THE EFFECT OF BOND ISSUES ON THE STOCKPRICE PERFORMANCE OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

SAMORA MACHEL

D63/75311/2012

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR AWARD OF THE DEGREE IN MASTER OF SCIENCE IN FINANCE

THE UNIVERSTIY OF NAIROBI

OCTOBER 2013

DECLARATION

This research project proposal is my original work and has not been presented for academic purposes in The University of Nairobi or any other university.

SamoraMachelMomanyi D63/75311/2012

Signed.....Date. November 5th, 2013

Supervisor

Dr. Josiah Aduda

Chairman, Department of Finance & Accounting,

The University of Nairobi.

Signed.....Date. 5/11/13

DEDICATION

As advanced by The Economist in 1843, this project is written "to take part in the severe contest between intelligence, which presses forward, and an unworthy, timid ignorance obstructing our progress."

ACKNOWLEDGEMENT

Without God's guidance, none of this would have been accomplished. Thank You!

I owe my sincere gratitude to Dr. Josiah Aduda for his constant support, guidance and invaluable insight toward the completion of this paper. I would also like to thank my classmates Charles and Jeremiah for their assistance through learning the ropes of collecting and analysing hoards of data, and conceptualizing this project. My friends; Edgar, Angela, Ola, Jacob, Anthony, Jude. My brother Edgar, sister Sharlon, uncle Ken, thank you all for the support, encouragement and understanding from the very beginning.

Finally, to the three people without whom none of this would have been possible; My father, Mr.Paul Buti; my mother Mrs. Jane Buti and The Late Mr. Davidson Momanyi; I still owe you one more.

ABSTRACT

The corporate bond market in Kenya currently accounts for barely 10% of all bond transactions at the Nairobi Securities Exchange. The objective of this study was to establish the effect of bond issues on the performance of the stock price of firms listed at the Nairobi Securities Exchange. Toward this end, the various measures of stock price performance were explored in an effort to highlight the possibility of bond issues as being another source of information to the market, which could have an effect on share prices.

A descriptive analysis was carried out and the event study methodology employed to investigate this relationship. The market model was used to estimate the market returns which were used to calculate the abnormal returns of each company's stock on every trading day.

The findings obtained were the result of the parametric t-test carried out at a 5% significance level, which revealed outcomes that pull in either direction with regard to the objective of this study, i.e. where bond issues have a positive effect on the share price of the issuing company and where the bond issues have a negative effect or no effect at all.

With this outcome, an actionable recommendation for further studies would be the use of cumulative average abnormal returns instead of cumulative average returns. Policy and practice could also put the findings of this research to use by encouraging the issuance of corporate bonds by firms, amongst other interventions highlighted later in the paper.

Table of Contents

ABBREVIATIONS

AR	Abnormal Returns
CAR	Cumulative Average Returns
CAAR	Cumulative Average Abnormal Returns
CMA	Capital Market Authority
EPS	Earnings per Share
GDP	Gross Domestic Product
IFC	International Finance Corporation
NSE	Nairobi Securities Exchange
ROA	Return on Assets
ROE	Return on Equity
SVS	Superintendencia de Valores y Segueros

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

As debt instruments, bonds are a cheaper source of external capital for firms especially when interest rates are relatively low. Over the past few years, a significant number of low- and lower-middle income countries in Africa have put development of corporate bond markets on their national policy agenda (Irving, 2010).

Previously, companies in most emerging economies were interested in borrowing from banks (Luengnarumichai&Ong, 2005). Some impetus to corporate bond issues in these markets has come from higher bank lending rates since the onset of the acute phase of the global financial crisis in the fourth quarter of 2008. This has been the case in Kenya, for example, where bond market activity has been picking up over the last four years. The government has also been pursuing policy initiatives to boost both local issuance and investment, including an exemption of bond investors from withholding tax on interest. Among the companies in Kenya that have recently tapped the local fixed income market are KenGen, Safaricom, Centum Investments and Consolidated Bank of Kenya. So far, there has been strong investor interest in these recent issues, some of these (the KenGen and Safaricom issues) even tending to be oversubscribed (Irving, 2012). The case for bond issues has also been made stronger by the general reluctance of banks to issue loans with long maturities (Eichengreen, 2004).

Though 90% of the bonds issued in Kenya are government bonds, more companies are turning to the bond market to raise funds as put forth by Thiong'o (2012). This enables companies to avoid the high interest rates charged by banks and the widely incomparable efficacy of stock issues which would hardly register the same level of subscription relative to bonds.

In the more recent Kenyan scenario, companies that have issued bonds (public infrastructure bonds etc.) have gone on to show a commendable performance trend, as evidenced by reported profits and dividend pay outs. The question that lingers, therefore, is whether this is just pure coincidence, or if this is caused by among other factors, issuing straight debt.

In a broader understanding, it would also be agreeable to view this as a questioning of whether the capital structure of a company will have discernible impact on the profitability of the firm.

1.1.1 Bond Issues

Firms issue bonds for a variety of reasons. By issuing bonds, a firm can often borrow money for a fixed rate for a longer term than it could at a bank. Most banks will not make fixed rate loans for longer than five years because they fear losing money if their cost of funds rises to a higher rate than long-term loans. Most companies want to borrow money for long terms and so elect to issue bonds.

Secondly, bond issues provide firms with a way to raise capital without diluting the current shareholders' equity stake in the firm.

With bonds, companies can often borrow at a lower interest rate than the rate offered by banks. By issuing bonds directly to the investors, corporations can eliminate the banks as "middlemen" in the transactions. Without these intermediaries (i.e. banks), the borrowing process becomes more efficient and less expensive.

Further, by issuing bonds, the borrower is spared the task of undergoing numerous separate negotiations and transactions in order to raise the capital it needs. Bonds therefore offer a very efficient way to borrow capital (Pandey, 2009).

The corporate bond market in Kenya has seen a steady growth trajectory over the last couple of years, especially as a result of higher bank lending rates since the acute phase of the global financial crisis in the fourth quarter of 2008. Despite being relatively smaller compared with South Africa and Nigeria, the Kenyan bond market is considered as one of the most advanced in Africa. For instance, in 2011, the country's bond turnover to GDP ratio stood at 19 per cent, the second highest in Africa behind South Africa. This measure indicates that for every $100 produced in Kenya's economy, $19 are traded on the bond market. On bond settlement, the international bond settlement standard is paying three days after the transaction is concluded.

However, in the Kenyan market, the transactions can be concluded on the same day the transaction is done. This is more advanced than South Africa's bond market, the biggest on the continent, where payment is done four days after the deal is concluded. However, South African bond turnover is about $250 billion, while Kenya is at $5 billion. Though 90 per cent of the bonds in Kenya have been issued by the government, more companies are turning to the bond market to raise funds. In 2012 alone, Consolidated Bank and Centum Investment have issued corporate bonds worth Ksh5.2 billion (Thiong'o, 2012).

The low issuance by commercial banks has largely been blamed on the poor liquidity of the corporate bonds in the secondary market. For example, whereas government securities have a turnover ratio of 88 per cent, corporate issues have a turnover of a mere 2 per cent. The poor liquidity of these bonds, coupled with the risks associated with corporate bonds, means investors demand a premium to hold these bonds (Thiong'o, 2012).

The government, since 2010, has also been pursuing policy initiatives to boost both local issuance and investment, including an exemption of bond investors from withholding tax on interest. The implementation of a more flexible approval process for bond issuance and a flexible secondary market framework that allows over the counter trading of bonds has also been made possible with support from the International Finance Corporation, IFC. This system seeks to also improve efficiency of trading, clearing and settlement, and to promote transparency in the bond markets (Neha, 2012).

1.1.2 Stock Performance

Like most gods on the free market, the price of any individual company's stock is determined by demand and supply. However, because investors have to decide whether they should pay more or less for certain stock, they usually weigh information about the company, the state of the economy and even their own investment goals. It is common that the investors will be concerned by a company's financial health, information to do with the industry that the company operates in, economic trends and even national//world events. Equipped with this knowledge, investors will then make a buy/sell/hold decision.

Typically, securities markets are sensitive to the arrival of new information. This differs by the level of market efficiency, but the effects of any hitherto unannounced information are consistently present in any of these market efficiency scenarios. Therefore, even information of an imminent debt issue could have an effect on the stock price of a firm. Whether the actual trading of the bond would also affect these prices, is what this study shall seek to find out (Pandey, 2009).

1.1.3 Bond Issues and Stock Performance

Theoretically, bond issues should not have any discernible effect on the stock performance of a firm, since this is only a way to raise capital for the business.

While empirical evidence suggests that pure equity offers have a relatively large negative effect on the value of the issuing firm, issues of straight debt come across as having a small non-negative effect on the value of said issuing firm. It's also safe to conclude that offers for the sale of convertible securities, which combine characteristics of both debt and equity, have negative profitability effects that lie between those observed for pure equity and straight debt (Abhyankar& Dunning, 1999).

While inferences can be made about a company's stock performance from published financial statements, the general mood (inclined toward a bear or bull scenario) of investors may also point toward the profitability and well-being. Since this fixed-income class of securities is also traded at the securities exchange, this investor disposition might possibly play a bigger role than earlier captured.

Financial statements represent historical activities of the business and are as such a lag indicator. However, they still are the source for information that's used in most of the financial ratios that act as key performance indicators e.g. Return on Equity, Return on Assets, Asset Turnover, Profit Margin, Debt/Equity Ratio etc. (Mishra et. al., 2009). This study will therefore attempt to more lucidly demonstrate what impact bond issues may have on the profitability of a business.

