

**THE EFFECT OF BOND ISSUE ON SHARE PRICES OF FIRMS LISTED  
AT THE NAIROBI SECURITIES EXCHANGE**

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**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR AWARD OF THE DEGREE IN MASTER OF  
SCIENCE IN FINANCE, SCHOOL OF BUSINESS,  
UNIVERSITY OF NAIROBI.**

**NOVEMBER 2014**

## DECLARATION

I declare that this research project report is my original work and has not been presented for examination in any other university.

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D63/67666/2013

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

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## **ACKNOWLEDGEMENTS**

The purpose of this project would not have been fulfilled without the support of a number of people whom I dearly owe them immense gratitude.

I sincerely acknowledge the support, guidance and patience I received from my Supervisor Mr.Herrick Ondigo whose structure of this project resulted from his guidance. Without him I doubt whether I would have managed to organize this project in a presentable form. Thank you very much

I wish to acknowledge my parents Mr. and Mrs. Ngure and my siblings whose constant encouragement and follow up enabled me to complete the course

To all my friends, for the support and encouragement you gave me, I thank you and may God bless you all abundantly.

Last but not least I wish to thank the Almighty God; for his support, encouragement, giving me strength and determination that has enabled me to see the project through.

## **DEDICATION**

To my family, none of this would have happened without their commitment, their wise counsel, and their friendship.

# TABLE OF CONTENTS

<b>DECLARATION.....</b>	<b>ii</b>
<b>ACKNOWLEDGEMENTS.....</b>	<b>iii</b>
<b>DEDICATION.....</b>	<b>iv</b>
<b>LIST OF ABBREVIATIONS.....</b>	<b>viii</b>
<b>LIST OF TABLES.....</b>	<b>ix</b>
<b>LIST OF FIGURES.....</b>	<b>x</b>
<b>ABSTRACT.....</b>	<b>xi</b>
<b>LIST OF ABBREVIATIONS .....</b>	<b>viii</b>
<b>LIST OF TABLES .....</b>	<b>ix</b>
<b>LIST OF FIGURES .....</b>	<b>x</b>
<b>CHAPTER ONE .....</b>	<b>1</b>
<b>INTRODUCTION .....</b>	<b>1</b>
1.1 Background of the Study.....	1
1.1.1 Bond Issue .....	2
1.1.2 Share Prices .....	4
1.1.3 Effect of Bond issues on Share Price .....	5
1.1.4 Nairobi Securities Exchange .....	5
1.2 Research Problem.....	6
1.3 Research Objective.....	8
1.4 Value of the Study.....	8
<b>CHAPTER TWO .....</b>	<b>10</b>
<b>LITERATURE REVIEW .....</b>	<b>10</b>
2.1 Introduction.....	10
2.2 Theoretical Review .....	10
2.2.1 Signaling Theory .....	10
2.2.2 Pecking Order Theory .....	11

2.2.3 Trade-off Theory .....	11
2.2.4 Agency cost Theory .....	12
2.2.5 Efficient Market Hypothesis .....	13
2.3 Determinants of Share Prices .....	14
2.3.1 Bond Issue .....	14
2.3.2 Profitability.....	14
2.3.3 Management of the Company .....	15
2.3.4 Anticipated Takeover or Merger .....	15
2.3.5 Technological Innovation.....	15
2.3.6 Interest Rates .....	16
2.4 Event Study Methodology.....	16
2.5 Empirical Review .....	18
2.5.1 International Evidence.....	18
2.5.2 Local Evidence .....	20
2.6 Summary of Literature Review .....	21
<b>RESEARCH METHODOLOGY .....</b>	<b>22</b>
3.1 Introduction .....	22
3.2 Research design.....	22
3.3 Population.....	22
3.4 Data collection.....	22
3.5 Data Analysis .....	23
3.5.1 Analytical model .....	24
3.5.2 Test of Significance.....	24
<b>DATA ANALYSIS, RESULTS AND DISCUSSION.....</b>	<b>25</b>
4.1. Introduction .....	25

4.2. Data Analysis and Discussion .....	25
4.2.1 Centum Limited.....	26
4.2.2 CFC Stanbic Holdings Ltd .....	27
4.2.3 Kengen .....	28
4.2.4 Safaricom Limited.....	29
4.2.5 Housing Finance Company Limited .....	30
<b>CHAPTER FIVE .....</b>	<b>32</b>
<b>SUMMARY, CONCLUSION AND RECOMMENDATIONS .....</b>	<b>32</b>
5.2 Summary .....	32
5.3 Conclusion.....	33
5.4 Recommendations to Policy and Practice .....	34
5.5 Limitations of the Study .....	35
5.6 Suggestions for Further Studies .....	36
<b>APPENDIX I .....</b>	<b>40</b>
<b>APPENDIX II.....</b>	<b>45</b>
<b>APPENDIX III.....</b>	<b>47</b>
<b>APPENDIX IV.....</b>	<b>49</b>
<b>APPENDIX V.....</b>	<b>51</b>
<b>APPENDIX VI.....</b>	<b>53</b>

## **LIST OF ABBREVIATIONS**

CEO	Chief Executive Officer
CMA	Capital Market Authority
EMH	Efficient Market Hypothesis
FDI	Foreign Direct Investment
IPO	Initial Public Offering
NSE	Nairobi Securities Exchange
SPSS	Statistical Package for Social Science



## **LIST OF TABLES**

Table 2.1 CFC Stanbic Limited share prices from 02/06/2009-28/07-2009

Table 2.2 CFC Stanbic Limited [E] R, AR, CAR and AR t-test statistic

Table 3.1 Kengen Ltd share prices from 24/09/2009-24/11/2009

Table 3.2 Kengen Limited [E]R, AR, CAR and AR t-test statistic

Table 4.1 Safaricom Limited share prices from 24/09/2009-24/11/2009

Table 4.2 Safaricom Limited [E]R, AR, CAR and AR t-test statistic

Table 5.1 Housing Finance Company Ltd share prices from 16/09/2009-16/11/2009

Table 5.3 Housing Finance Company Limited [E]R, AR, CAR and AR t-test statistic

## LIST OF FIGURES

**Figure 4.1: Centum Limited** Expected returns, abnormal returns and cumulative abnormal returns

**Figure 4.2: CFC Stanbic Limited** expected returns, abnormal returns and cumulative abnormal returns

**Figure 4.3: Kengen** expected returns, abnormal returns and cumulative abnormal returns

**Figure 4.4: Safaricom** expected returns, abnormal returns and cumulative abnormal return

**Figure 4.5: Housing Finance Company Limited** expected returns, abnormal returns and cumulative abnormal returns

## **ABSTRACT**

The corporate bond market in Kenya is still relatively underdeveloped. There seems to be a disconnect between the number of firms that show direct need for capital and the number of debt issues that are floated for this purpose. The bond market in Kenya currently accounts for less than 10% of all bond transactions at the Nairobi Securities Exchange. This study was undertaken with a view of establishing whether bond issue have an effect on the share prices of the firms listed at the Nairobi Securities Exchange for the years from 2009 – 2013. The objective of this study was to determine whether bond issues generate abnormal returns and duration of abnormal returns of firms listed at the Nairobi securities exchange. The methodology used in the study is the event study methodology which seeks to identify any abnormal returns observed around the event day. Data extracted from NSE Daily stock and NSE handbook for the 2009 -2013 and was analyzed using Microsoft Excel with focus on comparing critical t-value with table t-value and was presented using tables and graphs. From the data analysis and resulting tables, all companies sampled had an eventful bond issue. The graphs confirm a turning point in residual around the date of bond issue for most of the companies. The findings are that significant movements in return were observed periodically, pre and post bond issue. Policy and practice could also utilize the findings of this research to use by encouraging the issuance of corporate bonds by firms, amongst other interventions highlighted later in the paper. Most of the shares posted negative abnormal returns around the bond issue dates which shows how share prices have reacted to the bond issue event. From the results obtained, recommendation for further studies would be the use of cumulative average abnormal returns instead of cumulative average returns.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Companies either in growth or expansion need more capital than they are sometimes able to generate internally. They explore options of raising that additional capital either through external equity or straight debt. In issuing equity, the company essentially sells a portion of itself to the public (in an IPO) or to private investors (in a Private Equity Placement). The buyers are then known as shareholders and own a part of the company. In issuing debt, the company borrows from various sources (Ferri, 1979)

One way of issuing debt is through a bond. Bonds can also be issued to the public (PBO) or issued to select investors (Private Bond Placement). The lenders are referred to as bondholders. 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). In the event of liquidation or bankruptcy of a company, bond holders rank higher (have higher claim on assets) than shareholders do and are thus paid first. This is because bond holders are creditors. They, however, do not share in the company's profitability. It is also worth noting here that as opposed to stocks, bonds have a defined term (maturity) after which the bond is redeemed. Stocks may be outstanding indefinitely. Returns on bonds are generally lower than those on stocks but are a much safer investment. Bonds' safety and stability act as a counter to the fluctuations common to stocks (Shibira, 2003)

All it takes is a bear market to remind investors of the virtues of a bond's safety. It therefore makes sense for any investor to have at least part of their portfolio invested in bonds. The participants in the debt market are usually: institutional investors (pension funds, banks and mutual funds), governments, traders and individual investors.

