

# The Effect of Dividend Announcement on Share Price Changes for Companies listed at Nairobi Securities Exchange, Kenya

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## ABBREVIATIONS AND ACRONYMS

DPS	-	Dividend per Share
NSE	-	Nairobi Securities Exchange
PASW	-	Predictive Analytic Software
MAAR	-	Market Adjusted Abnormal Return
CAR	-	Cumulative Abnormal Returns

## ABSTRACT

The study sought to determine the nature of relationship between Dividend per Share and Share Price Changes, and the rate at which Share Prices reflect Dividend Announcement information for stocks traded at the Nairobi Securities Exchange. The target population was all the 57 companies listed at the Nairobi Securities Exchange as at 31<sup>st</sup> December, 2010. Purposive sampling was used to select a sample of four companies. The event study methodology was used to determine the effect of Dividend Announcement on Share Prices. Market Adjusted Abnormal Returns (MAAR) and Cumulative Abnormal Returns (CAR) around the event day were calculated using the Market Adjusted Abnormal Return model. Secondary data was obtained from Nairobi Securities Exchange. Correlation and t-statistic were used in data analysis. The study found negative relationship between Dividend Announcements and Share Price changes in companies quoted at Nairobi Securities Exchange. The study establishes the basis for the companies' management to formulate their dividend policy and also provides information to investors to make right judgment in interpreting dividend announced by companies quoted at Nairobi Securities Exchange.

**Key Words:** Dividends, Share price

## 1.0 INTRODUCTION

Shareholders' wealth is represented in the market price of the company's common stock, which, in turn, is the function of the company's investment, financing and dividend decision. Management's primary goal is shareholders wealth maximization, which translates into maximizing the value of the company as measured by the price of the company's common stock (Azhagaiah & Priya, 2008). Earnings are divided into two parts – retained earnings and dividend. The retained earnings of the business may be reinvested and treated as a source of long-term funds. Dividend is a distribution of a portion of a company's earnings, decided by the board of directors, to its shareholders. According to Ross, Westerfield, and Jeffe (2002), the dividend are expressed as shillings per share (dividend per share), as percentage of market price (dividend yield) or as a percentage of earnings per share (dividend payout ratio).

Although many companies pay out part of their earnings in form of dividend, there are conflicting opinions regarding the impact of dividend on the valuation of the firm (Khan & Jain, 2007). One school of thought against dividend payment argues that the dividends are irrelevant. The argument put forward under this school of thought is that dividend is often subjected to higher taxation than capital gains. Megginson and Smart (2008) argue that growing companies normally pay lower dividend and reinvest more of their free cash flows in new

projects and expansion, thus providing higher capital appreciation. These companies attract investors in the higher tax brackets who are keen on minimizing tax burden and who have no pressing needs for cash. The second argument is based on the belief that a firm that reinvests funds (rather than paying them out as dividend) increases the value of the firm as a whole. According to Clark (2006), retained earnings are incorporated into the price of shares. If a company chooses to retain earnings rather than distribute, the Share Price rises accordingly. According to the proponents of the no dividend policy, a company's alternatives to paying out excess cash as dividend may include undertaking more projects, repurchasing the company's own shares, acquiring new companies and profitable assets, and reinvesting in financial assets. Payment of dividend foregoes these opportunities.

The second school of thought argues that high dividend payouts are important for investors because dividends provide certainty about the company's financial well-being and are also attractive for investors looking to secure current income. Companies that have a long-standing history of stable dividend payouts would be negatively affected by lower or no dividend distributions; these companies would be positively affected by increasing dividend payouts or making additional payouts of the same dividend. Furthermore, companies without a dividend history are generally viewed favorably when they declare a new dividend. The firm's managers would much prefer to be able to increase their company's dividend rate from time to time. A rising dividend rate is generally viewed by the market as a sign of progress and tends to enhance the firm's stock price (Ben, 2006). The relationship between security prices and information made available to the market has been explained by the efficient market theory. The theory states that publicly available information is always fully reflected in Share Prices. Any new information of economic value that subsequently becomes publicly available is instantaneously impounded in an unbiased manner (Gajewski, 1999).

Muriuki (2010) carried out a study on the relationship between dividend policies and Share Prices for companies quoted at the NSE. He found an inverse relationship between Share Prices and dividend for firms which have constant dividend payout ratio, constant dividend per share plus extra and residual dividend policy. He however found a positive relationship between dividend and Share Price when he used constant amount per share as a measure of dividend. Mbaka (2010) conducted an empirical study on the dividend signaling theory at NSE. In his study, he found a direct relationship between dividend and Share Prices. The studies present contradicting results regarding the nature of relationship between Dividend Announcement and Share Price changes.

