns of firms listed at the NSE is rejected. This shows that dividend announcement is statistically significant and affects the stock returns positively.

Aamir and Shah (2011) in their study concluded that there is a positive reaction on stock returns due to dividend announcement. Njuru (2007) discovered that there is a positive reaction in the NSE after stock dividend announcement and hence concluded existed of under reaction. From the research findings, it can be shown that the announcement of dividend has a positive effect on stock returns of firms listed at the Nairobi securities Exchange.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In this study, we wanted to determine the effect of dividend announcements on stock returns of firms listed on the Nairobi Securities Exchange. The findings of the study are summarized in this chapter and the conclusion made based on study's objective. From the data we collected and the analysis done on the findings, we made conclusion and recommendations based on the study's objective.

5.2 Summary

The AAR were calculated by subtracting the expected returns from the daily returns and adding the dividend payment announced during the period for each of the days after announcement. To bring out the behaviour, cumulative average returns were also calculated by summing daily abnormal returns before and after the announcement. A graph of the CAAR for the period was then plotted for each of the years to show the trend of abnormal returns over the event window.

From the analysis above the AAR were generally negative before but positive after the announcement. There was a general decrease in the cumulative abnormal returns before the dividend announcement date leading to a downward sloping curve and a general increase after the dividend announcement date leading to an upward sloping curve. The test of significance also revealed that dividend announcement has significant effect on stock returns of firms listed at the NSE.

5.3 Conclusion

From the study, the conclusion drawn was that the there was a positive effect on stock returns of the listed firms at the NSE. Also, it was noted that the NSE market reacts to new information, like our case of dividend announcement.

5.4 Recommendations for Policy

This study recommends that the Capital Market Authority enforce firms to make more frequent dividend announcement. This leads to improvement of the value of stock returns on the listed firms at the NSE. With this improvement, the firm will be able to attract more investors hence increased value of the listed firms.

Also, this study recommends that the NSE ensures that the firms making the dividend announcement do not make abnormal gains as a result of the new information in the market. It should ensure that the public information is always predictable and easily available to protect the interests of the investors in the market.

Furthermore, the NSE should establish a mechanism in which the investors can be able to determine the real return of a stock in the market regardless of the corporate information. This will cover the investors as they invest so that their investment decision is not solely based on an event.

Lastly, this study recommends that any kind of turnaround of the firm should be always done around this time. This is because, the future prospects of a firm appear to be good at such times hence any policy adapted may yield positive returns because of the firm's competitive edge.

5.5 Limitations of the Study

The sample used was relatively small considering The Nairobi Securities Exchange consists of 64 companies. This is because some of the companies listed at the NSE have not consistently being making dividend announcement.

The period under study is relatively short hence the trend displayed by the graphs may not be sufficient to represent the years that have not being incorporated.

The data used was historical and due to the changing economic factors and trends, this may not be a good representation of what may happen in the future.

5.6 Areas of Further Studies

This knowledge can be used in areas of further studies such as investigating the effect of other corporate actions on stock returns such as mergers and acquisitions, stock split and bonus issues.

The dividend policy and dividend structures can also be investigated to determine whether they have an effect on the value of the firm or not.

Different sectors can also be analysed to determine whether dividend announcement has the same positive effect on the stock returns of the firms in the different sectors as classified by the NSE.