Having knowledge of factors affecting share prices and their possible impact on share prices is highly appreciable on the part of both firms and investors. Since share prices convey information to the outside world about the current and future performance of firms, it is imperative for the managers of the firms to pay due attention to the factors that influence share prices as this could help them enhance firm value in the market (Martel,2008). Consideration of such factors by investors is also warranted while investing their funds since this would aid them in making wise investment decisions and invest in stocks that yield good returns. This study will therefore look at one of these factors and determine the effect of bond issue on share prices of firms listed at the NSE.

### **1.1.1 Bond Issue**

A bond is a debt instrument or a loan in which the terms, pay-back date and interest rates are detailed in a legal document. In finance, a bond is a debt security, in which the authorized issuer owes the holders a debt and is obliged to pay interest (coupon) and repay the principal at a later date (Balduzzi, 2001).

It is a formal contract to repay borrowed money with interest at fixed intervals. Bonds are also referred to as fixed income securities. The rate (coupon rate) varies depending on a number of factors such as current market interest rates, term to maturity and creditworthiness of the issuer. The more likely it is that a bond issuer will default on a loan, the higher the interest rate he must

pay to attract investors. Interest rates are calculated as a percentage of the bond's face value. These payments are usually made twice a year. The annual interest rate on a bond is referred to as the yield.

A bond's maturity date refers to the time when the bond's issuer must return the principal to the investors. Bonds with maturities of up to 5 years are referred to as short term bonds. Those with maturities of between 5 and 12 years are referred to as medium term bonds and those with maturities of more than 12 years are long-term bonds.

Bonds may be secured or unsecured. A secured bond is backed by collateral, meaning it has the money or physical assets that a bond issuer must give to investors if the bond defaults. Securing ensures that capital will be available to pay the principal on the bond. Unsecured bonds (sometimes called debentures) are not backed by any collateral. Instead, the issuer promises that the lenders will be repaid (Castillo, 2004). Unsecured bonds could be issued in this manner either because the company does not have enough assets to collateralize or the company is well established and is therefore trusted to repay its debts. Unsecured bonds naturally carry more risk than secured bonds and therefore pay higher yields.

Bonds can also be classified into Fixed Rate and Floating Rate Bonds. A bond whose interest rate stays the same over its lifespan is referred to as a fixed interest bond. A bond whose interest rate varies periodically over its life span is referred to as a floating interest bond. The changes in rates usually reflect economic conditions. A floating rate is usually pegged to another economic indicator such as Treasury bill rates or even inflation and is determined using a prescribed formula (Ross, et al, 2002).

A bond issue is the process of offering securities as an attempt to raise funds. Companies may issue bonds or shares to investors as a method of financing the business.

### **1.1.2 Share Prices**

Share price is the value of the firm divided by the number of shares outstanding (Weston, 1989). It can also be defined as the price that buyers and sellers establish when they trade in the shares (Nairobi Securities Exchange Hand Book 2005). Additionally another definition is the par value that is merely a stated figure in the corporate charter and has little economic significance. Accounting earnings are the gains in wealth from business that is the amounts which can be spend without encroaching upon the initial wealth of the firm (Elgers, 1998). It is also the summary of revenues expenses and net income or loss of a firm for a period of time

Prices at any point in time can be viewed as if they are a function of future expected earnings. Prices reflect investor's expectations regarding future earnings. The potential richness of price with respect to expectations is described in (Muth, 1961) seminal essay on rational expectations where the prices are based upon an information system with many signals other than earnings that is not reflected in current and past. For example prices may respond before earnings to certain events or information. If prices are viewed as "reflecting" other information, then prices can be used as a proxy for that information. Beaver, Lambert and Morse (1980) indicates that price – based forecasting models of earning can predict future earnings "better" (i.e. with a lower mean error) than forecasting model based upon a statistical extrapolation of past and current earnings.

### **1.1.3 Effect of Bond issues on Share Price**

Announcements of new bond issues have been seen to have a negative effect on stock prices. Potential explanations of this negative effect - the price-pressure, wealth-redistribution, and information-release hypotheses - imply different share-price reactions to the announcements of bonds (Kalay, 1987). The investigation of bond offerings to the public has been an interesting area of academic corporate finance research because bonds are gradually becoming an important corporate financing alternative. It is therefore necessary to investigate the effect that these issues have, on the general performance of companies. This study will therefore narrow down to the stock price effect of bond issues.

### **1.1.4 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 in the Nairobi Securities Exchange. 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.54.5 billion, bringing the NSE debt market's capitalization to about Kshs.454.5 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, or secured and unsecured.

The Nairobi Stock Exchange marked the first day of automated trading in government bonds through the Automated Trading System (ATS) in November 2009. The automated trading in government bonds marked a significant step in the efforts by the NSE and CBK towards creating



depth in the capital markets by providing the necessary liquidity (Nairobi Securities Exchange handbook 2013)

Kenya issued a sovereign bond in international markets making it the first country in East and Central Africa to issue such a bond. The targeted USD 300 million was to finance infrastructure development in Kenya. It was also geared to attracting increased Foreign Direct Investment (FDI) flows into the country. The only other countries in Africa that have made it to global financial markets are Morocco, Egypt, South Africa and Ghana (FINANCE, 2007).

## **1.2 Research Problem**

Debt obligates the company to make a fixed set of cash payments over the term of maturity; if payments are missed, there are potentially serious consequences, including bankruptcy. Therefore, adding more debt to a company's capital structure can serve as a credible signal of higher expected future cash flows (Barclay & Smith, 2005). 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 favourable, and they are confident that the companies' performances will allow them to pay off their additional debts.

Some companies that have recently tapped the local fixed income market in Kenya 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). Barclays had its shares priced at 68.50 before its bond announcement in 2008. The share prices dropped to 68.00 upon the bond announcement and further dropped to 67.50 later on after the announcement. Safaricom experienced a slight movement in its share prices upon its bond announcements on the first tranche in 2009. The

share prices moved from 3.95 shillings to 4.00 on the announcement date. The share prices then slightly dropped to 3.95 after the announcement and later on moved to 4.05. Kengen had its share prices move from 10.55 to 10.60 and later on to 10.70. The share prices went up and stabilized after the announcement of the bond issues. It has not been established clearly how it affects the company's share performance in Kenya.

Beaver (1968) attributed large price change in the stock market to revisions in expectations shared by investors and surges in trading activity to a lack of consensus on price. (Chen et al. 2005) observed a negative influence of company size on investor reactions in the Japanese market whereas (Arshanapalli et al. 2004) and (Dutordoir and Van de Gucht 2004) found a positive impact on the US market and Western European markets. (Ammann, Fehr, and Seiz 2006) and (Chen, Dong, and Wen 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. (Loughran and Ritter, 1995), finds out that companies in the USA that offer bonds issues tend to underperform in the long run, as compared to their counterparts with no bonds issues.

In Kenya, studies on the relationship between bond issue and share prices are scarce. Studies on bonds have been conducted by Mbugua (2003) who examined factors that influenced the development of the corporate bond market in Kenya and his findings indicated that corporate bonds have high yields since interest payments were taxable. (Ringui, 2012) is of the opinion that

firms could be stimulated to perform better if the political and regulatory factors in the country are favorable for the corporate bond market to perform better. His study however, does not directly look at the relationship between these firms' performance and any debt that they issue. Machel (2013) conducted a study on the effect of bond issues on the stock price performance of firms listed at the Nairobi Securities Exchange and came to a conclusion that bond issues do not have a significantly positive effect on the stock prices of issuing firms.

There is little evidence of abnormal performance on announcement of debt issues due to conflicting findings in prior studies. There is therefore need for study to establish the relationship between bond issues and movement in share prices of firms that issue both debt and equity securities. This therefore gives rise to a research question; "what is the impact of Bond Issue on Share Prices of firms listed at the Nairobi Securities Exchange?"

### **1.3 Research Objective**

To determine the effect of bond issue on share prices of firms listed at the Nairobi Securities Exchange.

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

The findings of this study contributed to the already available knowledge in this area and will therefore contribute to theory that already exist in this discipline, and it will also enable scholars to carry out further research by identifying information gaps in this study.

Besides, it also facilitated related arguments and debate among scholars in this area. The study will also contribute to the practice as it will be of interest to the management of publicly quoted companies, in determining the effect of bond issues on the share prices of firms, so that they can

make prudent financial decisions, to enhance performance of shares at NSE, thus increasing investor's confidence.

Regulators or government agencies will be able to formulate good policies relating to bond issues based on the findings of this study. The regulators have a role to protect investors and regulate the industry, by providing checks and balances in the market, example the disclosure requirements and the publication of annual reports is a requirement by CMA that needs to be strictly adhered to. The investors will also benefit in that they will be able to gauge the value of the firm based on its dividend policy hence make informed investment decisions.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

A review of existing theories shall be discussed, followed by literature review of empirical studies. The relationship between bond issues and financial performance shall also be analysed

#### **2.2 Theoretical Review**

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. 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). This section will therefore look at the theoretical evidence that exists of impact of bond issues on share prices.

##### **2.2.1 Signaling Theory**

Ross (1977) argued that Investors' perceptions of a company are influenced by a company's financing policy. Signaling Theory is based on the assumption that the management of a company is better informed about the company than the 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.

Though Modigliani and Miller (1961) assumed that investors and management have perfect knowledge about a firm, this has been countered by many researchers, as management who look after the firm tend to have more precise and timely information about the firm than outside investors. This, therefore, creates a gap between managers and investors.