From the reviewed literature, no research has used Market Adjusted Abnormal Return Model to measure Abnormal Returns in Nairobi Securities Exchange. Market Adjusted Abnormal Return Model avoids the errors, bias and extra computation associated with estimating security betas. This research therefore sought to find out the nature of relationship between Dividend Announcement and Share Price movement for companies quoted at the Nairobi Securities Exchange using Market Adjusted Abnormal Return Model so as to provide information to the investors and stock analysts on how dividends announcement affect Share Prices which they can use to make more informed investment decisions.

## **2.0 REVIEW OF RELEVANT LITERATURE**

### **2.1 Dividend Payment**

Dividend distributions to shareholders may be in the form of cash dividend, stock dividend, and property dividend. Cash dividend is the most common and usually paid quarterly or biannually. Stock dividends involve the authorization and issuance of new stocks to existing shareholders on a pro rata basis as a replacement for or a supplement to cash dividend (Schneeman, 2010). This method reduces the value per share even though the company's assets, profits and total value are unaffected. Property dividend refers to when a corporation declares a dividend that is payable by property other than cash.

From the investor's perspective, dividends are beneficial since they represent a regular income stream (Sheflin & Statman, 1984). On the other hand, from a managerial perspective, a dividend can be seen as a tool to mitigate an agency problem by digesting extra free cash flows (Jensen, 1986), or to signal to the market that a good quality firm can afford to pay a dividend (Bhattacharya, 1979).

### **2.2 Market Efficiency**

According to Aga and Kocaman (2008), market efficiency is the degree and speed with which stock prices reflect information about the firm and the factors that affect the firm's value. The primary concept for the efficient market hypothesis is that stock prices accurately and quickly reflect all available information in such a way that no one can earn an abnormal return (Hadi, 2006). According to Malkiel (2005), the efficient market hypothesis is associated with the idea of a "random walk," which is a term loosely used in the finance literature to characterize a price series where all subsequent price changes represent random departures from previous prices. The logic of the random walk idea is that if the flow of information is unimpeded and information is immediately reflected in stock prices, then tomorrow's price changes reflect only tomorrow's news and are independent of the price

changes today. The random walk theory asserts that price movements does not follow any patterns or trends and that past price movements cannot be used to predict future price movements.

### **2.3 Dividend Theories**

The theories explaining dividend policy are divergent. But they all relate to whether dividend payments have any relevance to maximizing the shareholders wealth (Sharan, 2009). Some theories argue that dividends are irrelevant while others argue dividends are relevant.

#### **2.3.1 Dividend Irrelevance Theory**

The most significant proponents of this theory are Miller and Modigliani (1961). They assume a perfect capital market where, under this condition, distribution of dividend or otherwise has the same impact on shareholders wealth. The shareholders are therefore indifferent between payment or nonpayment of dividends. According to Besley and Brigham (2008), dividend policy is irrelevant because the firm's value should be determined by the basic earning power and business risk of the firm. Firm's value is therefore determined by basic earning power of the firm, in which case value depends on the income produced, and not how the income is split between dividend and retained earnings (and hence growth).

Proponents of dividend irrelevance theory contend that investors care only about the total returns they receive, not whether they receive those returns in form of dividend, capital gains or both. If the theory of dividend irrelevance holds, then it means there exists no optimal dividend policy because dividend policy does not affect the value of the firm (Besley & Brigham, 2008). Ehrhardt and Brigham (2011) argue that a shareholder can make his own dividend policy. They say that in case a company does not pay dividend, a shareholder can create his own dividend by selling some of his stocks at a value equivalent to the amount of dividend the company would have paid him. Conversely, if a company pays a higher dividend than an investor desires, the investor can use the unwanted dividend to buy additional shares of the company's stock. Competition for such arbitrage opportunities, it is argued, would eliminate any dividend premium or discount and maintain dividend policy irrelevance (Baker & Wurgler, 2004).

According to Koller (2010), higher Dividend Announcement are not necessarily good news for investors. They can also signal that companies have permanently lower future investment opportunities. They could herald declining Share Prices if the stock market had expected the company to continue to invest strongly in valuable growth opportunities. Mankiw (2009) says although these retained earnings are not paid out as dividend, stockholders benefit from them nonetheless. Because retained earnings increase the amount of capital the firm owns, they tend to increase the future earnings and thereby, the value of the firm's stock. Bierman (2010) argues that, because of other factors affecting the stock price, as well as tax consideration, the decline in Share Price is not exactly equal to the amount of dividend paid.

#### **2.3.2 Dividend Relevance Theories**

Gordon (1959) in his "bird in hand" theory contends that dividend policy affects the value of the firm. He argues that high dividend payout is important for investors because dividend provide certainty about the company's financial well-being and is also attractive for investors looking to secure current income. According to him, the market value of a share is equal to the present value of an infinite future stream of dividend. Walter (1963) argues that the choice of dividend policies almost always affects the value of the firm. According to him, the dividend policy should be determined solely by the profitability of investments. If the firm has an abundance of profitable investment opportunities, there should be no cash dividend, for the earnings is the source of funds in such a case. In the reverse case, all earnings should be distributed to shareholders in the form of dividend because in this case, the funds are not needed for financing. Besley and Brigham (2010) argues that if the intent of the manager is to maximise the value of the firm, then investors should prefer that the firm pay dividend only if acceptable capital budgeting opportunities do exist.

