THE IMPACT OF BONUS ISSUE ON SHARE PRICES OF COMPANIES QUOTED IN NAIROBI SECURITIES EXCHANGE

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Declaration

This research project is my original work and has not been submitted in any other university for a degree award.

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I confirm that the research project was carried out by the candidate under my supervision.

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Dedication

I dedicate this research project to God and my family who have provided me with strength, finances and emotional support to accomplish it.
Acknowledgement

First and foremost my gratitude goes to God who has enabled me this far. I wish to thank Him for His immense Grace and Mercy in seeing me through this programme. Secondly, special thanks go to my research project supervisor Dr. J.0 Aduda for providing unlimited, invaluable and active guidance throughout the study. His constructive support helped shape up this project to the product it is now. I also wish to appreciate the efforts of the moderator Mr. Mirrie Mwangi for his efforts that ensured the progress of this project to its final end.

Thirdly, I owe my gratitude to a great pool of people who in one way or another made contributions towards completion of this project. I acknowledge the great work done by my course lecturers, my family and friends to shape me to who I am. They imparted in me a great wealth of knowledge which has helped shape this project. It is empirically impossible to mention all the persons who made this project a success.
Abstract

This study intended to examine the impact of bonus issue on share prices in order to test the semi strong form of market efficiency. Event study methodology was employed in this study. The question of whether the announcement of issuance of bonus shares by quoted companies is news to stock market participants or it is anticipated by the market has been the subject of research. If the announcement is anticipated, then stock prices should not change drastically during the days surrounding the announcement date.

The study made use of daily adjusted prices for sample stocks for the event window of 29 days consisting of 14 days before and 15 days after the event date. The population of interest comprises of 62 listed companies in the NSE since these are companies that have met the listing requirements. There are a total of 21 bonus issues between the years 2009 to 2012. A sample of fourteen bonus issues in the period between years 2009 to 2012 were used.

The student t-test statistic was employed to test the significance of the average abnormal returns and cumulative average abnormal returns from zero. It is possible to profit from bonus share announcement when the abnormal or abnormal returns are significant from zero. The results of t tests on the average abnormal return (AAR) and the cumulative average abnormal return (CAAR) indicated that abnormal returns were significantly different from zero which implied that implied that there is an anomaly in the semi-strong form efficiency of the NSE with regards to bonus announcements as it is possible to profit from such announcements which is regarded as news by NSE investors.
# Table of Contents

Declaration .................................................................................................................................................. i  

Dedication ................................................................................................................................................ ii  

Acknowledgement ................................................................................................................................... iii  

Abstract .................................................................................................................................................... iv  

CHAPTER ONE: INTRODUCTION ............................................................................................................... 1  

1.1 Background of the Study .................................................................................................................... 1  

1.1.3 Nairobi Securities Exchange ........................................................................................................ 5  

1.2 Research Problem ................................................................................................................................ 7  

CHAPTER TWO: LITERATURE REVIEW ................................................................................................... 10  

2.1 Introduction ......................................................................................................................................... 10  

2.2 Review of Theories ........................................................................................................................... 10  

2.3 Review of Empirical Studies .............................................................................................................. 22  

2.4 Chapter Summary ............................................................................................................................... 28  

CHAPTER THREE: RESEARCH METHODOLOGY .................................................................................... 29  

3.1 Introduction ......................................................................................................................................... 29  

3.2 Research Design ............................................................................................................................... 29  

3.4.1 Sampling Techniques and Procedure .......................................................................................... 30  

3.4.2 Sample Size .................................................................................................................................. 31  

3.5 Data Collection .................................................................................................................................. 31
CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Event study analyses are typically used for two different purposes: as a test of semi-strong form market efficiency; and assuming that the market efficiency hypothesis holds, as a tool for examining the impact of some event on the wealth of firms’ shareholders. This study provides an initial investigation of the stock price behavior in reaction to the announcement of bonus issues using event study techniques.

An efficient market can be categorized as the market in which stock prices incorporate and reflect all available information whether it is past or present. This implies that in an efficient market, prices follow a random walk model. As the information is easily accessible to all, there is no scope for anyone to earn abnormal return. The efficiency of a security market is subject to a host of factors. These include the goodwill of the issuer company, the characteristics of the security to be traded, the characteristics of the market where the securities are to be traded, and the level of technology to be used by analysts for scrutinizing the information regarding trading costs.

1.1.1 Bonus Issue

The term bonus means extra dividend paid to shareholders in a joint stock company from surplus profits. It is a free share of stock given to existing shareholders in a company, based upon the number of shares the shareholder already owns at the time of announcement of bonus. In other words, bonus shares are issued by a company when it
intends to pay dividend by issuing shares. Bonus shares are declared when company has sufficient profit to declare dividend but either does not possess cash to pay it or does not want to part with it in order to implement some capital expenditure plans. Thus, bonus shares result in the capitalization of profit of the company.

The capital structure of a firm changes when bonus shares are issued as the retained earnings decline after funds are transferred to issued paid in capital of common stocks a concept referred to as capitalization of reserves which prevents cash from leaving the firm to shareholders in the form of cash dividends (Pike, 2009). The paid in capital composed of the par value of the issued stocks is not legally distributable subsequently, a bonus issue results in reduction of distributable reserves as a result of the capitalization (Adaoglu and Lasfer, 2008).

There are several hypotheses that have been advanced regarding dividend announcements including the signaling hypothesis which advocates that company managers possess asymmetric information about bonus announcements and subsequently they may wish to convey such information to investors about the future prospects of the firm (Copeland, 2005). Cash substitution hypothesis advocates that firms can retain cash through issuance of bonus stocks as a temporary substitute for cash dividends (Mishra, 2005).

Enhanced liquidity hypothesis advocates for improvement of the liquidity and marketability of a firm’s stocks and reduction of the bid ask spread through the
issuance of bonus shares. The attention getting or neglected firm hypothesis postulates that some managers may be of the opinion that the value of the firm’s stock may be undervalued and may use the bonus issuance to draw the attention of analysts to the firm’s future cash flows for the purpose of revaluation of the firm’s stock (Adaoglu and Lasfer, 2008). The retained earnings hypothesis advocates that distribution of stock dividends that result in reduction of retained earnings is a more credible signal of managerial optimism than the alternative distribution that do not involve reduction of retained earnings (Lobo et al, 2001).

As per the signaling hypothesis, the declaration of bonus issues conveys favorable private information about the future earnings to the investors. Managers have superior information about the future earnings, because there may be asymmetric information between managers and investors. Bonus issues should credibly signal such information if it is costly for firms without favorable information to imitate. Ball et al. (1977) investigated share price reaction around the announcement of 'share capitalization changes' (bonus share issues, share splits and rights issues) in Australia, for the period from 1960 to 1969, using monthly data. They did not provide any statistically significant evidence of price reaction during the announcement period. According to the Efficient Market Hypothesis, if the stock prices reflect the announcement of public information instantaneously and without bias, the market should be classified as semi strong form efficient (Fama 1970).
Doran and Nachtmann (1988) examined a sample of 879 firms which issued stock dividends and 898 firms that announced stock splits between 1971 and 1982. Their examination of analyst's earnings forecasts found that immediately after the announcement of a stock dividend there was a significant positive revision in earnings expectations. Ghosh and Woolridge (1988) found that negative share price reaction to dividend cuts and omissions could be offset or lessened by an announcement of a stock dividend as a substitute. These findings lend support to the cash substitution hypothesis which suggests that firms can conserve cash by issuing a stock dividend as a temporary substitute for an existing or contemplated cash dividend. Banker et al. (1993) investigated the cash substitution hypothesis by examining the market reaction to firms who announced they were discontinuing cash dividends, but maintaining an existing level of stock dividends. They found a positive (although statistically insignificant) abnormal return following these announcements. Banker et al. (1993) also found that firms announcing that they were discontinuing cash dividends experienced significantly negative share price reactions, supporting the cash substitution hypothesis.