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APPENDIX

Appendix I: CUMULATIVE AVERAGE ABNORMAL RETURNS FOR 2012

DAY	EABL	BBK	NIC	SCBK	SUM	AAR	CAAR
-30	0.03030	-0.02162	-0.01333	0.00000	-0.02534	-0.17780	-0.17780
-29	0.05000	0.01657	0.01351	0.00714	0.10836	-0.04410	-0.22190
-28	0.04482	-0.02174	0.00000	-0.00709	0.06426	-0.08820	-0.31010
-27	0.02681	0.01111	0.00667	0.00000	0.03143	-0.12103	-0.43113
-26	0.03133	-0.02198	-0.06623	0.00000	-0.07687	-0.22933	-0.66046
-25	-0.01772	-0.02247	-0.04965	-0.00714	-0.15140	-0.30386	-0.96432
-24	0.00773	-0.03448	0.03731	-0.05755	-0.07577	-0.22823	-1.19255
-23	0.00000	0.00000	-0.00719	-0.01527	-0.10394	-0.25640	-1.44895
-22	0.01023	-0.01190	0.00725	-0.01550	-0.00993	-0.16239	-1.61134
-21	0.00253	0.01205	-0.02158	0.01575	0.01681	-0.13565	-1.74699
-20	-0.01263	-0.01190	0.00000	0.00000	-0.05653	-0.20899	-1.95598
-19	-0.02558	-0.03012	-0.00735	0.00000	-0.08784	-0.24030	-2.19628
-18	-0.01312	-0.01242	0.00000	0.03876	-0.02916	-0.18162	-2.37790
-17	0.00000	-0.01887	0.00741	0.03731	-0.04494	-0.19740	-2.57530
-16	0.00000	-0.00641	-0.00735	0.00000	-0.09948	-0.25194	-2.82724
-15	-0.00266	-0.03226	-0.00741	0.00719	-0.04555	-0.19801	-3.02525
-14	0.00267	-0.02000	0.00746	-0.02143	-0.04183	-0.19428	-3.21953
-13	0.00798	-0.02041	-0.02222	0.00730	-0.03267	-0.18513	-3.40466
-12	0.00264	0.01389	0.00758	0.00000	0.04015	-0.11231	-3.51697
-11	0.00526	-0.00685	-0.03759	-0.01449	-0.01157	-0.16403	-3.68100
-10	0.01309	0.00690	-0.07813	0.00000	-0.01774	-0.17019	-3.85119
-9	0.02067	-0.02055	0.00000	0.00000	0.09721	-0.05525	-3.90644
-8	0.05063	0.00000	0.00000	0.00735	0.14648	-0.00598	-3.91242
-7	-0.01205	0.00000	0.04237	0.00730	0.09453	-0.05792	-3.97034
-6	-0.02439	0.00000	0.00813	0.00725	-0.00132	-0.15378	-4.12413
-5	-0.00250	-0.00699	0.04839	0.00000	0.04653	-0.10593	-4.23006
-4	0.00251	0.04225	0.04615	0.00719	0.08296	-0.06950	-4.29956
-3	0.00000	0.06757	0.04412	0.00000	0.09630	-0.05616	-4.35572
-2	0.00000	0.03165	0.00704	0.02143	0.02105	-0.13141	-4.48712
-1	-0.00250	-0.00613	-0.02797	-0.02098	-0.05759	-0.21005	-4.69717
0	0.05013	0.03086	0.02878	0.04286	0.19327	0.04082	-4.65635
1	-0.01003	0.01242	-0.14085	0.02128	-0.98357	-1.13603	-5.79238
2	0.05600	0.03822	-0.01653	0.02878	0.38384	0.23138	-5.56100
3	0.06117	0.04459	-0.04237	0.04348	0.41376	0.26130	-5.29971
4	0.06332	0.03797	-0.00893	0.02158	0.39295	0.24049	-5.05921
5	0.05222	0.03797	0.06364	0.03650	0.38286	0.23040	-4.82882
6	0.06005	0.02532	0.02586	0.03650	0.32237	0.16992	-4.65890
7	0.04663	0.04487	0.02542	0.03650	0.31869	0.16623	-4.49267
8	0.05729	0.05096	0.00833	0.04380	0.34858	0.19612	-4.29655
9	0.05699	0.05031	-0.00833	0.03623	0.31703	0.16457	-4.13198
10	0.04897	0.06211	0.03390	0.02899	0.30947	0.15701	-3.97498
11	0.04910	0.03636	0.01653	0.03650	0.20812	0.05566	-3.91931

12	0.05181	0.04242	0.03279	0.03650	0.24994	0.09748	-3.82183
13	0.05181	0.02410	0.00800	0.03650	0.22657	0.07411	-3.74772
14	0.04404	0.05488	0.00800	0.02190	0.25809	0.10564	-3.64209
15	0.05744	0.04192	0.00800	-0.00741	0.37421	0.22175	-3.42033
16	0.05195	0.02976	0.00800	0.06202	0.46578	0.31332	-3.10702
17	0.04935	0.04192	0.00800	0.04545	0.38503	0.23257	-2.87444
18	0.04688	0.04167	0.02400	0.05263	0.40363	0.25118	-2.62327
19	0.05759	0.03550	0.01575	0.03704	0.44741	0.29495	-2.32832
20	0.05208	0.04142	0.01563	0.03704	0.35613	0.20367	-2.12465
21	0.05469	0.00588	0.00000	0.03704	0.31546	0.16301	-1.96165
22	0.08831	0.04848	0.00781	0.03704	0.38449	0.23203	-1.72961
23	0.05263	0.04790	0.01563	0.01481	0.31803	0.16557	-1.56404
24	0.06250	0.02959	0.03101	0.03788	0.38690	0.23444	-1.32961
25	0.04938	0.05357	0.00758	0.04545	0.38477	0.23231	-1.09730
26	0.07407	0.03509	0.00758	0.05263	0.39648	0.24402	-0.85328
27	0.12048	0.04678	-0.01515	0.03704	0.41824	0.26578	-0.58750
28	0.06742	0.04046	-0.03101	0.03704	0.32614	0.17368	-0.41382
29	0.05495	0.03448	0.05645	0.03704	0.40313	0.25067	-0.16315
30	0.02174	0.03448	0.00769	0.02963	0.31657	0.16411	0.00096

