THE IMPACT OF THE FINANCIAL REPORTING (FIRE) AWARDS ON THE STOCK RETURNS OF COMPANIES LISTED AT THE NAIROBI SECURITIES EXCHANGE

BY:

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DECLARATION

This research project is my original work and has not been presented to any other college, institution or University.

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Signed:...........................Date....08.11.12.

This research project has been submitted as part fulfilment of the requirement for the award of degree in Master of Business with my approval as the university supervisor.

Supervised by

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Signed:...........................Date....12-11-2012

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ACKNOWLEDGEMENTS

DEDICATION

This project is dedicated in all sincerity to my dear wife Leah Nyakio for her love, patience, understanding and support during the period I was undertaking the course.

You are a true gem.

ABSTRACT

A company award is a form of recognition that is given to a company that demonstrates excellence and integrity in its management and governance practices. In theory, the awards enhance a company's corporate image because the recognition received from the media goes a long way in improving the company's business as a whole in terms of increased sales which translate to increased profits and in the long run increased shareholders wealth as seen by increase in share prices at stock market.

This study was undertaken to establish the impact of the FIRE Award announcements on the stock returns of companies listed at the Nairobi Securities exchange. The main objective of the study was to establish whether participating firms yield significantly different abnormal returns from those of non-participating companies. Data on participating companies was obtained from ICPAK. Daily prices for an eleven days event window were obtained from NSE. The window covered five days before and five days after the announcement of the awards with the announcement day as day zero.

The market adjusted returns model was used to compute abnormal returns. The data was analysed using Microsoft Excel 2010 and presented in tables and graphs. The statistical significance of Mean Abnormal Returns (MAR) and Cumulative Abnormal returns (CAR) were also computed using Microsoft Excel 2010.

The results show that both MAR and CAR for participating companies are not significantly different from those of non participating companies. The study concludes that the FIRE Awards do not have a significant impact on the stock returns of companies listed at the NSE.

LIST OF ABBREVIATIONS.

CAR – Cumulative Abnormal Returns

CMA – Capital Markets Authority

DF - Degrees of freedom.

EMH – Efficient Market Hypothesis

FIRE Awards – Financial Reporting Awards

ICPAK – Institute of Certified Public Accountants of Kenya

ICPSK – Institute of Certified Public Secretaries of Kenya

IFRS – International Financial Reporting Standards

KIM – Kenya Institute of Management

MAR – Mean Abnormal Returns

MCAR- Mean Cumulative Abnormal Returns

MCARp- Mean Cumulative Abnormal Returns of participants

MCARnp- Mean Cumulative Abnormal Returns of Non-participants

NSE – Nairobi Securities Exchange

SACCOs – Saving and Credit Cooperative Societies

UK – United Kingdom

USA – United States of America.

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CHAPTER ONE:

INTRODUCTION.

1.1 Background of the study

The behaviour of security price has been a central area of research over the years. Investors are keen on this behaviour as it provides them with information which enables them to make decision on which shares to buy, hold or sell in order to maximize their profits. Security traders use this information for speculative purposes. The degree of speculation depends on how efficient the market is. When making a buying decision most investors target a security that they believe is under-priced and when making a sale decision, they target a security they believe is overpriced. If the markets are efficient and current price fully reflect all information, then trading in securities in an attempt to out-perform the market will be a game of chance rather than skill.

Fama (1970)defined an efficient market is as a market where there are large number of rational profit maximizers actively competing with each trying to predict future market and where important current information is almost freely available to all participants. In an efficient market, competition among the many intelligent participants leads to situation where at any point in time, actual prices of individual securities already reflect the effects of information used on both events that have already occurred and on the events that as of now, the market expects to occur in future. In other words, is an efficient market at any point in time the actual price of a security will be a good estimate of its intrinsic value.

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Efficient Market Hypothesis (E.M.H) was widely accepted by academic financial economics after Fama (1970) published an influential survey article ''Efficient capital markets'. It was generally believed that security markets were extremely efficient in reflecting information about individual stocks and about the stock market as a whole. The accepted view was that when there was new information, the news spread very quickly and was incorporated into the prices of securities immediately. Thus neither technical analysis which is the study of past stock prices in an attempt to predict future prices nor even fundamental analysis which is the analysis of financial information, such as asset values and company earnings to help investors select ''undervalued'' stocks would enable an investor to achieve returns greater than those that could be obtained by holding a randomly selected portfolio of individual stocks with comparable risk.

The efficient market hypothesis is associated with the idea of ''random walk'' which is a term loosely used in the finance literature to characterize a price series where all subsequent price changes represent random department from previous prices. The logic of the random walk idea is that the flow of information is unimpeded and information is immediately reflected in stock prices, then tomorrow's price change will reflect only tomorrow news and will be independent of the price change today.

However, news is by definition unpredictable and random. As a result, price fully reflect all known information and even uninformed investors buying a diversified portfolio at the prices given by the market will obtain a rate of return as generous as that achieved by the expects. In finance the E.M.H was originally proposed in a PhD thesis by (Fama 1970) who believed that investors made well informed and intelligent decisions. Markets were considered to be efficient and rational in determining security prices. At any given time, individual stocks were regarded to be priced at the

correct level based on all known information. This was supposed to be ensured by the ready availability of ample information and by the vast number of rational investors keenly following each stock. Prices moved with the influx of new information. Free markets could only be inefficient if investors ignored price sensitive data. Whoever used this data could make large profits and the market would re-adjust becoming efficient once again.

Economists e.g. Fama (1970) and Sharpe (2001) often define three levels of market efficiency which are distinguished by the degree of information reflected in security prices. In the first level, prices reflect the information contained in the record of past prices. This is called the weak form of efficiency. If the markets are efficient in the weak sense, then it is impossible to make superior profits by studying past returns. Prices will follow a random walk. The second level of efficiency requires that prices reflect not just past prices but all other published information such as one might get from press. This is known as the semi strong form of market efficiency. If markets are efficient in this sense, then prices will adjust immediately to public information such as announcements of earnings, dividends, possible mergers or takeovers etc. Finally, the strong form efficiency reflects all the information that can be acquired by painstaking analysis of the company and the economy. (Sharpe 2001) noted that in such a market, we would observe both lucky and unlucky investors but we would not find any superior investment managers who can consistently beat the market. In the following chapters we review studies that confirm this hypothesis and those that or of a contrary opinion.

1.1.1 Company Awards

A company award is a form of recognition that is given to a company that demonstrates excellence and integrity in its management and governance practices. In theory, the awards enhance a company's corporate image because the recognition received from the media goes a long way in improving the company's business as a whole in terms of increased sales which translate to increased profits and in the long run increased shareholders wealth as seen by increase in share prices at stock market. There has not been enough studies to provide evidence.

In Kenya, there has been a number of initiatives and awards that seek to enhance corporate governance and boost the investor confidence in the capital markets. These include East Africa's most respected company by PricewaterhouseCoopers, Warrior Awards by the Marketing Society of Kenya, Public Relations Society Awards by Public Relations Society of Kenya, Champion of Governance by Institute of Certified Public Secretaries of Kenya (ICPSK), Company of the Year Awards (COYA) by Kenya Institute of Management (KIM), and Financial Reporting (FiRe) Awards by Institute of Certified Public Accountants of Kenya (ICPAK), Nairobi Securities Exchange (NSE) and Capital Markets Authority (CMA).

There have been numerous studies on the information content of various corporate events and announcements. These include cash divided announcements, stock dividend announcements, mergers and acquisitions announcements and earning announcements.

This research looks at the FiRe Awards scheme, we test whether the scheme is an important corporate event and whether there is notable market prices reaction to the awards participation in the context of market efficiency.

1.2   Statement of Problem.

Wesonga (2008) noted that financial disclosure is a deliberate release of financial information whether numerical or qualitative, as required or voluntarily through formal or informal channels in order to furnish makers of investment decisions with financial information about the reporting company

Indeed according the framework of International Financial Reporting Standards (IFRS), one of the objectives of financial reporting is to provide a tool for investors, creditors and other users in assessing the amounts, timing and certainty of prospective cash flows .According to Dees (1996), relevant, reliable and timely information is an important ingredient for an efficient Market. Herring (1999) states that financial markets will provide better price signals and allocate resources more efficiently if participants have access to high quality information on a timely basis. Wesonga (2008) noted that anomalies in financial markets have been attributed to lack of adequate information leading to demand for more disclosures and laws to control information transparency. Pettit (1972) noted that the allocative efficiency of capital markets depends on the extent to which capital asset prices fully reflect information that affects their value.

In the past decade the world has witnessed many high profile accounting frauds and corporate scandals. Most notable ones include Enron and Worldcom scandals in the US. These events have put the accuracy and reliability of financial disclosures under scrutiny. The scandals were followed by increased governmental intervention and regulation. In 2002 the United States congress passed the Sarbanes-Oxley Act to improve the accuracy and reliability of corporate financial reporting and disclosures. Closer home in Kenya, the shares of CMC limited have been suspended from trading

at the Nairobi Securities Exchange (NSE) as the Capital Markets Authority continues to investigate allegations of fraud by some directors. Though Kenya has not had scandals of Enron proportions, it may be just that the scandals have been well concealed.

According to Kotsiantis et al (2006), accounting frauds can be classified as either misappropriation of assets or fraudulent financial reporting or both. Misappropriation of assets is using the assets and resources for unintended purposes. This includes frauds such as theft, embezzlement and cash skimming. Kotsiantis et al (2006), notes that fraudulent financial reporting is commonly known as "creative accounting" or "cooking the books". It is the deliberate and reckless conduct whether act or omission that results in materially misleading financial statements. In presenting inaccurate financial statements, fraudulent reporting has the significant consequences for both the organisation and for the public confidence in the capital markets. Watts and Zimmermann (1986) argue that financial statement audit is a monitoring mechanism that helps to reduce information asymmetry and protect the interests of the principals, specifically stakeholders and potential stockholders by providing reasonable assurance that the management's financial statements are free from material misstatements.

In Kenya, the major regulatory authorities introduced Financial reporting (FiRe) Awards to promote and institutionalize transparency, integrity and accountability in the corporate reporting process. There is no known research on the impact of the Award which is now over ten years old and which attracts over half of the companies listed at Nairobi securities Exchange.

A limited number of empirical investigations have attempted to measure the markets' reaction to major information generating events. For the most part, the evidence is in support of the efficient market hypothesis. Since each test has looked at only one kind of information, the validity of the hypothesis is confirmed as more Kinds of information are studied.

Cherono (2010), noted that the Kenya capital market has become more dynamic in the recent past and that the Kenya population has become more knowledgeable and informed. This means as investors, Kenya desire to make informed investment decisions and will need reliable market information. The search for market information has provided a very fertile ground for research in an effort to validate assertions brought forward by efficient market hypothesis. Several studies have empirically tested the reaction of security prices to the release of different information. For instance Bearer (1968), have intimated that security prices react to corporate announcement events. On the Indian stock market, M. Obaidullah (1990), S. Sririvasan and Dutta (2004) are some of the studies which have tested the efficiency of the Indian stock market with respect to corporate event announcements information like accounting information, dividend announcements, bonus announcements, right issues, merger acquisition and stock splits.

In Kenya, studies have been done to test various stock market reactions to various information generating corporate events. These include Ondigo (1995), Onyango (2004), Mbugua (2004), Kiio (2006), Kuria (2007), Ndirangu (2008), cherono (2010), Mbaka (2010) Anyumba (2010) and Aduda and Chemarun (2010) which tested various information content ranging from annual reports, earning announcements, stock dividend announcements, cash dividend announcements, cross border listing

announcement, COYA announcement, dividends signaling theory, random walk model and stock splits.

Little is known about how the Kenyan market reacts to FiRe Awards. This is the Knowledge gap which this study sought to bridge by analyzing stock prices reaction to FiRe Awards announcements.

Research question

The questions we seek to answer are: What is is the value of these Awards to investors and are there abnormal returns associated with the Awards?

To analyze the problem, the study will test the following two hypotheses:

HO: There are no significant abnormal returns associated to FIRE Awards announcements.

HA: There are significant abnormal returns associated to FIRE Awards announcements.

1.3   Objective of the Study.

The objective of the study is to determine whether stock returns at NSE are affected by FIRE Awards announcements.

1.4 Importance of study.

The findings would be of interest to:

Investors: Both local and foreign investors in making purchase and sale decisions. The investors would be interested to know whether or not there are arbitraging

opportunities provided by the FIRE Awards announcements. They would also be interested in knowing whether the awards attest to the reliability of financial reports.

Government: The Government has regulatory role in the markets. It gets the blame for corporate failures. The study will be useful for government to gauge whether to support the Awards and similar transparency initiatives that would reduce incidences of corporate failures.

Management: Management is responsible for the day to day running of the company. Participating in the awards and winning would serve to boost the confidence that the shareholders and other market participants have on the Management.

Sponsors: The study will help the CMA, ICPAK and NSE test whether or not their efforts in promoting transparency are yielding fruits. In particular the study will show whether the perceived reporting excellency is being felt in the market. They may also use the results of the study to decide whether participation should be made mandatory as opposed to being voluntary.

Academicians: By and large the study will contribute to the body of knowledge on stock market efficiency. Scholars can also use the study to assist them to do further research on other stock market conditions and reactions to corporate events.

CHAPTER TWO:

LITERATURE REVIEW.

2.1 Introduction

In this chapter we trace the history of the concept of efficient markets and review the literature on EMH and random walk models. The chapter also reviews some foreign and local event studies on the subject and some of the anomalies to EMH. Finally we conclude that there is vast evidence that EMH holds, that the degree of efficiency varies from market to another and from one kind of information to another.

2.2 Theoretical review of efficient markets.

Upto 1950's there were few theoretical or empirical studies of securities market until Cootner (1964) collected a selection of papers dispersed across journals in statistics, operation research mathematics and economics. The concept of market efficiency had been anticipated at the beginning of the century by Bachelier (1900) in his thesis for his PhD in Mathematics. In his paper he recognizes that "past, present and even discounted future events are reflected in market price but often show no apparent relation to price changes". This recognition of the informational efficiency of the market led Bachelier to note that "if the market in effect does not predict its fluctuations, it does assess them as being more or less likely and this likelihood can be evaluated Mathematically"

This gave rise to Albert Eistein's subsequent derivation of the Eisten Wiener process of brownian motion and other analytical results that were rediscovered by finance academicians in the second half of the century. The gist of the Brownian movement

was that microscopic particles oscillate in a random and irregular manner. This concept has been used to study security prices. Bacheliers contribution was overlooked until Paul Samuelson circulated it to The Economic Journal in the late 1950 and then it was subsequently published in English by Cootner (1964). Bachelier had concluded that commodity prices fluctuate randomly and later, studies by cowls (1937) were to show that US Stock prices and other economic series also share these characteristics.

There was in addition disturbing evidence about the difficulty of beating the equity market. Alfred Cowles III, published in the launch issue of *Econometrical* a painstaking analysis of many thousands of stock selections made by professionals. Cowles (1937) found that there was no discernible evidence of any ability to outguess the market. Subsequently, Cowles (1944) provided corroborative results for a large number of forecasts over a much longer period. By the 1940's there was therefore scattered evidence in favor of the weak and strong from efficiency of the market, though these terms were not yet in use.