1.1.4 The Nairobi Securities Exchange

On the Nairobi Securities Exchange, there are currently 63 government bonds issued by the Government of Kenya and 19 corporate bonds and notes issued by 9 companies. Of the corporate bonds, there is none whose issued value is more than Kshs. 2 billion. The combined value of all listed government bonds is approximately Kshs. 400 billion, while that of the listed corporate bonds is approximately Kshs. 13 billion, bringing the NSE debt market's capitalization to about Kshs. 413 billion. The maturities of the government bonds range between one and twenty years while those of the corporate bonds range between two and eight years. All the listed government bonds have fixed coupon rates ranging between 6% and 14%. The corporate bonds are either fixed or floating (https://www.nse.co.ke/market-statistics/bonds-statistics.html)

1.2 Research Problem

According to Dunning et al. (1999) and supported by numerous other studies, a firm's profitability falls by about 3% on average with the announcement of the issue of leverage decreasing securities e.g. stocks. This drop in the profitability is as a result of the company assuming more risk. The converse is true i.e. a firm's value increases with the announcement of leverage increasing securities, though this happens to a degree that is hardly significant. The key element here is that the effect on share price and value is reversed in this case.

Fama and French (1998) argue that a company's financing decisions have no effect on its market value and that therefore the firm's performance is indifferent to debt versus equity financing. However, this argument rests on two assumptions: that there exists a perfect capital market and that companies maximize both the shareholders and bondholders wealth. Miller and Modigliani (1958) ascribe to this school of thought, postulating that company value and debt level are not

correlated. Conversely, Masulis (1983) found that leverage changes and changes in stock price are positively related, signifying that company value is positively affected by any changes that occur in debt level. He showed that when a company increases its use of leverage, returns and values can be magnified. However, Masulis did not address the notion of risk. Financial leverage could increase a company's value and returns, but it also increases its level of risk.

In the Kenyan scenario,Ringui (2012) contends that firms could be spurred to perform better if the political, macroeconomic and regulatory factors in the country are favorable for the corporate bond market to thrive. Ringui's study however, does not directly inquire what the relationship (if any) is between these firms' performance and any debt that they issue. Shibira (2003) in his study, seeks to identify the factors that may influence the pricing of the bond, vaguely highlighting that the value of the company might be a factor. The reverse relationship is left to deductions and inferences from this study, though in all fairness, it was not a study objective. None of these studies was successful at dissecting the relationship between debt issue and stock performance at the Nairobi Securities Exchange.

1.3 Research Objective

The objective of this study is to establish the effect of bond issues on the performance of the stock price of firms listed at the NSE.

1.4 Value of the Study

The study of bond issues and their effect on firm profitability is an example of a sharing of ideas between academic research and financial analysis practice. The results from this research would help inform bond issues or help in forecasting financial statements of companies.

By studying this relationship, a broader group of investors would be able to make decisions based on the success of bond issues, for instance, for them to buy, sell or hold the stocks of a company and when not to do so. A strong relationship between these two would make this a good indicator.

Institutional investors, who seem to especially have deeper pockets with less stringent terms than banks, could also use the subscription level of bonds they're involved in as a pointer to how safe and well utilized their money would be. This would encourage them to either invest more due to predictable company performance or equally grant them peace of mind with the knowledge that their money is safe.

Corporate bonds account for 10% of the bonds issued by the Nairobi Securities Exchange. This study would help potential investors make informed decisions about what offers to participate in and which ones to just pass by.

Finally, to the researcher, it poses the challenge to become pro-active in the quest for other indicative measures as opposed to the traditional financial statements, which are lag indicators at best.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, a review of underlying theories shall be presented, followed by a literature review of empirical studies. This shall be followed by a brief discussion of bond issues and financial performance. A conclusion drawn from the literature review of empirical studies shall then bring this chapter to a close.

2.2 Review of Theories

2.2.1 Signaling Theory

Investors' perceptions of a company are influenced by a company's financing policy. This was demonstrated by Ross (1977). *Signaling Theory* is based on the assumption that the management if a company is better informed about the company than creditors or investors. Any signal they send that might suggest better-than-expected cash flows may enable an investor to create value. Investors are therefore constantly watching for these types of signals from the managers. Ross affirms that a company's financial structure provides indispensable information about its financial situation and that the value of a company will increase with its level of leverage. Higher debt ratios could signal positive management expectations as far as future cash flows are concerned.

2.2.2 Agency Theory

Agency Theory offers a slightly divergent perspective to the debt-equity relationship in a firm. According to agency theory, the principal-agent conflict can be mitigated by having the managers own a larger stake in the company. The use of debt can reduce agency costs between the firm's managers and shareholders by reducing the "non-committed" cash at the disposal of the managers to pursue their own interests.

Jensen (1986) therefore notes that companies with higher managerial ownership may not need to incur much debt financing because managers who own shares would most likely act towards increasing shareholder wealth.

2.2.3 Trade-off Theory

Trade-off Theory, as postulated by Modigliani and Miller (1963), suggests that companies with more tangible assets can incur higher debt because of their ability to provide sufficient collateral and security to lenders. The conclusion can be drawn that companies that heavily invest in tangible assets also have higher financial leverage because they can borrow at lower interest rates if their debt is secured with these types of assets. As a result of this, companies with more tangible assets may have easier access to debt markets than smaller companies, and also the ability to borrow under better terms and conditions. This would help the former in achieving better results as compared to the latter (Ferri& Jones, 1979).

2.2.4 Pecking Order Theory

Pecking Order Theory looks at the mixture of equity and debt that a firm employs to finance itself. Financing comes from three sources; internal funds, debt and equity. According to the theory, firms prefer to finance themselves internally through retained earnings; when this source of financing is not available, the company issues debt and only in the last instance does it issue equity. This is due to the type of message that the different type of securities send to the market: while debt signals to investors that management are confident that they can service the debt, equity signals that management believe the firm to be overvalued and could potentially trigger a fall in its share price. A relationship can be drawn, therefore, between the value of a firm and a debt issue (Frank &Goyal, 2000).

2.3 Review of Empirical Studies

According to Chin and Abdullah (2012), based on a bond issuance of Malaysian companies over a certain period, the equity returns of bond issuers are seen to increase. The announcement of corporate bond issues, it was seen, may act as a market signal to investors spurring the stock to perform better. The results of the study saw a positive cumulative average abnormal return, which implies that an increase in debt has a positive effect on stock prices. However, this study looks at debt as a combination of borrowing from sources other than the buyers of bonds issued by the firm.

As the significance of the bond market as a source of funds keeps growing, there is a possibility that it could affect the equity market. As noted by Gebhardt, Hvidkjaer, and Swaminathan (2005), bonds and stocks have the same underlying operating cash flows and are affected by the same company fundamentals. In the study, it is shown that over a ninety day period, any abnormal returns on a company's stock matched by better performance of short term notes with floating interest rates.Therefore, bonds cannot evolve independently of equities.

Masulis (1983) found that leverage changes and changes in stock price are positively related, signifying that company value is positively affected by any changes that occur in debt level. He showed that when a company increases its use of leverage, returns and values can be magnified. However, Masulis (1983) did not address the notion of risk. Financial leverage could increase a company's value and returns, but it also increases its level of risk. Masulis (1983) showed that when companies increase their use of leverage, returns and values can be magnified.

According to Barclay andSmith (2005), adding more debt to a company's capital structure can serve as a credible signal of higher expected future cash flows. The managers of companies that have raised their levels of debt are, in effect, signaling to the markets that they are aware of the states of their companies, which are favorable, and they are confident that the companies' performances will allow them to pay off their additional debts. The study shows that there is a positive correlation between the degree of leverage and the forecast performance of the stock of the firm.

The issuance of a security will create demand for a discount in order to hedge against the risk that the security is overvalued and therefore the markets will react negatively to a firm's external financing (Myers &Majluf, 1984).Covitz and Harrison (1999) develop and test a recursive model of debt issuance and rating migration, where rating agencies reveal informationover time. This adverse election model assumes that firms possessprivate information and use it to time their bond issuance. As a result, debtissuance provides a negative signal of debt rating migration. They also predictthat the signal strengthens with economic downturns.

According to Ringui (2012), companies could proceed to perform better if the political, macroeconomic and regulatory factors in the country are favorable for the corporate bond market to thrive. What's implied here is that if companies are encouraged by all these factors to pursue debt financing, then positive gains could be seen in these companies' performance.Ringui (2012) puts it forward that bond issues could make these companies more profitable.

Thiong'o (2012) sites both advancements made in the recent years towards trading of bonds at the NSE as well as hindrances that may have seen a below par subscription of corporate debt.Thiong'o further points to the oversubscription of two recent bond issues (KenGen, 2010 and Safaricom, 2011) and the subsequent profits recorded in the corresponding financial periods as an indication toward the relationship between firms issuing debt and an increase in revenues.