Source: Research Findings

Appendix II: CUMULATIVE AVERAGE ABNORMAL RETURNS FOR 2013

DAY	EABL	NIC	BBK	SCBK	SUM	AAR	CAAR
-30	0.01205	-0.01418	-0.01485	0.01829	0.00444	-0.08507	-0.08507
-29	0.00000	0.00719	-0.01005	0.00000	0.00027	-0.08924	-0.17431
-28	0.04762	0.00000	-0.00508	-0.01198	0.02745	-0.06206	-0.23636
-27	0.05682	-0.00714	-0.01020	0.00000	0.03322	-0.05629	-0.29265
-26	-0.01075	0.00000	-0.02062	0.00000	-0.05967	-0.14918	-0.44183
-25	-0.01087	0.00719	0.01579	0.01212	0.03394	-0.05556	-0.49740
-24	0.00000	0.00714	0.01036	0.01198	0.02307	-0.06644	-0.56383
-23	0.00000	0.00000	0.01026	0.00592	0.00650	-0.08301	-0.64685
-22	0.00000	-0.00709	0.00000	-0.00588	-0.00972	-0.09923	-0.74607
-21	-0.01099	0.01429	0.00508	0.00000	0.02785	-0.06165	-0.80773
-20	-0.02222	0.01408	-0.01010	0.00592	-0.00914	-0.09865	-0.90637
-19	0.00000	0.00000	0.01020	0.00000	0.00068	-0.08883	-0.99520
-18	0.00000	0.00000	-0.00505	-0.00588	-0.01093	-0.10044	-1.09564
-17	0.00000	0.00000	-0.00508	-0.00592	-0.00138	-0.09089	-1.18653
-16	0.00000	0.00000	-0.01531	0.01190	-0.00023	-0.08973	-1.27626
-15	0.00000	0.02083	0.02591	0.00588	0.04629	-0.04321	-1.31948
-14	0.00000	0.00680	0.00505	0.01170	0.02355	-0.06596	-1.38543
-13	0.00000	0.04054	0.00503	-0.00578	0.03342	-0.05609	-1.44153
-12	0.00000	-0.00649	0.01000	0.00581	0.00932	-0.08019	-1.52171
-11	0.00000	0.01961	0.00990	-0.00578	0.03014	-0.05937	-1.58108
-10	-0.01136	0.00000	0.00000	0.00000	-0.01136	-0.10087	-1.68196
-9	-0.01149	-0.01282	-0.00980	0.00581	-0.03467	-0.12418	-1.80614
-8	0.00000	-0.00649	0.00990	0.00578	0.00919	-0.08032	-1.88646
-7	-0.02326	0.00000	0.00980	0.00000	-0.01345	-0.10296	-1.98942
-6	-0.02381	-0.00654	0.00000	0.01149	-0.00603	-0.09554	-2.08496

-5	0.01220	0.00000	0.00971	0.00000	0.02823	-0.06128	-2.14623
-4	0.01205	0.00000	0.00000	0.01136	0.02027	-0.06924	-2.21547
-3	0.01190	0.01316	0.00962	0.01124	0.04907	-0.04044	-2.25591
-2	0.00000	0.00000	0.00000	0.00000	-0.00314	-0.09265	-2.34857
-1	-0.01176	0.00000	0.01905	0.02222	0.02635	-0.06316	-2.41172
0	0.03571	0.00649	0.02804	0.03804	0.13677	0.04726	-2.36446
1	0.03614	0.03247	0.00943	0.05978	0.39335	0.30384	-2.06062
2	0.03659	-0.01266	0.01942	0.04255	0.08846	-0.00105	-2.06167
3	0.04938	-0.13548	0.03960	0.04762	-0.15554	-0.24504	-2.30671
4	0.06173	-0.01504	0.02475	0.02618	0.12619	0.03668	-2.27003
5	0.04878	0.03846	0.04523	0.01587	0.18315	0.09364	-2.17638
6	0.04878	0.00746	0.04000	0.05405	0.17224	0.08273	-2.09365
7	0.04878	0.00000	0.04000	0.03723	0.15117	0.06166	-2.03199
8	0.06098	0.00752	0.07000	0.02128	0.18807	0.09856	-1.93342
9	0.10843	0.01504	0.04854	0.03784	0.23807	0.14856	-1.78487
10	0.06818	0.00746	0.00962	0.05405	0.16431	0.07481	-1.71006
11	0.03333	0.00746	0.19802	0.03191	0.30511	0.21560	-1.49446
12	0.02247	0.01493	0.02564	0.03209	0.13228	0.04277	-1.45170
13	0.03448	0.04444	-0.09483	0.05376	0.09903	0.00952	-1.44218
14	0.04651	0.06429	0.04950	0.04233	0.23803	0.14852	-1.29366
15	0.03488	-0.02027	0.06863	0.03684	0.13758	0.04807	-1.24559
16	0.04706	0.00000	0.04762	0.07895	0.21761	0.12811	-1.11749
17	0.04706	0.01399	0.04717	0.03535	0.18380	0.09429	-1.02320
18	0.03529	0.01389	0.05607	0.00505	0.14703	0.05752	-0.96567
19	0.05952	0.04138	0.03670	0.02083	0.20579	0.11628	-0.84939
20	0.04706	0.04000	0.04587	0.04233	0.22145	0.13195	-0.71745
21	0.11765	0.04516	0.06364	0.05263	0.31886	0.22936	-0.48809
22	0.05495	-0.01242	0.07965	-0.00518	0.15345	0.06394	-0.42415
23	0.00000	-0.01266	0.05085	0.04324	0.08400	-0.00551	-0.42967
24	0.04545	0.00645	0.03333	0.03763	0.11243	0.02292	-0.40674
25	0.05682	-0.01290	0.03333	0.03226	0.12837	0.03887	-0.36788
26	0.05618	0.01316	-0.00833	0.03243	0.11506	0.02555	-0.34233
27	0.07778	0.01961	0.04348	0.04348	0.21677	0.12727	-0.21506
28	0.02151	-0.00645	0.02586	0.04324	0.12159	0.03208	-0.18298
29	0.05495	0.02614	0.05217	0.04839	0.20533	0.11583	-0.06715
30	0.05435	0.00000	0.04274	0.03723	0.15531	0.06581	-0.00134