2.3 Random Walk Model

Pearson (1905) discussed the problem of the optimal search procedure for finding a drunk left in the middle of a field. He noted that if the drunk can be expected to stagger in a totally unpredicted and random fashion, he is likely to end up close to where he had been left rather than anywhere else. In finance this analogy has been applied to a series whose successive returns are serially independent. In the early 1950's researchers were for the first time, able to use electronic computers to study the behavior of lengthy price series. (Kendall 1953) noted that the assumption of economists was that one could analyze an economic time series by extracting from it a

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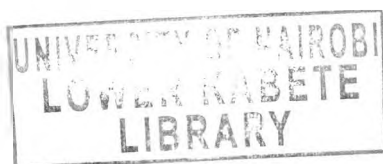
long term movement or trend, for a separate study and then scrutinizing the residual portion for short term oscillatory movements and random fluctuations.

When Kendall (1953) studied 22 UK stock commodity price series, he concluded that in a series of price which are observed at fairly close intervals the random changes from one term to the next are so large as to swamp any systematic effect which may be present. The data behaves almost like wandering series.

This empirical observation came to be called "the Random Walk Model". If the prices wander randomly, then this poses a major challenge to market analysts who try to predict the future path of security prices. Drawing on Kendall's work and earlier research by Cowles (1937) demonstrated that a time series generated from a sequence of random numbers was not distinguishable from a record of US stock prices, the raw material used by market technicians to predict future price levels. Despite the emerging evidence on the randomness of stock prices changes, there were occasional instances of anomalous price behavior, where certain series appeared to follow predictable paths. This includes a subset of the stock and commodity price series examined by Cowles (1937) and Kendall (1953).

2.4. Efficient Market hypothesis.

Building on Samuelson (1967) microeconomic approach together with taxonomy suggested by Roberts (1967), Fama (1970) summarized the early random walk literature, his own contributions and other studies of the information contained in the historical sequence of prices and concluded that the results were strongly in support of the weak form of market efficiency. He then reviewed a number of semi strong and strong form tests and concluded that in short the evidence in support of E.M.H. is

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extensive and contradictory evidence is sparse. It is his study that introduced the term efficient market and EMH.

According to Fama (1970), the primary role of a capital market is allocation of ownership of economy's capital stock. In general terms, the ideal is a market in which prices provide accurate signals for resource allocation: that is a market in which firms can make production-investment decisions and investors can choose among securities that represent ownership of firms' activities under the assumption that security prices at any time "fully reflect" all available information. A market in which prices always fully reflect available information is called "efficient".

Fama (1970) defined an efficient market as the market where there is a large number of rational, profit maximizes actively competing with each trying to predict future market values of individual securities and where important current information is almost freely available to all participants.

These rational traders rapidly assimilate any information that is relevant and adjust price accordingly, hence individuals do not have different comparative advantage in acquisition of information. It follows that in such a world there should be no opportunities for making a return on stock that is in excess of a fair payment for the riskiness of that stock. In short abnormal profits from trading should be zero, thus agents process information efficiently and immediately incorporates this information in stock prices. This study introduced the term efficient markets and efficient market hypothesis. EMH is the focus of market studies for it is the logical results of the application of microeconomic theory to the determination of security prices.

Fama classified the market efficiency into three levels on the basis of information availability. These levels are outlined below.

2.4.1 Weak form market efficiency

The weak form efficient market hypothesis stipulates that current asset prices already reflect past prices and volume information. The information contained in past sequence of prices of a security is currently reflected in the current market price of that security. It is called weak form because the security prices are the most publicly and easily accessible information. It implies that no one should be able to outperform the market using something "everybody knows". Technical analysis is the process by which financial researchers study past stock prices and volume data in an attempt to generate profit. According to EMH however the technique is useless for predicting future price changes. Technical analysis technique will not be able to predict stocks that consistently produce excessive returns. In ideal conditions share prices must follow a random walk pattern. EMH does not require that prices remain at or near equilibrium but only that the market participants not be able to profit from market inefficiencies.Fama (1991) proposed that this level of efficiency may be tested using tests for return predictability instead of weak form tests, which are only concerned with the forecasting power of past returns The key question is "How well do past returns predict future returns?"

2.4.2 Semi strong form of Market efficiency.

Semi strong efficient market hypothesis states that all available information is already incorporated into asset prices. The public information should provide not only past prices but also data reported in a company's financial statements, company announcements, economic factors and others. It, as with the weak form also implies that no one should be able to outperform the market using something that "everybody already knows". This indicates that a company's financial statements are of no help in forecasting future price movements and securing high investment returns. In semi

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strong form efficiency it is implied that share prices adjust to publicly available new information rapidly and in an unbiased manner such that no excess returns can be earned by trading on that information. Under semi strong form of efficiency neither fundamental analysis nor technical analysis techniques can be able to reliably produce excess returns. To test for semi strong efficiency, the adjustments to previously unknown news must be of a reasonable size and must be instantaneous. To test for this, consistent upward or downward adjustment after the initial change must be looked for. If there are any such adjustments it would suggest that investors had interpreted the information in a biased fashion and hence in an inefficient manner.

Fama (1991) proposed that this level of efficiency may be tested using event studies instead of semis strong form tests of the adjustments of the prices to public announcements.The key question is "How quickly do prices reflect public information announcements?"

2.4.3 Strong form of Market efficiency.

The strong form EMH stipulates that private information whether public or private is fully reflected in a security's current market price. This means that even the company's management (Insiders) are not able to make gains from the information they hold. The rationale to support this form of efficiency is that the market anticipates in an unbiased manner, future developments and therefore information has been incorporated and evaluated into market price in a much more objective and informative way than insiders. If there are legal barriers to private information becoming public as with insider trading laws, strong form efficiency is impossible except in the case where the laws are universally ignored. To test for strong form efficiency, a market needs to exist where investors cannot consistently earn excess

returns over a long period of time. The strong form EMH therefore states that changes in the current share prices are based on an investor's assessment of new information and that past news has already been incorporated in past share prices and thus has no bearing on current price changes. Aside from the impact on supply and demand brought about by changes in available information by which investors can revise opinion of a share value, changes in share prices should follow a random walk.

Fama (1991) proposed that this level of efficiency may be tested usingthe tests for private information instead of strong form tests of whether specific investors have information on market prices or not.The key question is "Do investors have private information that is not fully reflected in the market prices?"

2.5 Anomalies to EMH

It is important to note that the efficient market hypothesis does not rule out small abnormal returns before fees and expenses. To make sense the concept of market efficiency admits the possibility of minor market inefficiencies .Perhaps the most common challenge to EMH is the anomaly; a regular pattern in assets returns that which is reliable, widely known and inexplicable. The fact that the pattern is regular and reliable implies a degree of predictability, and the fact that the regularity is widely known implies that many investors can take advantage of it. Investors evaluating anomalies should keep in mind that they have existed historically, there is no guarantee they will persist in the future. If they do persist, transaction and hidden costs may prevent out performance in the future. Some of the common anomalies are outline below.

Small Firm Effect: One of the well-recognized anomalies is the size effect. Banz (1981) found that small capitalization companies have excess returns over their risks. Banz (1981) published one of the earliest articles on the 'small-firm effect', which is also known as the 'size-effect'. His analysis of the 1936-1975 period revealed that excess returns would have been earned by holding stocks of low capitalization companies. Supporting evidence provided by Reinganum (1983) who found that the risk adjusted annual return of small firms was greater than 20 percent. If the market were efficient, one would expect the prices of stocks of these companies to go up to a level where the risk adjusted returns to future investors would be normal. But this did not happen..

The January Effect: Rozeff and Kinney (1976) were the first to document evidence of higher mean returns in January as compared to other months. Using New York Stock Exchange (NYSE) stocks for the period 1904-1974, they found that the average return for the month of January was 3.48 percent as compared to only 0.42 percent for the other months. However King'ori (1995) did not find any significant seasonal anomaly in the NSE.

The Weekend Effect (or Monday Effect): French (1980) analyzed daily returns of stocks for the period 1953-1977 and found that there is a tendency for returns to be negative on Mondays whereas they are positive on the other days of the week. He noted that these negative returns are "caused only by the weekend effect and not by a general closed-market effect". A trading strategy, which would be profitable in this case, would be to buy stocks on Monday and sell them on Friday. Kamara (1997) showed that the S&P 500 has no significant Monday effect after April 1982, yet he

found the Monday effect undiminished from 1962-1993 for a portfolio of smaller U.S. stocks. Internationally, Agrawal and Tandon (1994) found significantly negative returns on Monday in nine countries and on Tuesday in eight countries, yet large and positive returns on Friday in 17 of the 18 countries studied. However their data did not extend beyond 1987. Steeley (2001) found that the weekend effect in the United Kingdom had disappeared in the 1990s. Mokua (2003) reveals that NSE does not exhibit this pattern

Holiday effect: Lakonishok and Smidt (1988), Ariel (1987), and Cadsby and Ratner (1992) all provided evidence to show that returns are, on average, higher the day before a holiday, than on other trading days. Brockman and Michayluk (1998) described the pre-holiday effect as one of the oldest and most consistent of all seasonal regularities.

Price Earning (P/E) Ratio Effect: BasuSanjoy (1977) showed that stocks of companies with low P/E ratios earned a premium for investors during the period 1957-1971. An investor who held the low P/E ratio portfolio earned higher returns than an investor who held the entire sample of stocks. These results also contradict the Efficient Market Hypothesis. Campbell and Shiller (1987) showed P/E ratios have reliable forecast power. Dechow, et al (2001) documented that short-sellers position themselves in stocks of firms with low earnings to price ratios since they are known to have lower future returns.

Value-Line Enigma: The Value-Line organization divides the firm into five groups and ranks them according to their estimated performance based on publicly available

information. Over a five-year period starting from 1965, returns to investors correspond to the rankings given to firms. That is, higher-ranking firms earned higher returns. Stickel (1985) found positive risk-adjusted abnormal (above average) returns using value line rankings to form trading strategies, thus challenging the EMH.

2.6 Event studies on market reaction to corporate announcements.

Fama (1991) proposed that event studies are the best for measuring semi strong form of market efficiency. An event is some change, development or announcement that may produce a relatively large change in the price of an asset over some period. In the sections below we sample a few event studies.

2.6.1 Earning announcement.

Mohammed (2010) noted that there exists substantial documented evidence that earning announcements affect stock prices of the firms because of the information content. If the information is good news, that the year's earnings are higher than previous year's or the company is forecasting that next year's earnings will be higher than current year, this may bring the stock price of the company to change. When the information contains bad message like current year's earning is lower than previous years or earnings forecasted for next year is lower than usual, then the expectations of investors will change and company stock price may go down.

Mohammed (2010) noted that late announcements of earnings may also convey bad news while early release of earning information can convey good news. Late in this case refers to time of release compared to time of release the previous year. Investors expect that earning announcement to be released same time every year and earnings volumes should be higher or at least equal to previous years earning.

Needham Jones and Frank Bacon (2007) studied the effect of announcement of quarterly earnings surprises on stock price's risk adjusted rate; return for fifty randomly selected firms. The study analysed 11,183 observations using standard risk adjusted events study. They found that positive surprise earning announcements do indeed send a positive signal about the profitability and future success of a firm. As a result of this positive signal, stock prices increase and market reacts quickly to available information.

Eilifsen, Knivsfra and Saethen (2001) found a significant reduction in stock price volatility in the post announcement period relative to pre-announcement period for companies traded on the Oslo Stock Exchange in the period 1990-1995. They noted that potential explanations for this phenomenon are tested by relating the observed return volatility to changes in the volatility of underlying business, the speed at which the information is incorporated into the stock prices and the amount of noise in the price process. They concluded that there is significant decline in the noise term for the largest companies after the earnings release date, supporting the hypothesis that earnings announcements reduce informational asymmetries among investors.

Brooks, Patel and Su (2003) examined unanticipated news announcement of 21 catastrophic events between 1989 and 1992. They found wide spread and high volume volatility after the unanticipated announcement.

Bearer (1968) studied the relationship between interim and annual earnings announcement and stock market behaviour. His arguments were that there should be increased security return variability associated with release of financial statements if at all the statements have any information. The research sampled 143 companies and observed the information content of quarterly earnings announcement for the period

1961-1965. The study used trading volume activity (TVA) and market model to test the information content of interim and annual reports. The test reveals a drastic increase in trading volume and a high variability in stock return in the 17 weeks surrounding the announcement date. His conclusion was that the earning reports have information content which could affect the stock prices.

2.6.2 Dividend announcements

The signalling theory of dividend posits that dividend changes convey information about the future performance of the company. In their seminal work, Miller and Modigliani (1961) acknowledged that dividend influence stock prices and attributed this to an often quoted concept of information content of dividends.Signalling models have two key empirical implications; first they suggest that dividends changes should be followed by price changes in the same direction. If dividend increases are meant to convey "good news" and dividend decreases to convey "bad news" a rational market should take the new information into account and adjust the valuation of the company. Secondly, the models produce a positive relation between dividend changes and the subsequent operating performance of the company.

Ndirangu (2008) observed that most of the empirical literature focuses on the first prediction. Examining the short run share price performance provides substantial support for the dividend-signalling hypothesis. Numerous empirical studies report a positive stock price reaction upon dividend increases and a negative, stronger reaction upon dividend decreases .

In the US studies by Charest (1978), Aharony and Swary (1980), Healy and Palepu (1988) and Bulanetal (2004) confirms the pattern. In the UK, Lonie et al Gunasekarage and Power (2002) and in Japan (Conroy et all (2000), In Switzerland

(Knight (1991) also confirm this position.The long run market reaction to dividend announcement is less conclusive. Usually studies with US data report a positive stock price performance after dividend increases (Charest (1978) ,Grullon et all (2002) and Michaely et all (1995).

However, outside USA the picture is less clear. Gunasekarage and power (2002) show that UK companies that announce reduction in dividend out perform their dividend increasing counterparts. Similar pattern is uncovered by Gwilm et al (2004). Using a sample of UK firms they found that the stock price performance of non increasers is superior to the price return of dividend increasers. The current view in the literature is that dividend changes convey information mainly about past and current earnings.

2.6.3 Equity rights issues

Asquith and Mulins (1986) have argued that the market response to news of equity offerings differ substantially across countries and according to issuing methods. In countries with developed capital markets such as USA the stock price reaction is negative for general cash offers and less negative for right issues. Scholes (1972) investigated the period 1926-1966 found that stock prices generally increase before the right issues, fall during the month of issue but remain unchanged after the issue. Eckbo and Masulis (1992) and Bae and Jo (1999) document a negative reaction to announcements of rights offerings. Several studies in the UK offer mixed results. For example, Marsh (1979) reports a positive price effect at the time of rights offering during 1962-1975.

2.6.4 Stock splits

Investopedia staff (2005)defined a stock split as a corporate action which increases the number of a corporation's outstanding shares, achieved by dividing each share,

which in turn diminishes its price with the stock market capitalization remaining the same. Fama et al (1969) suggested that stock splits acted as a means of passing information from managers to stockholders. They noted that by announcing splits a company reduced any information asymmetries that might have existed between stockholders and management.

Building on the study by Fama et al (1969), Brennan and Copeland (1988) developed what is now called the signalling hypothesis. According to the signalling hypothesis, splits acts as means of communication from managers to stock holders. The model showed that splits acts as a costly signal of managers' private information because trading costs increased as stock prices decreased. Agreeing with the signalling hypothesis, Conroy et al. (1999) found excess returns after stock splits were considerably higher when shareholders were surprised by a larger than expected split. Subsequent studies by Ikenberry et al. (1996) found positive abnormal returns on the announcement day and on the days immediately surrounding, and that at the announcement period, abnormal returns were negatively related to the post- split price.