The agency dividend theory argues that the persistent distribution of cash to shareholders disciplines the managers and reduces agency cost. Agency approach clarifies some novel issues by considering the practical scenario of the conflict between managers and outside shareholders (Baker, 2009). According to this theory, the funds remaining after financing all the positive net present value projects cause conflict of interest between managers and shareholders. This theory argues that if managers paid all the earnings as dividend, then they will be required to raise additional debt and equity capital to finance the future projects. When the managers obtain capital through external borrowings, then they must engage in activities which maximize the firm's value. This makes the managers to be self regulating and therefore not necessary for shareholders to incur agency cost.

The signalling theory of dividend contends that dividend should be paid. According to signalling theory, if financial managers believe that dividend matter and act consistently in accordance with that conviction, they could influence the relationship between the stock value and dividend policy (Keown, 1998). Since dividend anticipate future earnings, it is not surprising that announcement of dividend cuts are usually taken by investors as bad news (stock price typically falls) and that dividend increases are good news (stock price rises). When dividend change unexpectedly, the stock price can bounce back and forth as investors struggle to interpret the significance of the change (Brealey & Myers, 2002). The market generally views reduction of dividend or failure

to declare dividend as evidence of a problem at the firm and a failure on the part of management. The firm's managers would much prefer to be able to increase their company's dividend rate from time to time. A rising dividend rate is generally viewed by the market as a sign of progress and tends to enhance the firm's stock price (Ben, 2006). The debate as to whether the dividend are relevant or irrelevant has continued to receive divergent views. The study explored whether the dividend are relevant or not for companies quoted at the NSE by finding out if dividend announcement has an effect on Share Price.

#### **2.4 Dividend Policies**

According to Banerjee (2008), dividend policy is the plan of action adopted by the board of Directors of a company whenever a dividend decision is made. A firm has to choose between distributing profits to shareholders and re-investing them back into the business. The ultimate choice would, however, depend on the effect of the decision on the maximization of the value of the firm or that of its shares (Banerjee, 2008).

Three commonly used dividend policies are Constant-payout-ratio, Constant/Regular dividend policy, and Low-regular and extra-dividend policy. Constant-Payout-Ratio Dividend Policy refers to the payment of a certain percentage of earnings to owners over every dividend period. With this policy the amount of dividend fluctuates in direct proportion to earnings. Constant/Regular Dividend Policy refers to payment of a fixed amount of dividend in each period (Besley & Brigham, 2008). According to Pandey (2005), those investors who have dividend as the only source of their income may prefer constant dividend policy. This policy does not accord much change in Share Prices and may in the long run help to stabilize the market price of the share. This however does not imply that dividend per share would never be increased. If a company reaches new levels of earnings and expects to maintain them, the annual dividend per share may be increased. Low-Regular-and-Extra Dividend Policy refers to payment of a low regular dividend supplemented by further dividend when earnings are sufficient. This type of policy enables a company to pay constant amount of dividend regularly without default and allows a great deal of flexibility for supplementing the income of shareholders when earnings are higher than usual (Pandey, 2005).

#### **2.5 Measures of Dividend**

According to Ross *et al.* (2002), the dividend is expressed as shillings per share (dividend per share), as percentage of market price (dividend yield), or as a percentage of earnings per share (dividend payout ratio). Torous, Walkanov and Yan (2004), report that the dividend-price ratio (dividend yield) does not predict stock return. Lawellen (2004), reports strong evidence for predictability of Share Price from dividend yield. Campbell and Yogo (2006) as well found that the dividend-price ratio predicts stocks returns. Arnott and Clifford (2003) found future earnings tend to be greater when current dividend payout is greater. In their study Arnott and Clifford (2003) tested payout ratios against earnings per share of stocks over 10 year periods between 1946 and 2001. They found existence of high correlation between increasing earnings per share and increasing payout ratios over this period of time. Obviously, as investors see a company tending to pay dividend; they are more willing to invest in the company (Arnott & Clifford, 2003).

#### **2.6 Studies on Reaction of Share Prices to Dividend Payments**

There have been a significant number of empirical tests showing that dividend change announcements are positively associated with share returns in the days surrounding the dividend change announcement. Several studies (Pettit, 1976; Aharony & Swary, 1980; Benesh, Keown & Pinkerton, 1984; Dhillon & Johnson, 1994; Lippert, Nixon & Pilotte 2000) found that a dividend change announcement conveys information to the market. Similar results were obtained by Lee and Ryan (2000, 2002) when they analysed dividend initiations and omissions. Travlos, Trigeorgis and Vafeas (2001) analysed the market of Cyprus while Gurgul, Madjosz and Mastel (2003) analysed the Austrian market finding also support for the dividend information content hypothesis.