Source: Research Findings Appendix

III: **CUMULATIVE AVERAGE ABNORMAL RETURNS FOR 2014**

DAY	EABL	SCBK	NIC	BBK	SUM	AAR	CAAR
-30	-0.01099	0.00000	0.00971	0.00000	0.02504	-0.18939	-0.18939
-29	0.01111	0.00000	-0.00962	0.00794	0.02653	-0.1879	-0.37729
-28	0.01099	0.00000	-0.02913	-0.00787	-0.02601	-0.24044	-0.61773
-27	0.00000	0.00369	0.00000	-0.00794	-0.00425	-0.21867	-0.83640
-26	0.01087	-0.00368	0.01000	-0.02400	-0.01521	-0.22964	-1.06604
-25	0.00000	0.00000	0.00000	-0.00820	0.00028	-0.21415	-1.28019
-24	0.01075	0.00000	-0.00990	0.00000	-0.00755	-0.22198	-1.50216

-23	0.03191	0.00000	-0.00500	0.00000	0.01844	-0.19599	-1.69815
-22	0.02062	-0.00369	-0.02010	0.00000	-0.01172	-0.22615	-1.92429
-21	0.01010	0.00000	-0.04103	0.00826	-0.02266	-0.23709	-2.16138
-20	0.00000	0.00000	-0.02139	0.00820	-0.01319	-0.22762	-2.38900
-19	0.01000	0.00000	0.01639	0.00000	0.02639	-0.18803	-2.57703
-18	0.00990	0.00000	0.02688	0.00813	0.03629	-0.17813	-2.75517
-17	0.00980	0.00000	0.03141	0.00000	0.01513	-0.1993	-2.95446
-16	0.00971	0.00000	0.00000	0.00806	-0.00008	-0.21451	-3.16897
-15	0.00962	0.01481	-0.03046	0.09600	0.12634	-0.08809	-3.25706
-14	0.00000	-0.01460	0.01047	0.00730	0.00317	-0.21125	-3.46832
-13	-0.00952	0.01481	-0.02073	0.00725	-0.00819	-0.22261	-3.69093
-12	0.00000	-0.01460	-0.00529	0.00719	-0.01270	-0.22712	-3.91805
-11	-0.01923	-0.01111	0.00532	-0.01429	-0.03931	-0.25373	-4.17179
-10	-0.01961	0.00000	-0.00529	-0.00725	-0.03215	-0.24657	-4.41836
-9	0.01000	0.00749	-0.03191	-0.02190	-0.04509	-0.25952	-4.67788
-8	0.00000	0.01115	0.02198	0.00746	0.04944	-0.16498	-4.84286
-7	0.00000	0.01103	-0.01075	0.00741	0.00768	-0.20674	-5.04961
-6	0.01980	0.01091	0.00000	-0.00735	0.02336	-0.19107	-5.24067
-5	0.00000	0.00360	0.00000	-0.00741	-0.02135	-0.23578	-5.47645
-4	0.01942	-0.00358	0.01630	0.00000	0.02321	-0.19122	-5.66767
-3	0.00952	-0.00360	0.00535	-0.00746	0.03084	-0.18359	-5.85126
-2	-0.00943	-0.00722	0.02660	0.00000	0.01871	-0.19571	-6.04697
-1	0.01905	0.00000	0.02073	0.00752	0.04729	-0.16713	-6.21411
0	0.03738	0.00909	-0.02538	0.28060	0.32082	0.106395	-6.10771
1	0.00000	-0.00186	-0.06806	0.17612	0.12550	-0.08893	-6.19664
2	0.04950	0.03269	-0.03390	0.30500	0.34622	0.131793	-6.06485
3	0.04950	0.02115	0.02353	0.31597	0.43034	0.215912	-5.84894
4	0.03960	0.05253	0.01734	0.29916	0.44752	0.233097	-5.61584
5	0.04000	0.03626	0.02286	0.30427	0.40523	0.190799	-5.42504
6	0.05051	0.05133	0.03933	0.32696	0.47944	0.265013	-5.16003
7	0.06061	0.01679	-0.00543	0.31826	0.38253	0.168105	-4.99192
8	0.05000	0.03598	0.01099	0.32982	0.41880	0.204372	-4.78755
9	0.07000	0.02830	0.00000	0.33860	0.50148	0.287055	-4.50050
10	0.04902	0.01705	0.01099	0.33565	0.44503	0.230603	-4.26989
11	0.05882	0.03269	0.01093	0.32414	0.44880	0.234379	-4.03551
12	0.04854	0.02885	0.00000	0.31552	0.43576	0.221338	-3.81418
13	0.03883	0.03282	0.00546	0.34435	0.49419	0.279767	-3.53441
14	0.04902	0.03282	0.00546	0.32991	0.42887	0.214441	-3.31997
15	0.03922	0.03668	0.00546	0.34407	0.42741	0.212981	-3.10699
16	0.04950	0.03269	0.00546	0.32727	0.44759	0.233161	-2.87382
17	0.06931	0.03269	0.01093	0.33008	0.49607	0.281644	-2.59218
18	0.04854	0.04423	0.00543	0.30635	0.42656	0.212132	-2.38005
19	0.03883	0.03992	0.00543	0.31181	0.43843	0.224003	-2.15605
20	0.04902	0.03962	0.00543	0.29922	0.41530	0.200876	-1.95517
21	0.05882	0.02434	0.00543	0.26615	0.38708	0.172654	-1.78252
22	0.03883	-0.01698	0.00543	0.28031	0.35003	0.135602	-1.64691
23	0.04902	0.02976	0.00000	0.30880	0.41958	0.205155	-1.44176