In the study conducted by Chin and Abdullah (2012), the results showed that the bond issuer (the firm) enjoys a cumulative average abnormal return (CAAR) especially around the period surrounding the event (the bond issue). Specifically, bond issuers generally experience an increasing CAAR trend over the 60 days before (t=-60) the event day or the bond issuance date (t=0) and over the first 10 days (t=+10) of the post-event period. There was a decline in CAAR from 60 days to 55 days before the event date when there were abnormal losses. Thereafter, the cumulative average abnormal return surged to a positive value starting from day t=-45, fluctuated between 1 and 3 percentage points (as a percentage of the total returns), and finally increased substantially after day t=-1, one day prior to the event day. After the event day, the CAAR continued to rise for three days and finally reached a peak of 6.84 percentage points on day t=+9. However, immediately after the ninth day, the CAAR began to show a declining trend, dropping to a low of 4% at day t=+23. The CAAR rose again after day t=+24 and fluctuated between 4.5% and 5.5% until 45 days (t=+45) after the issuance date, but failed to be sustained thereafter.

Therefore, if increasing the leverage position of a firm translates to a positive impact on market prices, it implies a positive relationship between bond issues and equity market return. The favorableinformation signal and its positive effects on stock prices could also be attributed to the use of the funds from the bond instruments that are generally meant for productive purposes such as company growth and expansion. In summary, the Malaysian equity market appears to generally react positively to the issuance of bonds.

Castillo (2004) takes a position contrary to the one expounded on above. He argues that the authorization of bond issues by the Chilean Securities Market Authority (SVS) does not generate significant abnormal returns. These results are consistent eitherwith the no news theory (markets reacting in a certain fashion, these effects not necessarily attributable to any specific news) or with the no impact theories (where company information is not seen to have influenced stock movement in any particular direction) presented in the paper. The findings are also consistent with the Myers and Majluf (1984) asymmetric information theory, whose prediction is that the announcement of issue of debt should produce either no effect on the price of the stocks or a very small negative effect. It should however be noted that this study was modelled along similar studies conducted in developed markets, and hence the consistency of the results of Castillo (2004) and those from US and European markets.

Eckbo (1985) studies the stock effect to corporate debt offerings during the period 1964 through 1981. He finds the two-day (day –1 to day 0) abnormal return to the initial announcement of the bond issuance is significantly negative. With the analysis of cross-sectional regression, the negative stock price reaction is found having no relationship with the bond issue, particularly with the size of the issue. This result is inconsistent with the Asquith and Mullins (1986) model in which the offerings size has a negative correlation with the stock abnormal return.

In tandem with these results, Lewis et al. (2003) also find significantly negative stock price reaction to the bond issuance announcement during the two-day (day –1 to day 0) trading period. They further indicate the stock price reaction has a relationship with the decisions of security design. A logistic regression model is employed in the paper by Lewis et al. (2003) to compare the characteristics between the bond issuance firms and the industry "composite"firms i.e. those that already have a mix of equity and debt financing. The results show that no significant

influence on profitability can be traced to the bond issuers. This study was conducted on firms in the US market. However, the specific focus of this study was on convertible bonds.

Further conflicting empirical results are found for changes in company value and return. Ammannet. al. (2006) and Chenet. al. (2005) found significant negative abnormal returns following the issuance of bonds. In contrast, Martel and Padron (2006) registered positive abnormal returns after bonds issuance. For the Japanese market, Kim and Stulz (1992) found -0.23% stock price reactions to bond issue announcements. They attributed this result to tax advantages in offshore markets. Due the conflicting findings in prior studies, more empirical evidence is required.

2.4 Performance Measures

As noted by Pandey (2009), financial statements are an important tool for the diagnostics of company performance, because the operating performance of a firm shapes its financial situation. These statements are the basis of financial ratios and some of these are used to estimate the profitability of a company by running a ratio analysis of a firm. These include:

2.4.1 Earnings per Share

EPS is the portion of a company's profit allocated to each outstanding share of common stock. It is calculated as:

$$EPS = Net\ income\ /\ Average\ Common\ Shares$$

2.4.2 Return on Equity

ROE measures the accounting earnings for a period per shilling of shareholders' equity invested. ROE in a sense provides the analyst with an "accounting" measure of the "returns to a shareholders' investments. It's calculated as:

$$ROE = Net\ income\ /\ Shareholders'Equity$$

2.4.3 Return on Assets

ROA measures the return on each shilling invested in assets. ROA therefore doesn't distinguish between capital raised from equity holders and that raised from creditors. It's calculated as:

$$ROA = Net\ Income / Assets$$

2.4.4 Profit Margin

Profit margin measures the fraction of each shilling of sales that makes it through to net income. It mostly reflects the company's pricing strategy and its ability to control cost. The profit margin is calculated as:

$$Profit\ Margin = Net\ Income / Sales$$

2.4.5 Asset Turnover

Asset turnover measures the sales generated per shilling of assets employed. It's calculated as:

$$Asset\ Turnover = Sales / Assets$$

Since all these measures of profitability are arrived at by using information that's readily available from the financial statements, none of these measures draws a relationship between debt issue and share price performance. At best, these methods are "lag indicators" as they rely on information that is historical in nature.

2.5 Conclusion from the Literature Review

Conflicting empirical results are found for changes in company value and return. This is clear from the divergent characteristics of the cumulative abnormal returns obtained by different studies from different markets upon the issuance of bonds.

The capital structure of a firm, the mix of equity and debt that a firm employs to raise capital for its business activities, is related to the profitability of the firm. However, the actual cause/effect relationship between these two is what the empirical studies contend, no school of thought overwhelmingly prevailing over the other.

With the lack of proper studies on the effect of bond issuance on the share performance of firms in the developing markets, there is need for a study to fill this gap to help managers make informed decisions regarding the capital structure of their companies.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter addresses the methodology that was employed to carry out this study and analyze the data gathered. The research design is highlighted, and there after a definition of the population of the study. The data collection methods employed and a description of the statistical methods employed to analyze the data bring the chapter to a close.

3.2 Research Design

A descriptive study was carried out using the event study methodology. Event study analyses differentiate between the returns that would have been expected if the analyzed event would not have taken place (normal returns) and the returns that were caused by the respective event (abnormal returns). The 'market model' was used for predicting the normal returns around the event date.

3.3 Study Population

According to Zikmund (2010) a population refers to an entire group of individuals or objects that possess a common observable characteristic. The target population for this study was all the companies listed at the Nairobi Securities Exchange that have issued debt, in the form of bonds or notes and whose debt/note issues had not matured as at the date of this study. The study was a census of the six listed companies that met this criteria.

3.4 Data Collection

Secondary sources of data were used for this study. The study focused on a period of thirty days before and after each bond issue was announced for each of these firms. The data was mainly obtained from the Nairobi Securities Exchange Bond Statistics. This was augmented with data from financial journals, company websites, CMA Statistics, NSE Bulletins, publications and articles about bond issues.

3.5 Data Analysis

Returns of the firms' stock as well as the market return werecalculated and matched. The alpha, beta and sigma coefficients for each event were then obtained using IBM SPSS Statistics 20.0. Using these values, the t-values needed for significance testing were then calculated by deducting the expected returns from the actual returns of the firms' stock (throughout the event window) to obtain abnormal returns, then dividing these abnormal returns with the standard error.

Based on the study by Chin & Abdullah (2012), an event study analysis differentiated between the normal returns and the abnormal returns. The market model was used for predicting the normal returns around the event date.

The abnormal returns, $AR_{i,t}$, were given as:

$$AR_{i,t} = R_{i,t} - (\alpha + \beta R_{m,t})$$

Where: $AR_{i,t}$ is the abnormal return of the firm 'I' on a distinct day, 't'.

$R_{i,t}$ is the actual stock return of the firm 'I' on a distinct day, 't'.

$R_{m,t}$ is the actual return of the market on the specific day.

$(\alpha + \beta R_{m,t})$ is the expected return of the stock on the specific day.

α is the y-intercept.

β is the slope of the equation.

The individual abnormal returns for each individual firm were then cumulated over time to yield the cumulative abnormal returns ($CAR_{i,t}$):

$$CAR_{i,t} = \sum_{i=t_1}^{t_2} AR_{i,t}$$

It was important to ascertain whether or not the abnormal returns are significantly different from zero. This assessment was made by hypothesis testing. The null hypothesis (H_0) maintained that there were no abnormal returns during the event window while the alternate hypothesis (H_1) suggested the presence of abnormal returns within the event window.

The parametric *t-test* was employed using the cumulative abnormal returns as the test statistic, to reject/accept the null or alternate hypothesis at a 5% significance level with two degrees of freedom.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 Introduction

In this chapter, all the data that was collected for the study shall be presented. A summary and interpretation of the findings shall then be done, along with explanations of the findings and comparisons with previous studies.

4.2 Data Presentation

The following is the data collected from the companies listed at the Nairobi Securities Exchange that have issued debt in the form of bonds and notes that still have not matured. The companies are Safaricom Limited, Barclays Bank Limited, CFC Stanbic Holdings Limited, Housing Finance Company Limited and KenGen Limited.

The specific data elements that were of importance to the analysis are the volume weighted average price of the shares, which is the turnover per counter divided per shares of that particular firm traded, and the NSE all-share index, a marker of the overall skew of the market over a particular trading day.

We will use the techniques highlighted in chapter three to analyze individual data for every firm.

4.2.1 Safaricom Limited

Safaricom Ltd. issued a five year bond on November 2nd, 2009. The bond has a fixed rate of interest over the five year period. The share prices around this date were taken for analysis and these are detailed in table 1.1 in appendix 2.

The event date is the date of the issue of the bond and the length of the estimation window is 25 days. The length of the event window is 11 days, 5 days prior to the event and 5 days after the event.

