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ON SHARE PRICES FOR FIRM'S LISTED ON THE  
NAIROBI SECURITY EXCHANGE

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## EFFECT OF INFORMATION ADJUSTMENT TIME ON SHARE PRICES FOR FIRM'S LISTED ON THE NAIROBI SECURITY EXCHANGE

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### Abstract

**Purpose:** The purpose of this study was to establish the effect of information adjustment time on share prices for firm's listed on the Nairobi Security Exchange.

**Methodology:** The study was carried out using descriptive research design. The target population consisted all companies listed on the NSE, and had previously done a rights issue. Convenient sampling technique was used to identify firms that had rights issue in the period under study. Secondary data was collected using a schedule developed by the researcher. Data analysis was done using events study methodology and regression modelling.

**Results:** Based on the findings the study indicated that there was slow information adjustment as established by the lagged residuals of the residuals. Specifically, the effects of rights issue announcement persisted for 2 days and thus indicating a slow information adjustment.

**Unique contribution to theory, practice and policy:** Based on the findings the study recommends that further studies to be done on the impact of bonus issues, IPOs, and the global economic crisis (2008-2009) on stock returns of companies listed at the NSE.

**Keywords:** *information adjustment time, share prices, Nairobi security exchange*

## 1.0 INTRODUCTION

### 1.1 Background of the Study

Public Companies raise most of their capital through the issue of new ordinary shares, rights issues, debenture stock, preference shares and other sources. Companies going public issue their shares through the Initial Public Offering (IPOs), while those in existence issue additional shares for subscription through a rights issue to existing shareholders. The capital market facilitates the exchange of long-term funds with maturities beyond one year (Khan & Jain, 2007). The market comprises of two important market segments, new issue or commonly known as the primary market for Initial Public Offerings (IPOs) and the Stock exchange also known as the secondary market.

Public companies with listed and widely held shares, can issue additional shares to the existing shareholders through a rights issue. Under this method, the existing shareholder is issued with an option to buy a specified number of new shares from the firm at a specified price within a specified time after which the rights expire (Ross, Westerfield, & Jaffe, 2002). Many Kenyan public companies have used rights issue to raise additional finance for expansion programs and other investment projects. Right issue is an inexpensive way of raising additional funds from the company's existing shareholders so as to meet the firm's expansion programs, acquisition of new plant and machinery, repayment of debt and other financial needs. Rights issue is said to be cheap because, the firm does not incur underwriting costs, brokerage costs, advertising costs and mailing & printing costs may be very minimal.

The announcement of economic and company specific events create market reactions. The effect of these announcements is reflected in share prices immediately (Mackinlay, 1997).

Announcement of the issue of new shares for subscription by the public creates market reactions. Karanja (2006), states that market reactions may be positive where there is increased trading of firms shares or negative which means there is reduced trading Share prices may decline, remain unchanged or rise depending on how investors value the information obtained after the announcement of the event. Event study methodology measures the effect of a specific economic or corporate event on the value of a firm using financial market data (Mackinlay, 1997).

Fama, Fisher, Michael, and Richard (1969) developed the event study methodology to examine the financial market efficiency and the speed with which the market adjusts to new information. The authors suggest that the firm should have a non-zero stock price reaction on the event date if an event has an information effects. Mitchell & Netter(1994), define an event study as a statistical technique that estimates the stock price impact of occurrences such as mergers, earnings announcements, stock splits and so forth. The basic notion is to disentangle the effects of two types of information on stock prices – information that is specific to the firm under question (dividend announcement) and information that is likely to affect stock prices market wide (change in interest rates).For example, firm-specific events can be the announcements of mergers and acquisitions, issues of new debt or equity and the announcement of earnings (Mackinlay, 1997).

Khushbu (2012) carried out an events study on the stock price reaction to rights issue announcement in the Indian stock market. The study also sought to test three hypotheses, overvaluation Hypothesis, Market Condition Hypothesis, and the Hypothesis related to stock return variance. The results of the study showed that there was a positive reaction to the

announcement although the returns were not statistically significant in any of the days in the event window period. The positive reaction implies that the market interprets the equity issue announcement as favourable information about the issuing firm and such announcements can be used to signal the firm's growth opportunities.

Suresha (2012) did a study to investigate the market reaction to rights issue announcement, using an event study methodology for Nifty stocks from 1995 to 2011. The purpose of the study was to test whether the investor can gain or lose an above normal return by relying on public information impounded in a rights issue announcement. Rights announcement sample observations S&P Nifty Index were analysed using standard market risk adjusted event study methodology. They observed that there was no evidence of existence of significant positive abnormal returns. The event reported a negative Abnormal Rate of Return of -0.048 which was statistically insignificant. It was also noted that there was no significant change in traded volume for the observed stocks during event window. The study concluded that the Indian market reacts negatively to rights issue announcement.