24	0.05882	0.00996	0.00546	0.29841	0.41466	0.200235	-1.24152
25	0.01942	0.03878	0.01093	0.29841	0.39922	0.184792	-1.05673
26	0.05000	0.04268	0.01087	0.30635	0.44158	0.227159	-0.82957
27	0.03000	0.04234	0.00000	0.31181	0.40593	0.191506	-0.63807
28	0.05102	0.03400	0.01087	0.29147	0.40936	0.194937	-0.44313
29	0.05102	0.03800	0.00541	0.29922	0.44618	0.23175	-0.21138
30	0.05102	0.03386	0.00000	0.29692	0.42339	0.208966	-0.00242

Source: Research Findings

Appendix IV: **CUMULATIVE AVERAGE ABNORMAL RETURNS FOR 2015**

DAY	EABL	SCBK	NIC	BBK	SUM	AAR	CAAR
-30	0.00597	0.00000	0.02885	0.00380	0.04771	-0.09541	-0.09541
-29	0.05045	0.00000	-0.00935	-0.00758	0.05454	-0.08857	-0.18398
-28	-0.01412	0.01274	-0.01887	-0.00382	0.00534	-0.13777	-0.32175
-27	0.00287	-0.01258	0.00000	-0.03831	-0.03660	-0.17971	-0.50146
-26	0.01714	0.00000	0.01923	0.00000	0.02507	-0.11804	-0.61950
-25	0.01124	0.00637	0.00943	-0.01594	-0.00033	-0.14344	-0.76294
-24	0.02778	0.00000	-0.00935	0.00000	0.01843	-0.12468	-0.88763
-23	0.04595	0.00000	-0.00943	0.03644	0.07584	-0.06728	-0.95490
-22	-0.01809	-0.00633	0.00952	-0.01563	-0.02475	-0.16787	-1.12277
-21	-0.00263	0.00637	-0.00943	0.00794	0.00797	-0.13514	-1.25791
-20	0.01583	0.00633	0.00000	-0.01181	0.01890	-0.12422	-1.38213
-19	-0.00779	-0.00629	0.00000	-0.00797	-0.00228	-0.14539	-1.52752
-18	0.00785	0.00633	0.00000	0.00402	0.04867	-0.09445	-1.62197
-17	0.00260	0.00629	0.00000	-0.00400	0.01833	-0.12479	-1.74676
-16	0.00000	0.00000	0.00000	-0.00402	-0.00136	-0.14448	-1.89123
-15	0.00000	0.00000	-0.00952	-0.00806	-0.01230	-0.15541	-2.04665
-14	-0.00259	0.01250	-0.01923	0.00407	-0.00262	-0.14574	-2.19239
-13	0.00260	0.00617	-0.00980	0.00000	-0.00366	-0.14677	-2.33916
-12	0.00259	0.00613	0.00000	0.00000	0.00609	-0.13702	-2.47618
-11	0.00517	0.00610	0.01980	0.00000	0.03107	-0.11205	-2.58823
-10	0.01285	0.00000	0.00000	0.00405	0.01690	-0.12621	-2.71444
-9	-0.00254	0.02424	-0.00971	-0.00403	0.01324	-0.12987	-2.84431
-8	0.00000	0.01775	-0.01961	0.00000	0.00077	-0.14235	-2.98666
-7	0.01272	0.01744	0.00000	-0.00405	0.02350	-0.11962	-3.10628
-6	-0.00251	0.00000	0.01000	-0.00407	0.00080	-0.14232	-3.24859
-5	0.00000	0.00000	-0.00990	0.00000	-0.03622	-0.17933	-3.42793
-4	0.00504	0.01143	0.00000	0.00000	0.04349	-0.09962	-3.52755
-3	0.00251	0.00565	-0.01000	-0.01633	-0.01291	-0.15602	-3.68357
-2	0.01250	-0.01124	0.01010	0.00830	0.03537	-0.10774	-3.79131
-1	0.01235	-0.00568	0.00000	0.02058	0.03755	-0.10557	-3.89688
0	0.09024	0.06286	0.12000	0.10484	0.42131	0.27819	-3.61869
1	0.12683	0.05714	0.00000	0.06538	0.27763	0.13452	-3.48417
2	0.13412	0.03448	0.03636	0.05703	0.30147	0.15836	-3.32581
3	0.09438	0.08284	0.02655	0.04924	0.29568	0.15257	-3.17324
4	0.03778	0.06977	0.01739	0.04943	0.22558	0.08246	-3.09078
5	0.06279	0.05202	0.00000	0.05344	0.22230	0.07919	-3.01159