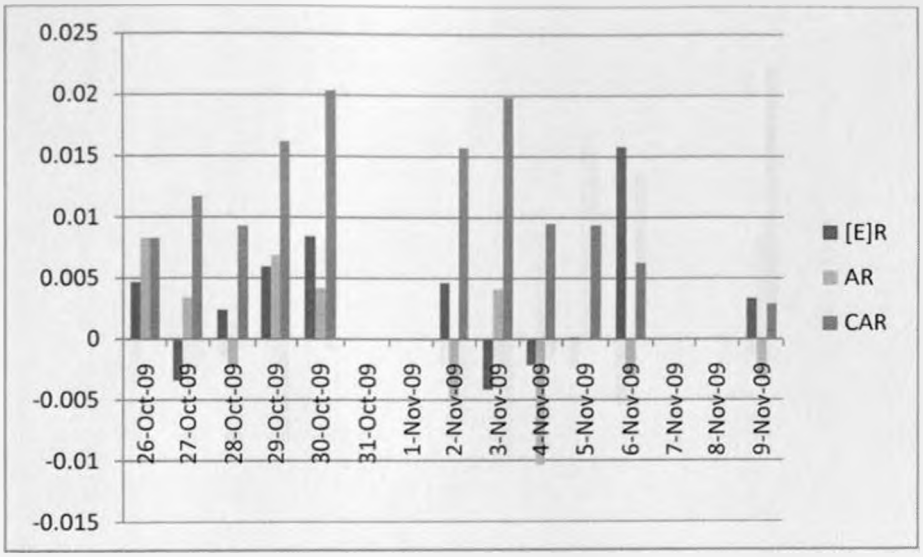

Fig. 4.2.1 Safaricom Ltd. expected returns, abnormal returns and cumulative abnormal returns.

After obtaining the expected returns ([E]R), abnormal returns (AR) and cumulative abnormal returns (CAR), the AR t-test statistic was obtained and then summed to yield the CAR t-test statistic, which would then be compared to the critical value from the t-tables. The procedures and computed figures are highlighted in table 1.3 of appendix 2.

The resultant CAR t-test statistic is 4.247474.

4.2.2 Barclays Bank Limited

Barclays Bank Ltd. issued a seven year bond on July 14th, 2008. The bond has a fixed rate of interest over the seven year period. The share prices around this date were taken for analysis and these are detailed in table 2.1 in appendix 2.

The event date is the date of the issue of the bond and the length of the estimation window is 25 days. The length of the event window is 11 days, 5 days prior to the event and 5 days after the event.

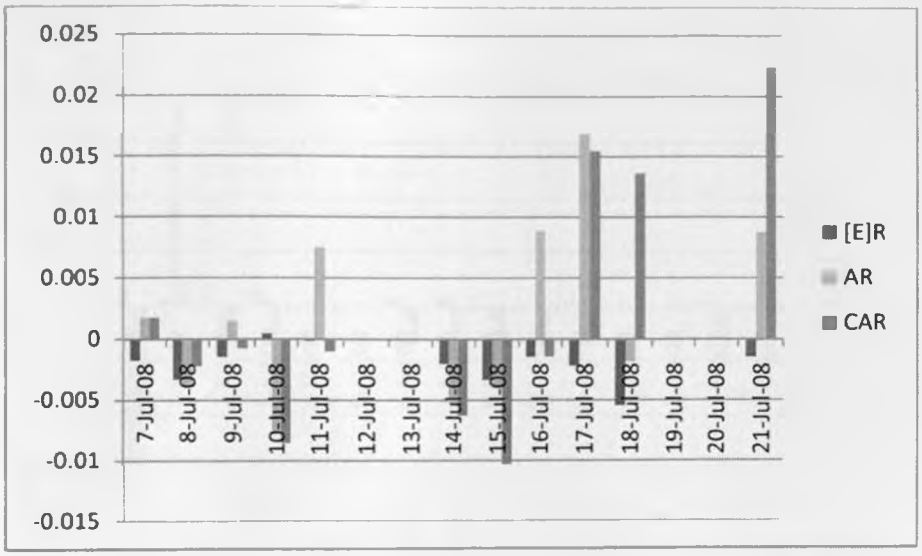

Fig. 4.2.2 Barclays Bank Ltd. expected returns, abnormal returns and cumulative abnormal returns.

After obtaining the expected returns ([E]R), abnormal returns (AR) and cumulative abnormal returns (CAR), the AR t-test statistic was obtained and then summed to yield the CAR t-test statistic, which would then be compared to the critical value from the t-tables. The procedures and computed figures are highlighted in table 2.3 of appendix 2.

The resultant CAR t-test statistic is 0.037626.

4.2.3 CFC Stanbic Holdings Limited

CFC Stanbic Holdings Ltd. issued a seven year bond on July 7th, 2009. The bond has a floating rate of interest over the seven year period. The share prices around this date were taken for analysis and these are detailed in table 3.1 in appendix 2.

The event date is the date of the issue of the bond and the length of the estimation window is 25 days. The length of the event window is 11 days, 5 days prior to the event and 5 days after the event.

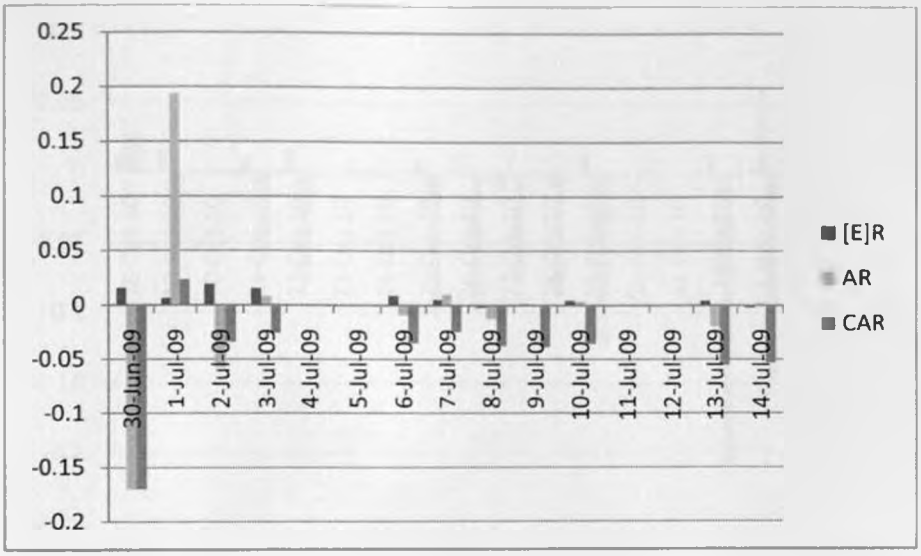

Fig. 4.2.3 CFC Stanbic Holdings Ltd. expected returns, abnormal returns and cumulative abnormal returns.

After obtaining the expected returns ([E]R), abnormal returns (AR) and cumulative abnormal returns (CAR), the AR t-test statistic was obtained and then summed to yield the CAR t-test statistic, which would then be compared to the critical value from the t-tables. The procedures and computed figures are highlighted in table 2.3 of appendix 2.

The resultant CAR t-test statistic is 1.035008.

4.2.4 Housing Finance Company Limited

Housing Finance Co.Ltd.issued a seven year bond on October26th, 2010. The bond has a floating rate of interest over the seven year period. The share prices around this date were taken for analysis and these are detailed in table 4.1 in appendix 2.

The event date is the date of the issue of the bond and the length of the estimation window is 25 days. The length of the event window is 11 days, 5 days prior to the event and 5 days after the event.

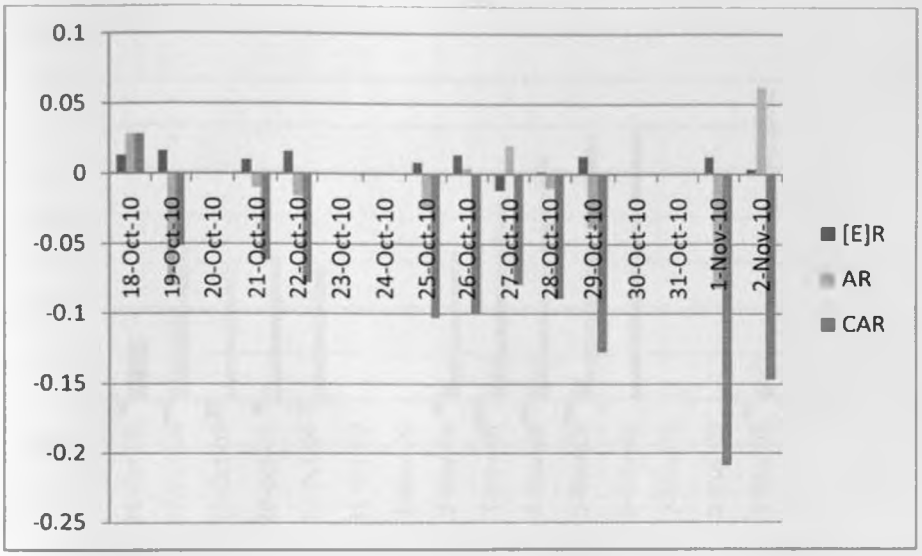

Fig. 4.2.4 Housing Finance Co. Ltd. expected returns, abnormal returns and cumulative abnormal returns.

After obtaining the expected returns ([E]R), abnormal returns (AR) and cumulative abnormal returns (CAR), the AR t-test statistic was obtained and then summed to yield the CAR t-test statistic, which would then be compared to the critical value from the t-tables. The procedures and computed figures are highlighted in table 4.3 of appendix 2.