Abdullah(1999) carried out a study to examine the effect of rights issue announcements on stock prices by companies listed on the Kuala Lumpur Stock Exchange (KLSE) between 1987 to 1996. The emphasis of his study was to report whether the KLSE is semi strongly efficient with respect to the announcement of rights issues and to check whether the implications of corporate finance theories on the effect of an event can be supported in the context of an emerging market. The study examined 70 companies, which had done rights issue announcements. The study revealed that the Malaysian stock market is not semi strongly efficient since there was a persistent non-zero abnormal return. This finding is not consistent with the hypothesis that security returns adjust rapidly to reflect new information. In addition to these findings, when the rights issue announcements' effect is compared to the implications of corporate finance theories in predicting the sign of abnormal returns, the signaling model, asymmetric information model, perfect substitution hypothesis and Scholes' information hypothesis could not be supported.

## 1.2 Problem Statement

Share prices in the security market react either positively or negatively based on the information released in the market. A positive reaction means that the share price is rising while a negative reaction means that the share price is falling as a result of specific company news or performance. Share prices can be affected by company news and performance (news releases on earnings and profits, and future estimated earnings, announcement of dividends, introduction of a new product or a product recall, securing a new large contract, employee layoffs, anticipated takeover or merger, a change of management, accounting errors or scandals), industry performance, investor sentiments and economic factors(Fund, 2014).

According to the efficient market theory, past, current, public and private information are all incorporated in the share prices. Since everyone has the same information about a stock, the price of a stock should reflect the knowledge and expectations of all investors. The bottom line is that an investor should not be able to beat the market since there is no way for him or her to know something about a stock that isn't already reflected in the stock's price (Web Finance Inc, 2014). In an efficient market, announcement of corporate specific events by companies make share prices to rise or fall as the prices adjust to the release of new information. In Kenya the market is not efficient as it takes time for stock prices to react to

corporate events announcement for example profit warnings, change of top management, mergers and acquisition. This study will evaluate the effects of information adjustment time on the share prices.

### **1.3 Research Objective**

To establish the effect of information adjustment time on share prices for firm's listed on the Nairobi Security Exchange.

## **2.0 LITERATURE REVIEW**

### **2.1 Theoretical Framework**

#### **Random Walk Theory**

Random walk theory gained popularity in 1973 when Burton Malkiel wrote *A Random Walk Down Wall Street*, a book that is now regarded as an investment classic. Random walk is a stock market theory that states that the past movement or direction of the price of a stock or overall market cannot be used to predict its future movement. Kendall (as cited in Brealey & Myers, 1988) had been looking for regular price cycles but to his surprise, he could not find them. Each series appeared to be a 'wandering' one, almost once a week just by chance; a random number could be added to the current price to determine the next week's price. In other words the prices seemed to follow a random walk. The theory states that stock price fluctuations are independent of each other and have the same probability distribution, but that over a period of time, prices maintain an upward trend. Random walk theory implies that stock prices take a random and unpredictable path. The chance of a stock's future price going up is the same as it going down. A follower of random walk believes it is impossible to outperform the market without assuming additional risk. In his book, Malkiel, argues that both technical analysis and fundamental analysis are largely a waste of time and are still unproven in outperforming the markets. Malkiel constantly states that a long-term buy-and-hold strategy is the best and that individuals should not attempt to time the markets. Attempts based on technical, fundamental, or any other analysis are futile. Applying the random walk theory to finance and stocks suggests that stock prices change randomly, making it impossible to predict stock prices. The random walk theory corresponds to the belief that markets are efficient, and that it is not possible to beat or predict the market because stock prices reflect all available information and the occurrence of new information is seemingly random as well. The random walk theory, states that prices of stocks cannot be predicted. The stock market is information efficient. The people buying and selling stocks consist of a large number of rational investors with access to this information. Long term prices will reflect performance of the company over time, short term movements in prices can best be described as a random walk. The random walk theory gives rise to the efficient market hypothesis.

#### **Efficient Market Theory**

The Efficient Market Theory (EMT) postulated by Eugene Fama in 1965 is a fundamental underlying theory of this study. Fama in 1965 organised growing empirical evidence of efficient capital markets and came up with the Efficient Market Hypothesis (EMH) as a formal statement of the market efficiency concept (Jones, 1998). When someone refers to efficient capital markets, they mean that security prices fully reflect all available information (Elton, Gruber, Brown, & Goetzmann, 2011).

Brealey and Myers (1988) state that a security market is efficient when information is widely and cheaply available to investors and that all relevant and ascertainable information is already reflected in security prices. They also state that price changes in an efficient market are random because if prices always reflected all relevant information, then they will only change when new information arrives. But new information cannot be predicted ahead of time (otherwise it would not be new information) therefore price changes cannot be predicted in time.

Efficient market hypothesis implies that stock prices reflect all information available related to the profitability of the firm and that the financial markets efficiently disseminate new information affecting the profitability of the firm (Fama et al., 1969). There are three forms of the efficient market theory; Weak, semi-strong and strong as postulated by Fama. Most of the research done using finance-based methods implies that most markets are at semi-strong.

The Weak form assumes that the current stock prices reflect all past and currently available security market information. It contends that past price and volume of data have no relationship with the future direction of security prices. It concludes that excess returns cannot be achieved through technical analysis.

The semi-strong form assumes that current security prices adjust rapidly to the release of all new public and private information. It contends that security prices have factored in all available market and non-market public information. It concludes that excess returns cannot be achieved using fundamental analysis.

The strong form assumes that the current security prices fully reflect all public and private information. It contends that market, non-market and inside information is all factored into security prices and that no one has monopolistic access to relevant information. It assumes a perfect market and concludes that excess returns are impossible to achieve consistently.