### **2.2.2 Pecking Order Theory**

Myers, (1984) argues that adverse selection implies that retained earnings are better than debt and debt is better than equity. 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 Goyal (2000).

### **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 (1979).

#### **2.2.4 Agency cost Theory**

According to Ross et al (2008), Agency cost is the cost of the conflict of interest that exists between shareholders and management. This arises when management acts in their own interest rather than on behalf of the shareholders who own the firm. This could be direct or indirect. This is contrary to the assumptions of Miller and Modigliani (1961) who assumed that managers are perfect agents for shareholders and no conflict of interest exists between them. This is somehow questionable, as the owners of the firm are different from the management. Managers are bound to conduct some activities, which could be costly to shareholders, such as undertaking unprofitable investments that would yield excessive returns to them, and unnecessarily high management compensation. Agency Theory offers a slightly divergent perspective to the debt-equity relationship in a firm.

According to this theory, the principal-agent conflict can be reduced 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 cash that is not committed 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.

### **2.2.5 Efficient Market Hypothesis**

The bond market forms part of the capital markets whose theory is the Efficient Market Hypothesis (EMH). Efficient Market Hypothesis of financial economics states that the prices reflect all relevant information that is available about the intrinsic value of the asset. According to Reilly and Brown (2006) an efficient capital market is one in which security prices adjust rapidly to the arrival of new information and, therefore the current prices of securities reflect all information about the security. This is referred to as an informationally efficient market meaning that one cannot consistently achieve returns in excess of average market returns on a risk adjusted basis, given the information publicly available at the time the investment is made. In relating the EMH to the economy and economic growth, deviations from efficiency may offer profit opportunities to better-informed traders at the expense of less-informed traders Fama (1970). However, deviations from informational efficiency would also result in a large cost that will be borne by all citizens, namely, inefficient resource allocation. In a capitalist economy, investments in real assets such as plant, equipment, and know-how are guided in large part by the prices of financial assets. In this manner, capital market prices guide allocation of real resources. If markets were inefficient and securities commonly mispriced, then resources would be systematically misallocated. Corporations with overpriced securities will be able to obtain capital too cheaply and corporations with undervalued securities might forgo investment opportunities because the cost of raising capital will be too high. Therefore, inefficient capital markets would diminish one of the most potent benefits of a market economy.

There are three versions of the EMH: the weak, semi-strong, and strong forms of the hypothesis. The weak-form hypothesis asserts that stock prices already reflect all information that can be



derived by examining market trading data such as the history of past prices, trading volume, or short interest. The semi-strong form hypothesis states that all publicly available information regarding the prospects of a firm already must be reflected in the stock price. Finally, the strong-form version of the efficient market hypothesis states that stock prices reflect all information relevant to the firm, even including information available only to company insiders.

## **2.3 Determinants of Share Prices**

There are many factors that can influence the price at which buyers and sellers are willing to exchange shares. Some factors might be related specifically to a company while others might be more general, broad market factors. Some of these factors include;

### **2.3.1 Bond Issue**

Higher debt ratios could signal positive management expectations concerning future cash flows. This therefore means that debt may result to shifts in the share prices of securities in a firm and hence have a general impact on the financial performance of a firm (Miller, 1985). The relationship between bond markets and economic growth can also be viewed by looking at the following aspects which seem relevant: As source of financing, bonds compensate the fluctuations in the overall supply of external funds. Even though bond financing is dependent on the economic cycle, it shows less pronounced cyclical pattern than bank loans (Davis, 2001).

### **2.3.2 Profitability**

One of the important criteria that is used to assess a firm's financial performance is the profitability of the firm. The profit that is left over with a firm after paying tax and preference dividend is the earnings available to the equity shareholders of the firm, and firms utilize these earnings to distribute dividends to shareholders. Higher the profit after tax, higher is the earnings available to the equity shareholders and hence, higher is the scope for increased dividend

payouts. The higher dividend payouts would in turn enhance the market price of the firm's share and this way, a positive relationship is expected to exist between share price and profitability. To examine the influence of profitability on share prices, return on assets (ROA) i.e. the ratio of profit after tax to total assets is used (Nirmala, 2012)

### **2.3.3 Management of the Company**

The market's opinion of management within a company will have some effect on the price of its shares. For example, the news that a new managing director has been appointed to a company may influence a share price favourably if that person is considered to be the right person for the job (Ferri, 1979)

### **2.3.4 Anticipated Takeover or Merger**

An individual company's share price may also change if another company tries to take it over by making an offer to buy its shares. Generally companies launch takeover bids because they expect they will make more money by combining with the other company (Reilly,2007).

It is unusual for takeovers to succeed unless the company making the takeover bid offers more than the current market price for the other company's shares. So the target company's shares usually go up during a takeover bid.

### **2.3.5 Technological Innovation**

New ideas and new ways of doing things may result of share price changes. A company's share price may change if there has been a technological breakthrough that suggests strong growth in the future (Luketero,2008) Efficient allocation of resources and rapid accumulation of physical and human capital is achieved with faster technological advancements which in turn feed economic growth.

### **2.3.6 Interest Rates**

Banks can raise or lower interest rates to stabilize or stimulate the economy. This is known as monetary policy. If a company borrows money to expand and improve its business, higher interest rates will affect the cost of its debt. This can reduce company profits and the dividends it pays shareholders. As a result, its share price may drop. And, in times of higher interest rates, investments that pay interest tend to be more attractive to investors than stocks Modigliani (2006). Mbugua (2003) who examined factors that influenced the development of the corporate bond market in Kenya and his findings indicated that corporate bonds have high yields since interest payments were taxable.

### **2.4 Event Study Methodology**

An event study is concerned with the impact of an announcement on corporations. In particular researchers are concerned with the hypothesis that an event will impact the value of a firm or firms, and that this impact will be reflected stock and other security prices, manifesting it in abnormal security returns. For example, an event study might be conducted for the purpose of determining the impact of corporate earnings announcements on the stock price of the company.

Many types of announcements are studied with event studies. Such events can include takeover announcements, environmental regulation enactments, patent filing announcements, competitor bankruptcy announcements, CEO resignation announcements, etc. Event studies are used to measure market efficiency and to determine the impact of a given event on security prices. More important, from a trading perspective, event studies are used to back-test price data to determine the usefulness and reliability of trading strategies. Event study methodology is the set of

econometric techniques used to measure and interpret the effects of an event on firms' securities. (Brown, Stephen J. and Jerold B. Warner, 1980)

The purposes of event studies are to test for the existence of an information effect (the impact of an event on the announcing firm's value) and to identify factors that explain changes in firm value on the event date. The impact of the event on security prices is typically measured as a function of the amount market; one might expect that the effect of the event on security prices will occur very quickly after the first investors learn of the event. Event studies are usually based on daily, hourly or even trade to trade stock price fluctuations.

Campbell, Lo and MacKinlay, (1997) suggests that a typical event study is conducted by first defining the event and establishing the event window. This means to establish exactly what the event is (e.g., the announcement of bond issue for a firm) and determining the period during which share prices will be affected by this event (this could be several seconds, minutes, hours, or days)

Secondly the firm selection criteria are established. Here, the researcher determines exactly which firms to include in the data set, over which time periods and which securities and security prices to examine. In some instances, firms will be selected from particular industries, from membership on particular exchanges, have certain levels of trading interest, be of given sizes, (Prabhala,1997). It is important that each security in the sample be frequently traded during the event window to avoid stale prices. Appropriate periods need to be set for calculating security returns (e.g., daily).

Thirdly, the normal and abnormal returns are calculated for securities in the sample set. Then we estimate model parameters using data in an estimation window. The model parameters include variables such as stock betas. The estimation window is typically the period prior to the event window, sometimes 120 days, but a “moving window” might include periods both before and after the event window. The event window is normally excluded from the estimation period so that parameters are not biased by the events. Event studies are usually more effective when event windows are fairly short. From the abnormal returns we calculate the cumulative abnormal returns.

The fifth step involves conducting tests by defining the null and alternative hypotheses; aggregate returns over time during the event period and across securities. Thereafter the results are presented and interpreted and inferences are drawn.

## **2.5 Empirical Review**

This section covers the international and local studies done on the topic of issuance of bonds and the effect it has on various factors in an organization. First the international evidence is looked at followed by local evidence.

### **2.5.1 International Evidence**

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 information over time. This adverse selection model assumes that firms possess private information and use it to time their

bond issuance. As a result, debt issuance provides a negative signal of debt rating migration. They also predict that the signal strengthens with economic downturns.

Gebhardt et al (2005), in their study, indicate that 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.

According to Barclay and Smith (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.

Uwuigbe et al. (2012) examined the determinants of share prices in the Nigerian stock exchange market. Using the judgemental sampling technique, a total of 30 companies were selected and data (2006 to 2010) collected from the stock exchange and annual reports of the firms. The paper modelled the effects of financial performance, dividend payout and financial leverage on share price of listed firms by using regression analysis. The study concluded that financial performance and dividend payout had a significant positive relation with share prices while financial leverage

(proxied by debt-equity ratio) had significant negative influence on the market value of share prices in Nigeria

### **2.5.2 Local Evidence**

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.

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 increased revenue.

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.

Buigut et al. (2013) on their study on the relationship between capital structure and share prices in NSE assessed the effect of debt, equity and gearing ratio on share price. Using panel data pertaining to the energy sector over the period 2006 to 2011 and employing multiple regression analysis, the results indicated that debt; equity and gearing ratio were significant determinants of share prices for the sector under consideration. Further, gearing ratio and debt were found to positively affect share prices while equity negatively affected share prices.