1.1.2 Share Prices

According to the Efficient Market Hypothesis, if the stock prices reflect the announcement of public information instantaneously and without bias, the market should be classified as semi strong form efficient (Fama 1970). As the information is easily accessible to all, there is no scope for anyone to earn abnormal return. The efficiency of a security market is subject to a host of factors. These include the goodwill of the issuer company, the characteristics of the security to be traded, the
characteristics of the market where the securities are to be traded, and the level of technology to be used by analysts for scrutinizing the information regarding trading costs among others.

A number of factors determine stock prices, such as dividend policy, stock splits, bonus issues and Macro Environmental factors. Dividend policy determines the division of earnings between payments to stockholders and reinvestments in the firm. Dividend policies are the regulations and guidelines that firms develop and implement as means of splitting their earnings between distributing to their shareholders and the retained earnings. The main aim of dividend policy is shareholder’s wealth maximization. Dividend is the distribution of firm’s value to shareholders (Tajirian 1997).

1.1.3 Nairobi Securities Exchange

In 1954 the Nairobi Stock Exchange was then constituted as a voluntary association of stockbrokers registered under the Societies Act. Since Africans and Asians were not permitted to trade in securities, until after the attainment of independence in 1963, the business of dealing in shares was confined to the resident European community. At the dawn of independence, stock market activity slumped, due to uncertainty about the future of independent Kenya.

The Nairobi Securities Exchange comprises approximately 62 listed companies with a daily trading volume of over USD 5 million and a total market capitalization of approximately USD 15 billion. Aside from equities, Government and corporate bonds are also traded on the Nairobi Securities Exchange. Automated bond trading started in
November 2009 with the KES 25 billion KenGen bond. Average bond daily trading is USD 60m. Trading hours are from 09:00 to 15:00. Delivery and settlement is done scripless via an electronic Central Depository System (CDS) which was installed in 2005. The Nairobi Securities Exchange in 2006 introduced an Automated Trading System (ATS) which ensures that orders are matched automatically and are executed on a first come/first serve basis. The ATS has now been linked to the Central Bank of Kenya and the CDS thereby allowing electronic trading of Government bonds.

Short selling and same day turn-around trades are not permitted. Aggregate foreign ownership limit of NSE listed companies is 75%. Almost all NSE listed companies are open to additional foreign investment, including multinational subsidiaries. There are no foreign exchange controls in Kenya and also no capital gains tax. Dividend withholding tax for foreigners is a final 10%.

In July 2011, the Nairobi Stock Exchange Limited changed its name to the Nairobi Securities Exchange Limited. The change of name reflected the strategic plan of the Nairobi Securities Exchange to evolve into a full service securities exchange which supports trading, clearing and settlement of equities, debt, derivatives and other associated instruments. In the same year, the equity settlement cycle moved from the previous T+4 settlement cycles to the T+3 settlement cycle. This allowed investors who sell their shares, to get their money three (3) days after the sale of their shares. The buyers of these shares will have their CDS accounts credited with the shares, in the same time.
In September 2011 the Nairobi Securities Exchange converted from a company limited by guarantee to a company limited by shares and adopted a new Memorandum and Articles of Association reflecting the change. In October 2011, the Broker Back Office commenced operations. The system has the capability to facilitate internet trading which improved the integrity of the Exchange trading systems and facilitates greater access to our securities market. In November 2011 the FTSE NSE Kenya 15 and FTSE NSE Kenya 25 Indices were launched. The launch of the indices was the result of an extensive market consultation process with local asset owners and fund managers and reflects the growing interest in new domestic investment and diversification opportunities in the East African region.

1.2 Research Problem

Magnusson and Wydick (2005) studied efficiency of African stock markets and in their methodology they analyzed weak form efficiency into 3 levels of random walk III which was the least limiting and postulated that it was not possible to use past prices to predict future prices and that the price movements should have uncorrelated increments that can be tested using partial auto-correlation function of random increments of past prices which can be tested for significance from zero which is the normal if the market is efficient in the weak form. Random walk II level imply compliance with random walk III and an additional test to ascertain the correlation of squared incremental changes which if not significantly different from zero, then random walk II requirements will have been fulfilled implying that variances can change over time (heteroscedasticity) but in an unpredictable manner. The random walk I was the most
restrictive and required white test of heteroscedasticity. The results indicated that none of the African stock markets conformed to random walk I and only the US markets met its requirements. The NSE, and 5 other African markets conformed to random walk II just like markets in south East Asia and Europe. This implied that even African markets were not inferior to those in other parts of the world.

Many researches’ have been made on testing the semi-strong form of EMH of NSE in the context of event announcement like dividend, stock split and seasonal effects. Olowe (1998) carried out a research on dividend announcement and firm value to test the semi-strong form efficiency of the NSE using the event study approach. Kuria (2010) carried out a research on the Seasonal Effects on the Stock Markets Trends Anomalies. Simbovo (2006) carried out a research on the effects of stock splits and large stock dividends in the Kenyan stock market. Musau (2007) carried out a research “Stock Splits: The Hidden Flaws”. Aduda and Chemarum (April 2010) Examined the effect of stock splits at the Nairobi Stock Exchange and found that there are indeed positive cumulative abnormal return across the different event windows.

None of the study reviewed by the Researchers is in context to the impact of bonus issue on share prices. Research on semi form market efficiency in the NSE has not been exhaustively explored and it is for this reason that I decided to carry out this research.
1.3 **Research Objective**

The objective of this study is to investigate the impact of bonus issues on share prices.

1.4 **Research Hypothesis**

H0: Average Abnormal Returns (AAR) from bonus announcement = 0

H1: Average Abnormal Returns (AAR) from bonus announcement ≠ 0

1.5 **Value of the Study**

This study is significant to all the stakeholders in the securities exchange market. These include investors, managers, stockbrokers and even the scholars. The beneficiaries need is to understand the impact of bonus issue on stock prices.

Investors in stock exchange market are interested in maximizing their returns and wealth. This study examines whether bonus issue announcements would lead to increase in share prices or not. It will enable investors make decisions on weather to give bonuses or not. Managers will be able to make wise investment decisions on increasing investor’s wealth and returns based on this research.

Stockbrokers would like to maximize their returns. This study will help them make decision on whether to purchase more shares or fewer shares when bonus shares are announced. Scholars can use this study as a basis of future research.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter will vividly explain issues surrounding leadership styles in organizations. This will be from perspective of the existing past studies carried out in almost similar areas and various theoretical factors proposed by different scholars and theorists in the area of leadership. This makes it easier for they raise the gaps the other scholars have not addressed and therefore addressing them.