## **2.2 Empirical Review**

### **2.2.3 Information adjustment time**

In an efficient capital market, prices adjust to new information immediately. The opposite is true for inefficient markets. The question is how fast does this information get absorbed in the share prices? Does it occur immediately, a day, or 30 days? It is assumed that the Kenya security market is inefficient, meaning that it takes a number of days before prices react or adjust to new information.

Patell & Wolfson (1984) did a study to establish the speed of adjustment of stock prices to earnings and dividend announcements, the study also sought to test the average intraday returns, the variance surrounding the announcement day and serial dependence of price changes. The data used in the study consisted of 571 earnings & dividend disclosures released during 1976 and 1977. Much of the conclusions in this study are in line with other similar tests and show that trading profits largely disappear within 5-10 minutes and variance and serial correlation between prices may last several hours after the announcement.

Ederington & Lee (1995) did a study on the short-run dynamics of price adjustment to new information. They observed that the market price begins adjusting almost immediately following a news release generally within the first 10 seconds. The price adjusts in a series of small, but rapid price changes, so it's clear that some trades occur at non-equilibrium prices. However the major adjustment to the initial release is basically complete within 40-50

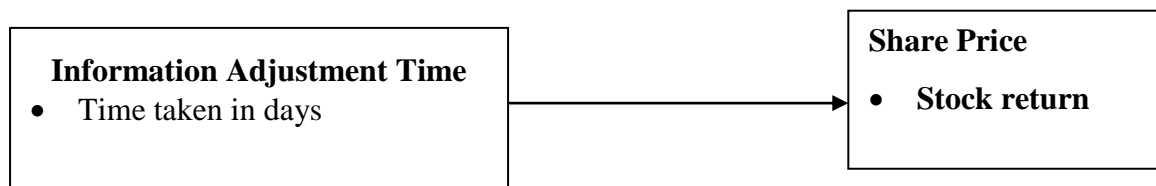
seconds. They also find evidence that prices continues to fluctuate after 40 seconds but these price changes are independent of the first major change. This study will seek to determine the number of days it takes the share prices to adjust to new information especially when a rights issue announcement is made on the Nairobi Security Exchange

### 2.3 Conceptual Framework

**Figure 1: Conceptual Framework**

#### Independent Variables

#### Dependent Variables



**Source: (Author 2014)**

### 3.0 RESEARCH METHODOLOGY

This study adopted a descriptive research design. The target population comprised of companies listed on the Nairobi Security Exchange as at 31<sup>st</sup> December 2013. Convenient sampling design was used to select firms that had a rights issue in the period 2004 to 2013. Secondary data was collected from the Nairobi Security Exchange Company, the NSE publications and from each of the company’s website. A data collection template was developed by the researcher to collect secondary data from the NSE. The data collected was analyzed using the Statistical Package for Social Sciences (SPSS). The objective was addressed by using an Autoregressive Heteroskedasticity (ARCH) model. The ARCH Model estimated was of the following form:

$$\text{Residual} = \alpha + \beta_1\text{residual}_{(t-1)} + \beta_2\text{residual}_{(t-2)} + \beta_3\text{residual}_{(t-3)} + \dots + \beta_{10}\text{residual}_{(t-10)}$$

Where the information adjustment time on share prices was thus established based on running the above equation.

### 4.0 RESULTS AND DISCUSSIONS

#### 4.1 Descriptive Statistics

The table 1 below presents the descriptive statistics of the stock return computed from the share prices, market return computed from the NSE-20 Index, the expected returns and the abnormal returns for the companies that offered rights issue between the period 2004 and 2013.

The results indicate that the stock returns before the rights issue had a mean of 0.038 while after the rights issue its mean was 0.005 with a standard deviation of 0.648 and 0.02 respectively. The means of share prices before and after the rights issue was 50.334 and 52.901, indicating that the share prices rose after the rights issue. The standard deviations from the mean of the share prices before and after the rights issue was 0.648 and 0.020 respectively.

The mean market return before and after the rights issue was -0.368 and 2.089 also an indication of an increase in the mean market return after the rights issue and the standard deviations from the mean market return before and after the rights issue was 4.201 and 5.432 respectively.

The mean expected returns for companies before and after the rights issue was -0.686 and -0.722 an indication that the expected mean returns had declined after the rights issue and the deviations from the mean expected returns before and after the rights issue was 0.606 and 0.019 an indication of wide variability of the expected returns before the rights issue.

The mean abnormal returns before and after the rights issue was 0.724 and 0.722 respectively. This indicates a slight decline in the mean abnormal returns after the rights issue. The standard deviations from the mean abnormal returns for the two periods before and after the rights issue was 0.041 and 0.001 respectively.

The results in table 1 also indicate that the mean volume of shares traded for the companies before and after the rights issue was 330,301 and 419,077 shares respectively and this indicates that after the rights issue window the volume of shares traded had increased remarkably and with a standard deviation of 687,248 and 1,079,696 respectively while the mean NSE-20 index before and after the rights issue was 4,451.131 and 4,529.516 respectively also indicating a rise in the NSE-20 index after the rights issue with a standard deviation of 504.025 and 478.821 respectively.