Machel (2013) conducted a study on the effect of bond issues on the stock price performance of firms listed at the Nairobi Securities Exchange and came to a conclusion that bond issues do not have a significantly positive effect on the stock prices of issuing firms.

## **2.6 Summary of Literature Review**

There is no consensus from both the theoretical and empirical literature on the determinants of share prices as different markets behave differently depending on the variables tested. An overview of studies of factors affecting share prices has been presented in this section. The findings of the literature suggest that there is significant (positive and negative) linkage between bond announcements and share prices in the countries reviewed.

With the lack of a consensus on studies done 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 impact of share prices on share prices in their companies.



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter discusses in details the research design, the population and the sample size that was used in the study. And it also explains the data collection and data analysis method that was applied in the study

#### **3.2 Research design**

Research design provides a framework for the collection and analysis of data. (Bryman 2001). It involves planning, organizing, collecting and analyzing data to produce the information that the researcher is looking for (Peil, 1995). It refers to the manner in which researchers go about in collection and analysis of data to achieve research objectives. The ‘market model’ will be used for predicting the normal returns around the event date.

#### **3.3 Population**

The study was a census study of all companies listed in the Nairobi Securities Exchange that have issued debt, in the form of bonds or notes and whose debt/note issues has not matured as at December 2013. There are five companies that meet this criterion in the Nairobi Securities Exchange as indicated in Appendix I.

#### **3.4 Data collection**

In this study, secondary sources of data was used. Daily share prices were collected and the study focused on a period of fifteen days before and after each bond issue was announced for each of these firms. Where bond issues data of various firms was extracted from published reports of quoted companies. Data was obtained from the Nairobi Securities Exchange Bond Statistics.

### **3.5 Data Analysis**

Following Brown and Warner (1985), this study employed the event study methodology to determine the effect of bond announcements. This methodology is based on the fundamental idea that stock prices represent the discounted value of firms' future stream of profits. Hence, when observing a stock market reaction to the announcement of a particular event (bond issues), the change in the equity value of firms affected by this event can then be taken as a measure of the (discounted) additional wealth that they are expected to accrue as a consequence of the event (bond issues). Using the actual returns and the expected returns, the average cumulative abnormal returns over the select time was calculated. Returns of the firms' stock as well as the market return were calculated and matched.

The first step of the analysis was to determine the sample of firms to be included in the analysis and to determine an event window. In this study, NSE-listed companies that have announced bonds between 2009 and 2013 were selected. The bond issue dates were sourced from NSE bulletin. The event window for this study will be thirty one, fifteen days before the announcement date and fifteen days after. The researcher will then make estimations of the parameters to be used, that is the alpha and beta of the share prices over an estimation period of ten days. The market model was used to find the expected returns on each of the event day. After that, the researcher deducted the expected return from the actual return to get the abnormal return on each day in the event window. The researcher then added up the abnormal return over the entire period of time to get the cumulative abnormal return. The researcher then plotted a graph of the abnormal return and cumulative abnormal return over the event window to check the

impact of the bond announcements on share prices. The alpha, beta and sigma coefficients for each event were then obtained using Microsoft Excel 2007

### 3.5.1 Analytical model

The following market model was used for the purposes of analysis;

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

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

$R_{i,t}$  is the actual share price 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.

$\alpha$  is the y-intercept.

$\beta$  is the slope of the equation

The individual abnormal returns for each individual firm will then be cumulated over time to yield the cumulative abnormal returns

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

### 3.5.2 Test of Significance

To ascertain whether or not the abnormal returns are significantly different from zero. The t-statistic 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, RESULTS AND DISCUSSION**

#### **4.1. Introduction**

This chapter presents the data analysis based on the daily share prices of the companies that have issued bonds and are listed on the NSE, the NSE 20 share Index was used to as the market index.. The analysis uses the event study methodology, regression analysis and descriptive statistics to test the effect of the bond issue on the share prices of the companies. Event study methodology determines whether there arises positive or negative abnormal returns around the bond issue event by defining an event window covering a period of days before and after the actual event date.

Regression analysis was used to determine the expected returns. The independent variable was the market return regressed against the actual returns. In the event methodology, the estimation window used was 40 days before the event window. The regression parameters were determined using MS Excel

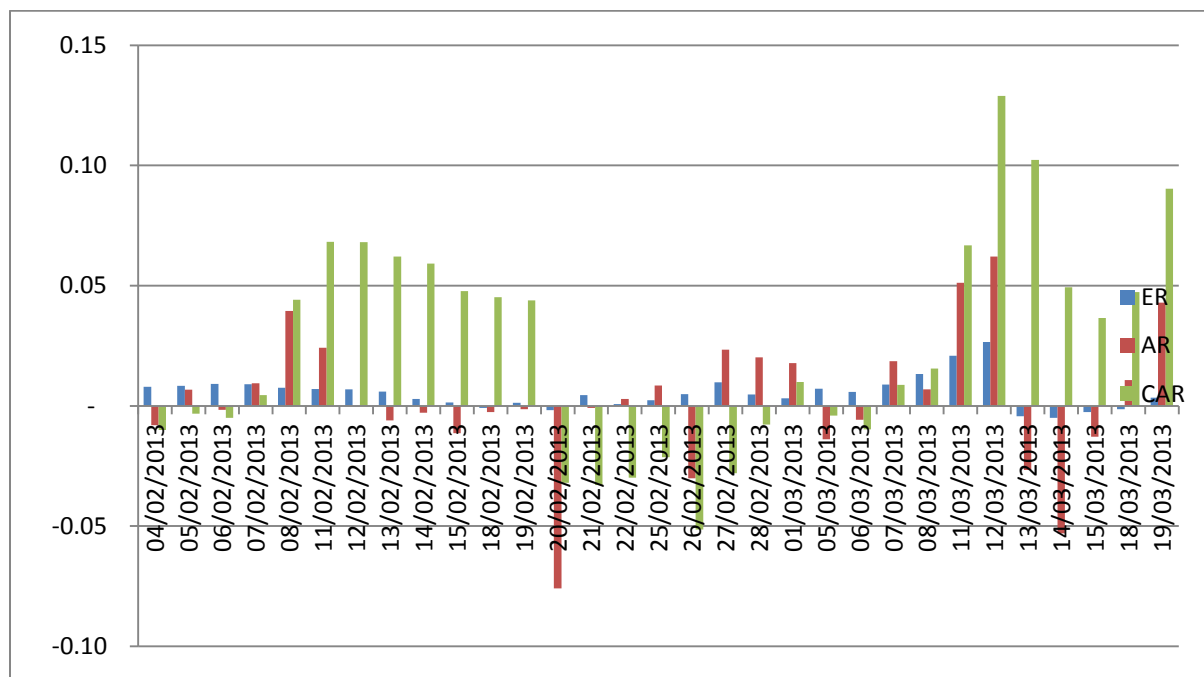
#### **4.2. Data Analysis and Discussion**

The study carried out was to establish the effect of bond issue on the share prices of the Companies listed on the Nairobi Securities Exchange. The data collected to facilitate the study was the daily share prices of the companies for the period of five years from 2009 to 2013 and the NSE 20 share index for the same period. The study was based on the event study methodology where the event of interest was the Bond issue.

### 4.2.1 Centum Limited

Centum issued a Sh4.19 billion bond issue on 25<sup>th</sup> February 2013. 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 10 days. The length of the event window is 31 days, 15 days prior to the event and 15 days after the event.

**Figure 4.1 Centum Limited** expected returns, abnormal returns and cumulative abnormal returns



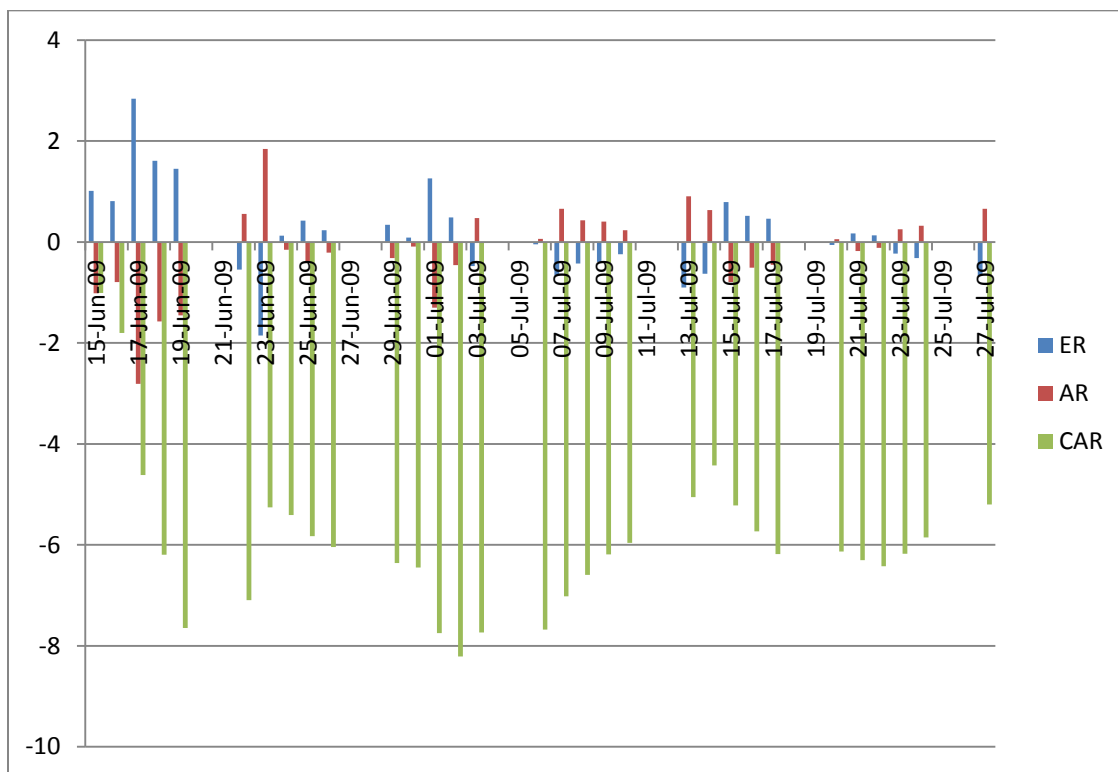
**Source: Research Findings**

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 1.1 of appendix 2. The resultant CAR t-test statistic is 7.71

## 4.2.2 CFC Stanbic Holdings Ltd

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 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 10 days. The length of the event window is 31 days, 15 days prior to the event and 15 days after the event.