Azhagaiah and Priya (2008) conducted a study on the impact of dividend policy on shareholders' wealth in chemical companies in India. Their study renders further credence on the positive link between dividend policy and wealth creation. They found that in the long-run, wealth of shareholders of dividend paying chemical companies had increased significantly when compared to that of the dividend non-paying counterparts, which further shows the impact of dividend policy on wealth creation. Pourheydari (2008) on his study on the pricing of dividend and book value in equity valuation in Iran found dividend have large information content and thus, have very important role in stock valuation.

Nevertheless, some of the studies have not supported evidence for a positive relation between dividend changes and the market reaction. Studies done by Lang and Litzenberger (1989), Benartzi, Michaely and Thaler (1997) for the American market, Conroy, Eades and Harris (2000) for the Japanese market, Chen, Firth and Gao (2002) for the Chinese market, and Abeyratna and Power (2002) for the United Kingdom (UK), found no evidence of a significant relationship between dividend change announcements and Share Price reaction surrounding the announcement day. Asamoah (2010) while carrying out a research on the impact of Dividend Announcement on Share Price behavior in Ghana found that Dividend Announcement did not have any impact on Share Price behavior. Studying the effect of the earnings announcements on the stock prices on the companies quoted at the

NSE Mohammed (2010) found that nobody can benefit from events like earnings, dividend, stock splits and mergers when market is semi strong.

Mbaka (2010) conducted an empirical study on the dividend signaling theory at NSE using Dividend per Share as measure dividend. In his study, he found that Share Prices increased for companies which announced increase in dividend while Share Prices decreased for companies which announced decreased dividend. Companies with no change in dividend were found to have mixed reactions towards Dividend Announcement. Mohammed (2010) tested the relationship between dividend per share and firms value from 2005 to 2009. He found that announcement of the dividend of the firms listed at NSE do not play an important role in determination of firms value in all industries. Although he found Dividend per Share to be demonstrating stronger impact compared to Retained Earnings per Share on firms value, industry-wise there were a mixed results with some industries showing stronger Retained Earnings per Share compared to Dividend per Share.

Muriuki (2010) carried out a study on the relationship between dividend policies and Share Prices for companies quoted at the NSE. He found an inverse relationship between Share Prices and dividend when using constant payout ratio, constant dividend per share plus extra and residual dividend policy. He however found positive relationship between dividend and Share Price when he used constant amount per share as to represent the dividend.

Bittok (2004) evaluated the effect of dividend policy on the value of the firms quoted at the NSE for a period of six years from 1998 to 2003. The findings were that there is a relationship between the dividend payout ratio and the value of the firm. Ngunjiri (2010) tested the relationship between the dividend payment policies and stock price volatility for companies quoted at the NSE in the period covering 1998 and 2008. Using dividend yield and dividend payout ratio as measures for the dividend he found that dividend payment decisions of a company alone do not affect prices in companies quoted in the Kenyan market.

Rioba (2003) evaluated the predictability of ordinary stock returns at the NSE in Kenya. In a sample of 10 randomly selected companies, he found that short term changes in stock prices may well be influenced by "investor psychology." He concluded that the predictability evidence for ordinary shares in the NSE is weak and not definitive. Munyao (2010) tested for investors' rationality for companies quoted at NSE and found that investors overreact to news and are thus irrational.

The empirical studies give divergent view as to whether dividends have any impact on firms' value. Although Frankfurter and Wood (2002), after examining some empirical studies, concluded that the choice of the method of analysis and sample period does not significantly affect the studies' results, the study observed that in all reviewed literature; only Uddin used Market Adjusted Return Model to measure Abnormal Return. Most of the studies carried in NSE support that Dividend Announcement has an effect on Share Prices. However, they have reported divergent views on whether the relationship is positive or negative.

### **2.7 Shareholders' Preferences**

According to Megginson and Smart (2008), investors are attracted to different company policies, and when the company policy changes, investors adjust their stock holdings accordingly. As a result of this adjustment, the stock price moves. A company's stock price moves according to the demands and goals of investors in reaction to a tax, dividend or other policy change affecting the company. Because there are economic agents with different fiscal framings, this can mean that some prefer dividend, while others prefer capital gains (Megginson & Smart, 2008). Dividends in most countries are taxed more than the capital gains. Therefore, it is quite possible that some investors would prefer high-payout while others may prefer low-payout companies (Pandey, 2005). Miller and Modigliani (1961) hypothesize that such heterogeneity leads to what they termed as "dividend clientele effect" where investors naturally sort into equity holding classes based on their dividend payout ratios. Black and Scholes (1974) also assert that the firms, knowing that there are investors for several types of dividend yields, would adjust their dividend policies as necessary to satisfy the demand. In relation to dividend payout, Brennan (1974) states that for a given risk level, the investors demand higher returns on stocks with higher expected dividend yields, due to the higher taxation of dividend relative to capital gains. Unlike dividend income, capital gains are not taxable in Kenya (Belda, 2006).