**Table 1: Descriptive Statistics**

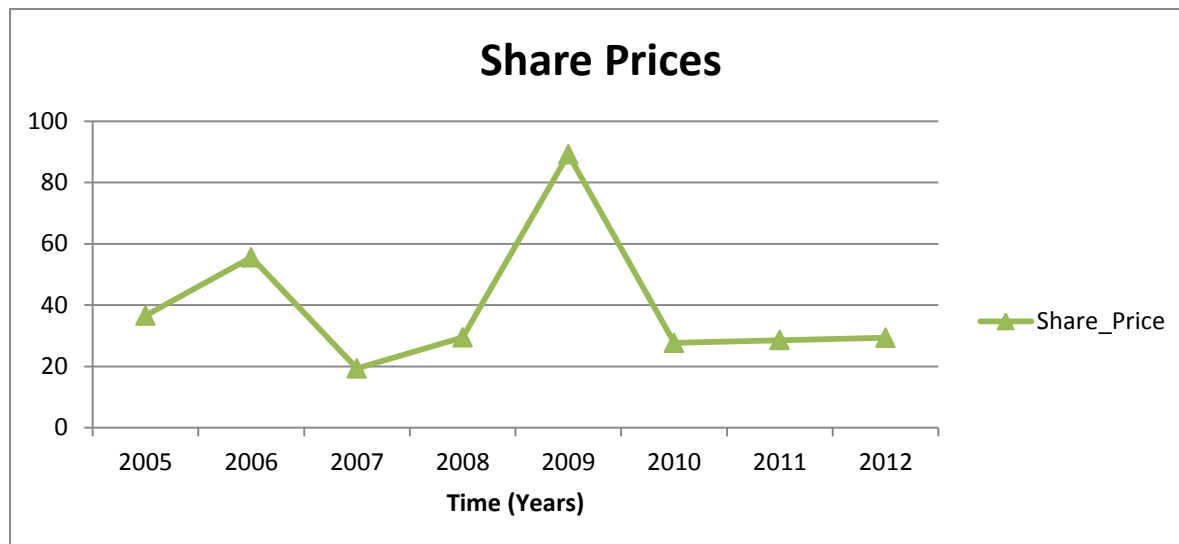
		Mean	Std. Dev	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
<b>Share Price</b>	Before	50.334	62.86 2	4.058	42.341	58.328	5.10	269.46
	After	52.901	66.08 1	4.274	44.480	61.321	14.00	272.39
<b>Stock Return</b>	Before	0.038	0.648	0.042	-0.044	0.121	-0.91	9.98
	After	0.005	0.020	0.001	-0.003	0.002	-0.10	0.08
<b>Market Return</b>	Before	-0.368	4.201	0.271	-0.902	0.167	-	4.41
	After	2.089	5.432	0.351	1.397	2.781	-6.12	14.79
<b>Expected Returns</b>	Before	-0.686	0.606	0.039	-0.763	-0.609	-1.57	8.62
	After	-0.722	0.019	0.001	-0.725	-0.720	-0.82	-0.65
<b>Abnormal Returns</b>	Before	0.724	0.041	0.003	0.719	0.730	0.66	1.36
	After	0.722	0.001	0.000	0.722	0.722	0.72	0.73
<b>Volume</b>	Before	33060 1	68724 8	44641	242654	418548	200	559571 6
	After	41907 7	10796 96	69986	281202	556951	336	110754 00
<b>NSE Index</b>	Before	4451.1 31	504.0 25	32.535	4387.04	4515.222	3303. 75	5185.5 6
	After	4529.5 16	478.8 21	30.972	4468.50	4590.53	3546. 66	5371.7 2

## 4.2 Trend Analysis

### 4.2.1 Trend Analysis of Share Prices

The figure 2 below indicates the trends of share prices for companies that offered rights issue for the period 2004 to 2012. The figure indicates that for the period 2005 to 2006 the share prices for these firms had been on the rise followed by a subsequent decline in 2006 to 2007. The figure also shows that the share price rose rapidly in the period 2008 to 2009 and declined drastically for the period 2009. According to Dixon and (Holmes, 1996) and Jones (1998) information is key in the determination of stock prices. This therefore implies that the stock prices for companies that had right issue announcement as indicated in the figure 2 below had risen as a result of the announcement and that investor's perception of the announcement was that it would increase the share prices of stocks.