**Figure 4.2 CFC Stanbic Limited expected returns, abnormal returns and cumulative abnormal returns**



### Source: Research Findings

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

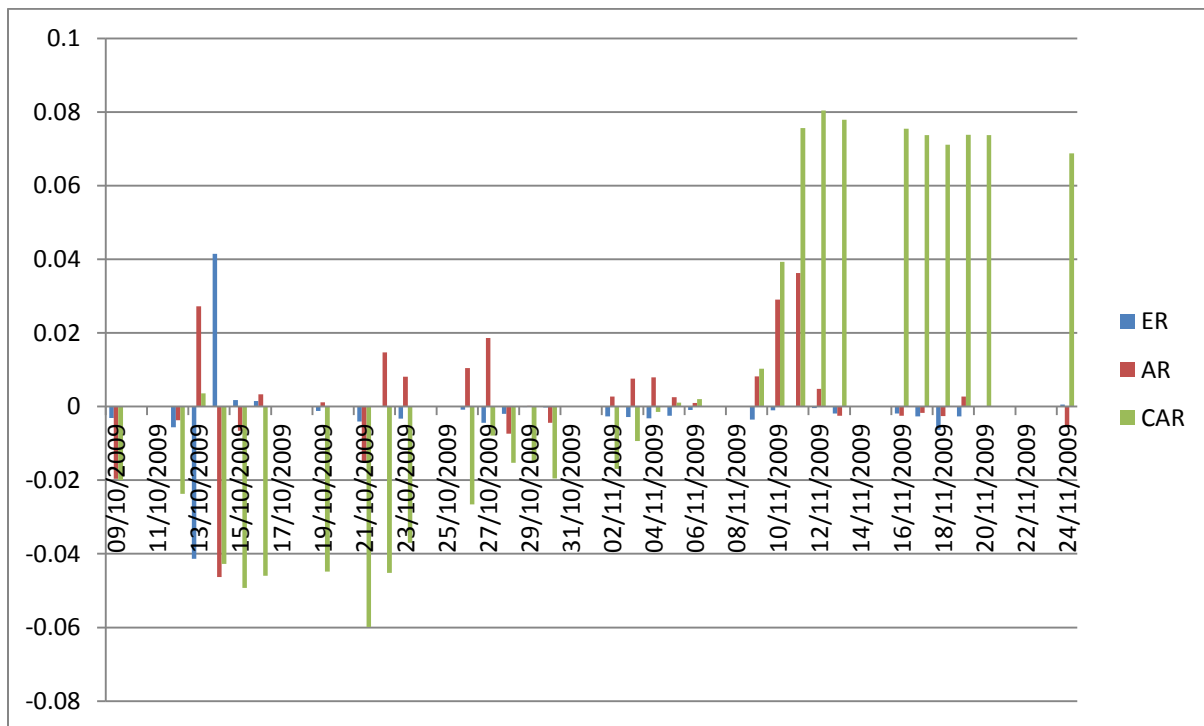
statistic, which would then be compared to the critical value from the t-tables. The procedures and computed figures are highlighted in table 2.2 of appendix 2.

The resultant CAR t-test statistic is -4.51214

### 4.2.3 Kengen

Kengen Ltd. issued a ten year bond on November 2nd, 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 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 10 days. The length of the event window is 31 days, 15 days prior to the event and 15 days after the event.

Figure 4.3 Kengen expected returns, abnormal returns and cumulative abnormal returns



Source: Research Findings

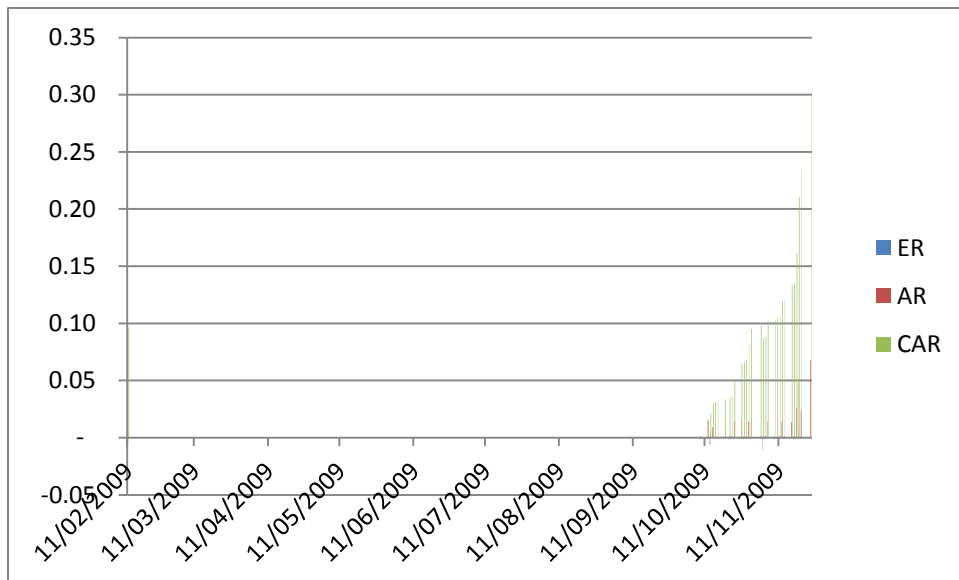
After obtaining the expected returns ( $[E]R$ ), abnormal returns (AR) and cumulative abnormal returns (CAR), the AR t-test statistic was obtained and then summed to yield the CAR t-test statistic, which would then be compared to the critical value from the t-tables. The procedures and computed figures are highlighted in table 3.2 of appendix 2.

The resultant CAR t-test statistic is 3.85135

#### 4.2.4 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 4.1 in appendix 2. The event date is the date of the issue of the bond and the length of the estimation period is ten days. The length of the event window is 31 days, 15 days prior to the event and 15 days after the event.

**Figure 4.4 Safaricom expected returns, abnormal returns and cumulative abnormal returns**



Source: Research Findings



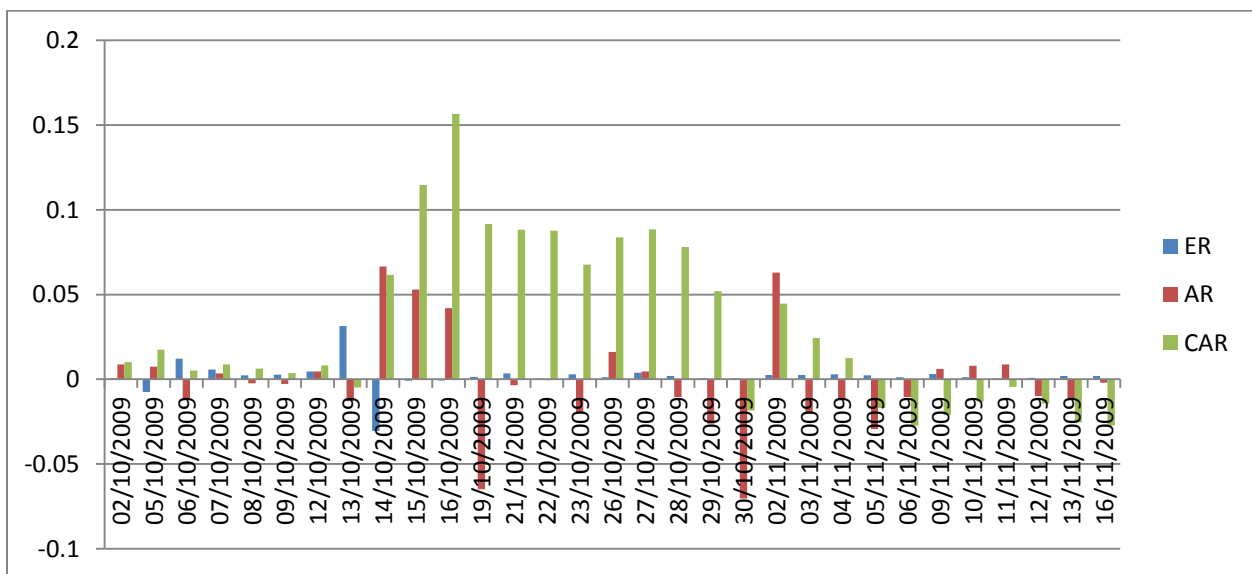
After obtaining the expected returns ( $[E]R$ ), abnormal returns ( $AR$ ) and cumulative abnormal returns ( $CAR$ ), the  $AR$  t-test statistic was obtained and then summed to yield the  $CAR$  t-test statistic, which would then be compared to the critical value from the t-tables. The procedures and computed figures are highlighted in table 4.2 of appendix 2.