The resultant CAR t-test statistic is -3.21612.

4.2.5 KenGen Limited

KenGenLtd. issued a ten year bond on November2nd, 2009. The bond has a fixed rate of interest over the ten year period. The share prices around this date were taken for analysis and these are detailed in table 5.1 in appendix 2.

The event date is the date of the issue of the bond and the length of the estimation window is 25 days. The length of the event window is 11 days, 5 days prior to the event and 5 days after the event.

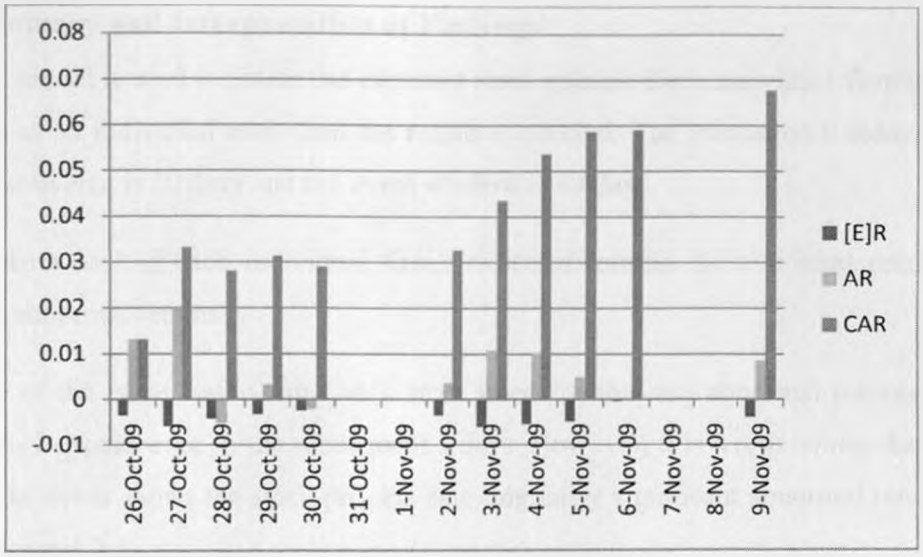

*Fig. 4.2.5*KenGen Ltd. expected returns, abnormal returns and cumulative abnormal returns.

After obtaining the expected returns ([E]R), abnormal returns (AR) and cumulative abnormal returns (CAR), the AR t-test statistic was obtained and then summed to yield the CAR t-test statistic, which would then be compared to the critical value from the t-tables. The procedures and computed figures are highlighted in table 5.3 of appendix 2.

The resultant CAR t-test statistic is 1.651283.

4.2.6 Significance Testing

Firm	CAR t-test statistic	Critical Value	Result
Safaricom Ltd.	4.2475	2.92	Reject null hypothesis at 5% sig. level
Barclays Bank of Kenya	0.0376	2.92	Do not reject null hypothesis at 5% sig. level
CFC Stanbic Holdings Ltd.	1.0350	2.92	Do not reject null hypothesis at 5% sig. level
Housing Finance Company Ltd.	-3.2161	2.92	Do not reject null hypothesis at 5% sig. level
KenGen Limited	1.6513	2.92	Do not reject null hypothesis at 5% sig. level

4.3 Summary and Interpretation of Findings`

The market model is used to obtain the expected stock returns. Each individual firm's bond issue is analyzed as an individual event and the results examined. The estimation window picked for each of these events is 30 days and the event window is 10 days.

First we take a look at each individual firm's expected returns, the abnormal returns and the cumulative abnormal returns.

On the day of the issue, Safaricom Ltd.'s stock doesn't show any abnormal returns registered, and this only happens once in the subsequent 5 days. However, it is worth noting that the period preceding the event shows the stock process enjoying fairly significant abnormal returns. This is shown in figure 4.2.1.

Figure 4.2.2 shows us that the expected returns ofBarclays Bank Ltd.'s stock through the event window are all negative. Abnormal returns are registered on 6 of the 11 days. However, both the event day and the subsequent day register negative returns with a corresponding negative expected return..

The only significant abnormal returns in CFC Stanbic Holding's stock are registered on the second day of the event window. The rest of the period, including the event day has either small positive returns or none at all. This is evident from figure 4.2.3.

As shown in figure 4.3.4, Housing Finance Company Limited's stock has cumulative abnormal returns that skew negatively for the entire event window. This highlights the lack of significant abnormal returns.

During the entire event window, the expected returns for the shares of KenGen Ltd. are in the negative region. The firm's stock goes on to realize abnormal returns all but two days. There are no abnormal returns on the day before the event but the trend is reversed after the event and continues for 4 of the subsequent 5 days. This is seen in figure 4.2.5.

The parametric t-testis employed using the cumulative abnormal returns as the test statistic, to reject/not reject the null hypothesis. This is done at a 5% significance level with two degrees of freedom.

At the 5% confidence interval and with 2 degrees of freedom, the critical value from the t-table is 2.920. Out of the five events, only one turned a test statistic that is greater than the critical value. Safaricom Ltd. returned a test statistic of 4.2475, which is greater than the critical value. We therefore reject the null hypothesis at 5% significance level. Therefore, the alternate hypothesis holds for Safaricom Ltd.'s stock, which suggests the presence of abnormal returns on stock prices during the event window.

None of the other four firms' test statistic was greater than the critical value of 2.920. Barclays Bank Ltd. returned a value of 0.0376, well below that of Safaricom Ltd; CFC Stanbic Holdings yielded a value of 1.035; KenGen Ltd. had a corresponding test statistic of 1.6513 while Housing Finance company limited had the lowest test statistic value, at -3.2161.

We therefore do not reject the null hypothesis for these four events, which maintains that there are no abnormal returns on these stock prices during the event window.

Previously, the study conducted by Chin and Abdullah (2012) showed that the bond issuer (the firm) enjoys a cumulative average abnormal return (CAAR) especially around the period surrounding the event (the bond issue). Specifically, bond issuers would experience an increasing CAAR trend over the 60 days before (t=-60) the event day or the bond issuance date (t=0) and over the first 10 days (t=+10) of the post-event period.After the event day, the CAAR wouldcontinue to rise for three days and finally peak on day t=+9. However, immediately after the ninth day, the CAAR would again begin to show a declining trend, dropping to its lowest of day t=+23. The only stock with almost similar characteristics to this established trend is that of Safaricom Ltd., as evidenced in figure 4.3.1 above. However, even with a generally positive trend, the returns do not display the consistency of the stocks with a peaking CAAR.

The majority of the results are more consistent with Castillo (2004) who argues that the authorization of bond issues does not generate significant abnormal returns. These results are consistent either with the no news theory (markets reacting in a certain fashion, these effects not necessarily attributable to any specific news) or with the no impact theories (where company information is not seen to have influenced stock movement in any particular direction) presented in the paper. The findings also tally with the Myers and Majluf (1984) asymmetric information theory, whose prediction is that the announcement of issue of debt should produce either no effect on the price of the stocks or a very small negative effect.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The corporate bond market in Kenya hasn't been growing in tandem with the demand for more capital by firms that need to expand (Thiong'o, 2012). As a result, the corporate bond market seems to be a very confined financial playing field with the potential to become bigger.

Therefore, the purpose of this paper is to try contribute to the literature that might spur further development in this sector by investigating the effect, if any, that bond issues have on the stock price performance of the firms that issue debt in the form of corporate bonds or even long-term notes. The ideal outcome, in working toward the secondary objective of encouraging debt issues, would be that bond issues have a positive effect on stock prices. This premise would therefore be used to encourage more borrowing for raising capital, as opposed to the traditional loans and share rights issues as the only avenues of raising capital for a business.

The study was conducted by collecting stock price information on firms that have issued debt that is being traded on the Nairobi Securities Exchange bond market. Given that this is a fairly small number of about five firms, no sampling was carried out for the study and instead a census was done. Descriptive statistics were used to carry out the analysis, in the form of an event study for each individual firm, with each bond issue being analyzed as a single event.

The parametric t-test was then used for hypothesis testing, with the cumulative abnormal returns of each event being the test statistic.

Though the graphs comparing expected returns, abnormal returns and cumulative abnormal returns gave us a rough idea of what kind of returns to expect on the stock prices, the hypothesis test at a 5% confidence interval revealed the presence of abnormal returns in only one bond issue, that of Safaricom Ltd.Since this only represents 20% of the population, we cannot conclude that bond issues will always have a positive effect on stock prices.

5.2 Conclusions

Bond issues do not have a significantly positive effect on the stock prices of issuing firms.

Only 1 event had a test statistic of 4.2475 which is higher than the critical value at 2 degrees of freedom and at the 5% confidence interval, 2.920.

Upon further studying the trend of these returns, there's a peak on the tenth day before the event (day = t- 10), of 0.83%. This is the highest these returns reach, the only other significant level being hit on the sixth day before the event (day = t - 6), at 0.64%. The stock prices do not seem to even react positively to the actual commencement of trading of the bond, because the abnormal returns recorded on the event day are negative returns. This would perhaps even shift the credibility of the hitherto observed positive returns as being the result of other factors not captured in the scope of this study.

The remaining events all had a test statistic that was below the critical value at an identical confidence interval (5%) and similar degrees of freedom (2). For these firms therefore, the hypothesis test implies that none of them experienced a period of abnormal returns as a result of the bond issue. Most of these firms even recorded negative abnormal returns on both the day of the issue and the two subsequent days (day = t+2). This set of events and outcomes being the majority would therefore suggest that abnormal returns on stock prices are not to be expected as a result of issuing debt.