6	0.08810	0.05848	0.00870	0.05344	0.26276	0.11964	-2.89195
7	0.10000	0.02353	0.02609	0.06107	0.19987	0.05676	-2.83519
8	0.06353	0.07975	0.00000	0.06818	0.27794	0.13483	-2.70036
9	0.07711	0.09091	-0.00862	0.07463	0.29993	0.15681	-2.54355
10	0.07805	0.06509	0.00877	0.05839	0.30689	0.16378	-2.37977
11	0.10370	0.08284	0.00877	0.05435	0.32617	0.18305	-2.19672
12	0.09024	0.05814	-0.00877	0.04693	0.26141	0.11829	-2.07842
13	0.10244	0.08187	0.00000	0.04710	0.29424	0.15112	-1.92730
14	0.12530	0.04598	-0.01802	0.05091	0.26635	0.12323	-1.80407
15	0.09767	0.08187	0.00926	0.05091	0.27561	0.13250	-1.67157
16	0.10805	0.06897	0.01852	0.04727	0.29749	0.15438	-1.51720
17	0.09438	0.06286	0.00000	0.05474	0.26393	0.12082	-1.39638
18	0.08222	0.06286	0.00000	0.05818	0.25521	0.11209	-1.28429
19	0.08222	0.09143	0.00000	0.05054	0.28653	0.14342	-1.14087
20	0.07111	0.06667	-0.04717	0.05054	0.18999	0.04688	-1.09399
21	0.08315	0.04972	0.04000	0.05054	0.28011	0.13700	-0.95699
22	0.10562	0.02235	0.06796	0.03249	0.28226	0.13915	-0.81785
23	0.07033	0.04651	0.00917	0.04044	0.21761	0.07449	-0.74335
24	0.10444	0.07692	-0.01835	0.03346	0.26809	0.12497	-0.61838
25	0.09130	0.02924	-0.00943	0.07197	0.22318	0.08007	-0.53832
26	0.07957	0.09091	0.00000	0.05204	0.28075	0.13764	-0.40068
27	0.09032	0.05325	0.00000	-0.05576	0.13555	-0.00756	-0.40824
28	0.08936	0.06587	0.00980	0.06250	0.28043	0.13732	-0.27092
29	0.07789	0.07186	0.00000	0.08299	0.28550	0.14239	-0.12854
30	0.07789	0.07143	0.00990	0.06478	0.27663	0.13352	0.00498

Source: Research Findings Appendix

V: CUMULATIVE AVERAGE ABNORMAL RETURNS FOR 2016

DAY	EABL	SCBK	NIC	BBK	SUM	AAR	CAAR
-30	0.00000	0.00769	-0.01183	-0.00317	-0.03484	-0.16910	-0.16910
-29	0.00000	0.00382	-0.00599	0.00637	-0.02410	-0.15837	-0.32747
-28	0.00763	0.00000	0.00602	0.00000	0.00395	-0.13031	-0.45778
-27	0.00000	0.00380	0.04790	-0.00316	0.06815	-0.06611	-0.52389
-26	-0.00758	0.00379	0.01714	-0.00317	0.00056	-0.13370	-0.65759
-25	0.01527	0.01509	0.01124	-0.00637	0.03523	-0.09903	-0.75663
-24	0.00752	0.01859	0.00000	-0.00962	0.02620	-0.10806	-0.86469
-23	0.00000	-0.00365	-0.03889	-0.00324	-0.03616	-0.17042	-1.03511
-22	0.00000	0.01465	0.03468	0.00649	0.05583	-0.07843	-1.11354
-21	0.00000	0.00000	-0.05587	0.01290	-0.04296	-0.17722	-1.29077
-20	0.00000	0.00361	-0.01183	0.02866	0.02044	-0.11382	-1.40459
-19	0.00746	0.00000	0.00000	0.00619	0.02318	-0.11108	-1.51568
-18	0.01481	0.00000	0.00000	-0.01538	0.00886	-0.12540	-1.64108
-17	0.01460	-0.00719	0.00000	0.00625	0.01365	-0.12061	-1.76168
-16	0.00719	-0.01449	0.00599	0.00000	0.00804	-0.12623	-1.88791
-15	0.01429	-0.00368	0.01190	0.00000	0.03177	-0.10249	-1.99040
-14	0.03521	-0.00369	0.00000	0.00000	0.04070	-0.09357	-2.08397
-13	0.04082	-0.01852	0.00000	0.00000	0.03139	-0.10287	-2.18684