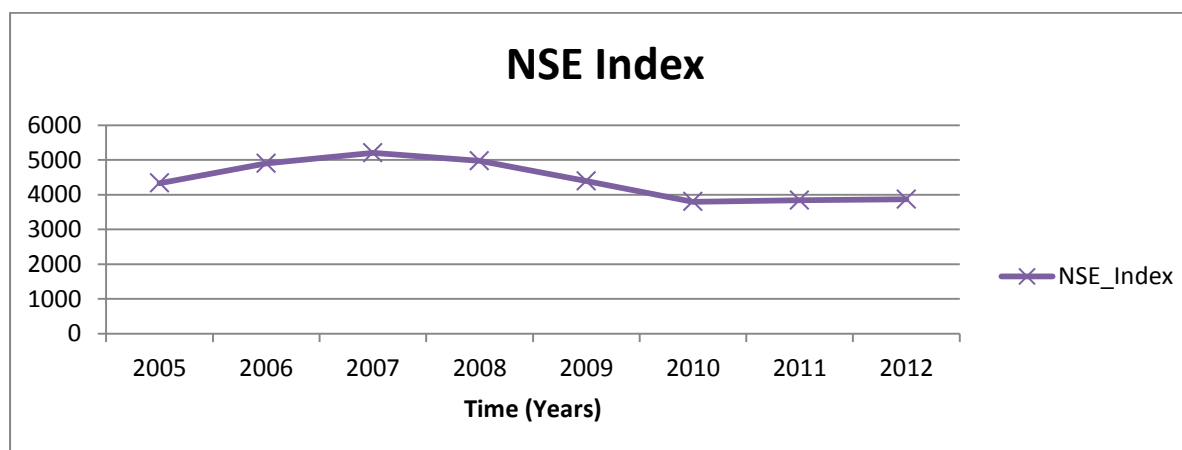
**Figure 2: Trends of Share Prices**



#### 4.2.2 Trend Analysis of NSE-20 Index

The figure 3 below shows the NSE-20 share index for the period 2004 to 2012. The trend reveals that the NSE-20 share index had been on the rise for the period 2005 to 2007 and was on a decline from 2007 to 2010. The finding is consistent with that of Robert (2014) who also found out that the NSE-Index has been on the rise for the period before 2007 and a decline in the NSE-index during and after 2007 and this was attributable to the political instability experienced in the country and that it took some time before it the stock market activities recovered from the shock of the post-election violence.

**Figure 3: Trend Analysis of NSE-20 Share Index**

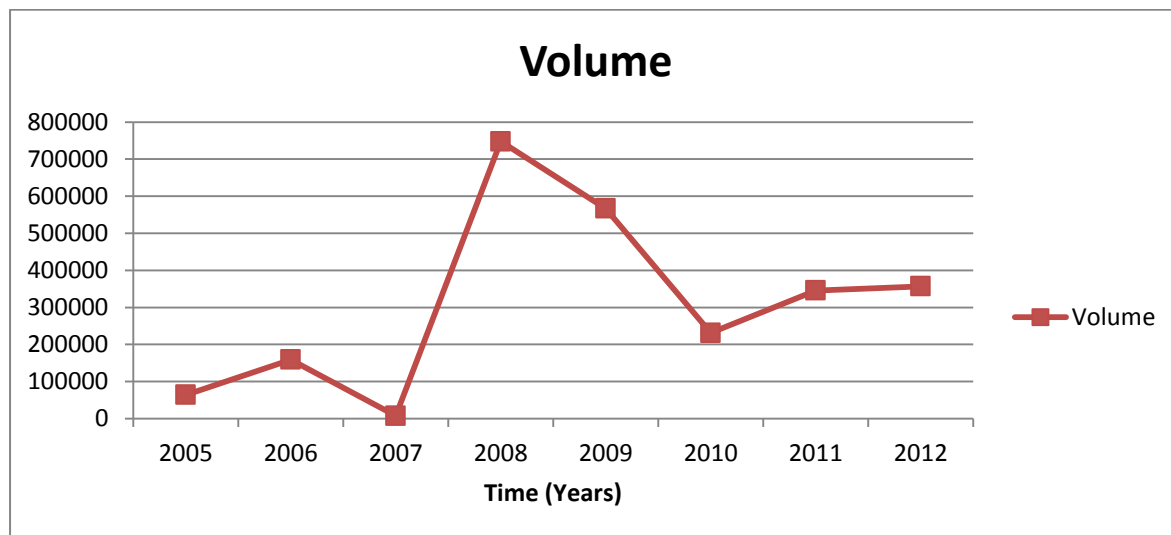


#### 4.2.3 Trend Analysis of Volume of Shares traded

The figure 4 below shows the volume of shares traded for the period 2005 to 2012 by firms that had offered rights issues. The trend shows that the volume of shares traded in 2007 by the companies that had offered rights issue was lowest compared to the volume of shares traded by other companies. The trends also show that the volume of shares traded by companies that offered rights issues was highest in 2008. The study findings is in line with

that of Menge (2013) who found that the volume of shares traded is always fluctuating as a result is the continuous changes in the prices of shares at the NSE and thus this also affects the volume of shares traded.