Since the evidence to the contrary shows 80% of the population ascribing to the hypothesis that maintains an absence of abnormal returns due to issuance of bonds, we can conclude that for firms listed at the Nairobi Securities Exchange, issuing a bond will not positively affect the stock price of the firm's stock

5.3 Recommendations to Policy and Practice

As highlighted before, the bond market in Kenya is still relatively underdeveloped. There seems to be a disparity between the number of firms that show direct need for capital and the number of debt issues that are floated for this purpose. To exploit the potential that this market could attain, it would be prudent for targeted interventions to be undertaken to encourage the issuance of bonds by companies. The government has of course long been a leader in this field with the issuance of infrastructure bonds, municipal bonds etc. The key to encouraging issues by companies would be lowering the barriers to entry that exist, and ensuring stability of market.

One way of ensuring market stability is by increasing liquidity and addressing bond market fragmentation. Support for existent benchmark programs could be through strategies for building liquidity such as bond reopening and initiating approaches to smoothen the debt maturity structure such as bond exchanges through switches and conversions.

Automation of primary market processes by the Central Bank would go a long way in encouraging more listings at the Nairobi Securities Exchange. Providing internet banking could also become a launch pad for other services, such as online bidding for bonds, faster dissemination of auction results and statements for all held securities.

Fast tracking financial markets reforms, particularly at the secondary market, including diversification of existing products, improving the legal and operational framework and expanding the trading platform to incorporate over-the-counter trading. Mechanisms should also be reviewed and developed to reduce insider activities and fraud so as to mitigate these risks and increase the integrity of the financial markets.

Finally, promoting financial literacy would ensure market confidence and increased numbers of investors, therefore enhancing further market deepening.

5.4 Limitations of the Study

The major limitation of the study would be the size of the bond market and the number of bonds actively traded that have been issued by listed firms on particular. Out of all the bonds traded, corporate bonds barely make up 10% of the total bond turnover at the Nairobi Securities Exchange. The lack of sufficient events may have affected the study adversely.

For the purposes of this study, the parametric t-test was used for significance testing. Since parametric tests assume that individual firm's abnormal returns are normally distributed, it is not entirely out of question and water-tight that some of the research findings may be as a result of an outlier, for instance.

In the estimation of what the expected market return would be, the market model was used. Whereas it's widely accepted as the standard model, it has one misgiving in that the model assumes that the risk free interest rate included in the α factor is constant, which conflicts with the presumption that market returns vary over time.

An issue of the event study methodology employed relates to the trading of the analyzed firm's stock and the market chosen as a reference index. Infrequent trading of the firm's stock, or a mismatch of trading days between the stock and the reference market, may lead to problems in deriving the estimation parameters α and β. Specifically, mismatches in the time series of returns in the stock and market returns throughout the estimation window may lead to overall shorter estimation periods and potentially biased parameters. Therefore, mismatches within the event window will lead to failure in calculating individual abnormal returns and thus to incomplete cumulative abnormal returns.

5.5 Suggestions for Further Studies

To benefit from a different set of results and therefore a different perspective, a study using cumulative average abnormal returns instead of cumulative abnormal returns could be used for computation of the test statistic.

Bond issues may have an impact beyond stock prices, as this is the only performance indicator addressed by this study. The effect of bond issues on company value, for instance, could be a viable avenue to explore in an effort to ascertain whether bond issues can be used a secondary aid to decision making as well.

Following the recommendations to policy laid out in this study, an investigation into the implementation and effectiveness of some of the controls mentioned could help understand how well the bond market is developing.

A comparative analysis of bonds markets across regions cold be carried out to determine what the prospects for Eurobond issues would be, in the event the local market is too constricted in terms of reach and resources.

REFERENCES

Ammann, M., Fehr, M., &Seiz, R. (2006).New evidence on the announcement effect of convertible and exchangeable bonds.*Journal of Multinational Financial Management*, 16(1), 43-63.

Brealey R. A., Myers S. C., & Allen F. (2008). *Principles of Corporate Finance*(9th ed.). New York: McGraw-Hill/Irwin (pp. 201-202).

Barclay, M. J., & Smith, C. W. (2005). The capital structure puzzle: The evidence revisited. *Journal of Applied Corporate Finance*, 17(1), 8-18.

Castillo, A. (2004). The Announcement Effect of Bond and Equity Issues: Evidence From Chile. *Estudios deEconomia*, 31(2), 177-205

Chen, C., Dong, L., & Wen, M. M. (2005).Backdoor equity financing, firm characteristics, and shareholders' wealth. *Center for China Finance & Business Research*, (2), 4-7.

Covitz, D. and P. Harrison (1999).The Timing of Debt Issuance and Rating Migration: Theory and Evidence. *The Federal Reserve, Washington D.C.*, 13-17.

Eichengreen, B. (2004).Why doesn't Asia have bigger bond markets?(Working Paper No. 10576). *National Bureau of Economic Research*.

Eckbo, B. E. (1985). Valuation effects of corporate debt offerings. *Journal of Financial Economics*, (15) 119-151.

Ferri, M. G., & Jones, W. H. (1979). Determinants of financial structure: A new methodological approach. *Journal of Finance*, 34(3), 631-644.

Frank, M. Z., &Goyal, V. K. (2000).Testing the pecking order theory of capital structure. Retrieved July 5, 2013, from Social Science Research Network, Website: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=243138&download=yes

Gebhardt, W.R., Hvidkjaer, S., &Swaminathan, B. (2005). Stock and bond market interaction: Does momentum spill over? *Journal of Financial Economics*, 75(3), 651-690.

Irving, J. (2010). Recent bond issues on African countries' markets. Retrieved July 5, 2013, from World Bank Blog, Prospects for Development, Website: http://blogs.worldbank.org/prospects/recent-corporate-bond-issues-on-african-countries-markets-point-to-their-potential-for-financing-inf

Jensen, M. (1986). Agency costs of free cash flow, corporate finance and takeovers. *American Economic Review,* 76(2), 323-339.

Kim Y. C., &Stulz, R. M. (1992). Is there a global market for convertible bonds? *Journal of Business*, 65(1), 75-91.

Lewis, C.M., Rogalski, R.J., & Seward, J.K. (2003). Industry conditions, growth opportunities and market reaction to convertible debt financing decisions. *Journal of Banking and Finance*, 27(1), 153-181.

Luengnaruemitchai, P., &Ong, L. L. (2005). Ananatomy of corporate bond markets: Growing pains and knowledge gains (Working Paper No. 05/152). *International Monetary Fund.*

Martel, M. C. V., &Padron, Y. G. (2006). Debt and information content: Evidence in the Spanish stock market. *International Research Journal of Finance & Economics*, (4), 202-208.

Miller, M.,& Rock, K. (1985).Dividend policy under asymmetric information.*Journal of Finance*, 40(4), 1031-1051.

Modigliani, M., & Miller, M. (1963). Corporate income taxes and the cost of capital: A correction. *American Economic Review,* 53(3), 433-443.

Myers, S., &Majluf, N. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187-222.

Neha, S. (2012).Bulding bond markets in Kenya and East Africa. Retrieved July 6, 2013, from World Bank Blog, Prospects for Development, Website: http://www.ifc.org/wps/wcm/connect/region__ext_content/regions/sub-saharan+africa/news/esmid_kenya

Ringui, J. K. (2012). A survey of factors determining development of corporate bonds market in Kenya.*Kenyatta University MBA Publication,* 18-19, 22-25.

Pandey, I. M. (2009).*Financial Management* (9th ed.). Delhi: Vikas Publishing House. (pp. 16-18, 325-329).

Ross, S. A. (1977). The determination of financial structure: The incentive-signaling approach. *Bell Journal of Economics*, 8(1), 23-40.

Shibira, G. K. (2003). Determinants of bond prices: A case study of Nairobi StockExchange. *Egerton University MBA Publication,* 13-22.

Thiong'o. P. (2012, September 28th). Bonds Selling Fast In Kenya. *The East African*, Issue 38(2012).28-29.

Zikmund, W. G. (2010). *Business Research Methods* (8thed.). New York: Thompson/South Western. (pp. 165-166).

APPENDIX 1

Listed Companies with Corporate Bonds (By Sector)

Telecommunication and Technology

1. Safaricom Limited

Banking

2. Barclays Bank Limited
3. CFC Stanbic Holdings Limited
4. Housing Finance Company Limited

Investment

5. Centum Investment Company Limited

Energy and Petroleum

6. KenGen Limited

APPENDIX 2

Share Price Statistics

*Table 1.1*Safaricom Ltd., share prices for the period November 17th, 2009 – December 14th, 2009.