-12	0.00654	0.00000	0.00000	0.00000	-0.00247	-0.13674	-2.32358
-11	-0.03896	-0.00377	0.01176	0.00000	-0.02188	-0.15614	-2.47972
-10	0.00000	0.02273	0.04070	0.00000	0.06342	-0.07084	-2.55055
-9	0.00676	0.01111	0.00559	0.00311	0.03557	-0.09869	-2.64925
-8	-0.01342	0.02198	0.01667	-0.00310	0.00427	-0.12999	-2.77924
-7	-0.00680	0.04301	0.02186	0.00311	0.06117	-0.07309	-2.85233
-6	-0.00685	0.02405	-0.03743	0.00000	-0.02932	-0.16358	-3.01591
-5	0.00690	-0.01342	-0.00556	0.00310	-0.01816	-0.15242	-3.16833
-4	0.01370	0.02041	0.01117	0.00926	0.04528	-0.08898	-3.25732
-3	0.06081	0.03000	0.00552	0.00612	0.10245	-0.03181	-3.28913
-2	-0.01911	-0.02265	-0.00549	0.00304	-0.04422	-0.17848	-3.46761
-1	-0.00649	-0.00662	0.00552	0.04242	0.07222	-0.06205	-3.52965
0	-0.00915	0.01500	0.01648	0.02121	0.10661	-0.02765	-3.55731
1	0.03889	0.03938	0.02210	0.04334	0.18796	0.05370	-3.50361
2	0.05352	0.03608	0.00000	0.04334	0.18604	0.05178	-3.45182
3	0.06761	0.04325	0.01695	0.05573	0.28003	0.14576	-3.30606
4	0.11528	0.03979	0.03409	0.04281	0.26531	0.13105	-3.17501
5	0.08235	0.05382	0.03933	0.03976	0.26567	0.13141	-3.04360
6	0.06709	0.05326	0.03867	0.03988	0.28224	0.14798	-2.89563
7	0.03478	0.05612	0.00543	0.04000	0.24834	0.11408	-2.78155
8	0.03522	0.05201	0.06077	0.04630	0.17192	0.03765	-2.74390
9	0.02930	0.04153	0.03191	0.04308	0.16963	0.03537	-2.70853
10	0.04935	0.07807	0.05263	0.04923	0.23735	0.10309	-2.60544
11	0.05584	0.04647	0.09184	0.05810	0.26059	0.12633	-2.47911
12	0.04258	0.02389	0.08571	0.06627	0.28741	0.15315	-2.32596
13	0.04935	0.05016	-0.05357	0.04118	0.14594	0.01168	-2.31428
14	0.04935	0.05929	0.02885	0.04118	0.21173	0.07746	-2.23682
15	0.06234	0.03616	-0.02381	0.05000	0.16636	0.03210	-2.20472
16	0.07436	0.03943	0.00000	0.05248	0.20794	0.07367	-2.13105
17	0.06625	0.03943	0.00508	0.03170	0.20079	0.06653	-2.06452
18	0.06503	0.03628	0.04124	0.08430	0.35800	0.22373	-1.84079
19	0.06988	0.04589	0.01515	0.05850	0.22701	0.09274	-1.74804
20	0.03294	0.03931	0.02030	-0.03552	0.16230	0.02804	-1.72001
21	0.05714	-0.01730	0.02538	0.00295	0.10339	-0.03087	-1.75088
22	0.04471	0.03833	0.04040	0.04601	0.18354	0.04928	-1.70160
23	0.03882	0.04515	0.04950	0.05810	0.22755	0.09329	-1.60831
24	0.04497	0.03833	0.04808	0.04518	0.23412	0.09985	-1.50846
25	0.04497	0.03846	0.06542	0.03904	0.23015	0.09588	-1.41258
26	0.03905	-0.02852	-0.01786	0.04217	0.06281	-0.07145	-1.48402
27	0.04524	0.05957	0.00926	0.04518	0.18037	0.04611	-1.43791
28	0.04524	0.03737	0.00000	0.04204	0.14608	0.01181	-1.42610
29	0.03929	0.04480	0.03810	0.05706	0.20098	0.06672	-1.35938
30	0.02754	0.05556	0.00935	1.38039	1.49490	1.36064	0.00125