### **2.8 Stock Prices**

Stock prices are driven by three types of factors: economic factors, market related factors and firm-specific factors (Madura, 2010).

#### **2.8.1 Economic Factors**

An increase in economic growth is expected to increase the demand for products and services produced by firms and therefore increase a firm's cash flows and valuation. Participants in stock market monitor economic indicators such as employment, gross domestic product, retail sales, and personal income because these indicators may signal information about economic growth and therefore affect cash flows. Unexpected favourable information about economy tends to cause a favourable revision of a firm's expected cashflows and therefore places upward pressure on firm's value. Since government's fiscal and monetary policies affect economic growth, they are also continually monitored by investors (Madura, 2010). Another prominent

economic force driving stock market prices is interest rates. Lower interest rates can make shares more attractive for two reasons. Lower interest rates help boost economic growth making firms more profitable. Also lower interest rates make shares relatively more attractive than saving money in a bank or holding bonds. If bond yields fall, it may encourage investors to switch into shares which give a relatively better dividend. An unanticipated rapid rise in inflation would probably cause a fall in stock markets. A rise in inflation would probably lead to a greater chance of higher interest rises. This reduces growth and profitability. Higher inflation may also encourage investors to move into more inflation proof investments.

### **2.8.2 Firm Specific Factors**

According to Madura (2010), a firm's stock price is affected not only by macroeconomic and market conditions but also by firm-specific conditions. Some firms are exposed within their own industry than to general economic conditions, so participants monitor industry sales forecasts, entry in to the industry by new competitors, and price movements of the industry's products. Stock market participants may focus on the announcements, or other characteristics that may cause a revision in the expected cash flows to be generated by the firm.

### **2.8.3 Market Related Factors**

These factors include investor sentiment and market anomaly effect. Investors' sentiments represent the general mood of investors in the stock market. Since stock valuations reflect expectations, in some periods the stock market performance is not highly correlated with existing economic conditions. For, example, even though the economy is weak, stock prices may rise if most investors expect the economy to improve in the near future (Madura, 2010).

## **2.9 Market Anomalies**

According to Zacks (2011), financial markets, anomalies refer to situations when a security or group of securities performs contrary to the notion of efficient markets; where security prices are said to reflect all available information at any point in time. The anomalies could be due to announcements made by companies or could be due to calendar effect.

### **2.9.1 Calendar Effects**

Anomalies that are linked to a particular time are called calendar effects. According to Fabozzi (2009), some of the most popular calendar effects include the weekend effect, the turn-of-the-month effect, the turn-of-the-year effect and the January effect. The weekend effect describes the tendency of stock prices to decrease on Mondays, meaning that closing prices on Monday are lower than closing prices on the previous Friday. For some unknown reason, returns on Mondays have been consistently lower than every other day of the week. The turn-of-the-month effect refers to the tendency of stock prices to rise on the last trading day of the month and the first few trading days of the next month. The turn-of-the-year effect describes a pattern of increased trading volume and higher stock prices in the last week of December and the first two weeks of January.

Amid the turn-of-the-year market optimism, there is one class of securities that consistently outperforms the rest. Small-company stocks outperform the market and other asset classes during the first two to three weeks of January. Numerous studies show persuasive evidence that stock returns are high in January and small firms do better than large firms early in the year (Strong, 2009). This phenomenon is referred to as the January effect. Occasionally, the turn-of-the-year effect and the January effect may be addressed as the same trend, because much of the January effect can be attributed to the returns of small-company stocks. Given that the prices of the shares have been found to be changing in different periods of the year, month or week, the study held constant all other anomalies apart from Dividend Announcement anomaly.

### **2.9.2 Announcements Effects**

Not all anomalies are related to the time of week, month or year. Some are linked to the announcement of information regarding stock splits, bonus issue of shares, earnings, and merger and acquisitions, and changes in management, capital structure, and regulatory policy (Epps, 2009). After announcements, stock prices react and often continue to move in the same direction directed by the announcement. For example, if a positive earnings surprise is announced, the stock price may immediately move higher. Short-term price drift occurs when stock price movements related to the announcement continue long after the announcement. Short-term price drift occurs because information may not be immediately reflected in the stock's price. When companies announce a merger or acquisition, the value of the company being acquired tends to rise while the value of the bidding firm tends to fall. Merger arbitrage plays on potential mispricing after the announcement of a merger or acquisition. Different announcements have therefore been found to be having some impact on the prices of shares. The study investigated if the announcement of dividend has any impact on the price of shares for companies quoted in NSE and excluded the companies which had other major announcement during the observation period.

## **3.0 DATA AND METHODOLOGY**

The population of interest was all the 57 companies that were quoted at the NSE as at 31<sup>st</sup> December, 2010. Companies that were listed at NSE later than this date could not have enough time to prepare accounts, announce

dividend and avail their reports to NSE where data was collected. The companies were categorized into five major segments as shown in Table 1.