The resultant  $CAR$  t-test statistic is 27.00

#### 4.2.5 Housing Finance Company Limited

Housing Finance Company Limited issued a seven year bond on October 26th, 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 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 10 days. The length of the event window is 31 days, 15 days prior to the event and 15 days after the event.

**Figure 4.5 Housing Finance Company Limited expected returns, abnormal returns and cumulative abnormal returns**



Source: Research Findings

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 5.2 of appendix 2.

The resultant CAR t-test statistic is -2.13378

**Table 4.1 Test of significance**

	<b>CAR t-test</b>	<b>Critical</b>	
<b>Firm</b>	<b>statistic</b>	<b>Value</b>	<b>Result</b>
Safaricom Ltd.	27.00	2.92	Reject null hypothesis at 5% sig. level
Centum Limited	7.71	2.92	Reject null hypothesis at 5% sig level
CFC Stanbic Holdings Ltd.	-4.51214	2.92	Do not reject null hypothesis at 5% sig. level
Housing Finance Company Ltd.	2.13378	2.92	Do not reject null hypothesis at 5% sig. level
KenGen Limited	3.85135	2.92	Reject null hypothesis at 5% sig. level

**Source: Research Findings**

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents summary of findings, conclusions and recommendations based on the findings. The aim of the study was to explore the effect of bond issue on share prices of firms listed in the Nairobi Securities Exchange. This effect was measured by using the event study methodology. The chapter is organized as follows: Section 5.2 presents a discussion of findings; Section 5.3 presents the conclusions; and Section 5.4 presents recommendations for policy and further research.

#### **5.2 Summary**

The corporate bond market is a small financial playing field with the potential to become bigger. Therefore, the purpose of this paper is to try contribute to the literature that might result to 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.

The study was conducted by collecting share 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.

### **5.3 Conclusion**

Bond issues have a significantly positive effect on the stock prices of issuing firms. Three events had a test statistic of 2.920 and above 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 fifteenth day before the event (day =  $t - 15$ ), 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 share prices seem to react positively to the actual commencement of trading of the bond, because the abnormal returns recorded on the event day are negative or zero returns.

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 60% of the population ascribing to the hypothesis that indicates the presence 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.

#### **5.4 Recommendations to Policy and Practice**

As highlighted before, the bond market in Kenya is still relatively underdeveloped. There seems to be a disconnect 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.

### **5.5 Limitations of the Study**

A major limitation of the study was 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  $\alpha$  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  $\alpha$  and  $\beta$ .

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.

### **5.6 Suggestions for Further Studies**

Studies using cumulative average abnormal returns instead of cumulative abnormal returns could be used for computation of the test statistic so as to analyse if the results would be different. Other effects of bond issue apart from share prices movements could be experienced. Bond issues may have an impact beyond share 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 reasonable 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 could 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.

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## APPENDIX I

Listed Companies that have issued Bonds from year 2009-2013

Company	Issue Date	Issued Amount(millions)
1. Centum Investment Company Limited	25 <sup>th</sup> February 2013	4,190
2. CFC Stanbic Holdings Limited	7 <sup>th</sup> July 2009	5,000
3. Housing Finance Company Limited	26 <sup>th</sup> October 2010	10,000
4. KenGen Limited	2 <sup>nd</sup> November 2009	2,500
5. Safaricom Limited	2 <sup>nd</sup> November 2009	5,000

**Source: CMA Research Database**

## Appendix II

Table 1.1 Centum share prices from 21/01/2013-19/03/2013

Dates	days	share prices	Share price returns	nse 20	Nse 20 returns
21/01/2013	-25	12.85		4,471.21	
22/01/2013	-24	12.95	0.01	4,461.32	(0.00)
23/01/2013	-23	12.95	-	4,417.17	(0.01)
24/01/2013	-22	12.95	-	4,385.00	(0.01)
25/01/2013	-21	12.90	(0.00)	4,379.71	(0.00)
28/01/2013	-20	13.15	0.02	4,403.38	0.01
29/01/2013	-19	13.30	0.01	4,402.75	(0.00)
30/01/2013	-18	13.05	(0.02)	4,412.61	0.00
31/01/2013	-17	13.25	0.02	4,416.60	0.00
01/02/2013	-16	13.25	-	4,420.79	0.00
<b>04/02/2013</b>	<b>-15</b>	<b>13.25</b>	-	<b>4,450.78</b>	0.01
05/02/2013	-14	13.45	0.02	4,483.62	0.01
06/02/2013	-13	13.55	0.01	4,522.53	0.01
07/02/2013	-12	13.80	0.02	4,561.16	0.01
08/02/2013	-11	14.45	0.05	4,588.42	0.01
11/02/2013	-10	14.90	0.03	4,611.03	0.00
12/02/2013	-9	15.00	0.01	4,633.48	0.00
13/02/2013	-8	15.00	-	4,648.09	0.00
14/02/2013	-7	15.00	-	4,637.54	(0.00)
15/02/2013	-6	14.85	(0.01)	4,614.75	(0.00)
18/02/2013	-5	14.80	(0.00)	4,573.88	(0.01)
19/02/2013	-4	14.80	-	4,551.06	(0.00)
20/02/2013	-3	13.65	(0.08)	4,502.75	(0.01)
21/02/2013	-2	13.70	0.00	4,505.59	0.00
22/02/2013	-1	13.75	0.00	4,477.89	(0.01)
<b>25/02/2013</b>	<b>Day 0</b>	<b>13.90</b>	<b>0.01</b>	<b>4,463.65</b>	<b>(0.00)</b>
26/02/2013	1	13.55	(0.03)	4,469.19	0.00
27/02/2013	2	14.00	0.03	4,513.55	0.01

28/02/2013	3	14.35	0.03	4,518.59	0.00
01/03/2013	4	14.65	0.02	4,510.47	(0.00)
05/03/2013	5	14.55	(0.01)	4,533.82	0.01
06/03/2013	6	14.55	-	4,546.83	0.00
07/03/2013	7	14.95	0.03	4,585.07	0.01
08/03/2013	8	15.25	0.02	4,658.64	0.02
11/03/2013	9	16.35	0.07	4,796.33	0.03
12/03/2013	10	17.80	0.09	4,985.91	0.04
13/03/2013	11	17.25	(0.03)	4,911.45	(0.01)
14/03/2013	12	16.25	(0.06)	4,831.85	(0.02)
15/03/2013	13	16.00	(0.02)	4,774.12	(0.01)
18/03/2013	14	16.15	0.01	4,727.04	(0.01)
<b>19/03/2013</b>	<b>15</b>	<b>16.90</b>	<b>0.05</b>	<b>4,721.23</b>	<b>(0.00)</b>

Source : Research Findings

Table 1.2 Centum Limited [E]R, AR, CAR and AR t-test statistic

ER	AR	CAR	T-TEST
0.01	- 0.01	- 0.01	- 0.67
0.01	0.01	- 0.00	0.56
0.01	- 0.00	- 0.00	- 0.14
0.01	0.01	0.00	0.79
0.01	0.04	0.04	3.30
0.01	0.02	0.07	2.02
0.01	- 0.00	0.07	- 0.02
0.01	- 0.01	0.06	- 0.50
0.00	- 0.00	0.06	- 0.24
0.00	- 0.01	0.05	- 0.95
- 0.00	- 0.00	0.05	- 0.21
0.00	- 0.00	0.04	- 0.11
- 0.00	- 0.08	- 0.03	- 6.34
0.00	- 0.00	- 0.03	- 0.07
0.00	0.00	- 0.03	0.25
0.00	0.01	- 0.02	0.71
0.00	- 0.03	- 0.05	- 2.51

0.01	0.02	-	0.03	1.96		
0.00	0.02	-	0.01	1.69		
0.00	0.02		0.01	1.48		
0.01	-	0.01	-	0.00	-	1.16
0.01	-	0.01	-	0.01	-	0.48
0.01	0.02		0.01	1.55		
0.01	0.01		0.02	0.57		
0.02	0.05		0.07	4.28		
0.03	0.06		0.13	5.19		
-	0.00	-	0.03	0.10	-	2.22
-	0.00	-	0.05	0.05	-	4.42
-	0.00	-	0.01	0.04	-	1.07
-	0.00		0.01	0.05		0.90
0.00	0.04		0.09	3.59		
				7.71		

Source : Research Findings

Table 2.1 CFC Stanbic Limited share prices from 02/06/2009- 28/07-2009

DATES	DAY	SHARES		NSE	
02-Jun-09	-25	13.25		2860.37	
03-Jun-09	-24	59.00	3.45	2890.79	0.01
04-Jun-09	-23	58.50	-0.01	2924.77	0.01
05-Jun-09	-22	59.00	0.01	2912.1	0.00
08-Jun-09	-21	60.50	0.03	2927.41	0.01
09-Jun-09	-20	62.00	0.02	2945.35	0.01
10-Jun-09	-19	62.00	0.00	2953.14	0.00
11-Jun-09	-18	61.00	-0.02	2959.47	0.00
12-Jun-09	-17	62.00	0.02	2996.59	0.01
15-Jun-09	-16	62.00	0.00	3010.17	0.00
16-Jun-09	-15	62.00	0.00	3052.94	0.01
17-Jun-09	-14	63.00	0.02	3087.74	0.01
18-Jun-09	-13	64.50	0.02	3208.18	0.04