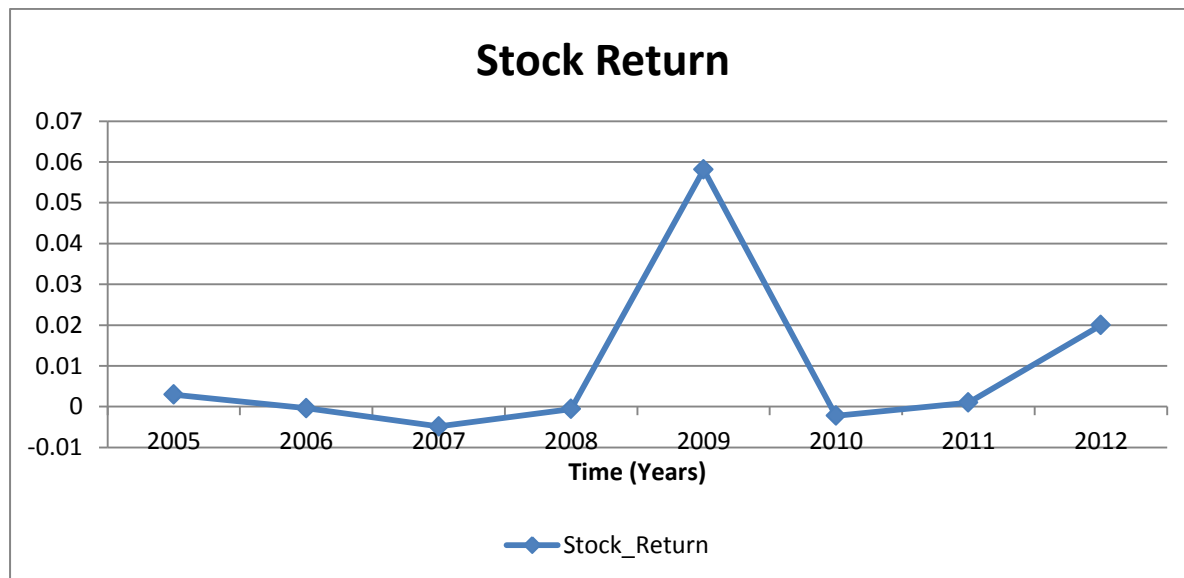
**Figure 4: Trends of Volume of Shares Traded**



#### 4.2.4 Trend Analysis of Stock Return

The figure 5 shows the stock return trends for firms that offered rights issues between 2004 and 2012. The trends indicates low stock returns for the period 2007 and a higher stock return for companies that offered rights issues in 2009. The findings are also in line with those Robert (2014) and Menge (2013) who also found out that stock returns were lowest for the period 2007 as it was affected by the then elections which brought about instability in the country affecting the social and economic pattern of the economy. The further asserted that the political environment as well as the macroeconomic environment is very influential and significantly affects the stock return.

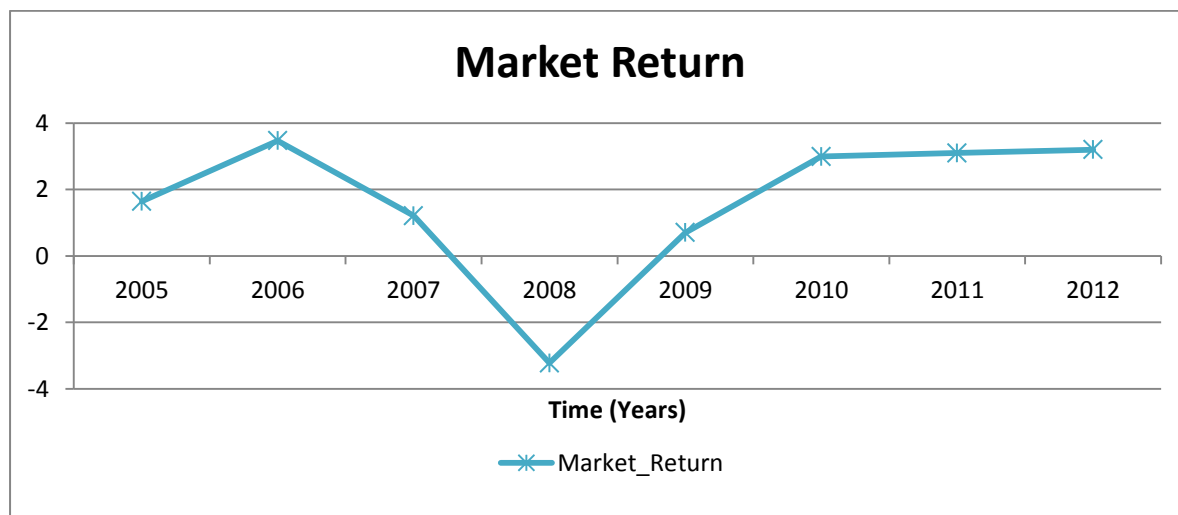
**Figure 5: Trend Analysis of Stock Returns**



**4.2.5 Trend Analysis of Market Return**

The figure 6 below shows the market return for the period 2005 to 2012 by firms that had offered rights issues. The trend shows that the market return in 2008 was on the lowest compared to the market return received in other time periods and the highest market return was recorder in 2006. Menge (2014) also found that the market returns for the period 2007-2008 was lowest and this was as a result of the unstable political environment and thus indicating that that the market was more volatile in the election year 2007 compared to the previous years.