Table 7  
 Segments of Companies Quoted at the NSE by 31<sup>st</sup> December of Year 2010

Sector	Number of Companies
Agricultural	5
Commercial and services	12
Finance and investment	15
Industrial and allied	17
Alternative market segment	8
Total	57

Source: NSE handbook 2011

Purposive sampling was used. The companies that met the fulfillment of announcing dividend for five years in the period of observation were considered in the sample. Companies which had other major events like share split, bonus issue or special dividend during the window period were excluded from the sample. Out of the 57 companies, 14 did not announce the dividend, 3 were not listed by year 2006, 3 announced interim and final dividend in different days, 8 announced bonus dividend or right issue, 5 announced stock splits, 3 announced special dividend, 1 was suspended and 16 did not have sufficient information required by the study. Only 4 companies met the preset criteria

The study employed secondary data relating to annual dividend per share, daily closing prices, and NSE 20 share index during the window period. The daily closing price per share and the NSE 20 share index were collected for 30 days before the day of announcement, 30 days after the announcement and on the announcement day.

The study used two measures for dependent variable as used by Uddin (2003) in a study on effects of Dividend Announcement on shareholders' value, market adjusted abnormal return (MAAR) and daily cumulative abnormal returns (CAR). The study used NSE 20 Share Index to measure average market price. The t statistics was used for making inferences while the Predictive Analytics Software (PASW) was used as an aid for analysis. t statistics for MAAR and CAR at 95% confidence level was calculated.

#### Model Specification

Market adjusted returns were calculated as follows

$$MAAR = R_{it} - R_{mt} \dots \dots \dots \text{Equation (1)}$$

Where,

MAAR is the market adjusted abnormal return for security *i* over time *t*.

$R_{it}$  is the time *t* return on security *i*, calculated as

$$R_{it} = \frac{P_{it} - P_{it-1}}{P_{it-1}} \dots \dots \dots \text{Equation (2)}$$

Where,

$P_{it}$  is the market closing price of stock *i* on day *t*

$P_{it-1}$  is the market closing price of stock *i* on day *t-1*.

$R_{mt}$  is the time *t* return on the NSE 20 share index calculated as

$$R_{mt} = \frac{I_t - I_{t-1}}{I_{t-1}} \dots \dots \dots \text{Equation (3)}$$

Where,

$I_t$  is the market index on day *t*

$I_{t-1}$  is the market index on *t-1*

MAAR shows the change in individual stock's value due to the Dividend Announcement. As the percentage change in the market index is deducted, the remainder gives us the portion of the price changes which is specific to that particular stock resulting from Dividend Announcement. MAAR is calculated over a window period used by Uddin (2003) starting from 30 days before to 30 days after the Dividend Announcement day. The second measure used is cumulative abnormal returns (CAR) which measures the investor's total returns over a period starting from well before the announcement of dividend to well after announcement day. It was calculated as:

$$CAR_t = \sum_{t=-30}^{t=+30} MAAR_t \dots \dots \dots \text{Equation (4)}$$

Where,

$CAR_t$  Is Cumulative abnormal returns at time *t*

$\sum_{t=-30}^{t=+30} MAAR_t$  Is the sum of market adjusted abnormal return from day *t*=-30 to *t*=+30

Graphs were used to show the trend of MAAR and CAR within the window period and t-statistic used to show the significance of MAAR and CAR. Significance was tested using Brown and Warner (1985) model as follows.

$$tMAAR = \frac{MAAR}{\sigma(MAAR)/\sqrt{n}} \dots \dots \dots \text{Equation (5)}$$

While the t values to test the significance of the CAR was calculated using the following formula

$$t = \frac{CAR}{\sigma(CAR)/\sqrt{d}} \dots \dots \dots \text{Equation (6)}$$

Where

t is the calculated t values

$\sigma(MAAR)$  is the Standard deviation of Market Adjusted Abnormal Return.

n is the number of earnings announcement in the sample on day t.

$\sigma(CAR)$  is the Standard deviation of Cumulative Abnormal Return

d is the total number of days that MAAR is cumulative

#### 4.0 ANALYSIS AND RESULTS

##### 4.1 Effects of Dividend Announcement on Share Price Changes

Figure 1 is a graph showing trend of CAR before and after Dividend Announcement day. MAAR is calculated over a period starting from -30 day to +30 day relative to the Dividend Announcement day (day 0).