In the Indian stock market a study by Gupt and Kuman (2007) found that there was no announcement effect associated with stock splits in India.

2.7 Empirical studies in Kenya

According to Onyango (2004) various events studies conducted on market efficiency over the years have yielded mixed results. Ondigo (1995) examined information content of 18 "blue chip" companies quoted in the Nairobi stock exchange in the period 1990 – 1994. The study revealed that the annual reports and accounts of the sampled firms do not have statistically significant information content. He concluded

that it would be futile for investors to spend a lot of time and effort in analyzing both annual reports and accounts because the content is already captured through timely media which includes interim reports, dividends, bonus and individual company's releases. The study concluded that as far as the semi strong model of EMH is concerned, the study was inclusive. He suggested more research with other forms of public information.

Mbugua (2004) in his research examined the impact of stock dividend on stock returns on 24 companies which issued stock dividend. The results indicated the stock dividend announcements have an impact on stock return. The result also indicated that the size of the stock dividends have an effect on stock returns. On the other hand earnings announcements are fully impounded in stock prices prior to or almost instantaneously at the time of announcement.

Onyango (2004) in his study covered 16 companies out of a population of 48 listed companies at NSE, covering the period 1998-2003. The study concluded that the earnings announcement contain relevant information which is fully impounded in stock prices prior to or almost instantaneously at the time of announcement. Secondary evidence resulting from the study showed that NSE shows the presence of semi strong model of EMH. He suggested further research on information content to support his conclusion.

Ndirangu (2008 tested the share price reaction to announcement of COYA Awards and found that winning companies participating in COYA reported cumulative adjusted abnormal returns.

Cherono (2010) studied on market reaction to cross border listings for companies quoted at the NSE. The study found that the market reacts negatively to announcements of cross border listings, though the reaction is infinitesimal which pointed to imperfect market in the semi strong form.

Mohamed (2010) studied the effect of earning announcements on the stock prices of companies listed at the NSE. He studied 45 companies declaring earnings between January 2004 and December 2008. The study found that earning announcement may carry some information for the market and stock prices may be adjusted accordingly. The findings showed that statistically significant negative abnormal returns were observed in the post and pre-earnings announcements period.

Odumbe (2010) investigated the information content of bonus share announcements for 38 bonus issue announcements for 26 companies listed on NSE over the period of January 2000 – September 2010. The results showed that the stock prices reacted to the announcement of bonus issue. He concluded that bonus issue announcements contained information useful for valuing stocks. The results also showed that market positively received the bonus announcements information before the announcement camp up. The analysis however depicts the fact that the market gained significant reactions in the stock prices during the pre and post announcement periods. He concluded that capital markets in general are not perfectly efficient to the announcement of bonus issue. This informational inefficiency can be used by investors for making abnormal returns at any point of the announcement period. The study recommended that stock market may use that information to revise the prices of securities and investors are advised that when the company comes up with a bonus

issue, the investor should take immediate investment decision (buy and sell) in order to benefit from the bonus issue announcement.

Anyumba (2010) tested the random walk model on NSE and found the model to hold. He found that NSE follow a random walk and according to his study the bourse was classified as an efficient market under the weak form.

Aduda and Chemarum(2010) studied the market reaction to stock splits for companies quoted at the Nairobi Securities Exchange for the period 2002-2008. The study found that the Kenyan market reacts positively to stock splits as shown by general increase in volumes of shares traded around the stock splits.

2.8 The Fire Awards Scheme

The Fire Award was founded and held for the first time in 2002. Its promoters, the Institute of Certified Public Accountants of Kenya (ICPAK), the Capital Market Authority (CMA) and the Nairobi Securities Exchange (NSE) intended that in order to strengthen financial markets and attract investment, business entities would have to make disclosure of their activities to enable a wide range of stakeholders use such information in making economic decisions. One of the steps recognised towards achieving this goal was to award excellence in financial reporting.

The award is a result of a rigorous evaluation process using globally accepted principles and best practice standards. These guiding principles include International Financial Reporting Standards (IFRSs), best practices in governance and corporate citizenship as well as other requirements that are specific to a particular reporting entity. The award is open to all organisations that prepare annual reports. Participation

in the Fire Award is on a voluntary basis and free of any charges. Organizations that wish to participate submit six (6) copies of their latest annual reports similar to those issued to shareholders and other interested parties.

The awards are not only a competition but also a healthy gauge for the compliance trends among corporate entities.

The Key objectives of this award are three-fold: Promotion of financial reporting excellence, fostering of sound corporate governance practices and enhancing corporate social investment and environmental reporting.

Against the backdrop of the East African Community cooperation, the award has been transformed into a regional event. For the years 2010 and 2011, entries were received from Uganda and Tanzania. The promoters expect regional participation to increase in years ahead. This will contribute to fast tracking of integration in the region as envisaged in the East African Community Common Markets Protocol. The governance structure of the award has been reorganised to pave way for participation by institutions in East Africa.

The participation in the award continues to grow. There was an increase in participants from 55 to 90 in 2009 and 2010 respectively representing a 64% growth that is a mark of confidence by stakeholders in the award. The promoters are optimistic that the growth and influence of the award in encouraging best practice in financial reporting will be sustainable for the long term. The introduction of individual company feedback in 2009 has strengthened the ability of the competition to add solid value to the companies that participate. The Technical Committee is exploring more ways of improving the Award.

2.8.1 Governance Structure

The governance structure is made of an executive committee, a technical committee and three teams. The executive committee comprises the chief Executive Officers of the founding partners ICPAK, CMA and NSE. The committee is responsible for the overall policy and strategic direction of the Award. The technical committee comprises the representatives of ICPAK, CMA and NSE, associate partners and other co-opted persons with relevant expertise to oversee the evaluation and management of the Award. Below the technical committee there are three teams. The first team is responsible for the evaluation process. The second team is responsible for the event management and sponsorship. The third team is responsible for public relations and publicity.

2.8.2 Evaluation criteria

Once the annual reports are received, they are grouped into six categories: Insurance; Banks; Industry, Commercial and Services Sector; Small and Medium Enterprises (SMEs); Savings and Credit Cooperatives (Sacco's) and Not-for-Profit. The Annual Reports undergo a rigorous evaluation exercise by high calibre panellists selected from the diverse stakeholders in the reporting field. The evaluation process is constantly reviewed to keep a breast with new developments within the financial and corporate reporting environment. The results of the evaluation findings are summarized and reported at the Award ceremony as findings of the evaluation process. All participating organizations are later issued individual feedback on their reports. This assessment acts as a benchmark on which the organizations ought to make future improvements.

2.8.3 Summary of the Evaluation Criteria

The submitted reports are evaluated primarily from financial reporting perspective.

The financial statements are evaluated to determine if they have been prepared in

accordance with all the provisions of International Financial Reporting Standards

(IFRS), International Public Sector Accounting Standards (IPSAS) the provisions of

regional Companies Acts, Sacco's' Acts, and any other regulatory provisions with

respect to financial reporting.

In addition notes, which are an important aspect of the financial statements, are

evaluated to determine their credibility and their degree of assertion to ensure the

users understand the financial statements. Credit is also given to entities that make

voluntarily disclosures over and above what is required by the various reporting

standards and provisions. This disclosure, while not mandatory, nonetheless enhances

the understandability of the financial reports.

The Award also recognizes that there is more to financial reporting than properly

prepared financial statements. Equally important and useful to users is the additional

information provided by board and management reports. These reports are also

evaluated to determine if they provide adequate information regarding an entity's

performance, its financial position and any factors influencing its performance. The

concern here is whether the information provided supports the financial statements

and if it adds value to the users' decision making process.

2.8.4 Evaluation Process

The evaluation process is designed to evolve into three distinct stages aimed at

ensuring that all relevant issues are properly and objectively disclosed. These stages

are as follows:

2.8.5 First Level Review

This stage, also known as the 'Individual Review Stage', involves the evaluation of the Annual and Financial reports by the primary panellists. Each report is reviewed and awarded marks by two panellists on independent grounds. The panellists are also expected to prepare summary reports to support the basis of the marks allocated to each evaluated report. At the end of the individual evaluation stage, the panellists meet to discuss their results and any major anomalies noted during the evaluation process. It is after this stage that the Technical Committee meets to review the results and any inconsistency noted during the first level evaluation process. The top twelve entries in each category are thus identified, approved and forwarded for the Second Level Review.

2.8.6 Second Level Review

Once the top twelve entries in the First Level have been identified, they are subjected to a Second Review by a much more experienced panel of experts in the various categories of the award. This stage involves the re-evaluation of the entries reports that advanced to the Second Level to ensure the absolute best six in ranking are identified.

Results from this level are once again reviewed and checked for any discrepancies and variances by the Technical Committee before the top 6 in each category are forwarded to the Chief Panellist for a Third Level Review.

2.8.7 Third Level Review

Once the top six entries have been identified and approved at the Second Level Review, they are forwarded to the Chief Panellist for a third and final Review. At the

end of this stage, the winners and runners up are identified and the results are then submitted to the Technical Committee by the Chief Judge. These results are then tabled before the Executive Committee at a meeting for adoption. (www.fireawards.org).

2.9 Conclusion

In reality markets are neither perfectly efficient nor completely inefficient. All markets are efficient to a certain extent, some more so than others. Rather than being an issue of black and white, market efficiency is more a matter of shades of grey. There have been scores of studies that have documented long term historical anomalies in the stock market that seem to contradict the efficient market hypothesis. While the existence of these anomalies is well accepted the question of whether investors can exploit them to earn superior returns in the future is subject to debate. The degree of efficiency varies from one market to another and from one kind of information to another. More evidence should be looked into using different kinds of information.

CHAPTER THREE:

RESEARCH METHODOLOGY

3.1 Research design

The study aims at establishing whether FIRE Award announcements have any significant effect on share prices for company's listed at Nairobi Securities Exchange. The design is an event study. Mackinlay (1997) noted that an event study measures the impact of an event on the value of a firm. He also noted that the economic impact of an event can be constructed using security prices observed over a short period. Beverly (2007) concurs and notes that event studies are widely used in academic accounting and finance fields to assess the effects of an event on the value of a firm. Event studies have a long history dating to Dolley (1933) who examined the effect of stock splits on share prices. Studies by Ball and Brown (1968) and Fama, Fischer, Jensen and Roll (1969) introduced the methodology that is essentially used today.

3.2 Population of the study

The population of interest for this study consisted of all companies listed at the Nairobi Securities exchange from 2007 to 2011. This implies that the research was a census survey.

3.4 Data Collection Method

The study used secondary data from the following sources

a) Share prices of common stock from Nairobi Securities Exchange

b) Data relating to FIRE Awards from CMA, ICPAK and NSE (websites)

3.5 Data analysis

The event study used inferential statistics to compare the scores on the two values of the dependent variables. The study examined the differences between the stock returns conditional on the event and the expected returns unconditional on the event. Averaging the individual share responses for all the companies included in the sample the reseacher drew an overall inference about the market. The study analysed data for all listed companies, whether participating in the FiRE Awards or not. The event window is eleven days. The study therefore covered an 11 days window, five days before the event and five days after the event. The window is chosen as it is long enough to provide evidence of abnormal returns and yet short enough to reduce the probability of other announcements being made in the event window.

The stock returns and the market returns were computed for each event day. The difference between the two returns is computed as the abnormal return for each event day.

Microsoft excel 2010 was used as an aid in the analysis. The researcher prefers Microsoft excel 2010 because of its ability to cover a wide range of the most common statistical and graphical data analysis and is very systematic. Excel was be used to generate market returns, abnormal returns and statistical value to test significance. Tables and graphical presentations were used to present data collected for ease of understanding and analysis.

Effect of FIRE Awards on stock prices was evaluated after adjusting the influence of general market. Market adjusted returns model was used for that purpose. In order to study the impact of FIRE announcements on stock prices two measures were used

i.   Daily individual market adjusted abnormal return (MAAR) and

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ii.   Daily Cumulative Abnormal Return (CAR).

MAAR indicates the relative daily percentage price change in the average market price. We use NSE 20 share index as the proxy of average market price. MAAR is calculated as follows

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

Where R_{it} is the time t returns on security i,

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

P_{it-1} is the closing price of stock i on day (t – 1)

$$Rmt = \frac{(I_{it} - I_{t-1})}{I_{t-1}} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2)$$

Where R_{mt} is the time t returns on NSE 20 share index, I_t is the market index on day t and I_{t-1} is the market index on day t – 1

$$MAAR_{it} = R_{it} - R_{mt} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(3)$$

Where, $MAAR_{it}$ is the market adjusted abnormal return for security i over time t.

The market adjusted abnormal return (MAAR) shows the change in individual stock's value due to the FIRE Awards announcement. As the percentage change in market index (Average Market Price) is deducted, the remainder gives us the unsystematic portion of the value change, which is specific to that particular stock resulting from the FIRE Awards announcement.

MAAR is calculated over a period of -5 to +5 days relative to the FIRE announcement day (day 0).

Presence of Cumulative effect may was also tested. Cumulative abnormal returns (CAR) which measures the investors' return over a period starting well before the announcement to well after the announcement day was therefore computed.

CAR is computed by summing the daily abnormal returns as follows

$$CAR_t = \sum_{T = -5}^{T = 5} MAAR_T$$

The individuals daily abnormal returns (MAAR), which are examined to determine whether on average the event study of FIRE announcement produces return that are different from returns that would be expected.

A parametric test was used determine the statistical significance of MAAR and CAR of the FIRE Award participating and non-participating firms. A t – statistic was calculated by using the standard deviation of abnormal return of Participating and non-participating firms and compared to their assumed distribution under the null hypothesis that the average abnormal performance over the event window is equal to zero. (Brown & Warner (1980).

The values were compared to test the impact of the award announcement on the stock returns of participants and non-participants.

The null hypothesis is rejected or accepted if the t-statistic exceeds a critical value corresponding to 5% level of confidence. Test of market efficiency (semi strong) is a test of speed of market reaction to news. The null hypothesis can be rejected or accepted based on the distribution of CAR and MAAR in the event window. For a

capital market to be efficient in the semi strong form the value of CAR OR MAAR should be equal to zero before the event, rise to a positive value after the event and remain relatively constant. In an inefficient market the value of CAR and MAAR will continue rising for several days after the event.

CHAPTER FOUR:

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction.

This chapter presents the data findings on the impact of FIRE Awards announcements on the share returns for companies quoted at the NSE

The event design was an event study covering an eleven days event window for the five years from 2007 to 2011.

Analysis of findings was done using Microsoft excel. Parametric T test was used to determine the statistical significance of the mean abnormal returns and the cumulative abnormal returns of the award participants and non-participants over the event window of -5 to +5 days.

4.2 Selection of listed firms studied.

Lists of FIRE Award participating companies were obtained from ICPAK. All the companies listed at the NSE were grouped into two. The participants and non-participants. The study looked at only those companies whose shares were consistently traded in the eleven days event window. In 2007, 24 participants and 13 non participants were sampled while 6 participants and 11 non participants were excluded due to inconsistent trading in the event window. In 2008, 34 participants and 6 non participants were sampled while 4 participants and 11 non participants were excluded. In 2009, 26 participants and 13 non participants were sampled while 4 participants and 13 non participants were excluded. In 2010, 24 participants and 19

non participants were sampled while 4 participants and 8 non participants were excluded. In 2011, all the 25 participants and 24 non participants were sampled while 9 non participants were excluded due to non-trading.