**Figure 6: Trend Analysis of Market Return**

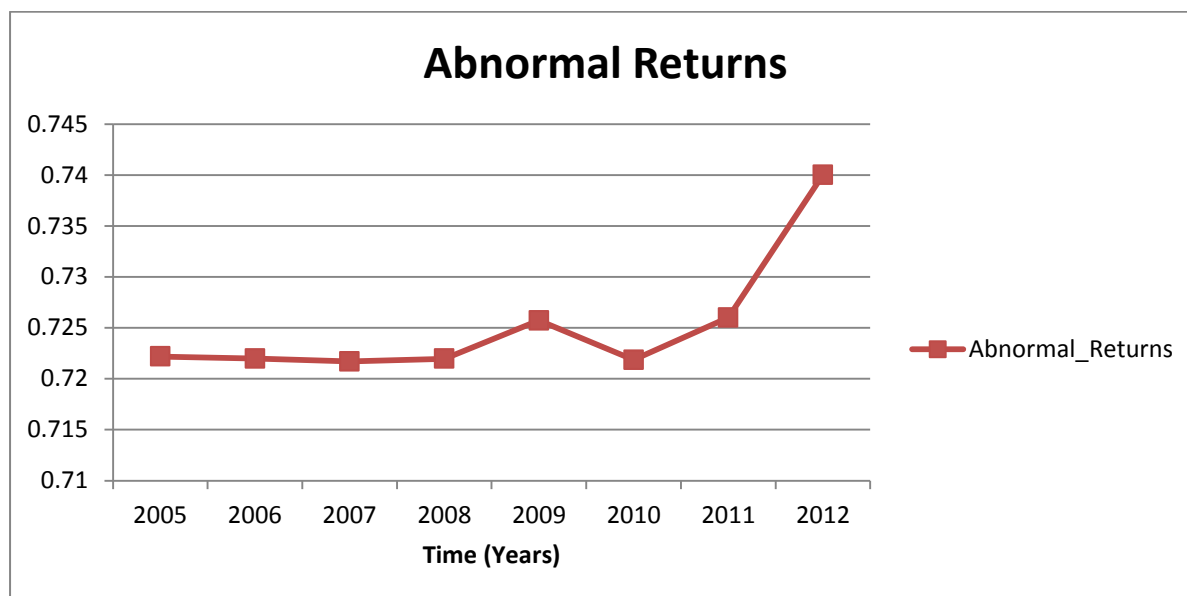


**4.2.6 Trend Analysis of Abnormal Returns**

The figure 7 shows the abnormal return trends for firms that offered rights issues between 2004 and 2012. The trends indicates that the abnormal returns for the period 2005, 2006, and 2008 had been relatively low whereas the abnormal returns for the period 2012 had been the

highest. The study results is also in line with that of Menge (2013) who also found that abnormal returns to be drifting and this is mainly due abnormal returns being sometimes triggered events.

**Figure 7: Trend Analysis of Abnormal Returns**



### 4.3 Information Adjustment Time on Share Prices

The third objective of the study was to establish the information adjustment time on share prices for firm's listed on the Nairobi Security Exchange and to achieve this an Autoregressive Conditional Heteroskedasticity (ARCH) model in the form below was run;

$$AR_{it} = \text{Period}_{0,1} + \epsilon_{it}$$

Where  $AR_{it}$  is the abnormal returns for company  $i$  at time period  $t$ ,  $\text{Period}_{0,1}$  is the period before the rights issue denoted by 0 and the period after the rights issue denoted by 1 and  $\epsilon_{it}$  is the error term of company  $i$  at time  $t$ .

From the regression model the following results were obtained, were the alpha ( $\alpha$ ) coefficient 0.724 and beta ( $\beta$ ) coefficient -0.002 as indicated in table 2 below, were used to determine the residuals. The residuals computed were then used to capture the information adjustment time on the share prices.

**Table 2: Determination of  $\alpha$  and  $\beta$**

	Unstandardized Coefficients		t	Sig.
	$\beta$	Std. Error		
<b>Constant</b>	0.724	0.002	382.371	0.000
<b>Period</b>	-0.002	0.003	-0.918	0.359

The residuals from the regression model were obtained using the following model;

$$\epsilon_{it} = AR_{it} - (0.724 - 0.002 \text{ Period}_{0,1})$$

where  $\epsilon_{it}$  is the residual for company  $i$  at time  $t$  and  $AR_{it}$  is the abnormal returns for company  $i$  at time period  $t$  and Period  $0,1$  is the period before the rights issue denoted by 0 and the period after the rights issue denoted by 1.

The generated residuals were then lagged 10 times to capture the information adjustment time on share prices. The residuals obtained were then regressed and the lagged residuals generated from the following function;

$$\text{Lag residual} = \text{residual}_{(t-1)}$$

The information adjustment time on share prices was thus established based on the model below;

$$\text{Residual} = \alpha + \beta_1 \text{residual}_{(t-1)} + \beta_2 \text{residual}_{(t-2)} + \beta_3 \text{residual}_{(t-3)} + \dots + \beta_{10} \text{residual}_{(t-10)}$$

The results of the above estimation are presented in table 4.8 below where information adjustment time on shocks relating to the second lag (Lags(Res\_1,2)) had a significant relationship (p-value = 0.046) with shocks in time 0 (rights issue announcement). This implies that the effect of rights issue announcement persisted for 2 days and thus indicating a slow information adjustment.

The findings of this study are inconsistent with the findings of who established that information announcement took about 5-10 minutes to be incorporated into the market. Similarly the study finding is inconsistent with that of Ederington & Lee (1995) who also observed that it took about 40-50 seconds for information to be adjusted and therefore it can be concluded that the Nairobi securities exchange is not an efficient market as information takes approximately 2 days for it to be incorporated in the market.