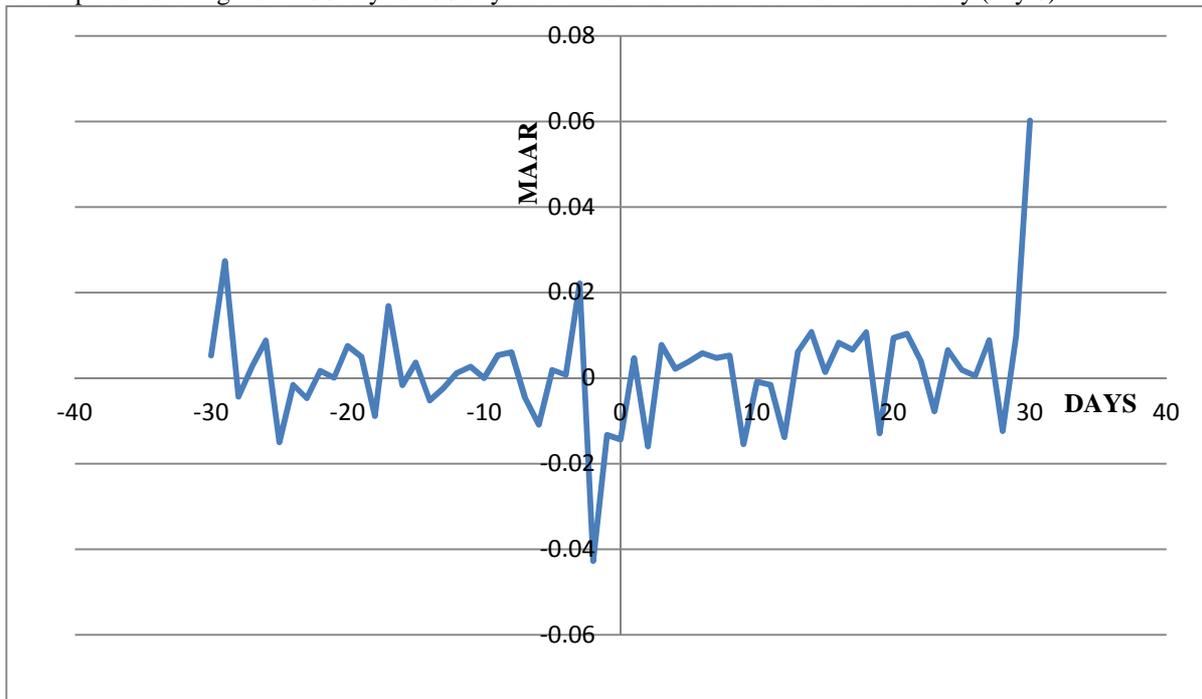


Figure 1. Graphical Representation of MAAR for the 61 Days Event Window

Figure 1 reveals that MAAR moved above and below 0 in most of the days before announcement day. It was however positive in most of the days before Dividend Announcement day. This shows that, before Dividend Announcement day, investors get prior information or anticipate that the firm will pay dividends and they buy the stock thus causing rise in prices due to rise in demand. The MAAR was found to fall at a higher rate two days before actual Dividend Announcement. This could be as a result of the investors selling their shares to gain from increase in prices and thus increasing the supply which cause fall in Share Prices. MAAR still remained positive in most of the days after Dividend Announcement day with the highest increase being observed on day +30.

Even though an investor can earn excess return or incur an excess loss in a single event that is not sufficient evidence to verify inefficiency. To overcome this, superior performance measured by computing the CAR the investor earned was used. Figure 3 is a graphical representation of average CAR in days before and after announcement of dividend. CAR is cumulated over a period of 61 days starting from -30 day to +30 day relative to the Dividend Announcement day (day 0).