2.2 Review of Theories

2.2.1 Efficient Market Hypothesis

There are three forms of stock market efficiency including efficiency in the weak form, semi-strong form and strong form. Efficiency in the weak form implies the stock prices occur in a random fashion where current prices are independent of past prices and the use of past information in the form of pattern or trend analysis should not generate abnormal returns unless there is an anomaly. Efficiency in the semi-strong form implies that current stock prices fully reflect both publicly released and past information and any attempt to use such information should not generate abnormal profits unless there is an anomaly. Efficiency in the strong form implies that the use of private or public or past information should not outperform the average performance of other investors as all such information is fully incorporated in the current stock prices (Copeland, 2005).
News by definition is unpredictable and random in markets deemed to be efficient and hence uniformed investors buying a diversified portfolio at the prices given by the market should obtain the same rate of return as by the experts (Bodie et al, 2010). If the flow of information is unimpeded, then it should immediately be reflected in the current stock prices so that a future period’s price change will only reflect news about that future period and will be independent of the past stock prices (Malkiel, 2003).

The intense competition causes to new information being instantaneously reflected in stock prices which makes it difficult for any participant to possess comparative advantage in the acquisition of information that can outperform the market by generation of abnormal returns, which is an aspect that enhances stock market efficiency (Cuthbertson, 2005). New information is in the form of news, announcements, expectations, opinions, stories, and even lack of news which should be continuously incorporated in stock prices if the market is deemed to be efficient (Stefan, 2009). Thus profiting from bonus announcements which are expected to already be incorporated in stock prices would constitute an anomaly in the NSE which is expected to be efficient.

**2.2.2 Random walk Model**

The central idea behind the random walk theory is that the randomness of stock prices renders attempts to find price patterns or take advantage of new information futile. The theory claims that day-to-day stock prices are independent of each other, meaning that momentum does not generally exist and calculations of past earnings growth does not predict future growth. The random walk theory also states that all methods of
predicting stock prices are futile in the long run. Malkiel calls the notion of intrinsic value undependable because it relies on subjective estimates of future earnings using factors like expected growth rates, expected dividend payouts, estimated risk, and interest rates. The random walk theory also considers technical analysis undependable because, according to Malkiel, chartists buy only after price trends are established and sell only after price trends are broken; essentially, the chartists buy or sell too late and miss the boat. According to the theory, this happens because stock prices already reflect the information by the time the analyst moves on the stock. Malkiel also notes that the widespread use of technical analysis reduces the advantages of the approach.

Further, Malkiel finds fundamental analysis flawed because analysts often collect bad or useless information and then poorly or incorrectly interpret that information when predicting stock values. Factors outside of a company or its industry may affect a stock price, rendering further the fundamental analysis irrelevant.

There are two forms of the random walk theory. In both forms, the rapid incorporation of information is disadvantageous for investors and analysts. The semi-strong form states that public information will not help an investor or analyst select undervalued securities because the market has already incorporated the information into the stock price. The strong form states that no information, public or private, will benefit an investor or analyst because even inside information is reflected in the current stock price. Malkiel acknowledges some statistical anomalies pointing to some exceptions to the random walk theory: For example, Prices of small, less liquid stocks seem to have some serial price correlation in the short-term because they do not incorporate
information into their prices as quickly; Contrarian strategies tend to outperform other strategies because reversals are often based on economic facts rather than investor psychology; There are seasonal trends in the stock market, especially at the beginning of the year and the end of the week; Stocks with low P/E ratios tend to outperform those with high P/Es, although the tendency is volatile over time; and high-dividend stocks tend to provide higher returns over time because during down markets the high dividend yields often create demand for these stocks and thus increases the price.

The random walk theory proclaims that it is impossible to consistently outperform the market, particularly in the short-term, because it is impossible to predict stock prices. This may be controversial, but by far the most controversial aspect of the theory is its claim that analysts and professional advisors add little or no value to portfolios. As Malkiel put it, Investment advisory services, earnings predictions, and complicated chart patterns are useless. Taken to its logical extreme, it means that a blindfolded monkey throwing darts at a newspaper's financial pages could select a portfolio that would do just as well as one carefully selected by the experts.

Malkiel and the random walk theory provide considerable support to the intimidated individual investor, but Malkiel in particular encourages investors to understand the theories and investment methods that the random walk theory challenges. Malkiel therefore advocates a buy-and-hold investment strategy as the best way to maximize returns.
2.2.3 Behavioral Finance Theory

Behavioral finance is descriptive since it tries to explain the decision making of observed investors. It employs some combination of traditional finance and psychological biases when making investment decisions. Rather than describe how investors should make decisions, it attempts to explain why they make decisions they make. There are several behavioral factors that attempt to explain the behavior of individuals and markets and their implication for portfolio construction.

Consumption and saving—traditional finance assumes investors make conscious decisions to save and consume in a pattern that meets both their short and long term goals. Shefrin and Thaler (1988) propose an alternative theory incorporating behavioral finance assumptions. According to this behavioral life cycle model, individuals are subject to framing, self control bias and mental accounting so they may not achieve the optimal balance of short term consumption and long term investing.

Framing refers to the way a question is asked or the way it is presented and can affect the way individuals perceive a choice and view its alternatives.

Self control refers to an individual’s ability to think rationally when making consumption /saving decisions. For example, rather than consume all wealth and maximize current utility the rational individual will exhibit self control and save a portion of his current income to meet future goals. Self control is simply individual tendency to place much greater value on current consumption than on future goals.
Mental accounting refers to individual tendencies to mentally place goals into different files. They then assign different portions of their wealth to meet the different goals. This ignores the fact that wealth is fungible which means it is interchangeable.

Classifying wealth-the behavioral life cycle model assumes individuals classify their wealth as current income, currently owned assets or present value of future income. Classifying wealth this way has implications for how or when it is consumed. For example, marginal propensity to consume is greatest with current income. How an individual classifies wealth affects the individual consumption and saving decisions. For example, if wealth is classified as current income, the individual is more likely to meet current spending needs and desires. Any current income over current spending is saved and becomes currently owned assets. Once classified as currently owned assets, the individuals is less likely to spend it. Individuals are least likely to spend out of wealth classified as future income.

Behavioral asset pricing- traditional asset pricing models assume market prices are determined through an unbiased analysis of risk and return. The intrinsic value of an asset is its expected cash flow discounted at a required return based on the risk free rate and fundamental risk premium. The behavioral asset pricing model adds a sentiment premium to the discount rate the required return on an asset is the risk free rate plus fundamental risk premium plus sentiment premium. Sentiment premium can be estimated by considering analysts forecasts. The greater the dispersion of analyst forecasts the greater the sentiment premium, the higher the discount rate and the lower the perceived value of the asset.
Behavioral portfolio theory- It is based on empirical evidence and observation, rather than hold well diversified portfolio as prescribed by traditional finance, individuals tend to hold a combination of nearly riskless assets and considerably riskier assets. Behavioral portfolio theory shows how investors structure their portfolios in layers according to their goals. The implication is that investors seek a minimum poison (safety net). After achieving it they allocate to risky assets. The composition of each layer of the portfolio is determined by interaction of five factors.

The market hypothesis (AMH) The AMH assumes successful market participants apply heuristics until they no longer work and then adjust them accordingly. It assumes investors satisfy rather than maximize utility. Based on information they feel is sufficient they make decisions to reach sub goals, goals that advance them toward their desired goal. Therefore they do not make optimal decisions as prescribed by utility theory. AMH therefore leads to five important conclusions: Investors make decisions to help them survive rather to maximize utility, Investors must adapt to survive, because participants adapt, no investment strategy can continually outperform, Risk premiums will vary depending on investor perception of and aversion to risk and because investor’s assets can be temporarily mispriced, active management is allowed to capture excess returns.
2.2.3.1 Barnewell Two Ways Model

It was developed in 1987 and classifies investors into only two types: passive and active. Passive investors are those who have not had to risk their own capital to gain wealth. For example, they might have gained wealth through long, steady employment and disciplined saving or through inheritance. As a result of accumulating wealth passively, they tend to be more risk averse. Active investors risk their own capital to gain wealth and make an active role in investing their own money. Active investors are much less risk averse than passive investors.