19-Jun-09	-12	66.50	0.03	3279.67	0.02
22-Jun-09	-11	66.00	-0.01	3345.62	0.02
23-Jun-09	-10	66.50	0.01	3322.17	-0.01
24-Jun-09	-9	65.50	-0.02	3239.61	-0.02
25-Jun-09	-8	63.50	-0.03	3246.43	0.00
26-Jun-09	-7	64.00	0.01	3266.45	0.01
29-Jun-09	-6	65.00	0.02	3278	0.00
30-Jun-09	-5	66.50	0.02	3294.56	0.01
01-Jul-09	-4	66.00	-0.01	3299.69	0.00
02-Jul-09	-3	63.50	-0.04	3357.66	0.02
03-Jul-09	-2	65.00	0.02	3381.2	0.01
06-Jul-09	-1	65.00	0.00	3360.72	-0.01
07-Jul-09	<b>Day 0</b>	66.00	0.02	3359.97	0.00
08-Jul-09	1	65.00	-0.02	3330.69	-0.01
09-Jul-09	2	65.00	0.00	3312.64	-0.01
10-Jul-09	3	65.50	0.01	3296.27	0.00
13-Jul-09	4	64.50	-0.02	3286.56	0.00
14-Jul-09	5	64.50	0.00	3247.39	-0.01
15-Jul-09	6	64.50	0.00	3220.9	-0.01
16-Jul-09	7	64.00	-0.01	3256.75	0.01
17-Jul-09	8	64.50	0.01	3281.02	0.01
20-Jul-09	9	65.00	0.01	3302.77	0.01
21-Jul-09	10	64.50	-0.01	3301.4	0.00
22-Jul-09	11	64.00	-0.01	3310.34	0.00
23-Jul-09	12	65.00	0.02	3317.62	0.00
24-Jul-09	13	66.00	0.02	3308.46	0.00
27-Jul-09	14	66.00	0.00	3295.47	0.00
28-Jul-09	<b>15</b>	65.50	-0.01	3266.97	-0.01

Source : Research Findings

Table 2.2 CFC Stanbic Limited [E]R, AR, CAR and AR t-test statistic

ER	AR	CAR	T-TEST
1.01467	-1.01	-1.01	-0.88004
0.808134	-0.79	-1.80	-0.68692
2.837514	-2.81	-4.62	-2.44038
1.608272	-1.58	-6.19	-1.36799
1.448394	-1.46	-7.65	-1.26274
-0.54503	0.55	-7.10	0.479287
-1.85659	1.84	-5.25	1.597218
0.124962	-0.16	-5.41	-0.13486
0.423527	-0.42	-5.83	-0.3605
0.230136	-0.21	-6.04	-0.18605
0.34157	-0.32	-6.36	-0.27624
0.084673	-0.09	-6.45	-0.07996
1.261649	-1.30	-7.75	-1.12711
0.485573	-0.46	-8.21	-0.40066
-0.47504	0.48	-7.74	0.412011
-0.04619	0.06	-7.68	0.053409
-0.67038	0.66	-7.02	0.568292
-0.42816	0.43	-6.59	0.371352
-0.39305	0.40	-6.19	0.347572
-0.24633	0.23	-5.96	0.200406
-0.90589	0.91	-5.05	0.7857
-0.62943	0.63	-4.43	0.545918
0.788403	-0.80	-5.22	-0.69052
0.518019	-0.51	-5.73	-0.44251
0.457507	-0.45	-6.18	-0.39008
-0.06028	0.05	-6.13	0.045612
0.16927	-0.18	-6.31	-0.15353
0.13187	-0.12	-6.42	-0.10082
-0.23275	0.25	-6.17	0.215213
-0.31841	0.32	-5.86	0.276164
-0.66552	0.66	-5.20	0.570647
			-4.51214

Source : Research Findings



Table 3.1 Kengen Ltd share prices from 24/09/2009-24/11/2009

DATES	DAYS	SHARE PRICE	returns	NSE 20	mkt index
24/09/2009	-25	11.35		3,040.69	
25/09/2009	-24	11.20	-0.01	3,046.04	0.00
28/09/2009	-23	11.50	0.03	3,023.03	-0.01
29/09/2009	-22	11.50	0.00	3,015.72	0.00
30/09/2009	-21	11.70	0.02	3,005.41	0.00
02/10/2009	-20	11.55	-0.01	3,022.33	0.01
05/10/2009	-19	11.65	0.01	3,121.69	0.03
06/10/2009	-18	11.30	-0.03	3,020.62	-0.03
07/10/2009	-17	11.20	-0.01	2,986.83	-0.01
08/10/2009	-16	11.00	-0.02	2,987.20	0.00
<b>09/10/2009</b>	<b>-15</b>	<b>10.75</b>	<b>-0.02</b>	<b>2,983.38</b>	<b>0.00</b>
12/10/2009	-14	10.65	-0.01	2,961.01	-0.01
13/10/2009	-13	10.50	-0.01	2,676.80	-0.10
14/10/2009	-12	10.45	0.00	2,969.15	0.11
15/10/2009	-11	10.40	0.00	3,001.21	0.01
16/10/2009	-10	10.45	0.00	3,031.79	0.01
19/10/2009	-9	10.45	0.00	3,042.42	0.00
21/10/2009	-8	10.25	-0.02	3,031.10	0.00
22/10/2009	-7	10.40	0.01	3,049.99	0.01
23/10/2009	-6	10.45	0.00	3,044.44	0.00
26/10/2009	-5	10.55	0.01	3,057.23	0.00
27/10/2009	-4	10.70	0.01	3,043.22	0.00
28/10/2009	-3	10.60	-0.01	3,047.87	0.00
29/10/2009	-2	10.60	0.00	3,066.01	0.01
30/10/2009	-1	10.55	0.00	3,083.63	0.01
02/11/2009	<b>0</b>	10.55	0.00	3,082.92	0.00
03/11/2009	1	10.60	0.00	3,081.07	0.00
04/11/2009	2	10.65	0.00	3,076.44	0.00
05/11/2009	3	10.65	0.00	3,077.11	0.00
06/11/2009	4	10.65	0.00	3,089.44	0.00
09/11/2009	5	10.70	0.00	3,082.36	0.00

10/11/2009	6	11.00	0.03	3,094.13	0.00
11/11/2009	7	11.40	0.04	3,114.53	0.01
12/11/2009	8	11.45	0.00	3,131.47	0.01
13/11/2009	9	11.40	0.00	3,136.89	0.00
16/11/2009	10	11.35	0.00	3,142.30	0.00
17/11/2009	11	11.30	0.00	3,141.66	0.00
18/11/2009	12	11.20	-0.01	3,112.80	-0.01
19/11/2009	13	11.20	0.00	3,111.95	0.00
20/11/2009	14	11.20	0.00	3,132.62	0.01
<b>24/11/2009</b>	<b>15</b>	<b>11.15</b>	<b>0.00</b>	<b>3,156.71</b>	<b>0.01</b>

Source : Research Findings

Table 3.2 Kengen Limited [E]R, AR, CAR and AR t-test statistic

ER	AR	CAR	T-TEST
-0.0031	-0.02	-0.02	-1.09375
-0.00561	0.00	-0.02	-0.20568
-0.04133	0.03	0.00	1.518316
0.0415	-0.05	-0.04	-2.57816
0.001774	-0.01	-0.05	-0.36549
0.001528	0.00	-0.05	0.182777
-0.00117	0.00	-0.04	0.065184
-0.00409	-0.02	-0.06	-0.83884
-6.9E-05	0.01	-0.05	0.819416
-0.00332	0.01	-0.04	0.452919
-0.00089	0.01	-0.03	0.582847
-0.00443	0.02	-0.01	1.039503
-0.00197	-0.01	-0.02	-0.41115
-0.00018	0.00	-0.02	0.010171
-0.00027	0.00	-0.02	-0.2481
-0.00268	0.00	-0.02	0.149235
-0.00283	0.01	-0.01	0.421675
-0.00319	0.01	0.00	0.440734

-0.0025	0.00	0.00	0.139157
-0.00097	0.00	0.00	0.053917
-0.00351	0.01	0.01	0.457248
-0.00104	0.03	0.04	1.620664
7.64E-05	0.04	0.08	2.022265
-0.00039	0.00	0.08	0.266131
-0.00189	0.00	0.08	-0.13824
-0.00189	0.00	0.08	-0.13917
-0.00267	0.00	0.07	-0.09687
-0.00629	0.00	0.07	-0.14248
-0.0027	0.00	0.07	0.150199
9.62E-05	0.00	0.07	-0.00536
0.000519	0.00	0.07	-0.27773
			3.85135