4.3 Abnormality of returns.

The study analysed the actual returns of the participants and non-participants and compared them with the market returns so as to establish the existence of abnormal returns around the FIRE Awards announcement dates. The mean abnormal returns for each event day and the mean abnormal returns for each company are computed as described in chapter three. The results show that the MARs of participants are not significantly different from those of non-participants for all the event days for the all the five years studied. Line graphs of results are presented below. It is worth noting that the graphs for participants have positive slope from day zero to day 1 for all the years except 2010.

This indicates that NSE efficiently reacts to the news of the award.

Figure 4.1 Mean Abnormal returns of Participants and non-participants (2007)

Figure 4.1 shows the mean abnormal returns of the participating companies and non participating companies over the eleven days window in 2007.
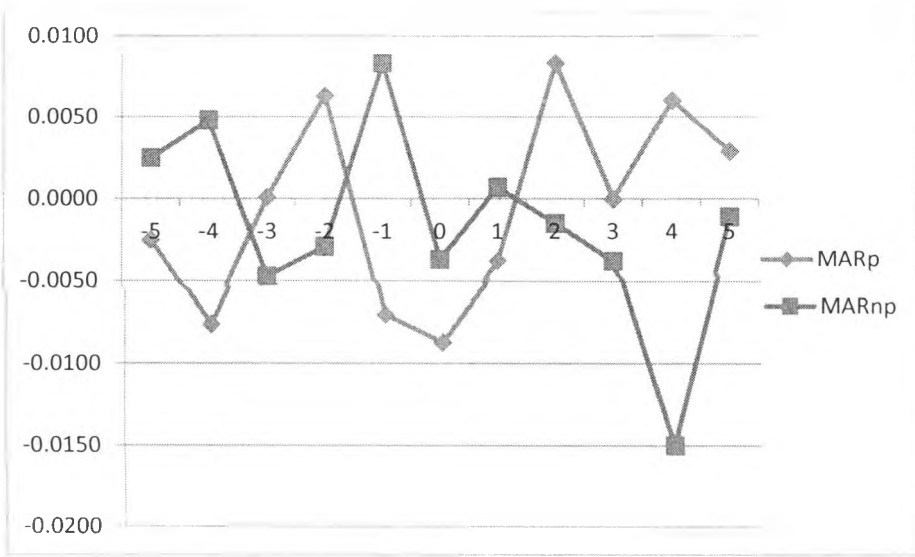
Figure 4.2 Mean Abnormal returns of Participants and non-participants (2008)

Figure 4.2 shows the mean abnormal returns of the participating companies and non participating companies over the eleven days window in 2008.
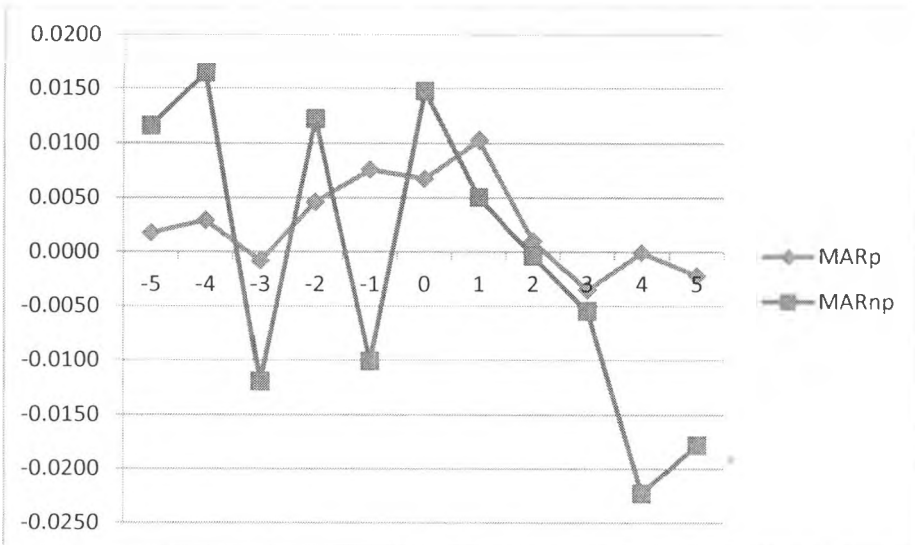
Figure 4.3 Mean Abnormal returns of Participants and non-participants (2009)

Figure 4.3 shows the mean abnormal returns of the participating companies and non participating companies over the eleven days window in 2009
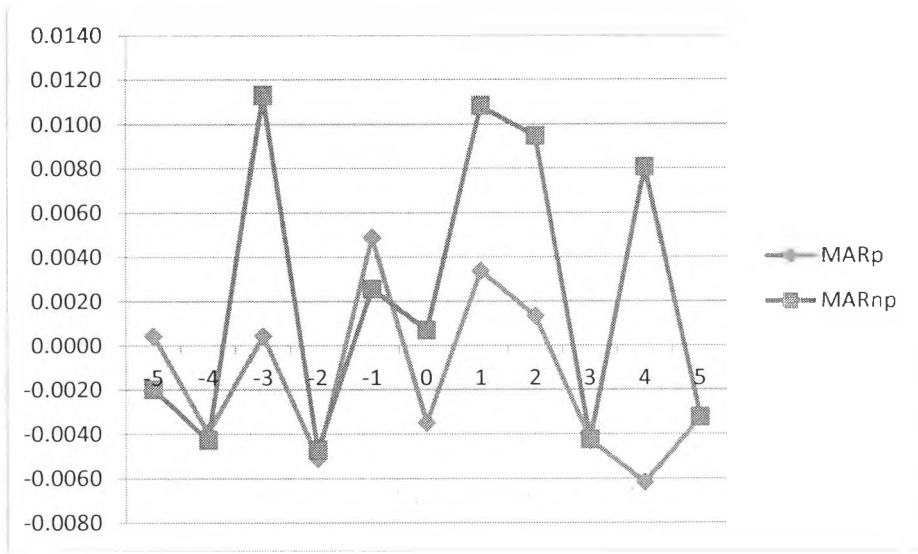
Figure 4.4 Mean Abnormal returns of Participants and non-participants (2010)

Figure 4.4 shows the mean abnormal returns of the participating companies and non participating companies over the eleven days window in 2010
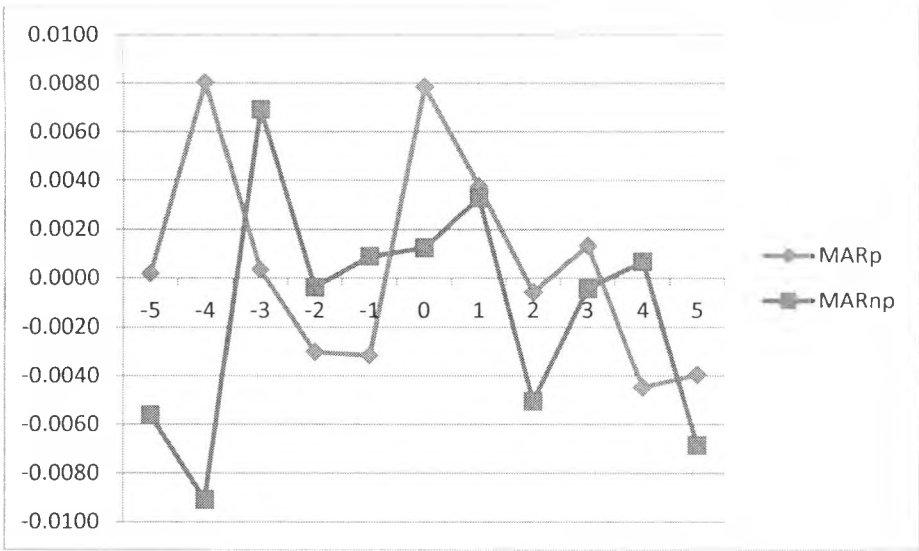
Figure 4.5 Mean Abnormal returns of Participants and non-participants (2011)

Figure 4.5 shows the mean abnormal returns of the participating companies and non

participating companies over the eleven days window in 2011
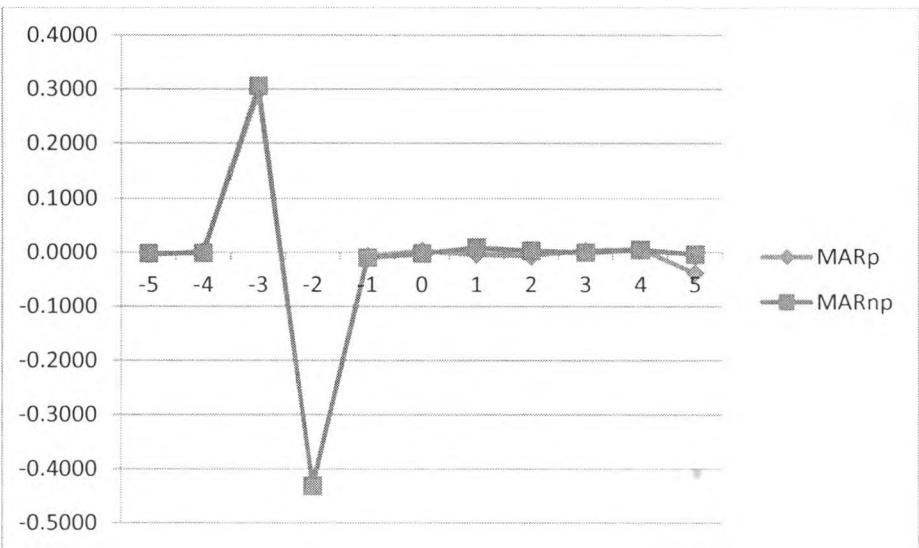
4.4 Cumulative abnormal returns

The following figures present the cumulative abnormal returns (CAR) for the event period. The results show that CARs are not significantly different for the event period.

From the graphs below it is worth noting that CAR for non-participants is greater than CAR for participants from the event date to day +3 for all the years except 2010. Though CAR of participants have positive slope from event date to day +3, it appears the there is no advantage for an investor who chooses a portfolio consisting of only participants as opposed to non-participants. It is also noted that even the winners do not generate higher CAR than those participants who do not win any category.The fact that CAR for non-participants is generally higher than those of participants suggests that the market could be reacting to some other information or event and not the Awards. Based on the distribution of the CAR it is not an important corporate event for investors as non-participants register higher CAR than participants.

Figure 4.6 Cumulative Abnormal returns of Participants and non-participants (2007)

Figure 4.6 shows the Cumulative abnormal returns of the participating companies and non participating companies over the eleven days window in 2007
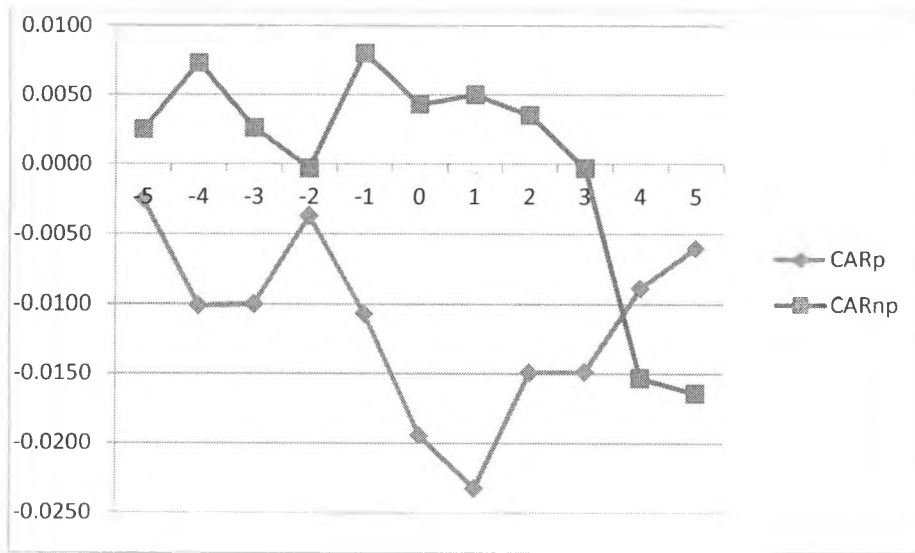
Figure 4.7 Cumulative Abnormal returns of Participants and non-participants (2008)

Figure 4.7 shows the Cumulative abnormal returns of the participating companies and non participating companies over the eleven days window in 2008
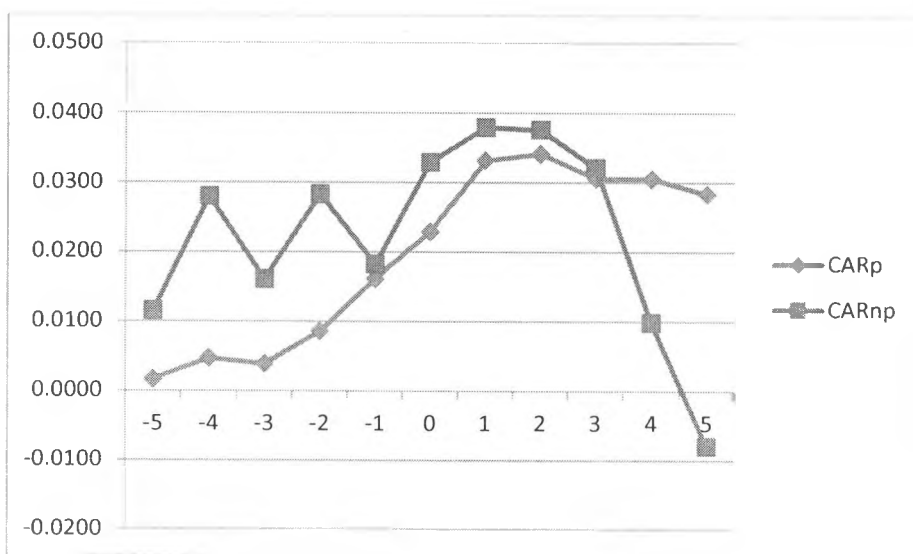
Figure 4.8 Cumulative Abnormal returns of Participants and non-participants (2009)

Figure 4.8 shows the Cumulative abnormal returns of the participating companies and non participating companies over the eleven days window in 2009
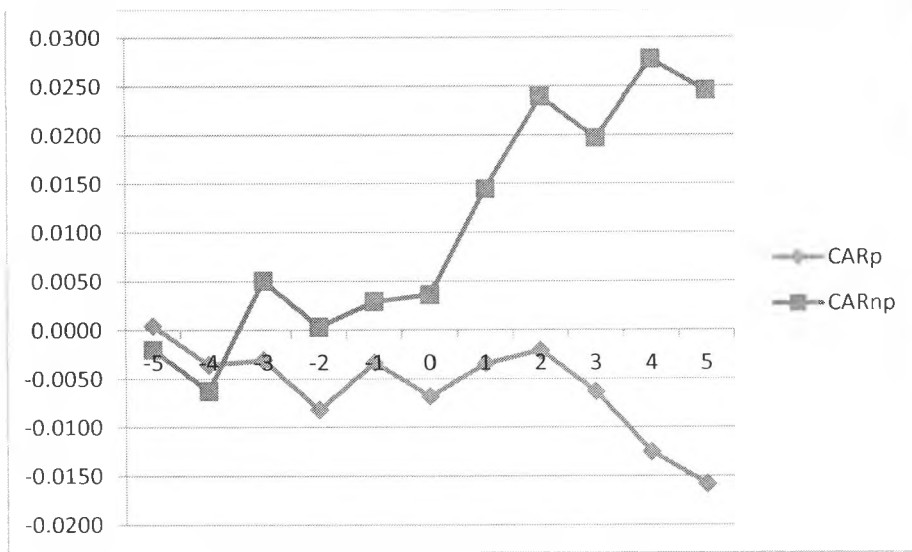
Figure 4.9 Cumulative Abnormal returns of Participants and non-participants (2010)