**Table 3: Information Adjustment Time on Shares**

	Unstandardized Coefficients		t	Sig.
	$\beta$	Std. Error		
<b>Constant</b>	0.0000	0.001	0.002	0.9990
<b>LAGS(RES_1,1)</b>	-0.0050	0.047	-0.102	0.9190
<b>LAGS(RES_1,2)</b>	-0.0940	0.047	-2.005	0.0460
<b>LAGS(RES_1,3)</b>	-0.0040	0.047	-0.088	0.9300
<b>LAGS(RES_1,4)</b>	-0.0130	0.047	-0.272	0.7860
<b>LAGS(RES_1,5)</b>	-0.0070	0.047	-0.141	0.8880
<b>LAGS(RES_1,6)</b>	-0.0040	0.047	-0.078	0.9380
<b>LAGS(RES_1,7)</b>	-0.0070	0.047	-0.142	0.8870
<b>LAGS(RES_1,8)</b>	-0.0070	0.047	-0.146	0.8840
<b>LAGS(RES_1,9)</b>	-0.0030	0.047	-0.065	0.9480
<b>LAGS(RES_1,10)</b>	-0.0070	0.047	-0.143	0.8860

## **5.0 DISCUSSION CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Discussion**

The third objective of the study was to establish the information adjustment time on share prices for firm's listed on the Nairobi Security Exchange and to achieve this, an Autoregressive Conditional Heteroskedasticity (ARCH) model was used. The study results indicated there was slow information adjustment time as established by the lagged residual values. Specifically, the effects of rights issue announcement persisted for 2 days and thus indicating a slow information adjustment. This indicates that the market is not efficient as compared with the stock exchange markets of developed countries where information takes 0-5 seconds and in others up to 10 minutes to be incorporated into the market.

### **5.2 Conclusions**

Following the study findings, the study concluded that the information on the announcements of rights issue took two days to be incorporated and thus indicating that the information is not incorporated instantaneously in the stock market and as a result the NSE is not an efficient market when compared to the developed economies or stock exchange markets.

### **5.3 Recommendations for further study**

This study recommends that further studies to be done on the impact of bonus issues, IPOs, and the global economic crisis (2008-2009) on stock returns of companies listed at the NSE. This is because this study focused on the effect of information adjustment time on share prices thus, a yearly overview could be an interesting study to identify the effects on company's financial and share performance. The study also recommends that policy makers and regulators at the NSE should encourage more research on the NSE form of efficiency; this will provide a forum for investors to get the information on the form of efficiency of the market and boost their confidence in the operations of NSE.

## **REFERENCES**

- A. N. (1999). Aston University. Retrieved May 8, 2014, from Aston University Web Site:
- Brealey, R. A., & Myers, S. C. (1988). *Principles of Cooperate Finance* (Third Edition ed.). NewYork: McGraw-Hill, Inc.
- Cooper, D. R., & Schindler, P. S. (2006). Business research methods: Empirical investigation. *Journal of Service Research*, 1(2), 108-28.
- Ederington, L. H., & Lee, J. H. (1995).The short-run dynamics of the price adjustment to new information.*Journal of Financial and Quantitative Analysis*, 30(01), 117-134.
- Elton, E. J., Gruber, M. J., Brown, S. J., & Goetzmann, W. N. (2011). *Morden Portfolio Theory* (8th Edition ed.). Hoboken: John Wiley & Sons, Inc.
- Fama, E. F., Fisher, L., Jensen, M. C., & Roll, R. (1969).The adjustment of stock prices to new information.*International economic review*, 10(1), 1-21.
- Jones, C.P (1998). *Investments: Analysis and Management*. New York: John Wiley and sons.

- Kendall, M. G., & Hill, A. B. (1953). The analysis of economic time-series-part i: Prices. *Journal of the Royal Statistical Society. Series A (General)*, 116(1), 11-34.
- Khushbu, A. (2012, July 9). *Social Science Research Network*. Retrieved May 6, 2014, from
- MacKinlay, A. C. (1997). Event studies in economics and finance. *Journal of economic literature*, 13-39.
- McWilliams, A., & Siegel, D. (1997). Event studies in management research: Theoretical and empirical issues. *Academy of management journal*, 40(3), 626-657.
- Menge, R. N. (2013). *Effect of elections on stock market returns at the Nairobi Securities Exchange* Unpublished MBA dissertation, University of Nairobi.
- Mishra, A. (2005). An empirical analysis of market reaction around the bonus issues in India. *Indian Institute of management working paper*, (2005-10).
- Mitchell, M. L., & Netter, J. M. (1994). The Role of financial economics in securities fraud cases: applications at the Securities and Exchange Commission. *The Business Lawyer*, 545-590.
- Miya, G. H. (2007). *Stock market behaviour around national elections in Kenya*. Unpublished MBA dissertation, University Of Nairobi.
- NSE. (2014, January 1). *About NSE*. Retrieved February 1, 2014, from Nairobi Securities
- Patell, M. J., & Wolfson, M. A. (1984). The intraday speed of stock price adjustment to earnings and dividends announcement. *Financial Economics* , 223-252.
- Robert, N. M., Mirie, M., & John G. K., (2014) Effect of elections on stock market returns at the Nairobi securities exchange, *Prime Journal of Social Science*, Vol. 3(6), pp. 763-768
- Seiler, M. J. (2004). *Performing financial studies: a methodological cookbook*. Upper Saddle River, NJ: Prentice Hall.