Source : Research Findings

Table 4.1 Safaricom Ltd share prices from 24/09/2009-24/11/2009

DATES	DAYS	SHARE PRICES	Share returns	NSE 20	Nse returns
24/09/2009	-25	3.75		3,040.69	
25/09/2009	-24	3.70	-0.01	3,046.04	0.00
28/09/2009	-23	3.70	0.00	3,023.03	-0.01
29/09/2009	-22	3.70	0.00	3,015.72	0.00
30/09/2009	-21	3.75	0.01	3,005.41	0.00
02/10/2009	-20	3.70	-0.01	3,022.33	0.01
05/10/2009	-19	3.70	0.00	3,121.69	0.03
06/10/2009	-18	3.65	-0.01	3,020.62	-0.03
07/10/2009	-17	3.70	0.01	2,986.83	-0.01
08/10/2009	-16	3.70	0.00	2,987.20	0.00
<b>09/10/2009</b>	<b>-15</b>	<b>3.70</b>	0.00	<b>2,983.38</b>	0.00
12/10/2009	-14	3.75	0.01	2,961.01	-0.01
13/10/2009	-13	3.75	0.00	2,676.80	-0.10

14/10/2009	-12	3.80	0.01	2,969.15	0.11
15/10/2009	-11	3.80	0.00	3,001.21	0.01
16/10/2009	-10	3.80	0.00	3,031.79	0.01
19/10/2009	-9	3.80	0.00	3,042.42	0.00
21/10/2009	-8	3.80	0.00	3,031.10	0.00
22/10/2009	-7	3.80	0.00	3,049.99	0.01
23/10/2009	-6	3.85	0.01	3,044.44	0.00
26/10/2009	-5	3.90	0.01	3,057.23	0.00
27/10/2009	-4	3.90	0.00	3,043.22	0.00
28/10/2009	-3	3.90	0.00	3,047.87	0.00
29/10/2009	-2	3.95	0.01	3,066.01	0.01
30/10/2009	-1	4.00	0.01	3,083.63	0.01
11/02/2009	Day 0	4.00	0.00	3,082.92	0.00
03/11/2009	1	4.00	0.00	3,081.07	0.00
04/11/2009	2	3.95	-0.01	3,076.44	0.00
05/11/2009	3	3.95	0.00	3,077.11	0.00
06/11/2009	4	4.00	0.01	3,089.44	0.00
09/11/2009	5	4.00	0.00	3,082.36	0.00
10/11/2009	6	4.00	0.00	3,094.13	0.00
11/11/2009	7	4.00	0.00	3,114.53	0.01
12/11/2009	8	4.05	0.01	3,131.47	0.01
13/11/2009	9	4.05	0.00	3,136.89	0.00
16/11/2009	10	4.10	0.01	3,142.30	0.00
17/11/2009	11	4.10	0.00	3,141.66	0.00
18/11/2009	12	4.20	0.02	3,112.80	-0.01
19/11/2009	13	4.40	0.05	3,111.95	0.00
20/11/2009	14	4.50	0.02	3,132.62	0.01
<b>24/11/2009</b>	<b>15</b>	<b>4.80</b>	<b>0.07</b>	<b>3,156.71</b>	<b>0.01</b>

Source : Research Findings

Table 4.2 Safaricom Limited [E]R, AR, CAR and AR t-test statistic

ER	AR	CAR	T-TEST
- 0.00	0.00	0	0.13
- 0.00	0.02	0.02	1.36
- 0.01	0.01	0.02	0.54
0.00	0.01	0.03	0.82
- 0.00	0.00	0.03	0.07
- 0.00	0.00	0.03	0.08
- 0.00	0.00	0.03	0.10
- 0.00	0.00	0.03	0.14
- 0.00	0.00	0.04	0.09
- 0.00	0.01	0.05	1.30
- 0.00	0.01	0.06	1.26
- 0.00	0.00	0.07	0.14
- 0.00	0.00	0.07	0.11
- 0.00	0.01	0.08	1.23
- 0.00	0.01	0.10	1.22
- 0.00	0.00	0.10	0.12
- 0.00	0.00	0.10	0.12
- 0.00	- 0.01	0.09	- 0.99
- 0.00	0.00	0.09	0.12
- 0.00	0.01	0.10	1.23
- 0.00	0.00	0.10	0.13
- 0.00	0.00	0.10	0.10
- 0.00	0.00	0.11	0.09
- 0.00	0.01	0.12	1.21
- 0.00	0.00	0.12	0.11
- 0.00	0.01	0.13	1.21
- 0.00	0.00	0.14	0.12
- 0.00	0.03	0.16	2.33
- 0.00	0.05	0.21	4.36
- 0.00	0.02	0.23	2.11
- 0.00	0.07	0.30	6.02
			27.00

Source : Research Findings

Table 5.1 Housing Finance Company Ltd share prices from 16/09/2009-16/11/2009

DATES	DAYS	SHARE PRICES	nse returns	NSE 20	
16/09/2009	-25	25.75		3,080.00	
17/09/2009	-24	25.75	0.00	3,064.42	-0.01
18/09/2009	-23	26.25	0.02	3,045.78	-0.01
22/09/2009	-22	26.00	-0.01	3,037.87	0.00
23/09/2009	-21	25.75	-0.01	3,040.10	0.00
24/09/2009	-20	26.00	0.01	3,040.69	0.00
25/09/2009	-19	26.50	0.02	3,046.04	0.00
28/09/2009	-18	26.75	0.01	3,023.03	-0.01
29/09/2009	-17	26.75	0.00	3,015.72	0.00
30/09/2009	-16	26.50	-0.01	3,005.41	0.00
<b>02/10/2009</b>	<b>-15</b>	<b>26.75</b>	<b>0.01</b>	<b>3,022.33</b>	<b>0.01</b>
05/10/2009	-14	26.75	0.00	3,121.69	0.03
06/10/2009	-13	26.75	0.00	3,020.62	-0.03
07/10/2009	-12	27.00	0.01	2,986.83	-0.01
08/10/2009	-11	27.00	0.00	2,987.20	0.00
09/10/2009	-10	27.00	0.00	2,983.38	0.00
12/10/2009	-9	27.25	0.01	2,961.01	-0.01
13/10/2009	-8	27.75	0.02	2,676.80	-0.10
14/10/2009	-7	28.75	0.04	2,969.15	0.11
15/10/2009	-6	30.25	0.05	3,001.21	0.01
16/10/2009	-5	31.50	0.04	3,031.79	0.01
19/10/2009	-4	29.50	-0.06	3,042.42	0.00
21/10/2009	-3	29.50	0.00	3,031.10	0.00
22/10/2009	-2	29.50	0.00	3,049.99	0.01
23/10/2009	-1	29.00	-0.02	3,044.44	0.00
<b>26/10/2009</b>	<b>Day 0</b>	<b>29.50</b>	<b>0.02</b>	<b>3,057.23</b>	<b>0.00</b>
27/10/2009	1	29.75	0.01	3,043.22	0.00
28/10/2009	2	29.50	-0.01	3,047.87	0.00
29/10/2009	3	28.75	-0.03	3,066.01	0.01
30/10/2009	4	26.75	-0.07	3,083.63	0.01
02/11/2009	5	28.50	0.07	3,082.92	0.00

03/11/2009	6	28.00	-0.02	3,081.07	0.00
04/11/2009	7	27.75	-0.01	3,076.44	0.00
05/11/2009	8	27.00	-0.03	3,077.11	0.00
06/11/2009	9	26.75	-0.01	3,089.44	0.00
09/11/2009	10	27.00	0.01	3,082.36	0.00
10/11/2009	11	27.25	0.01	3,094.13	0.00
11/11/2009	12	27.50	0.01	3,114.53	0.01
12/11/2009	13	27.25	-0.01	3,131.47	0.01
13/11/2009	14	27.00	-0.01	3,136.89	0.00
<b>16/11/2009</b>	<b>15</b>	<b>27.00</b>	<b>0.00</b>	<b>3,142.30</b>	<b>0.00</b>

Source : Research Findings

Table 5.2 Housing Finance Company Limited [E]R, AR, CAR and AR t-test statistic

ER	AR	CAR	T-TEST
0.000745	0.01	0.01	0.693829
-0.00745	0.01	0.02	0.595185
0.012182	-0.01	0.01	-0.97272
0.005805	0.00	0.01	0.282719
0.002402	0.00	0.01	-0.19178
0.002824	0.00	0.00	-0.22548
0.004695	0.00	0.01	0.364432
0.031322	-0.01	0.00	-1.03595
-0.03043	0.07	0.06	5.307046
-0.00081	0.05	0.11	4.230824
-0.00063	0.04	0.16	3.349695
0.001384	-0.06	0.09	-5.1804
0.003559	0.00	0.09	-0.28416
0.000564	0.00	0.09	-0.04501
0.002987	-0.02	0.07	-1.59188
0.001175	0.02	0.08	1.282927
0.003818	0.00	0.09	0.371833
0.001979	-0.01	0.08	-0.82906

0.000648	-0.03	0.05	-2.08185
0.00071	-0.07	-0.02	-5.61151
0.002508	0.06	0.04	5.023595
0.00262	-0.02	0.02	-1.61007
0.002891	-0.01	0.01	-0.94382
0.002373	-0.03	-0.02	-2.34765
0.001233	-0.01	-0.03	-0.83783
0.003129	0.01	-0.02	0.496447
0.00129	0.01	-0.01	0.636355
0.000455	0.01	0.00	0.696242
0.000802	-0.01	-0.01	-0.78998
0.001918	-0.01	-0.03	-0.88574
0.00192	0.00	-0.03	-0.15332
			-2.13378

Source : Research Findings