Figure 4.9 shows the Cumulative abnormal returns of the participating companies and non participating companies over the eleven days window in 2010
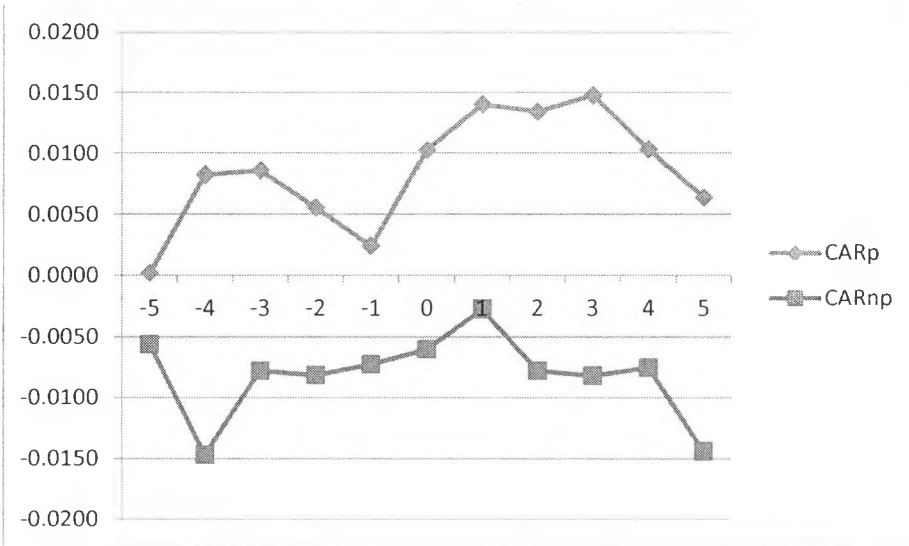
Figure 4.10 Cumulative Abnormal returns of Participants and non-participants (2011)

Figure 4.10 shows the Cumulative abnormal returns of the participating companies and non participating companies over the eleven days window in 2011
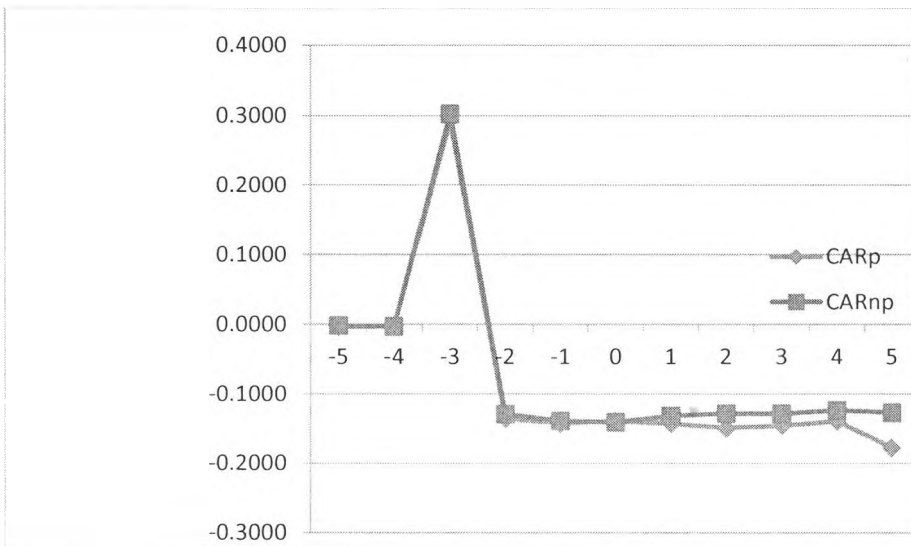
CHAPTER FIVE:

SUMMARY OF FINDINDS, CONCLUSIONS AND RECOMEDATIONS.

5.1 Introduction.

This chapter discusses the summary of findings presented in chapter four. Conclusions and recommendations drawn from these findings are discussed in relation to the objective of the study which was to establish the impact of FIRE Award announcements on stock returns of companies listed at the NSE.

5.2 Summary of findings.

The summary of the findings are shown on appendices 17-21. It is worth noting that the p values for MAR and CAR are greater than 0.05 for all the days of the event period and for all the years. There is therefore sufficient evidence to accept the null hypothesis.

5.3 Conclusion.

From the findings presented in the previous chapter and the summaries provided above, it was found that P values are greater than 0.05 for all the entire event period in all the five years. The null hypothesis is accepted and the study concludes that the Fire awards do not have significant impact on stock returns for companies listed at the NSE. It follows that the markets interpretes the information efficiently and there are no arbitrage benefits around the award announcements. Award participation is therefore not an important factor in investing decisions.

5.4 Recommendations.

The study noted that the FIRE Award participation dropped from 68 percent of listed companies in 2007 to 43 per cent in 2011.The study recommends that the Awards be strengthened so that there is increased participation and interest. In public interest, the Award promoters should assess all the listed companies and rate or rank them as opposed to participation being voluntary.

5.5 Areas of further research.

This research looked at a short event window of -5 to +5 days. Further research may be carried using data for longer event windows. This research covered the past five years. The Award has been in existence for ten years now and further research may be done on the initial years and compared with the results of this study. Further research should also be done to unearth reasons for declining participation by listed companies.

Further research should also be done on the market for executives to determine whether the management of the winning firms benefit by getting hire perks, promotions or new job opportunities.

REFERENCES

Aduda, J and Chemarun, C. (2010).Market Reaction to Stock Splits. Empirical evidence from the Nairobi Stock Exchange.*African Journal of Business and Management(AJBUMA), Vol 1,165-184*

Agrawal, A. and Tandon, K. (1994).Anomalies or Illusions? Evidence From Stock Markets in Eighteen Countries. *Journal of International Money and Finance, Vol. 13 No. 1: 83-106.*

Aharony, J, and Swavy,I. (1980). Quarterly dividend and earnings announcements and stock holders' returns; An empirical analysis. *Journal of finance, 35, 1-12*

Anyumba, P.A (2010). *An Empirical test of the random walk model for the Nairobi StockExchange.*(Unpublished MBA project).University of Nairobi.

Ariel, R. A. (1987). A Monthly Effect on Stock Returns.*Journal of Financial Economics, Vol 18 No. 1:161-174.*

Asquith, P and D.W. Mullins, D.W (1986).Equity issues and offering dilution.*Journal of financial economies (January/February) 61-89*

Bae, S.C and Jo, H (1999). The impact of information release on stock price volatility and trading volume: the nights offering case. *Review of quantitative finance and accounting 13: 153-169*

Banz, R. (1981). The relationship between return and market value of common stocks. *Journal of Financial Economics Vol. 9: 3-18.*

Basu, S. (1977). Investment performance of common stocks in relation to their price-earning ratios: A test of the efficient market hypothesis.*Journal of Finance Vol. 32 (663-682).*

Bearer et al, (1979). Capital Markets Efficiently and the Predictability of Daily Return, *Applied Economics*, 38, 630-631

Bearer, W.H (1968). The Information Content of Annual Earning Announcements, *Journal of Accounting Research, Supplement 6, 67 – 92*

Beaver et al; (1979), Capital Markets Efficiently and the Predictability of Daily Return, *Applied Economics*, 38, 630-631

Brennan, M.J. and Copeland, T. E. (1988).Stock Splits, Stock Prices and Transaction Costs, *Journal of Financial Economics*.

Brockman, P. and D. Michayluk (1998). The persistent holiday effect: Additional evidence. *Applied Economic Letters Vol. 5:205-209.*

Brooks, R., a jay Patel, A. and Su,T.(2003). How the equity market responds to unanticipated events. *Journal of business, 76, 109-133*

Brown, S.J and Warner, J.B (1980).Measuring security price performance.*Journal of financial economics 8 (1980), P 251 – 252)*

Bulan, L.T., N Subramanian, and Taulu, L.D (2004).Working paper on the timing of dividend initiations.Brandeis University and Havard Business School.

Cadsby, B. and Ratner, M. (1992). Turn-of-month and pre-holiday effects on stock returns: Some international evidence.*Journal of Banking and Finance, Vol. 16.*

Campbell, J.Y. and Shiller, R.J. (1987). Stock prices, earnings and expected dividends. *Journal of Finance, Vol. 43 :661-676.*

Charest, G. (1978) Dividend information, stock returns and market efficiently-II. *Journal of financial economic, 6, 297-330.*

Cherono, D.K (2010). *Market reaction to cross border listing for companies quoted at the Nairobi Stock Exchange.*(Unpublished MBA project). University of Nairobi.

Conroy, .R.M, Eades, K.M and Harris, R.S. (2000). A test of the relative pricing effects of dividends and earnings: Evidence form simultaneous announcements in Japan. *Journal of finance, 55-1199-1227.*

Conroy, R., Harris, R and Benet, B. (1999). Stock Splits and Information: The Role of Share Price. *Journal of Financial Management, 28:28-30 .*

Dechow, P.M., Hutton, A.P., Meulbroek, L. and Sloan, R.G. (2001). Short-sellers, fundamental analysis, and stock returns. *Journal of Financial Economics Vol. 61: 77-106.*

Dees, J.G (1996) Responding to market failure,.Havard Business School Publishing

Eckbo, E. and Masulis, R (1992).Advance selective and the right offer paradox.*Journal of financial economics 32:293-332*

Eilifsen, A; Knivsfia, K.H., and Saethen, T (2001).Earning announcements and the variability of stock returns.*Scandinavian Journal of Management, Vol 2, 187-200*

Fama, E.F (1970). Efficient Capital Markets.A review of theory and empirical work.*Journal of Finance, 25: 383-419*

*Fama, E. F (1991).*Efficient capital markets II. *Journal of Finance Vol. 46:1575-1617.*

Fama,E.F, Fisher, L., Jensen, M. and Roll, R (1969). The Adjustment of stock prices to new information.*International Economic Review, 10:1-21*

French, K.R. (1980). Stock returns and the weekend effect. *Journal of Financial Economics Vol. 8:55-69.*

Grullon, G., Michaely R., and Swaminathans, B (2002). Are dividend changes a sing of firm maturity.*Journal of Business 75, 387-424.*

Gunasekarage, A. and power, D.M (2002). The post announcement performance of dividend – changing companies: The dividend signalling hypothesis revisited. *Journal of accounting and finance, 42:131-151*

Gupta and Kuman (2007). A re-examination of factors affecting returns in the Indian stock market. http://ssrm.com/abstract=1376236

Gwilym, O.A, J. Seaton, and Thomas, (2004). Dividend signalling when earnings growth declines. Discussion paper, University of Southampton.

Healy, P.M, and Palepu, K.G. (1988).Earnings information conveyed by dividend initiations and omissions.*Journal of financial economics 21-149-176*

Herning, R.J (1999). What is optimal regulation? The Wharton School, University of Pennysylvania, Http//ideas.rapec.org/p/wop/pennin/00-34. Html

Http://fireawards.org.

Ikenberry, D., Rankine, G. and Stice, E. (1996). What do Stock Splits really Signal?.*Journal of Finance and Quantitative Analysis,31:357-413.*

Investopedia staff, (2005) Understanding stock splits. (Online) http://www.invetopedia.com

Jones, Needham and Bacon, Frank (2007). Surprise earning announcements: A test of market efficiency. *Proceedings of the academy of accounting and finance studies vol. 12, No 1.*

Kamara, A. (1997). New evidence on the Monday seasonal in stock returns.*Journal of Business Vol. 70.*

Kiio, E.K(2006). *An empirical investigation into market efficiency and the effect of cash dividend announcements on share prices of companies listed at NSE.*(Unpublished MBA project).University of Nairobi.

King'ori, E.N (1995). *Stock market seasonalities at NSE: An empirical study.* (Unpublished MBA project).University of Nairobi.

Knight, R.F. (1991), The information content of Swiss corporate earnings and dividend announcements. *Swiss journal of economics and statistics 127-537-561.*

Koisiantis, Koumanakos, Tzelepis and Tampakas (2006). Forecasting fraudulent financial statements using data mining: *International Journal of Computational intelligence volume 3 number 2 2006 ISSN 1304 -2386*

Kuria, H.M(2007). *Short and long term effects of cross border listing announcements on companies listed at the NSE and their post listing performance*Unpublished MBA project. University of Nairobi.

Lakonishok, J. and Smidt, S. (1988). Are Seasonal Anomalies Real? A Ninety-Year Perspective.*Review of Financial Studies, 1988, Vol. 1 :403-425.*

Marsh, P. (1979). Equity rights and the efficiency of the UK stock market. *Journal of Finance 34: 839-862.*

Mbaka, M (2010). *An empirical study into the implicability of the divided signaling theory at the Nairobi Stock Exchange.*(Unpublished MBA project).University of Nairobi.

Mbugua, A (2004). *Evaluating the information content of stock dividends announcements: Case study for companies quoted at the Nairobi Stock Exchange.*(Unpublished MBA project).University of Nairobi.

Michaely, R., R.H. Thalerand Womaek, K. (1995). Price reaction to dividend initiations and omissios: over reaction or drift?.*Journal of finance 45:857-879*

Miller M.H and Modigliani, F.(1961). Dividend policy, growth and valuation of shares. *The journal of business, vol. 34,: 411-433.*

Mohamed, H.M (2010). *The effect of earning announcements of stock prices of companies listed at Nairobi Stock Exchange.* (Unpublished MBA project). University of Nairobi.

Mokua, E.M (2003). *An Empirical study on the weekend effect on the stocks at the NSE.*(Unpublished MBA project). University of Nairobi

Ndirangu, M.T.W (2008). *Effects of Stock prices to announcements of Company of the Year Awards: A case study of companies listed at the Nairobi Exchange.* (Unpublished MBA project).University of Nairobi.

Obaidulah, M (1990). Stock Prices Adjustments to half year Earning Announcements, A test of Market Efficiency.*The Chartered Accountan,38: 922 – 924*

Ondigo, H.O (1995). *The information content of the Annual reports and accounts: An empirical test.* (Unpublished MBA project). University of Nairobi.

Ondumbe,K.O (2010). *An Empirical investigation of the information content of bonus share announcement for companies quoted at the Nairobi Stock Exchange.* (Unpublished MBA project).University of Nairobi.

Onyango, P.N (2004). *Stock price reaction to Earnings Announcement, Evidence from NSE.*(Unpublished MBA project).University of Nairobi.

Pettit, R.R.(1972). Dividend announcements, Security Performance and Capital Markets efficiency.*The Journal of Finance, Vol.XXVII, 993-1005*

Reinganum, M. R. (1983). The Anomalous Stock Market Behavior of Small Firms in January, Empirical Tests for Tax-Loss Selling Effects. *Journal of Financial Economics, Vol. 12 No. 1 : 89-104.*

Rozeff, M. S. and William R. K. (1976). Capital Market Seasonality: The Case of Stock Returns. *Journal of Financial Economics, Vol. 3 No. 4: 379-402.*

Samuelson, P.A. (1965). Proof that property anticipated prices Fluctuate randomly. Industrial Management review, Vol 6: 41-50.