2.2.3.2 Bailard, Biehl and Kaiser Five Way Model

It was developed in 1986 and classifies investors along two dimensions according to how they approach life in general. The first dimensions confidence identifies the level of confidence usually displaced when the individuals make decisions. Confidence levels can range from confident to anxious. The second dimension method of action measures the individuals approach to decision making. Depending on whether the individual are methodical in making decisions or tends to be spontaneous method of action range from careful to impetus. Bailard, Biehl and Kaiser Five ways model categorize investors into five behavioral types which lie at different points in a grid formed by confidence/method of action.

The adventurer has the following traits: Confident and impetuous, might hold highly concentrated portfolios, willing to take chances, likes to make own decisions, unwilling to take advice, and advisors find them difficult to work with. The celebrity has the
following traits: Anxious and impetuous, might have opinions but recognizes limitations, seeks and takes advice about investing,

The individualist has the following traits: Confident and careful, likes to make own decisions after careful analysis, good to work with because they listen and process information rationally. The guardian has the following traits: Anxious and careful, concerned with future and protecting assets, may seek advice of someone they perceive as more knowledgeable than themselves

2.2.3.3 The Pompian Behavioral Model

It was developed in 2008, identifies four behavioral investors types (BITs). There are four BITs namely: Passive preserver. It is characterized as having low risk tolerance an emotional bias not willing to risk his own capital usually not financially sophisticated and possibly difficult to advise because he is driven by emotion; Friendly follower. It tends to overestimate the risk tolerance and wants to be most popular investments with little regard to market conditions or how the investment fits into her overall long term investment plan; Independent individualist- is an active investor who is willing to risk his own capital and give up security gain wealth. He has moderate to high risk tolerance and suffers from cognitive biases. He is strong willed, likes to invest, does his own research and tends to be contrarian and Active accumulator-he is an active investor with high tolerance for risk who approaches investing from emotional perspective. He is an aggressive investor who often comes from entrepreneurial
background likes to get involved in his investment. She is strong willed, confident and likes to control her investing.

The common behavioral biases can be divided into cognitive errors and emotional biases. Cognitive errors results from the inability to analyze all information or from basing decisions on incomplete information. Cognitive errors are classified as belief perseverance and information processing.

Belief perseverance biases are divided into five: Conservatism bias, Confirmation bias, Representativeness bias, Control bias and Hindsight bias. Conservatism bias: Individuals unconsciously place more emphasis on the information they used to form their original forecast than on new information. They are difficult to pull away from an original forecast as they subconsciously place less value on new information; Confirmation bias, Individuals tend to notice only information that agrees with their perception or beliefs. They look for confirming evidence while discounting or even ignoring evidence that contradicts their beliefs; Representativeness bias, Individuals classify information into subjective categories using heuristics; they place new information into the most appropriate category based on personal experience; Control bias, It is also referred as illusion of control. Individuals feel they have more control over outcomes than they actually have; Hindsight bias, Individuals perceive outcomes as reasonable and expected. It’s like saying ‘This is what happened and this is why it happened’. This leads individuals to perceive their prediction as more accurate than they actually were.
Information processing biases includes: Anchoring and adjustment. Individual seem to be anchored to a value such as expected price or other forecast as if it has gravitational pull; Mental accounting bias. Individuals place each goal and the wealth that will be used to meet each goal into a separate mental account; Framing bias. Individuals view information differently depending on the way it is received; Availability bias. Individual estimate future probabilities by how easily they recall a past event.

Emotional biases. It is caused by individual’s psychological predispositions and can affect how individuals see information and make decisions: Loss aversion bias. Individuals focus on potential gains and losses relative to risk rather than returns relative to risk; Overconfidence bias. It is also referred as illusion of knowledge. People feel they know more than they do have or better information or they are better at interpreting information; self control bias or lack of discipline. Individuals fail to balance the need for immediate (short term) satisfaction with long term goals, so their savings and consumption tend to be sub optimal; Status quo bias. It relates to individuals tendency to stay in their current allocation rather than make value enhancing changes; Endowment bias. Individuals place a greater value on asset they own than on the same asset if they don’t own it and Regret aversion bias. Regret can arise from taking or not taking action. It is error of omission or commission. For example, investor did not buy stock that soared.

Impact of Behavioral biases: The illusion of control over investment can lead to excessive trading with the accompanying cost. This can lead to lack of diversification. Investors might be slow to react to new information or may avoid the difficulties
associated with analyzing new information and simply stay with previous forecast. The result may be tendency to hold winners and losers too long. The investor has tendency to focus on positive information about an investment and ignore or dismiss anything negative. This can even lead to rejecting evidence that the screening criteria used to analyze investments are incorrect. Focusing only on the positive information about an investment can also lead to too much confidence in the investment and to overweighting in the portfolio. This results in under diversified. Overestimating the accuracy of forecast can lead investors to take too much risk. Overconfident investors tend to hold under diversified portfolio because they under estimate the downside while overestimating the upside. They may also trade excessively leading to high costs and underperformance. Lack of discipline to balance short term gratification with long term goals, individuals tend to try to make up the shortfall by assuming too much risk. Investors subject to endowment bias tend to hold assets regardless of their risk return profile. These investors stick with assets because they have become familiar and comfortable with them or they inherited them.

2.2.3.4 Behavioral Finance and Market Behavior-Financial Bubbles and Crashes

Financial bubbles and subsequent crashes are periods of unusual positive or negative returns caused by panic buying and selling, neither of which is based on economic fundamentals. The buying (selling) is driven by investors believing the price of the asset will continue to go up (down). A bubble or a crash is defined as an extended period of prices that the standard deviations from the mean. A crash is characterized by
a fall in asset price of 30% or more over a period of several months, whereas bubbles usually take much longer to form.

Typically, in bubble the initial behavior is thought to be rational as investors trade according to economic changes or expectations. Later the investors start to doubt the fundamental value of the underlying asset at which point the behavior becomes irrational. Recent bubbles were seen in technology bubble of 1999-2000.

Momentum Effect is a pattern of returns that is not correlated with recent performance. This effect is caused by investors following the lead of others which at first is not considered rational. Value vs. Growth- Fama and French (1998) found out that value stocks have low price to earning ration, high book to market values and low price to dividend ration with growth stock having the opposite characteristics. This may affect the behavior of investors to misprice stock. Home bias- It is an anomaly where investors favor investing in domestic country as compared to foreign countries. This also pertains to companies located closer to the investor. This bias can be related to perceived information advantage.