DATE	*VWAP (Value Weighted Average Price)*	*MARKET CLOSE (NSE All Share Index)*
17-Sep-09	3.90	68.15
18-Sep-09	3.85	67.95
22-Sep-09	3.75	67.57
23-Sep-09	3.80	67.81
24-Sep-09	3.85	68.14
25-Sep-09	3.75	67.62
28-Sep-09	3.75	67.39
29-Sep-09	3.70	67.21
30-Sep-09	3.70	66.73
1-Oct-09	3.70	67.04
2-Oct-09	3.75	67.22
5-Oct-09	3.70	66.79
6-Oct-09	3.70	66.41
7-Oct-09	3.65	65.84
8-Oct-09	3.70	65.74
9-Oct-09	3.70	65.71

12-Oct-09	3.70	65.62
13-Oct-09	3.75	65.89
14-Oct-09	3.75	65.9
15-Oct-09	3.80	66.16
16-Oct-09	3.80	66.71
19-Oct-09	3.80	66.93
21-Oct-09	3.80	66.74
22-Oct-09	3.80	66.97
23-Oct-09	3.85	67.09
26-Oct-09	3.90	67.25
27-Oct-09	3.90	67.09
28-Oct-09	3.90	67.16
29-Oct-09	3.95	67.37
30-Oct-09	4.00	67.68
2-Nov-09	4.00	67.84
3-Nov-09	4.00	67.65
4-Nov-09	3.95	67.54
5-Nov-09	3.95	67.52
6-Nov-09	4.00	68.12
9-Nov-09	4.00	68.23
10-Nov-09	4.00	68.21
11-Nov-09	4.00	68.37
12-Nov-09	4.05	68.41
13-Nov-09	4.05	68.43
16-Nov-09	4.10	68.49
17-Nov-09	4.10	68.38
18-Nov-09	4.20	68.375
19-Nov-09	4.40	68.86
20-Nov-09	4.50	69.76
23-Nov-09	4.80	70.75
24-Nov-09	4.70	70.56
25-Nov-09	4.90	71.55
26-Nov-09	5.05	72.08
27-Nov-09	5.00	72
30-Nov-09	4.85	71.29
1-Dec-09	4.85	71.02
2-Dec-09	4.80	70.93
3-Dec-09	4.70	70.51
4-Dec-09	4.60	70.17
7-Dec-09	4.50	69.53
8-Dec-09	4.55	69.81
9-Dec-09	4.50	69.83
10-Dec-09	4.55	70.14

11-Dec-09	4.50	70.16
14-Dec-09	4.50	70.02

*Table 1.1*Safaricom Ltd., share prices for the period November 17th, 2009 – December 14th, 2009.

Parameter	Value
Event date:	2-Nov-09
Sample Size	5
Length of estimation window	25
Event window	(-5, 5)
Length of event window	11
Degrees of freedom	2

Table 1.2 Safaricom Ltd., event parameters.

Date	[E]R	AR	CAR	AR t-test
26-Oct-09	0.004692	0.00829	0.00829	1.42818
27-Oct-09	-0.00343	0.00343	0.01172	0
28-Oct-09	0.002405	-0.00241	0.00932	0
29-Oct-09	0.005957	0.00686	0.01618	1.40987
30-Oct-09	0.008471	0.00419	0.02037	1.392023
2-Nov-09	0.004657	-0.00466	0.01571	0
3-Nov-09	-0.00415	0.00415	0.01986	0
4-Nov-09	-0.00215	-0.01035	0.00951	-1.37462
5-Nov-09	0.000122	-0.00012	0.00938	0
6-Nov-09	0.015775	-0.00312	0.00627	1.392023
9-Nov-09	0.003379	-0.00338	0.00289	0

*Table 1.3*Safaricom Ltd.. [E]R. AR, CAR and AR t-test statistic.

Table 2.1 Barclays Bank Ltd., share prices for the period May 8th, 2008 – August 25th, 2008.

DATE	*VWAP (Value Weighted Average Price)*	*MARKET CLOSE (NSE All Share Index)*
30-May-08	71.00	108.82
3-Jun-08	71.00	110.14
4-Jun-08	71.50	111.94
5-Jun-08	72.00	114.19
6-Jun-08	73.00	115.20
9-Jun-08	72.50	116.24
10-Jun-08	72.00	111.86
11-Jun-08	72.00	111.77
12-Jun-08	72.00	110.84
13-Jun-08	73.00	113.64

16-Jun-08	73.00	117.39
17-Jun-08	72.50	115.11
18-Jun-08	72.50	114.53
19-Jun-08	72.50	114.76
20-Jun-08	72.50	114.32
23-Jun-08	71.50	113.96
24-Jun-08	70.00	113.73
25-Jun-08	70.50	113.18
26-Jun-08	71.50	112.07
27-Jun-08	70.50	111.21
30-Jun-08	70.50	112.11
1-Jul-08	70.50	111.71
2-Jul-08	70.00	110.91
3-Jul-08	70.00	110.49
4-Jul-08	69.00	109.47
7-Jul-08	69.00	109.25
8-Jul-08	68.50	108.35
9-Jul-08	68.50	108.27
10-Jul-08	68.00	109.00
11-Jul-08	68.50	109.46
14-Jul-08	68.00	109.12
15-Jul-08	67.50	108.22
16-Jul-08	68.00	108.13
17-Jul-08	69.00	107.73
18-Jul-08	68.50	105.95
21-Jul-08	69.00	105.86
22-Jul-08	68.50	106.15
23-Jul-08	68.50	105.98
24-Jul-08	68.00	105.79
25-Jul-08	67.00	105.71
28-Jul-08	67.00	105.79
29-Jul-08	67.50	104.64
30-Jul-08	67.00	103.27
31-Jul-08	66.00	101.74
1-Aug-08	65.50	101.14
4-Aug-08	64.50	101.40
5-Aug-08	64.00	100.32
6-Aug-08	63.00	99.35
7-Aug-08	63.50	99.32
8-Aug-08	63.00	98.51
11-Aug-08	63.50	98.02
12-Aug-08	63.50	96.19
13-Aug-08	63.50	95.78

14-Aug-08	63.50	97.40
15-Aug-08	63.50	99.63
18-Aug-08	63.50	100.16
19-Aug-08	63.50	100.73
20-Aug-08	63.50	100.57
21-Aug-08	63.50	100.35
22-Aug-08	63.50	99.91
25-Aug-08	63.50	99.62

Table 2.1 Barclays Bank Ltd., share prices for the period May 8th, 2008 – August 25th, 2008.

Parameter	Value
Event date:	14-Jul-08
Sample Size	5
Length of estimation window	25
Event window	(-5, 5)
Length of event window	11
Degrees of freedom	2

Table 2.2 Barclays Bank Ltd. event parameters.

Date	|E|R	AR	CAR	AR t-test
7-Jul-08	-0.00175	0.00175	0.00175	0
8-Jul-08	-0.00331	-0.00394	-0.00218	-0.84868
9-Jul-08	-0.00144	0.00144	-0.00074	0
10-Jul-08	0.000463	-0.00776	-0.00851	-0.85488
11-Jul-08	-0.00016	0.00752	-0.00099	0.861166
14-Jul-08	-0.00202	-0.00528	-0.00627	-0.85488
15-Jul-08	-0.00333	-0.00402	-0.01029	-0.86117
16-Jul-08	-0.00145	0.00886	-0.00143	0.867545
17-Jul-08	-0.00217	0.01688	0.01545	1.722331
18-Jul-08	-0.00543	-0.00182	0.01363	-0.84868
21-Jul-08	-0.00146	0.00876	0.02239	0.85488

Table 2.3 Barclays Bank Ltd., [E]R, AR, CAR and AR t-test statistic.

Table 3.1 CFC Stanbic Holdings Ltd., share prices for the period May 25th, 2009 – August 18th, 2009.

DATE	*VWAP (Value Weighted Average Price)*	*MARKET CLOSE (NSE All Share Index)*
25-May-09	50.00	59.47
26-May-09	50.00	59.40

27-May-09	51.00	59.58
28-May-09	51.00	59.70
29-May-09	55.00	59.70
2-Jun-09	55.00	58.99
3-Jun-09	59.00	60.60
4-Jun-09	58.50	61.01
5-Jun-09	59.00	61.38
8-Jun-09	60.50	61.61
9-Jun-09	62.00	61.99
10-Jun-09	62.00	62.35
11-Jun-09	61.00	62.95
12-Jun-09	62.00	63.92
15-Jun-09	62.00	64.52
16-Jun-09	62.00	65.36
17-Jun-09	63.00	66.44
18-Jun-09	64.50	69.20
19-Jun-09	66.50	70.52
22-Jun-09	66.00	71.70
23-Jun-09	66.50	71.21
24-Jun-09	65.50	69.60
25-Jun-09	63.50	69.74
26-Jun-09	64.00	69.74
29-Jun-09	65.00	69.99
30-Jun-09	55.00	70.96
1-Jul-09	66.00	70.96
2-Jul-09	63.50	72.30
3-Jul-09	65.00	73.27
6-Jul-09	65.00	73.53
7-Jul-09	66.00	73.39
8-Jul-09	65.00	72.43
9-Jul-09	65.00	71.85
10-Jul-09	65.50	71.60
13-Jul-09	64.50	71.37
14-Jul-09	64.50	70.44
15-Jul-09	64.50	69.98
16-Jul-09	64.00	71.15
17-Jul-09	64.50	71.30
20-Jul-09	65.00	71.20
21-Jul-09	64.50	71.42
22-Jul-09	64.00	71.63
23-Jul-09	65.00	71.79
24-Jul-09	66.00	71.85
27-Jul-09	66.00	71.61

28-Jul-09	65.50	71.50
29-Jul-09	64.50	71.00
30-Jul-09	64.00	70.99
31-Jul-09	64.00	71.43
3-Aug-09	64.00	71.33
4-Aug-09	63.50	71.43
5-Aug-09	63.50	71.55
6-Aug-09	59.00	71.81
7-Aug-09	57.00	71.98
10-Aug-09	57.00	71.59
11-Aug-09	60.50	71.64
12-Aug-09	57.00	71.40
13-Aug-09	60.50	71.12
14-Aug-09	61.00	71.27
17-Aug-09	62.00	70.62
18-Aug-09	62.00	70.49

Table 3.1 CFC Stanbic Holdings Ltd., share prices for the period May 25th, 2009 – August 18th, 2009.