Source: Research Findings

Appendix VI: TOTAL CUMULATIVE AVERAGE ABNORMAL RETURNS FOR ALL YEARS

DAY	2012	2013	2014	2015	2016	TSUM	TAAR	TCAAR
-30	-0.02534	-0.08507	0.02504	0.04771	-0.03484	-0.07250	-0.71234	-0.71234
-29	0.10836	-0.08924	0.02653	0.05454	-0.02410	0.07609	-0.56375	-1.27609
-28	0.06426	-0.06206	-0.02601	0.00534	0.00395	-0.01451	-0.65435	-1.93044
-27	0.03143	-0.05629	-0.00425	-0.03660	0.06815	0.00245	-0.63739	-2.56783
-26	-0.07687	-0.14918	-0.01521	0.02507	0.00056	-0.21562	-0.85546	-3.42329
-25	-0.15140	-0.05556	0.00028	-0.00033	0.03523	-0.17179	-0.81162	-4.23491
-24	-0.07577	-0.06644	-0.00755	0.01843	0.02620	-0.10513	-0.74496	-4.97988
-23	-0.10394	-0.08301	0.01844	0.07584	-0.03616	-0.12883	-0.76867	-5.74855
-22	-0.00993	-0.09923	-0.01172	-0.02475	0.05583	-0.08980	-0.72964	-6.47819
-21	0.01681	-0.06165	-0.02266	0.00797	-0.04296	-0.10250	-0.74233	-7.22052
-20	-0.05653	-0.09865	-0.01319	0.01890	0.02044	-0.12904	-0.76887	-7.98939
-19	-0.08784	-0.08883	0.02639	-0.00228	0.02318	-0.12937	-0.76921	-8.75860
-18	-0.02916	-0.10044	0.03629	0.04867	0.00886	-0.03577	-0.67561	-9.43421
-17	-0.04494	-0.09089	0.01513	0.01833	0.01365	-0.08872	-0.72855	-10.16276
-16	-0.09948	-0.08973	-0.00008	-0.00136	0.00804	-0.18262	-0.82246	-10.98522
-15	-0.04555	-0.04321	0.12634	-0.01230	0.03177	0.05705	-0.58279	-11.56801
-14	-0.04183	-0.06596	0.00317	-0.00262	0.04070	-0.06654	-0.70638	-12.27439
-13	-0.03267	-0.05609	-0.00819	-0.00366	0.03139	-0.06922	-0.70906	-12.98345
-12	0.04015	-0.08019	-0.01270	0.00609	-0.00247	-0.04912	-0.68895	-13.67240
-11	-0.01157	-0.05937	-0.03931	0.03107	-0.02188	-0.10106	-0.74089	-14.41329
-10	-0.01774	-0.10087	-0.03215	0.01690	0.06342	-0.07043	-0.71026	-15.12355
-9	0.09721	-0.12418	-0.04509	0.01324	0.03557	-0.02326	-0.66309	-15.78664
-8	0.14648	-0.08032	0.04944	0.00077	0.00427	0.12064	-0.51920	-16.30584
-7	0.09453	-0.10296	0.00768	0.02350	0.06117	0.08393	-0.55591	-16.86175
-6	-0.00132	-0.09554	0.02336	0.00080	-0.02932	-0.10202	-0.74186	-17.60361
-5	0.04653	-0.06128	-0.02135	-0.03622	-0.01816	-0.09048	-0.73031	-18.33392
-4	0.08296	-0.06924	0.02321	0.04349	0.04528	0.12570	-0.51414	-18.84806
-3	0.09630	-0.04044	0.03084	-0.01291	0.10245	0.17624	-0.46359	-19.31165
-2	0.02105	-0.09265	0.01871	0.03537	-0.04422	-0.06173	-0.70157	-20.01322
-1	-0.05759	-0.06316	0.04729	0.03755	0.07222	0.03631	-0.60352	-20.61674
0	0.19327	0.04726	0.32082	0.42131	0.10661	1.08927	0.44944	-20.16731
1	-0.98357	0.30384	0.12550	0.27763	0.18796	-0.08864	-0.72847	-20.89578
2	0.38384	-0.00105	0.34622	0.30147	0.18604	1.21653	0.57669	-20.31909
3	0.41376	-0.24504	0.43034	0.29568	0.28003	1.17476	0.53492	-19.78417
4	0.39295	0.03668	0.44752	0.22558	0.26531	1.36804	0.72821	-19.05596
5	0.38286	0.09364	0.40523	0.22230	0.26567	1.36970	0.72986	-18.32609
6	0.32237	0.08273	0.47944	0.26276	0.28224	1.42954	0.78971	-17.53638
7	0.31869	0.06166	0.38253	0.19987	0.24834	1.21110	0.57126	-16.96512

8	0.34858	0.09856	0.41880	0.27794	0.17192	1.31580	0.67596	-16.28916
9	0.31703	0.14856	0.50148	0.29993	0.16963	1.43662	0.79678	-15.49238
10	0.30947	0.07481	0.44503	0.30689	0.23735	1.37355	0.73371	-14.75867
11	0.20812	0.21560	0.44880	0.32617	0.26059	1.45928	0.81945	-13.93922
12	0.24994	0.04277	0.43576	0.26141	0.28741	1.27729	0.63746	-13.30176
13	0.22657	0.00952	0.49419	0.29424	0.14594	1.17046	0.53062	-12.77114
14	0.25809	0.14852	0.42887	0.26635	0.21173	1.31355	0.67372	-12.09742
15	0.37421	0.04807	0.42741	0.27561	0.16636	1.29166	0.65182	-11.44560
16	0.46578	0.12811	0.44759	0.29749	0.20794	1.54689	0.90706	-10.53854
17	0.38503	0.09429	0.49607	0.26393	0.20079	1.44012	0.80028	-9.73826
18	0.40363	0.05752	0.42656	0.25521	0.35800	1.50092	0.86108	-8.87718
19	0.44741	0.11628	0.43843	0.28653	0.22701	1.51565	0.87582	-8.00136
20	0.35613	0.13195	0.41530	0.18999	0.16230	1.25567	0.61583	-7.38553
21	0.31546	0.22936	0.38708	0.28011	0.10339	1.31540	0.67557	-6.70996
22	0.38449	0.06394	0.35003	0.28226	0.18354	1.26426	0.62442	-6.08554
23	0.31803	-0.00551	0.41958	0.21761	0.22755	1.17726	0.53742	-5.54812
24	0.38690	0.02292	0.41466	0.26809	0.23412	1.32668	0.68685	-4.86127
25	0.38477	0.03887	0.39922	0.22318	0.23015	1.27618	0.63634	-4.22493
26	0.39648	0.02555	0.44158	0.28075	0.06281	1.20718	0.56734	-3.65759
27	0.41824	0.12727	0.40593	0.13555	0.18037	1.26737	0.62753	-3.03006
28	0.32614	0.03208	0.40936	0.28043	0.14608	1.19409	0.55425	-2.47581
29	0.40313	0.11583	0.44618	0.28550	0.20098	1.45162	0.81178	-1.66403
30	0.31657	0.06581	0.42339	0.27663	1.49490	2.57729	1.93746	0.27343

Source: Research Findings