2.3 Review of Empirical Studies

The review of existing literature shows that event announcements induce changes in stock price volatility. Various events announcement such as forward ban (Goyal, 1995), political news announcements (Brooks and Graham, 2005), ADR listing (Jiang et al., 2002), Treasury bond issue announcement (Jones et. al., 1998), management forecast (Piotroski, 2000), and earnings announcement (Mohammed and Yadav, 2002) have been examined to understand the volatility dynamics in the financial market.
In the case of industry wise impact on stock return volatility, Lee and Chang (2011) employ the financial econometric models to examine the asymmetric volatility of equity returns in response to monetary policy announcements in the Taiwanese stock market. The asymmetric generalized autoregressive conditional heteroskedasticity (GARCH) model and the smooth transition autoregression with GARCH model are used to measure the equity returns' asymmetric volatility. They documented the presence of asymmetric volatility in their returns series and the leverage effect of stock price changes for most industry equity returns in Taiwan.

In the Indian context, many authors have tried to estimate the volatility over large number of years (Roy and Kamakar, 1995; Marisetty and Alayur, 2002). There is an evidence of decline in stock price volatility after events such as introduction of futures which has been examined using standard deviation methodology (Thenmozhi, 2002) and time varying volatility (Thenmozhi and Thomas, 2004). In the case of rights issue, volatility has been examined around the rights issue announcement (Masulis, 1983; Dierkens, 1991; Kothare, 1997; Marsden, 2000; and Tan et al., 2002), using variance of daily stock returns to estimate volatility around rights issue announcement.

Subrahmanyam et al., (2010) analyzed the private placements in India. They extended Myers and Majluf (1984) model by analyzing a sample of 164 preferential allotments (private placements) issued in the Indian capital markets during 2001-2009 and concluded that the announcement period returns for private placements are positive, depending on the regulatory constraints that determine the issue price, and positively related to the volatility.
Steve and Robert (2011) find evidence that stock split announcements have a greater wealth effect when the market volatility is low. This effect is driven primarily by small firms. These results support the hypothesis that when market volatility is high, signals sent by small firms are more likely to be obscured by noise than when market volatility is low.

Ormos, Mihaley (2002), empirically tested the efficiency of Hungarian Capital Market in its semi-strong and strong form. The study focused to examine whether the Hungarian Capital Market was efficient in the semi-strong form. The investigation was based on the capital market data over the period 1991 to 2000, which was analyzed by employing event study. The study concluded that strong form of efficiency of capital market does not completely hold true, thereby supporting that Hungarian Capital Market is semi-strong form efficient.

Hadi (2006), threw light on the types of Efficient Market Hypothesis. He undertook a detailed research that tested weak, semi-strong and strong forms of market efficiency. It is observed that accounting based research generally assumes that market is efficient in semi-strong form. The reason behind is that the financial reports are considered public information once they have been released in the market. He provided empirical evidence from the Jordanian market, which suggested that the security market reacted with mixed signals on releasing profitability, liquidity and solvency information.

Iqbal and Mallikarjunappa, T. (2007) tested market reaction to quarterly earnings announcement of 149 companies listed on the Bombay Stock Exchange for September 2001 by employing both parametric and nonparametric tests. It is observed that during
event window, runs test are not significant at 5% level, which signifies that abnormal returns occur randomly. On the other hand, t-test rejects the existence of abnormal returns on daily basis, which provides an opportunity to beat the market and earn abnormal returns. The study concludes that Indian stock market is not efficient in semi-strong form.

Yalama, Abdullah and Selik, Sibel (2008) investigated semi-strong form efficiency in Istanbul Stock Exchange Market (ISE-100), Foreign Exchange Market (FEM) and Inter-bank Money Market (IMM) in respect to changes in Currency and Circulation (CIC). The data consist of the daily frequency over the period 1990-2008 which was analyzed by employing Toda Yamamoto Causality method. The study concludes that there is the causality relationship running from CIC to FEM and CIC to IMM. However, there is no causality relationship running from CIC to ISE-100. This result implies that in Turkey money market is semi-strong form efficient while capital market is not.

Dhar, Satyajit and Chhaochharia, Sweta (2008) analyzed the impact of the information relating to the announcement of stock split and bonus issue on stocks listed on National Stock Exchange (NSE) by employing event study. Both the events, that is stock split and bonus issue reflect significantly positive announcement effect. For bonus issues, the abnormal return was about 1.8% and for stock splits it was about 0.8%. Thereby the study supports the view that Indian Stock Market is efficient in semi-strong form.

Pichardo, Christine and Bacon, Frank (2009), examined the effect of Lehman Brother’s Bankruptcy on the overall market by taking stock price’s risk adjusted rate of return for
15 selected brokerage firms. Statistical tests proved that the bankruptcy had a negative impact on stock price’s risk adjusted rate of return for the 15 firms, which supports the semi-strong market efficiency theory. Even after the event, bankruptcy continued to affect the market.

Amuthan R and Ayyappan S (2011), analyzed bonus issuance event announcement on Indian banking and technological sectors by focusing on the behavior of share prices of 10 listed companies to establish whether there was a significant difference between the abnormal returns of one day before and one day after the bonus announcement. The results indicated that there was a significant difference in the form of either positive or negative abnormal returns a day before and after the bonus announcement and hence they concluded that the bonus issue was a powerful event.

Vandana, Gupta (2003) , tested the semi-strong efficiency of the Indian Stock market over the period 1995 to 2000 by employing event study. He covered characteristic features of bonus issues of indian companies, the dividend effect of bonus issues and share price changes associated with bonus issues in his study. The study involved a sample of 145 bonus issues, in order to examine the announcement effects of bonus issues on equity share prices in India. The study concluded that the Indian Stock market was semi-strong form efficient.

Mishra, A.K (2005), examined the reaction of the stock price to the information content of bonus issues over the period 1998 to 2004. For the purpose of the study samples of 46 stocks listed on the NSE and BSE of India were analyzed by employing event study using 180-day event window. It was found that stocks show abnormal
return before eight or nine days of announcement, thereby supporting the evidence that Indian Stock market is efficient in its semi-strong form.

Barnes and Shiguang (2001) studied market efficiency by analyzing the response of stock prices to announcement of bonus issues in China using event study methodology. An investigation window of 20 days before and after the event was employed and 3 portfolios were constructed for the purpose of analysis categorized as small bonus portfolio consisting of 103 proposals, middle bonus portfolio consisting of 37 proposals and large bonus portfolio consisting of 56 proposals. Their results indicated that high bonus ratio as measured by the number of bonus shares over the number of existing shares will usually attract positive returns while issues with low bonus ratio attract low returns.

Darrel and Frank (2010) studied insider trading as a test of semi-strong form efficiency and were interested in establishing whether insider purchases influence stock price returns on or around the purchase date on the risk adjusted. They employed the standard event study rate of returns of firms and event window of 20 days before and after the event. The results indicated that the risk adjusted returns of firms announcing insider purchases was not significantly affected around the announcement dates as defined by the event period.

Kumar and Halageri (2011) studied the semi strong form efficiency of the Indian stock market using the event study methodology and focused on bonus issuance event from April 1996 to March 201. The event period consisted of 15 days before and after the announcement and 54 bonus announcements from listed companies were studied.
whose results indicated that the Indian stock markets did not perfectly incorporate bonus announcement information instantaneously in the stock prices. This meant that it is possible to make abnormal returns from bonus announcements by applying the buy and hold investment strategy.

2.4 Chapter Summary

The review of empirical studies revealed whether it is possible for investors to realize returns produced by the bonus shares specifically the capital gains and consequential tax effects thereof on or around the announcement date. In the case of bonus issues, no author has studied the volatility patterns around the bonus issue announcement and there is no empirical evidence to document the volatility clustering and unconditional volatility patterns around the announcement of bonus or rights issues.