Samuelson, P.A. (1973). Proof that property discounted present value of assets vibrate randomly. Bell Journal of Economics, Vol 4 No.2, 365-369

Scholes, Myron (1972). The market for securities: Substitution versus price pressure and the effects of information on share prices. *Journal of Business, 45: 179-211.*

Sririvasan and Dutta (2000). Share price behaviour around buy backs in India. *Journal of Management Research 1,4, 27 – 37*

Steeley, J.M. (2001). A note on information seasonality and the disappearance of the weekend effect in the UK stock market. *Journal of Banking and Finance Vol. 25:1941-1956.*

Stickel, S.E. (1985). The effect of value line investment survey rank changes on common stock prices. *Journal of Financial Economics, Vol. 14: 121-144.*

Watts, R.L., and Zimmerman, J.L. (1986).*Positive Accounting Theory*, Prentice-Hall

Wesonga, O.A (2008). *The use of financial disclosure for decision making by investors in Kenya: A case for institutional investors at Nairobi Stock exchange.* (Unpublished MBA project). University of Nairobi.

Appendix1: 2007 FiRe Award Entrants

Banks Category

1. Kenya Commercial Bank

2. NIC Bank

3. Co-operative Bank

4. Standard Chartered Bank

5. Barclays Bank

6. Stanbic bank

7. Diamond Trust Bank

8. National bank

9. Equity Bank

10. Housing Finance

Industrial Commercial and Services Category

1. Kakuzi

2. ICDC Investment

3. CMC Holdings

4. Mumias Sugar

5. Bamburi Cement

6. Williamson Tea

7. Scangroup

8. BAT

9. BOC Gases

10. Kengen

11. EA Portland Cement

12. KPLC

13. Total Kenya

14. Kenol Kobil

15. Sasini

16. Nation Media

17. EA Cables56

18. Rea Vipingo

19. Car & General

20. EABL

21. TPS EA Ltd

Insurance category

1. Pan Africa Insurance Holdings
2. CFC Life
3. Jubilee Holdings Ltd

Appendix 2: 2008 FiRe Award Entrants

Bank Category

1. Kenya Commercial Bank
2. NIC Bank
3. Co-operative Bank
4. Standard Chartered Bank
5. Barclays Bank
6. Stanbic bank
7. Diamond Trust Bank
8. National bank
9. Equity Bank
10. Housing Finance

Industrial, commercial and Services Category.

1. Kakuzi
2. Sameer Africa
3. CMC Holdings
4. Mumias Sugar
5. Access Kenya
6. Bamburi Cement
7. Williamson Tea
8. Scangroup
9. BAT
10. Safaricom

11. BOC Gases
12. Centum Investment
13. Kengen
14. EA Portland Cement
15. KPLC
16. ARM
17. Total Kenya
18. Kenol Kobil
19. Sasini Tea ltd
20. Standard Group
21. Nation Media
22. EA Cables
23. Rea Vipingo
24. Car & General
25. EABL
26. TPS EA Ltd
27. Kenya Airways

Insurance Category

1. Pan Africa Insurance Holdings
2. CFC Life
3. Kenya Re
4. Britak
5. Jubilee Holdings Ltd

Appendix 3: 2009 FiRe Entrants.

Banks Category

1. Barclays Bank of Kenya.

2. Kenya Commercial Bank.

3. CFC Stanbic Bank.

4. Diamond Trust Bank.

5. NIC Bank.

6. National bank of Kenya.

7. Equity Bank.

8. Standard Chartered Ban.

9. The Cooperative Bank.

10. Housing Finance Corporation.

Insurance Category

1. Pan Africa Insurance Holding Limited.

2. Jubilee Holdings Limited.

3. CFC Life Assurance Limited.

Industrial, Commercial and Services Category.

1   Kenol Oil Company Limited.

2   Kakuzi Limited.

3   BOC gases.

4   Standard Group.

5   Safaricom Ltd.

6   CMC Holdings

7   Bamburi Cement.

8   Kenya Power & Lighting Company

9   Centum Investment

10   Rea Vipingo

11   Access Kenya Group

12   KenGen

13   Car & General

14   Express Kenya

15   East African Portland Cement

16   East African Cables

17   Mumias Sugar Company

18   Williamson Tea Kenya

19   Sameer Africa

20   Total Kenya

Appendix 4 : 2010 FiRe Award Entrants.

Bank Category

1. Barclays Bank of kenya limited

2. CFC Stanbic Bank Limited

3. Co-operative Bank of Kenya

4. Equity Bank

5. Housing Finance company of Kenya Limited

6. Kenya Commercial Bank

7. National Bank of Kenya limited

8. NIC Bank

9. Standard Chartered Bank Kenya limited

Insurance category

1. British American Investments Company (Kenya) Ltd

2. CFC Life Assurance Limited

3. Jubilee Holdings Limited

4. Pan Africa Life Assurance Limited

Industrial Commercial and Services Category.

1	Bamburi Cement Ltd
2	BOC Kenya Limited
3	Car and General
4	Centum Investments Ltd
5	CFC Stanbic Holdings Limited
6	CMC Holdings Limited
7	EAAGADS Limited
8	East African Cables Ltd
9	East African Portland Cement
10	Kakuzi Limited
11	KenolKebil
12	Kenya Airways
13	KPLC Limited
14	Nation Media Group Limited
15	Safaricom Limited
16	Sasini Limited
17	ScanGroup Limited
18	Total Kenya

Appendix 5: 2011 FiRe Award Entrants.

Bank Category

1   Barclays Bank of Kenya Limited.
2   CFC Stanbic Holdings Limited.
3   The Co-operative Bank of Kenya Limited.
4   Diamond Trust Bank Kenya Limited.
5   Equity Bank Limited.
6   Housing Finance Company of Kenya Limited.
7   Kenya Commercial Bank Limited.
8   National Bank of Kenya Limited.
9   NIC Bank Limited.
10 Standard Chartered Bank of Kenya Limited.

Industrial Commercial and Services Category.

1   Athi River Mining Limited.
2   Bamburi Cement Company Limited.
3   Car & General Kenya Limited.
4   East African Cables Limited.
5   East African Portland Cement Company Limited.
6   Kakuzi Limited.
7   Kenya Airways Limited.
8   KPLC Limited.
9   Mumias Sugar Company Limited.
10 Rea Vipingo Plantations Limited.
11 Sasini Limited.
12 Total Kenya Limited.
13 Trans-Century Limited.

Insurance Category

1   British American Investment Co ltd.
2   CFC Life Assurance Limited.
3   Jubilee Holdings Ltd

Appendix 6: List of companies quoted at the Nairobi Securities Exchange.

AGRICULTURAL

Eaagads Ltd

Kapchorua Tea Co. Ltd Ord

Kakuzi

Limuru Tea Co. Ltd

Rea Vipingo Plantations Ltd

Sasini Ltd

Williamson Tea Kenya Ltd

COMMERCIAL AND SERVICES

Express Ltd

Kenya Airways Ltd

Nation Media Group

Standard Group Ltd

TPS Eastern Africa (Serena) Ltd

Scangroup Ltd

Uchumi Supermarket Ltd

Hutchings Biemer Ltd

Longhorn Kenya Ltd

TELECOMMUNICATION AND TECHNOLOGY

AccessKenya Group Ltd

Safaricom Ltd

AUTOMOBILES AND ACCESSORIES

Car and General (K) Ltd

CMC Holdings Ltd

Sameer Africa Ltd

Marshalls (E.A.) Ltd

BANKING

Barclays Bank Ltd

CFC Stanbic Holdings Ltd

Diamond Trust Bank Kenya Ltd

Housing Finance Co Ltd

Kenya Commercial Bank Ltd

National Bank of Kenya Ltd

NIC Bank Ltd

Standard Chartered Bank Ltd

Equity Bank Ltd

The Co-operative Bank of Kenya Ltd

INSURANCE

Jubilee Holdings Ltd

Pan Africa Insurance Holdings Ltd

Kenya Re-Insurance Corporation Ltd

CFC Insurance Holdings

British-American Investments Company (Kenya) Ltd

Kenya Power & Light

INVESTMENT

City Trust Ltd

Olympia Capital Holdings ltd

Centum Investment Co Ltd

Trans-Century Ltd

MANUFACTURING AND ALLIED

B.O.C Kenya Ltd

British American Tobacco Kenya Ltd

Carbacid Investments Ltd

East African Breweries Ltd

Mumias Sugar Co. Ltd

Unga Group Ltd

Eveready East Africa Ltd

Kenya Orchards Ltd

A.Baumann CO Ltd

CONSTRUCTION AND ALLIED

Athi River Mining

Bamburi Cement Ltd

Crown Berger Ltd

E.A.Cables Ltd

E.A.Portland Cement Ltd

ENERGY AND PETROLEUM

KenolKobil Ltd

Total Kenya Ltd

KenGen Ltd

Appendix 7: 2007 Daily abnormal returns for non participants.

Day	-5	-4	-3	-2	-1	0	1	2	3	4	5	
Company	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	MAR
AccessKenya Group Ltd .	0.0192	0.0179	0.0119	0.0195	-0.0118	-0.0186	0.0134	-0.0013	0.0096	0.0082	-0.0048	0.0632
Kenya Airways Ltd Ord.	-0.0146	0.0036	0.0204	0.0212	-0.0095	0.0010	-0.0169	0.0288	-0.0366	0.0073	0.0045	0.0092
C.F.C Bank Ltd.	-0.0072	-0.0183	0.0204	-0.0160	-0.0410	0.0078	0.0053	-0.0185	-0.0967	0.0486	0.0148	-0.1008
Kenya Re-Insurance Corporation Ltd .	-0.0072	0.0067	-0.0440	-0.0026	-0.0415	-0.0156	0.0315	0.0465	0.0397	-0.0012	-0.0136	-0.0013
National Bank of Kenya Ltd.	0.0051	0.0585	-0.0548	0.0013	-0.0075	-0.0162	-0.0263	-0.0034	0.0202	0.0030	0.0218	0.0019
Athi River Mining Ltd.	-0.0017	-0.0019	-0.0459	-0.0158	0.0357	-0.0315	0.0445	0.0078	-0.0140	-0.0235	-0.0045	-0.0508
Crown Berger Ltd.	0.0039	-0.0239	-0.0248	0.0375	-0.0006	0.0624	-0.0310	-0.0568	0.0347	-0.0409	0.0310	-0.0085
Eveready East Africa Ltd.	-0.0072	-0.0225	0.0137	0.0138	-0.0151	-0.0186	0.0063	-0.0031	0.0074	-0.0444	0.0110	-0.0588
Kenya Oil Co Ltd.	-0.0374	0.0036	0.0152	-0.0643	0.0899	0.0419	0.0236	-0.0103	0.0010	-0.0136	-0.0300	0.0197
Olympia Capital Holdings ltd.	0.0480	0.0501	0.0620	0.0218	0.0528	-0.0245	-0.0419	0.0176	-0.0195	-0.0289	-0.0132	0.1245
Sameer Africa Ltd.	-0.0158	0.0036	0.0117	-0.0213	0.0052	-0.0568	-0.0062	-0.0103	-0.0490	0.0232	0.0638	-0.0520
Unga Group Ltd Ord.	-0.0184	-0.0190	0.0204	0.0061	0.0129	-0.0610	0.0134	0.0356	0.0457	-0.1099	-0.0104	-0.0846
Express Ltd Ord.	0.0657	0.0036	-0.0670	-0.0394	0.0389	0.0811	-0.0070	-0.0519	0.0077	-0.0235	-0.0211	-0.0128
AR	0.0325	0.0619	-0.0609	-0.0380	0.1084	-0.0486	0.0086	-0.0191	-0.0498	-0.1954	0.0492	-0.1512
MAR	0.0025	0.0048	-0.0047	-0.0029	0.0083	-0.0037	0.0007	-0.0015	-0.0038	-0.0150	0.0038	-0.0116
CAR	0.0025	0.0073	0.0026	-0.0003	0.0080	0.0043	0.0049	0.0034	-0.0004	-0.0154	-0.0116	-0.0233

| MCAR | 0.0025 | 0.0049 | 0.0041 | 0.0030 | 0.0040 | 0.0040 | 0.0042 | 0.0041 | 0.0036 | 0.0017 | 0.0005 | -0.0015 |

Appendix 8: 2007 Daily abnormal returns for participants.

Day	-5	-4	-3	-2	-1	0	1	2	3	4	5	MAR
COMPANY	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	
Rea Vipingo Plantations Ltd.	0.0303	-0.0326	-0.0046	0.0113	0.0000	-0.0203	0.0241	-0.0368	0.0759	0.0140	0.0016	0.0630
Sasini Ltd.	-0.0555	-0.0143	0.0021	-0.0512	-0.0048	0.0159	-0.0434	0.0465	-0.0409	0.0110	-0.0004	-0.1350
CMC Holdings Ltd.	0.0118	0.0067	-0.0168	0.0363	-0.0483	-0.0306	-0.0319	0.0445	0.0379	0.0358	-0.0166	0.0287
Nation Media Group Ltd.	-0.0037	0.0036	0.0098	0.0210	-0.0126	0.0231	0.0027	0.0042	-0.0283	-0.0198	0.0221	0.0220
Scangroup Ltd.	-0.0072	-0.0253	0.0303	0.0432	0.0147	-0.0596	-0.0172	0.0318	0.0062	0.0558	-0.0013	0.0715
Standard Group Ltd.	0.0021	0.0128	0.0113	-0.0045	-0.0042	0.0253	-0.0333	0.0094	-0.0237	0.0445	-0.0013	0.0383
TPS Eastern Africa (Serena) Ltd.	-0.0324	0.0488	0.0080	0.0138	-0.0011	-0.0156	-0.0191	-0.0572	0.0564	-0.0103	-0.0169	-0.0255
Barclays Bank Ltd.	-0.0137	0.0036	-0.0059	0.0071	-0.0084	0.0021	-0.0006	-0.0103	0.0001	-0.0095	0.0034	-0.0322
Diamond Trust Bank Kenya Ltd.	0.0389	0.0036	0.0204	-0.0499	-0.0001	0.0054	0.0294	0.0159	0.0064	-0.0035	-0.0447	0.0218
Equity Bank Ltd.	-0.0331	-0.0141	-0.0066	0.0231	-0.0682	-0.0089	0.0134	0.0557	0.0336	0.0584	0.0232	0.0764
Housing Finance Co Ltd.	0.0270	-0.0295	-0.0309	-0.0132	-0.0133	-0.0596	-0.0376	0.0543	0.0567	0.0331	0.0699	0.0569