Parameter	**Value**
Event date:	7-Jul-09
Sample Size	5
Length of estimation window	25
Event window	(-5, 5)
Length of event window	11
Degrees of freedom	2

Table 3.2 CFC Stanbic Holdings Ltd. event parameters.

Date	**[E]R**	**AR**	**CAR**	**AR t-test**
30-Jun-09	0.015991	-0.16984	-0.16984	-6.48462
1-Jul-09	0.006621	0.19338	0.02354	8.430003
2-Jul-09	0.019388	-0.05727	-0.03372	-1.59659
3-Jul-09	0.015691	0.00793	-0.02579	0.99567
6-Jul-09	0.00902	-0.00902	-0.03481	0
7-Jul-09	0.005334	0.01005	-0.02476	0.648462
8-Jul-09	-0.00222	-0.01293	-0.03769	-0.63864
9-Jul-09	0.001207	-0.00121	-0.03890	0
10-Jul-09	0.004268	0.00342	-0.03547	0.324231

13-Jul-09	0.004449	-0.01972	-0.05519	-0.64351
14-Jul-09	-0.00219	0.00219	-0.05300	0

Table 3.3 CFCStanbic Holdings Ltd. [E]R, AR, CAR and AR t-test statistic.

*Table 4.1*Housing Finance Co. Ltd., share prices for the period September 13th, 2010 – December 7th,2010.

DATE	*VWAP (Value Weighted Average Price)*	*MARKET CLOSE (NSE All Share Index)*
13-Sep-10	24.00	95.59
14-Sep-10	24.75	96.98
15-Sep-10	25.25	97.70
16-Sep-10	25.00	97.76
17-Sep-10	25.25	97.81
20-Sep-10	25.75	98.43
21-Sep-10	25.75	98.21
22-Sep-10	26.25	98.68
23-Sep-10	26.00	98.33
24-Sep-10	25.75	98.38
27-Sep-10	26.00	97.79
28-Sep-10	26.50	98.39
29-Sep-10	26.75	98.92
30-Sep-10	26.75	98.68
1-Oct-10	26.50	99.15
4-Oct-10	26.75	99.38
5-Oct-10	26.75	99.38
6-Oct-10	26.75	100.09
7-Oct-10	27.00	100.59
8-Oct-10	27.00	100.41
11-Oct-10	27.00	100.33
12-Oct-10	27.25	100.53
13-Oct-10	27.25	100.29
14-Oct-10	28.75	100.45
15-Oct-10	30.25	100.85
18-Oct-10	31.50	101.27
19-Oct-10	29.50	101.91
21-Oct-10	29.50	102.15
22-Oct-10	29.50	102.77
25-Oct-10	29.00	102.90
26-Oct-10	29.50	103.37
27-Oct-10	29.75	102.24
28-Oct-10	29.50	101.95

29-Oct-10	28.75	102.36
1-Nov-10	26.75	102.73
2-Nov-10	28.50	102.56
3-Nov-10	28.00	101.66
4-Nov-10	27.75	101.95
5-Nov-10	27.00	101.95
8-Nov-10	26.75	102.27
9-Nov-10	27.00	101.88
10-Nov-10	27.25	101.64
11-Nov-10	27.50	101.36
12-Nov-10	27.25	101.79
15-Nov-10	27.00	101.71
16-Nov-10	27.00	100.75
17-Nov-10	26.75	100.62
18-Nov-10	26.75	100.52
19-Nov-10	26.75	100.73
22-Nov-10	26.25	100.71
23-Nov-10	26.00	100.38
24-Nov-10	26.00	100.17
25-Nov-10	26.00	99.63
26-Nov-10	26.25	98.92
29-Nov-10	25.50	98.51
30-Nov-10	25.25	98.01
1-Dec-10	25.25	97.13
2-Dec-10	25.50	97.41
3-Dec-10	25.00	97.36
6-Dec-10	24.50	97.47
7-Dec-10	24.75	97.25

Table 4.1 Housing Finance Co. Ltd., share prices for the period September 13th, 2010 – December 7th, 2010.

Parameter	**Value**
Event date:	26-Oct-10
Sample Size	5
Length of estimation window	25
Event window	(-5, 5)
Length of event window	11
Degrees of freedom	2

Table 4.2 Housing Finance Co. Ltd., event parameters.

Date	[E]R	AR	CAR	AR t-test
18-Oct-10	0.012965	0.02836	0.02836	2.586829
19-Oct-10	0.016482	-0.07997	-0.05162	-3.97468
21-Oct-10	0.010011	-0.01001	-0.06163	0
22-Oct-10	0.016074	-0.01607	-0.07770	0
25-Oct-10	0.008232	-0.02518	-0.10288	-1.06104
26-Oct-10	0.013622	0.00362	-0.09926	1.079332
27-Oct-10	-0.01168	0.02015	-0.07911	0.530519
28-Oct-10	0.001537	-0.00994	-0.08905	-0.52606
29-Oct-10	0.012731	-0.03815	-0.12721	-1.59156
1-Nov-10	0.012067	-0.08163	-0.20884	-4.35487
2-Nov-10	0.003466	0.06195	-0.14688	4.09541

Table 4.3 Housing Finance Co. Ltd. [E]R, AR, CAR and AR t-test statistic.

Table 5.1 KenGen Ltd., share prices for the period September 18th, 2009 – December 14th,2009.

DATE	*VWAP (Value Weighted Average Price)*	*MARKET CLOSE (NSE All Share Index)*
18-Sep-09	11.75	67.95
22-Sep-09	11.85	67.57
23-Sep-09	11.60	67.81
24-Sep-09	11.65	68.14
25-Sep-09	11.50	67.62
28-Sep-09	11.35	67.39
29-Sep-09	11.20	67.21
30-Sep-09	11.50	66.73
1-Oct-09	11.50	67.04
2-Oct-09	11.70	67.22
5-Oct-09	11.55	66.79
6-Oct-09	11.65	66.41
7-Oct-09	11.30	65.84
8-Oct-09	11.20	65.74
9-Oct-09	11.00	65.71
12-Oct-09	10.75	65.62
13-Oct-09	10.65	65.89
14-Oct-09	10.50	65.90
15-Oct-09	10.45	66.16
16-Oct-09	10.40	66.71
19-Oct-09	10.45	66.93
21-Oct-09	10.25	66.74
22-Oct-09	10.40	66.97

23-Oct-09	10.45	67.09
26-Oct-09	10.55	67.25
27-Oct-09	10.70	67.09
28-Oct-09	10.60	67.16
29-Oct-09	10.60	67.37
30-Oct-09	10.55	67.68
2-Nov-09	10.55	67.84
3-Nov-09	10.60	67.65
4-Nov-09	10.65	67.54
5-Nov-09	10.65	67.52
6-Nov-09	10.65	68.12
9-Nov-09	10.70	68.23
10-Nov-09	11.00	68.21
11-Nov-09	11.40	68.37
12-Nov-09	11.45	68.41
13-Nov-09	11.40	68.43
16-Nov-09	11.35	68.49
17-Nov-09	11.30	68.38
18-Nov-09	11.20	68.34
19-Nov-09	11.20	68.86
20-Nov-09	11.20	69.76
23-Nov-09	11.15	70.75
24-Nov-09	11.15	70.56
25-Nov-09	11.20	71.55
26-Nov-09	11.35	72.08
27-Nov-09	11.35	72.00
30-Nov-09	11.55	71.29
1-Dec-09	11.75	71.02
2-Dec-09	12.05	70.93
3-Dec-09	11.80	70.81
4-Dec-09	11.80	70.17
7-Dec-09	11.55	69.53
8-Dec-09	11.45	69.81
9-Dec-09	11.50	69.83
10-Dec-09	11.55	70.14
11-Dec-09	11.75	70.16
14-Dec-09	11.80	70.02

*Table 5.1*KenGen Ltd., share prices for the period September 18th, 2009 – December 14th, 2009.

Parameter	**Value**
Event date:	2-Nov-09
Sample Size	5

Length of estimation window	25
Event window	(-5, 5)
Length of event window	11
Degrees of freedom	2

Table 5.2 KenGen Ltd., event parameters.

Date	[E]R	AR	CAR	AR t-test
26-Oct-09	-0.00358	0.01315	0.01315	0.661832
27-Oct-09	-0.00587	0.02009	0.03324	0.983338
28-Oct-09	-0.00422	-0.00512	0.02811	-0.64637
29-Oct-09	-0.00322	0.00322	0.03133	0
30-Oct-09	-0.00251	-0.00221	0.02912	-0.32623
2-Nov-09	-0.00359	0.00359	0.03271	0
3-Nov-09	-0.00607	0.01081	0.04352	0.327779
4-Nov-09	-0.00551	0.01023	0.05375	0.326233
5-Nov-09	-0.00487	0.00487	0.05862	0
6-Nov-09	-0.00044	0.00044	0.05906	0
9-Nov-09	-0.00395	0.00864	0.06770	0.324702

Table 5.3 KenGen Ltd. [E]R, AR, CAR and AR t-test statistic.