The efficient market hypothesis is associated with the idea of a random walk, which is a term used to characterize a price series where all subsequent price changes represent random departures from previous prices. A variety of factors addressed in the studies related to share price volatility including various macro-economic variables. The study will therefore assess whether there is an impact of bonus issues on share prices in the NSE.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research design and research methodology used in the study. This is organized in sections under subheadings containing research design, target population, sampling for the study, data collection instruments and procedure and finally the presentation methods adopted in the study.

3.2 Research Design

The research was carried out as an event study. Serra (2002) notes that coupled with the notion that the information is readily impounded into prices, the concept of abnormal returns is the central key of event study methods. The study made use of the stock market data to measure the impact of bonus issue on share prices firms over the period of study.

The study made use of daily adjusted prices for sample stocks for the event window of 29 days consisting of 14 days before and 15 days after the event date. This period of days is believed to be adequately lengthy for the estimation of the normal return of the model with better accuracy, and it was considered long enough to cover the effects of the bonus issue. The time for the event study will then be determined as \( t = -14 \) to \( t = +15 \) relative to the event date \( t = 0 \). The estimation window will taken as \( t_0 = -14 \) to \( t_1 = -1 \), while the post-event window was taken as \( t_2 = +1 \) to \( t_3 = +29 \) relative to the event day \( t = 0 \).
3.3 Target Population

There are currently 62 listed companies in the NSE. A population can be defined as including all people or items with the characteristic one wish to understand (Newman, 2008). The population of interest comprises of 62 listed companies in the NSE since these are companies that have met the listing requirements. In total, there are only 21 bonus issues between the periods 2009 to 2012.

3.4 Sample Design

The researcher ensured a high degree of correspondence between the sampling frame and the sample population as the accuracy of the sample will depend, first and foremost, on the sampling frame. Further, Patton (2002) argued that the sample size depends on what one wants to know, the purpose of the inquiry, what is at stake, what will be useful, what will have credibility and what can be done with available time and resources.

3.4.1 Sampling Techniques and Procedure

A census study was done, drawn from companies listed in the Nairobi Stock Exchange and which had issued Bonus shares in the period 2009 to 2012. This period is selected because it will give the most current trend of investor reactions.
3.4.2 Sample Size

A sample of fourteen bonus issues out of a total of 21 between years 2009 to 2012 was used in this study. This was more than 30% of the total population. According to Patton (2002) a sample of 30% is representative of the total population.

3.5 Data Collection

Secondary data was collected for the study. The study made use of the NSE stock data and handbooks for the periods under study to establish the effects of bonus issue that had occurred. Other information was collected from sources such as the financial statements of the companies surveyed, the Nairobi Stock Exchange’s daily closing prices and volumes, and from the companies’ websites. Internal secondary sources from within the companies were also used, including the companies accounting records, financial records and audited annual reports.

3.6 Data Analysis and Presentation

The data was recorded and entered into the computer using the Statistical Package for Social Sciences (SPSS) for analysis. Data was presented in the form of tables and graphs that facilitates description and explanation of the study findings.

In order to carry out an event study, the event date, event window and the estimated window should be determined. The event date in this study is the date of announcement of bonus issues by a sample of firms. The event window is taken as \( t = -14 \) to \( t = +15 \) relative to event day \( t= 0 \) (date of announcement of bonus) and return on market portfolio.
Return on security x in period t is given by:

Arithmetic Returns ($R_{xt}$) = ($P_1 - P_0$) / $P_0$………………………………………eq.1

Where: $P_1$ = today’s closing stock price and $P_0$ = yesterday’s closing stock price

A regression analysis was carried out using the actual daily return of each company as the dependent variable and the corresponding NSE 20 share index daily return as the independent variable over the pre-event period of 30 days prior to the event period of 14 days before and 15 days after the bonus announcements. This was done with the objective of obtaining the intercept alpha and the standardized coefficient beta.

In order to obtain the predicted or estimated returns for each day of the event period from day -14 to +15, the risk-adjusted market model was employed:

Estimated Return = Alpha + Beta * ($R_{m,t}$)

$E(R) = \alpha_x + \beta_x \ (R_{m,t})$………………………………………………………………eq.2

Where:

$\alpha_x = E(R_x) - \beta_x \cdot E(R_{m,t})$…………………………………………………..eq.3

$\beta_x = \text{Cov}(R_{xt}, R_{m,t}) / \text{Var}(R_{m,t})$…………………………………………………..eq.4

The Abnormal return ($AR_{x,t}$) will be computed as follows:

Abnormal Return ($AR_{x,t}$) = Actual Return ($R_{x,t}$) – Estimated Return $E (R_{x,t})$

$AR_{x,t} = R_{x,t} - [ \alpha_x + \beta_x \cdot R_{m,t}]$…………………………………………………..eq.5
Average Abnormal Returns (AAR) will be calculated for each day from -14 to +15 by averaging the abnormal returns as follows:

\[
\text{Average Abnormal Return (AAR)} = \frac{\text{Total Abnormal Return}}{n}\quad\text{eq. 6}
\]

The announcement effect of stock prices is measured by the standard market model study methodology (Mackinlay, 1997). The model assumes a linear relationship between the return of market portfolio. Market model developed by Sharpe (1963) and used by Fama et al (1969), is free from the criticism of Roll (1977)

Abnormal Return of security x at time t (AR\(_{x,t}\))

\[
\text{AR}_{x,t} = R_{x,t} - [\alpha_x + \beta_x \cdot R_{m,t}]\quad\text{eq. 7}
\]

Parameters \(\alpha_x\), \(\beta_x\) determined from Ordinary Least Square regression of the event firm’s return on the index during the estimation window.

\[
R_{xt} = \alpha_x + \beta_x R_{mt} + e_{xt}\quad\text{eq. 8}
\]

Where:

- \(R_{xt}\) = the actual daily return security x at day t
- \(R_{mt}\) = the daily market return at the NSE on day t
- \(\alpha_x\) = ordinary least squares intercept; the average rate of return of stock at the market return is equal to zero i.e. \(\mathbb{E}(R_x) - \beta_x \mathbb{E}(R_{mt})\)
- \(\beta_x\) = stock sensitivity to market return i.e. \(\text{Cov}(R_{xt}, R_{mt})/\text{Var}(R_{mt})\) (the slope coefficient),
\[ e_{x,t} = \text{the error term for security } x \text{ at day } t \]

Cumulative Average Abnormal Return (CAAR) for the event period was computed as the sum of the AAR.

**Cumulative Average Abnormal Return (CAAR) = \( \Sigma \text{AAR} \) ...................... eq. 9**

Parametric test was done by employing the one sample t-test of significance of average abnormal returns from zero as follows (Serra, 2002):

**Student T-Statistic = \( \text{AAR}_0 / S(\text{AAR}_0) \) ..............................eq. 10**

Where: \( \text{AAR}_0 \) implies average abnormal return and

\( S(\text{AAR}_0) \) implies the standard deviation of average abnormal return as measured by:

\[ S(\text{AAR}_0) = \sqrt{\Sigma \left\{ \text{AAR}_{it} - (\Sigma \text{AAR}_{it}) / T \right\}^2} \] ..............................eq. 11

\[ T - d \]

Where: \( T \) is time in days

### 3.7 Validity of Research Instruments

According to Patton (2002) validity is quality attributed to proposition or measures to the degree to which they conform to established knowledge or truth. An attitude scale was considered valid, for example, to the degree to which its results conformed to other measures of possession of the attitude. Validity therefore refers to the extent to which an instrument can measure what it ought to measure. This study used secondary data from NSE, which was considered to be very reliable.
CHAPTER FOUR: ANALYSIS AND PRESENTATION OF FINDINGS

4.1 Introduction

This chapter presents the results of the study. Data was collected from secondary source, the NSE Data Bank. The study covered fourteen firms that have issued bonus shares between the periods 2009 to 2012.