I.C.D.C Investments Co Ltd.	0.0113	-0.0146	-0.0167	0.0523	-0.0133	-0.0219	0.0134	-0.0005	-0.0140	0.0057	0.0179	0.0196
Jubilee Holdings Ltd.	-0.0544	0.0184	0.0253	0.0187	-0.0045	-0.0085	-0.0316	-0.0207	0.0124	-0.0286	-0.0312	-0.1047
Kenya Commercial Bank Ltd.	-0.0170	0.0135	0.0008	-0.0162	-0.0051	-0.0258	0.0352	0.0536	0.0160	-0.0137	-0.0104	0.0307
NIC Bank Ltd.	0.0349	-0.1126	-0.0139	-0.0394	-0.0323	-0.0361	-0.0140	0.0038	0.0137	-0.0099	0.0362	-0.1695
Standard Chartered Bank Ltd	0.0034	-0.0017	0.0257	-0.0546	0.0447	0.0322	-0.0026	-0.0157	-0.0359	-0.0011	0.0060	0.0004
Bamburi Cement Ltd.	0.0030	-0.0066	0.0255	0.0138	0.0052	0.0210	0.0134	-0.0153	-0.0191	-0.0235	-0.0104	0.0070
British American Tobacco Kenya Ltd.	-0.0208	-0.0033	0.0204	0.0069	-0.0018	0.0159	0.0064	-0.0103	-0.0069	0.0047	-0.0310	-0.0199
E.A.Cables Ltd.	-0.0016	-0.0242	-0.0539	0.0755	-0.0297	-0.0444	-0.0058	0.0224	-0.0204	-0.0043	0.0146	-0.0718
East African Breweries Ltd.	-0.0072	-0.0022	0.0204	0.0255	0.0052	0.0159	0.0192	0.0127	-0.1882	-0.0303	-0.0310	-0.1600
Kenya Power & Lighting Ltd.	0.0156	0.0036	-0.0019	-0.0136	0.0146	0.0066	-0.0335	-0.0250	0.0360	0.0099	0.0080	0.0201
KenGen Ltd.	-0.0251	-0.0237	-0.0357	0.0336	-0.0045	0.0061	0.0134	-0.0004	0.0056	-0.0042	-0.0010	-0.0359
Mumias Sugar Co. Ltd.	0.0313	0.0036	-0.0228	0.0074	0.0117	-0.0357	0.0134	0.0374	0.0249	0.0265	0.0372	0.1348
Total Kenya Ltd.	0.0015	0.0036	0.0118	0.0051	-0.0124	-0.0109	-0.0049	-0.0009	-0.0048	0.0041	0.0253	0.0174
AR	**-0.0605**	**-0.1827**	**0.0018**	**0.1519**	**-0.1686**	**-0.2084**	**-0.0916**	**0.1992**	**-0.0005**	**0.1447**	**0.0689**	**-0.1459**

MAR	-0.0025	-0.0076	0.0001	0.0063	-0.0070	-0.0087	-0.0038	0.0083	0.0000	0.0060	0.0029	-0.0061
CAR	-0.0025	-0.0101	-0.0101	-0.0037	-0.0108	-0.0194	-0.0233	-0.0150	-0.0150	-0.0089	-0.0061	-0.0122
MCAR	-0.0025	-0.0063	-0.0076	-0.0066	-0.0074	-0.0094	-0.0114	-0.0119	-0.0122	-0.0119	-0.0114	-0.0114
T TEST (MAR)	0.5970	0.1888	0.6855	0.3754	0.1933	0.7090	0.6014	0.3596	0.8022	0.0936	0.9169	0.8105
df	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000	35.0000
P Values (MAR)	0.5543	0.8513	0.4975	0.7096	0.8479	0.4830	0.5514	0.7213	0.4278	0.9260	0.3655	0.4231
T TEST (CAR)	0.5970	0.1842	0.4654	0.8657	0.4146	0.3674	0.3060	0.5312	0.6567	0.8536	0.8778	0.8105
P VALUES (CAR)	0.5543	0.8549	0.6445	0.3925	0.6809	0.7155	0.7614	0.5986	0.5157	0.3992	0.3861	0.4231

Appendix 9: 2008 Daily abnormal returns for participants.

Day	-5	-4	-3	-2	-1	0	1	2	3	4	5	
Company	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	MAR
E.A.Portland Cement Ltd	-0.0024	0.1146	0.0013	0.0973	0.1152	0.1165	0.0909	0.0269	0.0803	-0.0074	-0.0554	0.0525
Sasini Ltd	0.0379	0.0513	-0.0299	0.0549	-0.0013	0.0271	0.0180	0.0173	0.0041	0.0077	-0.0242	0.0148
Standard Group Ltd	0.0130	-0.0113	0.0221	0.0237	-0.0029	0.0271	0.0242	0.0173	0.0041	0.0015	0.0071	0.0114
Bamburi Cement Ltd	-0.0077	0.0190	0.0337	0.0033	0.0066	0.0218	0.0242	0.0173	0.0041	0.0068	-0.0035	0.0114
Pan Africa Insurance Holdings Ltd Ord	0.0324	0.0190	0.0013	0.0369	0.0171	-0.0313	0.0242	0.0173	0.0041	0.0015	0.0002	0.0111
Total Kenya Ltd	0.0312	-0.0054	0.0263	-0.0211	0.0254	0.0189	0.0242	0.0090	0.0041	0.0099	-0.0179	0.0095
Sameer Africa Ltd	0.0191	0.0050	-0.0412	0.0552	0.0452	-0.0208	0.0314	-0.0041	0.0041	0.0088	-0.0147	0.0080
British American Tobacco Kenya Ltd	0.0104	0.0190	0.0013	0.0033	0.0171	0.0271	0.0116	-0.0084	-0.0024	0.0015	0.0004	0.0074
Mumias Sugar Co. Ltd	0.0277	-0.0102	0.0073	0.0093	-0.0008	-0.0032	0.0367	0.0049	-0.0021	0.0077	-0.0054	0.0066
Nation Media Group .	0.0046	-0.0157	0.0085	0.0033	0.0099	0.0271	0.0170	-0.0045	-0.0033	-0.0060	0.0146	0.0051

Standard Chartered Bank Ltd	-0.0024	0.0190	0.0013	-0.0022	0.0171	0.0216	-0.0205	-0.0120	0.0282	0.0015	0.0012	0.0048
Rea Vipingo Plantations Ltd	-0.0282	0.0190	-0.0016	-0.0144	0.0201	0.0331	0.0331	-0.0093	0.0163	-0.0285	0.0102	0.0045
CFC Stanbic Holdings Ltd .	0.0033	0.0247	-0.0212	0.0033	-0.0059	0.0330	0.0301	0.0347	-0.0473	-0.0226	0.0071	0.0036
TPS Eastern Africa (Serena) Ltd	0.0226	-0.0298	0.0526	-0.0292	0.0339	-0.0059	0.0157	0.0000	-0.0134	-0.0075	-0.0019	0.0034
Scangroup Ltd	-0.0110	0.0103	0.0013	0.0033	0.0171	0.0184	-0.0023	-0.0009	-0.0144	0.0203	-0.0114	0.0028
Housing Finance Co Ltd	-0.0024	-0.0037	-0.0219	-0.0086	0.0050	0.0393	0.0122	0.0051	-0.0082	0.0015	0.0071	0.0023
Kenya Re-Insurance Corporation Ltd	-0.0024	-0.0145	0.0083	-0.0001	-0.0037	0.0095	0.0134	0.0137	0.0041	0.0088	-0.0255	0.0010
CMC Holdings Ltd	-0.0050	0.0008	-0.0013	-0.0047	-0.0177	-0.0089	0.0012	0.0261	-0.0163	0.0044	0.0160	-0.0005
Athi River Mining	0.0161	-0.0173	-0.0364	-0.0065	-0.0027	0.0271	0.0192	-0.0182	0.0041	0.0015	0.0071	-0.0006
NIC Bank Ltd 0rd	0.0027	-0.0110	-0.0090	0.0085	0.0015	0.0113	-0.0132	-0.0105	-0.0016	0.0129	-0.0157	-0.0022
AccessKenya Group Ltd .	-0.0198	-0.0164	-0.0170	0.0126	-0.0015	0.0083	0.0146	-0.0118	-0.0259	0.0015	0.0277	-0.0025
Centum Investment Company Ltd	-0.0049	-0.0010	0.0141	-0.0017	0.0120	-0.0213	0.0001	-0.0074	0.0295	-0.0095	-0.0402	-0.0028
Jubilee Holdings Ltd	-0.0082	-0.0222	-0.0478	-0.0096	-0.0091	0.0271	0.0779	-0.0209	0.0041	0.0015	-0.0260	-0.0030
Kenya Airways Ltd	0.0088	-0.0307	0.0013	-0.0083	0.0112	-0.0025	-0.0551	-0.0291	0.0597	0.0146	-0.0059	-0.0033
Kenya Power & Lighting Ltd	-0.0024	-0.0097	0.0191	-0.0025	0.0054	-0.0380	0.0052	-0.0021	-0.0156	-0.0187	0.0208	-0.0035
Kenya Commercial Bank Ltd	-0.0212	-0.0002	0.0111	-0.0064	-0.0124	-0.0032	-0.0070	0.0280	-0.0171	-0.0094	-0.0039	-0.0038
KenGen Ltd. .	-0.0024	-0.0051	0.0013	-0.0115	0.0020	0.0042	0.0138	-0.0248	-0.0453	0.0217	0.0014	-0.0041
Equity Bank Ltd	-0.0243	-0.0393	0.0108	-0.0014	-0.0114	-0.0021	-0.0160	-0.0194	-0.0230	0.0070	0.0626	-0.0051

Company											
East African Breweries Ltd	-0.0024	0.0130	0.0013	-0.0027	-0.0072	0.0209	-0.0008	-0.0468	-0.0369	-0.0057	-0.0001	-0.0061
Diamond Trust Bank Kenya Ltd	-0.0144	0.0251	-0.0047	0.0094	0.0049	0.0087	-0.0133	-0.0152	-0.0563	0.0015	-0.0144	-0.0062
E.A.Cables Ltd	-0.0097	0.0117	0.0013	-0.0263	0.0018	-0.0194	-0.0083	-0.0247	-0.0222	0.0105	0.0160	-0.0063
Barclays Bank Ltd	0.0061	-0.0062	-0.0073	-0.0054	-0.0005	-0.0443	-0.0046	0.0024	-0.0009	-0.0086	-0.0031	-0.0066
Safaricom limited	-0.0024	-0.0012	-0.0090	-0.0071	-0.0356	-0.0729	-0.0622	0.0984	0.0166	0.0015	-0.0053	-0.0072
National Bank of Kenya Ltd	-0.0024	-0.0008	-0.0037	0.0033	0.0018	-0.0244	0.0133	-0.0157	-0.0356	-0.0341	0.0009	-0.0088
Arp	0.0603	0.1000	-0.0263	0.1576	0.2575	0.2301	0.3490	0.0327	-0.1196	-0.0024	-0.0744	0.0877
MARp	0.0018	0.0029	-0.0008	0.0046	0.0076	0.0068	0.0103	0.0010	-0.0035	-0.0001	-0.0022	0.0026
CMARp	0.0018	0.0047	0.0039	0.0086	0.0162	0.0229	0.0332	0.0341	0.0306	0.0306	0.0284	0.0195
MCARp	0.0018	0.0032	0.0035	0.0048	0.0070	0.0097	0.0130	0.0157	0.0173	0.0187	0.0195	0.0104

Appendix 10: 2008 Daily abnormal returns for Non participants.

Day	-5	-4	-3	-2	-1	0	1	2	3	4	5	
Company	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	MAR
Unga Group Ltd	0.0484	0.0859	-0.0161	0.0033	-0.0007	-0.0054	-0.0056	0.0173	0.0234	-0.0099	-0.0082	0.0120
Kenya Oil Co Ltd	0.0090	0.0134	-0.0269	0.0149	-0.0059	0.0330	0.0067	0.0113	-0.0078	-0.0107	0.0071	0.0040
Express Ltd	-0.0024	-0.0122	-0.0245	0.0298	-0.0087	0.0106	0.0006	0.0207	0.0282	0.0015	-0.0533	-0.0009
Crown Berger Ltd Ord	-0.0024	-0.0192	-0.0066	0.0193	-0.0302	0.0271	-0.0171	0.0518	0.0041	-0.0652	-0.0108	-0.0045
Eveready East Africa Ltd .	0.0191	0.0190	0.0013	0.0138	0.0171	-0.0041	0.0135	-0.0262	-0.0413	-0.0462	-0.0304	-0.0059
Olympia Capital Holdings ltd	-0.0024	0.0116	0.0013	-0.0079	-0.0320	0.0271	0.0322	-0.0772	-0.0393	-0.0031	-0.0112	-0.0092
Arnp	**0.0694**	**0.0986**	**-0.0715**	**0.0733**	**-0.0605**	**0.0883**	**0.0302**	**-0.0023**	**-0.0327**	**-0.1336**	**-0.1069**	**-0.0043**
MARnp	**0.0116**	**0.0164**	**-0.0119**	**0.0122**	**-0.0101**	**0.0147**	**0.0050**	**-0.0004**	**-0.0055**	**-0.0223**	**-0.0178**	**-0.0007**

CARnp	0.0116	0.0280	0.0161	0.0283	0.0182	0.0329	0.0380	0.0376	0.0321	0.0099	-0.0079	0.0222
MCARnp	0.0116	0.0198	0.0186	0.0210	0.0204	0.0225	0.0247	0.0263	0.0270	0.0253	0.0222	0.0218
T Value (MAR)	0.2982	0.4296	0.1003	0.2862	0.0743	0.3839	0.5515	0.9461	0.8870	0.1006	0.1384	0.3815
df	38	38	38	38	38	38	38	38	38	38	38	38
P Value (MAR)	0.7672	0.6699	0.9206	0.7762	0.9412	0.7032	0.5845	0.3501	0.3807	0.9204	0.8907	0.7186
T VALUE (CAR)	0.2982	0.2030	0.5546	0.3610	0.9308	0.6941	0.8575	0.9142	0.9650	0.5803	0.3537	0.3132
P VALUE (CAR)	0.7672	0.8402	0.5824	0.7201	0.3578	0.4919	0.3965	0.3664	0.3406	0.5651	0.7255	0.7559

Appendix 11: 2009 Daily abnormal returns for participants.