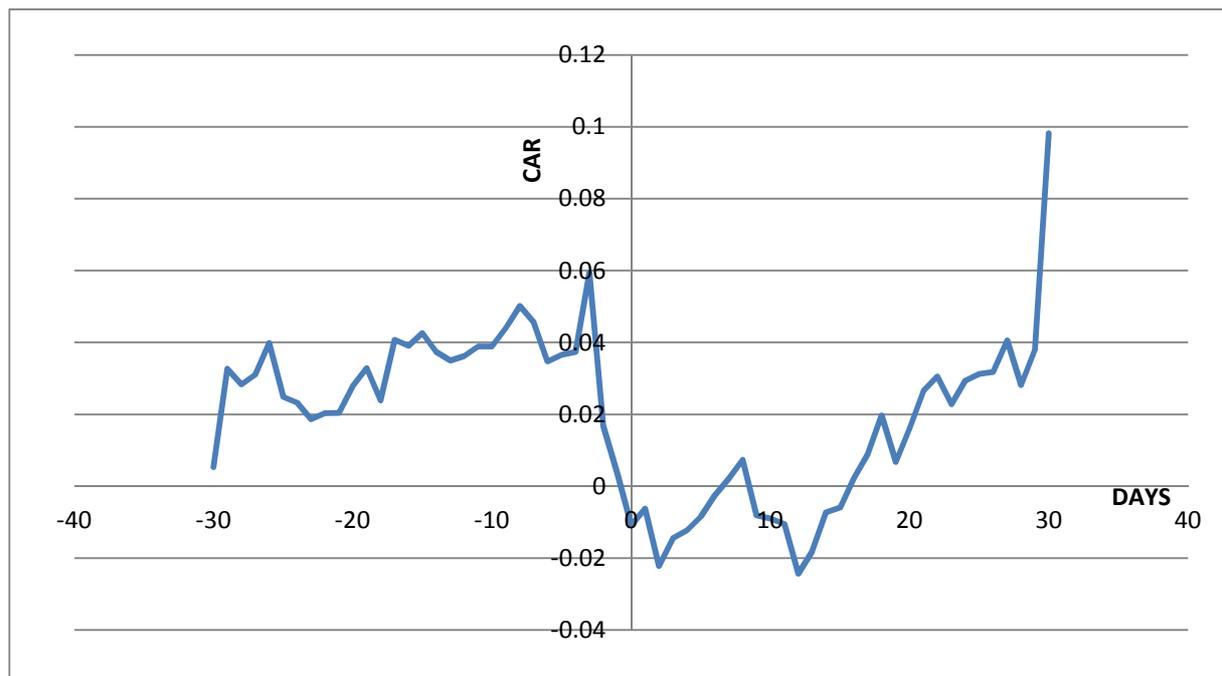


Figure2. Graphical Representation of CAR for the 61 Days Event Window

Prior to the announcement the impact of CAR should be higher as days tend towards announcement day. It should then stabilize after announcement. CAR was positive in all the days before Dividend Announcement day. It was however negative on the Dividend Announcement day. This can be attributed to the high negative MAAR two days before the event day. CAR continued falling even after Dividend Announcement day until day +2. CAR started rising two days after Dividend Announcement from day +3 to day +8 before falling again for four days from day +9 to day +12. From day +13 the CAR rose continuously except on day +19, +23, and +28. It was observed that CAR was rising and positive in most of the days after Dividend Announcement. This was because MAAR was positive in most of the days after Dividend Announcement day. This shows that, after Dividend Announcement day, investors associated the Dividend Announcement to good performance of the company and the shares attracted more investors resulting to rise in prices.

#### 4.3.1 Correlation between DPS and MAAR

One of the objectives was to determine the relationship between Dividend Announcement and Share Price changes. The hypothesis was tested using correlation analysis. The first correlation was computed between MAAR and DPS to enable determine the nature of relationship between the two variables.

Table 2  
 Correlation between MAAR and Dividend per Share

		MAAR	DPS
MAAR	Pearson Correlation	1	-.584
	Sig. (2-tailed)	.	.301
	N	5	5
DPS	Pearson Correlation	-.584	1
	Sig. (2-tailed)	.301	.
	N	5	5

\* Correlation is significant at the 0.05 level (2-tailed).

Source: Survey Data (2013)

The study found existence of negative correlation between and MAAR of -0.584. However, the significance value of 0.301 was greater than 5% allowable error. The negative correlation between DPS and MAAR was not significant at 5% significance level.

#### 4.3.2 Correlation between DPS and CAR

The second correlation was computed between CAR and DPS to determine the nature of relationship between the two variables.

Table 3

Correlation between CAR and Dividend per Share

		CAR	DPS
CAR	Pearson Correlation	1	-.890(*)
	Sig. (2-tailed)	.	.043
	N	5	5
DPS	Pearson Correlation	-.890(*)	1
	Sig. (2-tailed)	.043	.
	N	5	5

\* Correlation is significant at the 0.05 level (2-tailed).

The correlation between dividend and CAR was found to be negative and significant at 5% significance level. The study found that although correlation between MAAR and DPS was insignificant, the correlation became significant when MAAR was accumulated over the days and correlated with the DPS. The first hypothesis was therefore accepted. The results were however inconsistent with the finding of a study carried out by Mbaka (2010) who found a direct relationship between dividend and Share Prices at the NSE. The observed negative relationship between dividends and abnormal returns in the event window on the NSE can be explained by the tax clientele effect. In Kenya, unlike dividends, capital gains are not taxed. Shareholders therefore prefer earnings to be retained rather than paid out as a dividend. The negative correlation supports the argument that a firm that reinvests funds (rather than paying them out as dividend) increases the value of the firm as a whole and consequently increases the market value of the stock.

### 5.0 CONCLUSIONS OF THE STUDY

The study found out that the Dividend Announcements led to significant abnormal returns around Dividend Announcement period. This implies that an individual can be able to profit by acting on the announcement of the dividend. A test of semi-strong form efficiency (Fama, Fisher & Roll, 1969) indicated that investors cannot earn an above normal return on publicly available information such as historical prices, volume information, accounting statements, annual reports, stock splits, Dividend Announcements, new issues of stock announcements, and earnings announcements. The study therefore concluded that NSE is not semi strong efficient. The results were inconsistent to what Uddin (2003) found when he carried out a study on the Effect of Dividend Announcement on Shareholders' Value at Dhaka Stock Exchange in Bangladesh and found that investors do not gain value from Dividend Announcement. The study found payment of dividend is relevant since Dividend Announcement causes significant change in Share Price both on days before and after Dividend Announcement.

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