4.2 Data Presentation

4.2.1 Normality Test

Tests of normality were done for the abnormal returns and they revealed the skewness test result of 0.016, and kurtosis test result of 0.273. The results of normality test were presented in table 1 shown below.

Table 1: Normality Test Results

<table>
<thead>
<tr>
<th>Statistics</th>
<th>Abnormal Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Valid 30</td>
</tr>
<tr>
<td>Missing</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>-0.020056123</td>
</tr>
<tr>
<td>Median</td>
<td>-0.009894018</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>0.0987414122</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.016</td>
</tr>
<tr>
<td>Std. Error of Skewness</td>
<td>0.427</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>0.273</td>
</tr>
<tr>
<td>Std. Error of Kurtosis</td>
<td>0.833</td>
</tr>
<tr>
<td>Minimum</td>
<td>-0.2268303</td>
</tr>
<tr>
<td>Maximum</td>
<td>0.2088979</td>
</tr>
<tr>
<td>Sum</td>
<td>-0.6016837</td>
</tr>
</tbody>
</table>
4.2.2 Test of Average Abnormal Returns (AAR)

Data on the average abnormal returns were presented in table shown in appendix 1 and plotted on graph 1 based on the average abnormal returns against the event period days. Tests were carried out as to whether the abnormal returns were deviating from zero. Analysis was done for days before and after the event announcement date to find out when the average abnormal return appear positive or negative. The AAR curve was then plotted in order to show a pattern. T-test of average abnormal returns (AAR) was done at 95% confidence interval in order to test the null hypothesis.

4.2.3 Test of Cumulative Average Abnormal Returns (CAAR)

Cumulative abnormal returns were computed and the results presented in appendix 3. The were also graphically presented in graph 3. T tests were also carried for out to test the null hypothesis and presented in table 3.

4.3 Summary and Presentation of Findings

The average abnormal returns which also represent the average alpha values or average abnormal returns were tested to determine whether they were significantly different from zero to derive conclusions about the semi strong form efficiency of the NSE (Ibbotson, 2010). This was done using descriptive statistics graphically and the parametric one sample t-test that tested the null hypothesis that the abnormal returns had a zero mean.
4.3.1 Results of Average Abnormal Returns (AAR)

The average abnormal returns were plotted on graph 1 based on the average abnormal returns expressed in percentage against the event period days. The results generally indicated visually that the abnormal returns were fluctuating mainly away from zero. After the event announcement date, other than from day 11 and day 9 when the average abnormal return appear positive, all the rest of the days during the event period exhibited negative average abnormal returns away from zero. The AAR curve generally appears to be higher before the bonus announcement date than during the period after the announcement perhaps an indicator that the market was expecting the bonus announcement to be great positive news hence the high abnormal returns and overreaction but when the announcement was made public, there was disappointment as the news was not as good as the expectations by the market hence the drop in abnormal returns and adjustment on day zero and fluctuation at lower abnormal return rates than before the bonus announcement dates as displayed in graph 1.

Graph 1 Average Abnormal Return

![Average Abnormal Return Graph](image)
Results of T-test

The results of t-test of average abnormal returns (AAR) revealed a p-value of 0.275 at 95% confidence interval as per table 2 implying that the null hypothesis of the average abnormal returns being statistically equal to zero should be rejected. This means that it is possible to make profits or abnormal returns from bonus announcement information in the NSE as the stock prices do not assimilate such information instantly but do so in a lagged manner.

Table 2: One-Sample Test

<table>
<thead>
<tr>
<th></th>
<th>Test Value = 0</th>
<th>T</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAR</td>
<td>-1.113</td>
<td>29</td>
<td>0.275</td>
<td>-0.0006915904</td>
<td>-0.001962992</td>
<td>.000579811</td>
</tr>
</tbody>
</table>

4.3.2 Results of Cumulative Average Abnormal Returns (CAAR)

Graphically the results of cumulative average abnormal returns as shown in graph 2 revealed that there was increased market activity in the form of increasing CAAR significantly from day -19 before the bonus announcement date which then declined slightly in momentum on day -15 but continued to increase up to the bonus announcement day 0. The CAAR curve then dipped briefly from day 0 to day 4 which
indicated earnings surprise that investors were the impact of the news released to be different from what was actually released.

4.2.4 Results of One Sample Student T- Test

The null hypotheses that the cumulative average abnormal returns both had a zero mean were tested using the t-test and the results as per table 3 revealed the p-values to be 0.000 which rejected the null hypotheses at all levels of significance and meant that cumulative average abnormal returns was significantly different from zero.

<table>
<thead>
<tr>
<th>CAAR</th>
<th>-1.925</th>
<th>29</th>
<th>0.064</th>
<th>-0.0030938243</th>
<th>-0.006381326</th>
<th>0.000193677</th>
</tr>
</thead>
</table>

![Graph showing CAAR over time](image)
There is also an anomaly regarding the semi-strong form efficiency status of the NSE and it is possible for investors to profit on bonus share announcement events of the listed companies as evidenced by the positive CAAR which is consistent with earlier studies done by Olweny (2011) and Aduda and Chemarum (2010) that studied dividend announcement and stock splits respectively in the NSE using an event study methodology.
CHAPTER FIVE: SUMMARY CONCLUSIONS AND
RECOMMENDATION

5.1 Introduction

This chapter gives the researcher point of view and the expertise advice about the subject of study based on the findings. This is presented in form of summary of findings, conclusions, and it also discusses limitations in this study and areas that require further research.

5.2 Summary of Findings

Normality test results as per table 1 revealed skewness of 0.016, Kurtosis of 0.273 which all indicated that the abnormal returns data is fairly normally distributed and subsequently the t-test a parametric test is relevant to the research. Normality of distribution also suggests that sample test results can be inferred to the population (Mugenda and Mugenda, 2003).

The rise of the CAAR curve from date – 10 up to day zero in graph 3, implied that the period before the bonus announcement date was an indicator of anticipated bonus news by investors who from past experience expect that bonus shares which is deemed as positive news, will be issued by the company during some given expected dates (Chuvakhin, 2011). As per past studies, there should be a direct relationship between positive and negative news events and the sign of the abnormal or abnormal returns whether positive or negative (Offenberg and Officer, 2010). On the bonus announcement day 0 up to day 15, the CAAR curve in graph 3 dipped instead of increasing which indicated the earnings surprise phenomenon where investors may
have realized that the bonus issued was not so attractive after all, contrary to what they initially anticipated hence the market correction.

The continued decrease in CAAR after the bonus announcement date in graph 3 indicated that the investors appeared to receive the bonus information as an opportunity not to invest in the companies due to perceived loss in the future from their investment which is consistent with the signaling hypothesis (Copeland, 2005). In stock markets that are regarded as efficient, the rise in the CAAR curve should stabilize on the date of the bonus event announcement rather than continue rising thereafter which occurs when there is an anomaly in the efficiency of a stock market with regard to the issuance of bonus shares that can lead to profit making opportunities for investors (Chuvakhin, 2011). As per the graph 3, the CAAR curve continued to decline at a significant rate even after the date of bonus announcement which indicates efficiency of the NSE in the semi strong form with regard to issue of bonus shares by the listed companies.

5.2 Conclusions

The results of the study reveals that the market overreacts in anticipation of the bonus announcement but corrects itself after the bonus news has been released which may not be as promising or profitable as initially expected. There is also an anomaly regarding the semi-strong form efficiency status of the NSE and it is possible for investors to profit on bonus share announcement events of the listed companies as evidenced by the positive CAAR which is consistent with earlier studies done by Olweny (2011) and
Aduda and Chemarum (2010) that studied dividend announcement and stock splits respectively in the NSE using an event study methodology.

5.3 Policy Recommendations

The study recommends that the finance managers of various listed firms on the NSE take cognizance of the findings in this study as a starting point to understand factors that influence price volatility of traded securities.

It further shows that trading volume does not explain major variations in the changes in securities prices at the NSE. Finance managers with the need to achieve the wealth maximization objective should look at other factors that might influence the share price volatility other than traded volume of shares. Although there are many empirical studies on the volatility-volume relation, there is still no general consensus about what actually drives the relation and this should be a concern for the Finance managers of listed companies.

The study also recommends to the investors not to concentrate on monitoring traded volumes before making an investment decision at the NSE as this does not significantly signal capital gain.

5.4 Limitations of Study

The study had various limitations, first the study relies on averages of the five years; averages are subject to the effect of extremes that may not give a clear picture of the possible outcomes.
The limited time and resources was partially the reason for the dependence on the averages.

Secondly, only 14 companies are studied during the five year period. Although this represents the different sectors, a clearer picture would still be established if all listed companies are studied. Lastly, changes in the price of shares are a function of many factors including key macro economic variables. This study therefore only gives a partial analysis.

5.5 Suggestions for Further Studies

The study of similar nature should be carried out using different methodology so as to find out if the findings of this hold. Primary data should also used by administering a questionnaire in order to find first hand information. The use of secondary data only does not reveal all the information in stock markets especially the non financial aspects.

Further studies should also examine the magnitude or percentage of bonus issue and its impact on share prices. This will help show how share prices react to different proportions of bonus percentages

The researcher should examine the days carefully when conducting a study of similar nature. Certain days of the week may present anomalies in the market. Further the event window should be increased for further studies. I would recommend 100 days in order to reduce degree of error
This study generalized the findings from all the sectors and it raises the question of whether the findings could hold for each sector and each company. Different companies experience different reactions due changes in stock prices. A study of a similar nature should therefore be carried out to specifically find out the nature of the relationship for each company and not a market as a whole as addressed in this study. That will present more findings
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46


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APPENDIX 1: LISTED COMPANIES IN NSE

AGRICULTURAL

1. Eaagads Ltd
2. Kapchorua Tea Co. Ltd
4. Limuru Tea Co. Ltd
5. Rea Vipingo Plantations Ltd
6. Sasini Ltd
7. Williamson Tea Kenya Ltd

COMMERCIAL AND SERVICES

8. Express Ltd
9. Kenya Airways Ltd
10. Nation Media Group
11. Standard Group Ltd
12. TPS Eastern Africa (Serena) Ltd
13. Scangroup Ltd
14. Uchumi Supermarket Ltd
15. Hutchings Biemer Ltd
16. Longhorn Kenya Ltd

TELECOMMUNICATION AND TECHNOLOGY

17. AccessKenya Group Ltd
18. Safaricom Ltd
AUTOMOBILES AND ACCESSORIES

19. Car and General (K) Ltd
20. CMC Holdings Ltd
21. Sameer Africa Ltd
22. Marshalls (E.A.) Ltd

BANKING

23. Barclays Bank Ltd
24. CFC Stanbic Holdings Ltd
25. I&M Holdings Ltd
26. Diamond Trust Bank Kenya Ltd
27. Housing Finance Co Ltd
28. Kenya Commercial Bank Ltd
29. National Bank of Kenya Ltd
30. NIC Bank Ltd
31. Standard Chartered Bank Ltd
32. Equity Bank Ltd
33. The Co-operative Bank of Kenya Ltd

INSURANCE

34. Jubilee Holdings Ltd
35. Pan Africa Insurance Holdings Ltd
36. Kenya Re-Insurance Corporation Ltd
37. Liberty Kenya Holdings Ltd
38. British-American Investments Company (Kenya) Ltd
39. CIC Insurance Group Ltd

INVESTMENT

40. Olympia Capital Holdings ltd
41. Centum Investment Co Ltd
42. Trans-Century Ltd

MANUFACTURING AND ALLIED

43. B.O.C Kenya Ltd
44. British American Tobacco Kenya Ltd
45. Carbacid Investments Ltd
46. East African Breweries Ltd
47. Mumias Sugar Co. Ltd
48. Unga Group Ltd
49. Eveready East Africa Ltd
50. Kenya Orchards Ltd

MANUFACTURING AND ALLIED

51. A.Baumann CO Ltd

CONSTRUCTION AND ALLIED

52. Athi River Mining
53. Bamburi Cement Ltd
54. Crown Berger Ltd
55. E.A.Cables Ltd
56. E.A.Portland Cement Ltd

ENERGY AND PETROLEUM

57. KenolKobil Ltd
58. Total Kenya Ltd
59. KenGen Ltd
60. Kenya Power & Lighting Co Ltd
61. Umeme Ltd

GROWTH ENTERPRISE MARKET SEGMENT

62. Home Afrika Ltd

APPENDIX 2: Bonus Issues 2009-2013

<table>
<thead>
<tr>
<th>Company</th>
<th>Date of Issue</th>
<th>Bonus Issue Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIC Bank</td>
<td>19-Feb-09</td>
<td>1:10</td>
</tr>
<tr>
<td>Carbacid</td>
<td>22-Oct-09</td>
<td>2:1</td>
</tr>
<tr>
<td>NIC Bank</td>
<td>24-Feb-10</td>
<td>1:10</td>
</tr>
<tr>
<td>National Bank</td>
<td>10-Mar-10</td>
<td>2:5</td>
</tr>
<tr>
<td>Nation Media Group</td>
<td>22-Mar-10</td>
<td>1:10</td>
</tr>
<tr>
<td>Jubilee Holdings</td>
<td>29-Mar-10</td>
<td>1:10</td>
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8. Centum Investment       6-Jun-10        1:10
9. Car & General           Jan-11         1:2
10. Pan Africa Insurance   Mar-11         1:1
11. Jubilee Holdings       29-Apr-11      1:10
12. Centum Investment      Jun-11         1:10
13. KPLC                   Oct-11          1:8
14. NIC Bank               Feb-12          1:10
15. Cooperative Bank       Mar-12         1:5
17. Jubilee                04-Mar-12       1:10
18. Standard Group         Apr-12          1:10
19. Kenya Re               Apr-12          1:6
20. Eaagads                Jul-12          1:1
21. Nation Media Group     Mar-13          1:5

**APPENDIX 3 – CUMMULATIVE ABNORMAL RETURN AND ABNORMAL**

**ABNORMAL**

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<td>Value1</td>
<td>Value2</td>
<td>Value3</td>
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APPENDIX 4 – GRAPH OF ABNORMAL RETURN

ABNORMAL RETURNS GRAPH

Abnormal Returns vs. Period

Period: 1Q-14 to 4Q-15