Day	-5	-4	-3	-2	-1	0	1	2	3	4	5	
COMPANY	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	MAR
Rea Vipingo Plantations Ltd	-0.0056	-0.0003	0.0050	0.0004	0.0157	0.0088	0.0013	0.0075	-0.0053	0.0203	0.0327	0.0073
Kakuzi .	-0.0056	0.0186	0.0050	0.0004	0.0112	0.0380	-0.0281	0.0681	-0.0053	-0.0546	0.0195	0.0061
Barclays Bank Ltd	0.0287	0.0062	0.0050	-0.0160	0.0001	0.0055	0.0013	0.0019	0.0003	0.0082	-0.0108	0.0028
E.A.Portland Cement Ltd	0.0713	-0.0049	0.0050	-0.0235	0.0112	-0.0123	-0.0111	0.0075	-0.0053	0.0026	-0.0108	0.0027
Total Kenya Ltd	0.0289	-0.0465	0.0311	-0.0081	0.0026	0.0085	0.0184	-0.0093	0.0118	0.0026	-0.0108	0.0026
Safaricom limited	-0.0056	0.0087	-0.0083	0.0004	-0.0023	0.0136	0.0013	0.0075	0.0082	0.0026	0.0025	0.0026
Kenya Power & Lighting Ltd	-0.0056	0.0525	0.0128	-0.0150	-0.0123	-0.0081	0.0013	-0.0248	0.0113	0.0190	-0.0108	0.0018
CMC Holdings Ltd	-0.0056	0.0001	0.0050	0.0252	0.0257	-0.0097	-0.0036	0.0124	-0.0343	0.0026	-0.0008	0.0015
KenolKobil Ltd	-0.0056	-0.0049	0.0050	0.0004	0.0112	-0.0001	0.0115	-0.0026	-0.0053	0.0026	-0.0108	0.0001
Bamburi Cement Ltd	-0.0056	-0.0049	0.0050	0.0004	0.0112	-0.0188	-0.0114	0.0331	-0.0053	0.0026	-0.0108	-0.0004
Standard Chartered Bank Ltd	0.0015	-0.0119	0.0050	0.0146	-0.0029	-0.0001	0.0084	0.0004	-0.0053	0.0026	-0.0179	-0.0005
Standard Group Ltd	0.0401	-0.0424	0.0050	-0.0061	0.0112	-0.0001	0.0013	-0.0056	-0.0120	-0.0374	0.0378	-0.0007

Diamond Trust Bank Kenya Ltd	-0.0336	-0.0049	-0.0309	0.0004	0.0112	0.0223	0.0232	0.0075	-0.0053	-0.0046	-0.0036	-0.0017
Mumias Sugar Co. Ltd	-0.0056	-0.0122	-0.0023	-0.0219	0.0036	0.0075	0.0089	0.0000	0.0022	0.0101	-0.0108	-0.0019
Jubilee Holdings Ltd	-0.0056	-0.0049	0.0050	0.0189	0.0112	-0.0001	-0.0078	-0.0200	-0.0148	0.0026	-0.0108	-0.0024
The Co-operative Bank of Kenya Ltd	-0.0172	0.0010	0.0050	-0.0171	-0.0066	-0.0122	0.0318	0.0134	-0.0289	0.0086	-0.0108	-0.0030
AccessKenya Group Ltd .	-0.0056	-0.0049	0.0050	-0.0120	0.0087	-0.0277	0.0245	0.0075	-0.0179	-0.0025	-0.0108	-0.0032
Equity Bank Ltd	0.0051	-0.0013	-0.0020	-0.0032	-0.0102	-0.0147	-0.0061	0.0000	-0.0053	0.0026	-0.0033	-0.0035
Centum Investment Company Ltd	-0.0187	0.0040	0.0050	-0.0346	0.0157	-0.0046	0.0058	-0.0466	-0.0006	-0.0022	0.0368	-0.0036
Kenya Commercial Bank Ltd	-0.0056	-0.0049	0.0050	-0.0240	-0.0013	-0.0052	0.0038	0.0075	-0.0104	-0.0025	-0.0082	-0.0042
Sameer Africa Ltd	-0.0155	-0.0049	-0.0050	0.0105	0.0112	-0.0301	0.0219	0.0176	-0.0153	0.0026	-0.0411	-0.0044
E.A.Cables Ltd	0.0064	-0.0287	-0.0072	0.0127	-0.0132	-0.0001	0.0013	-0.0225	0.0256	-0.0524	0.0289	-0.0045
Housing Finance Co Ltd	-0.0056	-0.0147	-0.0511	0.0004	0.0182	-0.0105	0.0048	0.0110	-0.0018	0.0095	-0.0246	-0.0059
CFC Stanbic Holdings Ltd .	-0.0146	-0.0049	0.0141	-0.0447	0.0112	-0.0001	0.0013	-0.0208	0.0529	-0.0800	-0.0008	-0.0079
KenGen Ltd. .	-0.0056	0.0125	-0.0078	0.0090	-0.0189	-0.0090	-0.0166	-0.0152	-0.0146	-0.0115	-0.0156	-0.0085
NIC Bank Ltd	0.0022	-0.0049	-0.0027	0.0004	0.0034	-0.0316	0.0013	-0.0006	-0.0299	-0.0142	-0.0193	-0.0087
AR	**0.0113**	**-0.1029**	**0.0114**	**-0.1325**	**0.1267**	**-0.0911**	**0.0884**	**0.0349**	**-0.1109**	**-0.1607**	**-0.0850**	**-0.0373**
MAR	**0.0004**	**-0.0040**	**0.0004**	**-0.0051**	**0.0049**	**-0.0035**	**0.0034**	**0.0013**	**-0.0043**	**-0.0062**	**-0.0033**	**-0.0014**
CAR	**0.0004**	**-0.0035**	**-0.0031**	**-0.0082**	**-0.0033**	**-0.0068**	**-0.0034**	**-0.0021**	**-0.0063**	**-0.0125**	**-0.0158**	**-0.0172**
MCAR	**0.0004**	**-0.0015**	**-0.0021**	**-0.0036**	**-0.0035**	**-0.0041**	**-0.0040**	**-0.0037**	**-0.0040**	**-0.0049**	**-0.0059**	**-0.0369**

Appendix 12: 2009 Daily abnormal returns for non participants.

Day	-5	-4	-3	-2	-1	0	1	2	3	4	5	
COMPANY	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	MAR
Olympia Capital Holdings ltd	0.0860	0.0638	0.0479	-0.0818	-0.0037	-0.0001	0.0316	0.0075	-0.0053	0.0320	-0.0108	0.0152
Unga Group Ltd	-0.0056	-0.0582	0.0825	-0.0062	0.0375	-0.0129	0.0402	0.0075	-0.0053	0.0026	0.0580	0.0127
Sasini Ltd	0.0357	0.0031	0.0129	0.0004	0.0034	0.0078	0.0013	0.0075	-0.0053	0.0026	0.0048	0.0067
Kenya Airways Ltd	0.0069	0.0198	0.0050	0.0004	0.0112	0.0360	0.0013	-0.0158	-0.0053	0.0026	0.0011	0.0057
Nation Media Group .	0.0028	-0.0133	0.0050	0.0088	0.0028	-0.0001	0.0098	0.0075	-0.0053	0.0194	-0.0108	0.0024
Kenya Re-Insurance Corporation Ltd	0.0342	-0.0001	0.0098	-0.0044	-0.0269	0.0048	0.0161	-0.0119	-0.0053	0.0075	-0.0108	0.0012
East African Breweries Ltd	-0.0056	-0.0120	0.0050	-0.0140	0.0185	-0.0074	-0.0060	0.0149	0.0020	0.0171	-0.0108	0.0001
British American Tobacco Kenya Ltd	0.0001	-0.0105	0.0050	0.0004	0.0112	0.0056	0.0013	0.0018	-0.0053	0.0026	-0.0108	0.0001
TPS Eastern Africa (Serena) Ltd	-0.0913	-0.0049	0.0050	0.0004	-0.0638	-0.0001	0.0351	0.0532	0.0134	0.0332	0.0130	-0.0006
Athi River Mining	-0.0056	0.0004	-0.0364	0.0328	-0.0098	-0.0055	-0.0041	0.0183	0.0161	-0.0027	-0.0161	-0.0011
Scangroup Ltd	0.0042	-0.0340	-0.0050	0.0105	0.0112	0.0199	-0.0085	-0.0024	-0.0153	0.0026	-0.0108	-0.0025
Eveready East Africa Ltd	-0.0056	-0.0049	0.0050	-0.0189	0.0308	-0.0386	0.0013	0.0475	-0.0246	-0.0170	-0.0108	-0.0032
Crown Berger Ltd	-0.0818	-0.0049	0.0050	0.0107	0.0112	-0.0001	0.0217	-0.0125	-0.0094	0.0026	-0.0272	-0.0077
AR	-0.0258	-0.0555	0.1470	-0.0612	0.0335	0.0092	0.1409	0.1231	-0.0552	0.1049	-0.0419	0.0290
MAR	-0.0020	-0.0043	0.0113	-0.0047	0.0026	0.0007	0.0108	0.0095	-0.0042	0.0081	-0.0032	0.0022
CAR	-0.0020	-0.0063	0.0051	0.0004	0.0029	0.0036	0.0145	0.0239	0.0197	0.0278	0.0245	0.0268
MCAR	-0.0020	-0.0041	-0.0011	-0.0007	0.0000	0.0006	0.0026	0.0053	0.0069	0.0090	0.0104	0.0269
T test (MAR)	0.8583	0.9715	0.2051	0.9616	0.7632	0.4638	0.1743	0.2664	0.9967	0.0242	0.9949	0.6073
df	37	37	37	37	37	37	37	37	37	37	37	37
P values (MAR)	0.3963	0.3376	0.8386	0.3425	0.4502	0.6455	0.8626	0.7914	0.3254	0.9808	0.3262	0.5725

T Value CAR	0.8583	0.8616	0.6477	0.6610	0.7640	0.6265	0.4213	0.2660	0.2753	0.1026	0.1153	0.0867
P Value CAR	0.3963	0.3945	0.5212	0.5127	0.4497	0.5349	0.6760	0.7918	0.7846	0.9188	0.9088	0.9314

Appendix 13: 2010 Daily abnormal returns for participants.

Day	-5	-4	-3	-2	-1	0	1	2	3	4	5	
COMPANY	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	MAR
Housing Finance Co Ltd.	-0.0028	0.0115	0.0013	0.0019	0.0026	0.0247	0.0369	0.0484	0.0406	-0.0676	-0.0034	0.0086
Sasini Ltd.	0.0010	0.0213	0.0238	0.0166	-0.0176	0.0137	0.0045	0.0071	-0.0007	-0.0005	0.0002	0.0063
Safaricom Ltd.	0.0189	0.0341	0.0013	0.0019	-0.0067	0.0064	0.0112	-0.0038	-0.0007	-0.0041	-0.0034	0.0050
National Bank of Kenya Ltd.	-0.0028	0.0022	-0.0051	0.0019	-0.0067	0.0192	0.0262	-0.0038	-0.0007	0.0083	0.0149	0.0049
The Co-operative Bank Ltd.	-0.0107	-0.0244	0.0013	0.0074	0.0014	0.0064	0.0009	0.0070	0.0180	0.0116	0.0172	0.0033
Scangroup Ltd.	0.0831	0.0885	-0.0120	-0.0249	-0.0895	-0.0162	0.0009	-0.0115	-0.0162	0.0274	-0.0034	0.0024
Kenya Commercial Bank Ltd.	0.0087	0.0362	-0.0097	0.0019	0.0044	0.0064	0.0009	-0.0038	-0.0007	-0.0041	-0.0144	0.0023
Jubilee Holdings Ltd.	0.0025	-0.0031	0.0013	0.0019	-0.0067	0.0011	0.0168	0.0170	0.0146	-0.0141	-0.0136	0.0016
Kakuzi Ltr	0.0219	-0.0039	0.0013	0.0201	0.0469	-0.0105	-0.0451	-0.0098	-0.0007	-0.0041	-0.0034	0.0011
CFC Stanbic Holdings Ltd.	-0.0028	0.0079	-0.0044	0.0077	-0.0067	0.0121	0.0180	-0.0150	-0.0120	-0.0041	0.0080	0.0008
CMC Holdings Ltd.	0.0010	0.0060	-0.0025	0.0019	-0.0067	0.0102	0.0047	0.0075	-0.0157	0.0111	-0.0109	0.0006
Barclays Bank Ltd.	-0.0028	0.0022	0.0013	0.0019	-0.0067	0.0064	0.0083	-0.0038	-0.0007	-0.0041	-0.0034	-0.0001
Bamburi Cement Ltd.	0.0021	-0.0076	-0.0037	0.0019	0.0082	-0.0083	0.0009	0.0111	0.0189	0.0007	-0.0273	-0.0003

Company											
KenolKobil Ltd.	-0.0078	0.0123	-0.0087	0.0070	-0.0067	0.0114	0.0009	-0.0088	-0.0007	-0.0041	0.0016	-0.0003
Pan Africa Insurance Holdings Ltd.	-0.0028	-0.0238	0.0213	0.0019	0.0064	0.0064	0.0009	-0.0103	0.0058	-0.0105	-0.0034	-0.0007
Equity Bank Ltd.	-0.0028	0.0022	0.0013	-0.0074	0.0027	0.0064	-0.0178	-0.0038	0.0088	0.0053	-0.0034	-0.0008
E.A.Portland Cement Ltd.	-0.0373	0.0379	0.0185	-0.0659	0.0388	0.0151	0.0268	-0.0038	-0.0343	-0.0041	-0.0034	-0.0011
E.A.Cables Ltd.	-0.0082	0.0076	0.0040	-0.0035	-0.0040	0.0010	-0.0045	-0.0093	0.0075	0.0014	-0.0088	-0.0015
Centum Investment Co Ltd.	0.0072	-0.0077	-0.0087	-0.0082	0.0035	0.0064	0.0110	-0.0238	0.0095	-0.0041	-0.0034	-0.0017
Standard Chartered Bank Ltd.	-0.0323	-0.0207	0.0052	-0.0020	-0.0106	0.0064	0.0048	0.0001	0.0109	-0.0003	0.0080	-0.0028
Nation Media Group Ltd	-0.0088	0.0082	0.0133	-0.0336	-0.0006	-0.0119	0.0009	0.0210	-0.0128	-0.0102	0.0028	-0.0029
Kenya Power & Lighting Co Ltd.	-0.0028	0.0233	-0.0318	0.0105	-0.0152	-0.0021	-0.0034	-0.0038	0.0036	-0.0041	-0.0077	-0.0031
Total Kenya Ltd.	-0.0028	-0.0137	0.0094	0.0019	-0.0227	0.0145	-0.0152	0.0126	0.0074	-0.0121	-0.0195	-0.0037
Kenya Airways Ltd.	-0.0139	-0.0034	-0.0099	-0.0151	0.0164	0.0629	0.0009	-0.0306	-0.0172	-0.0209	-0.0148	-0.0041
AR	0.0049	0.1927	0.0081	-0.0723	-0.0757	0.1883	0.0906	-0.0141	0.0323	-0.1072	-0.0950	0.0139
MAR	0.0002	0.0080	0.0003	-0.0030	-0.0032	0.0078	0.0038	-0.0006	0.0013	-0.0045	-0.0040	0.0006
CAR	0.0002	0.0082	0.0086	0.0056	0.0024	0.0102	0.0140	0.0134	0.0148	0.0103	0.0064	0.0069
MCAR	0.0002	0.0042	0.0057	0.0056	0.0050	0.0059	0.0070	0.0078	0.0086	0.0088	0.0086	0.0084

Appendix 14: 2010 Daily abnormal returns for non participants.

Day	-5	-4	-3	-2	-1	0	1	2	3	4	5	
COMPANY	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	MAR

Diamond Trust Bank Kenya Ltd.	0.0237	0.0108	0.0098	0.0104	-0.0319	0.0150	0.0266	-0.0038	0.0160	0.0451	0.0200	0.0129
East African Breweries Ltd.	0.0077	0.0022	0.0013	0.0123	-0.0067	0.0064	0.0009	0.0065	0.0044	0.0162	0.0115	0.0057
TPS Eastern Africa (Serena) Ltd.	0.0051	0.0022	0.0013	0.0098	0.0167	-0.0012	-0.0068	0.0039	-0.1007	0.0728	0.0283	0.0029
Olympia Capital Holdings ltd.	-0.0028	-0.0193	0.0086	-0.0561	0.0318	0.0212	0.0593	0.0031	0.0061	0.0027	-0.0439	0.0010
Williamson Tea Kenya Ltd.	-0.0028	0.0022	0.0870	-0.0086	-0.0386	0.0229	0.0009	-0.0038	-0.0007	0.0121	-0.0619	0.0008
Athi River Mining Ltd.	0.0087	-0.0092	-0.0045	-0.0270	0.0052	0.0005	0.0305	-0.0038	-0.0007	0.0189	-0.0146	0.0004
British American Tobacco Kenya Ltd.	0.0009	-0.0088	0.0050	0.0056	0.0043	0.0064	0.0009	-0.0038	-0.0007	-0.0041	-0.0034	0.0002
Standard Group Ltd.	-0.0712	0.0191	0.0013	-0.0092	0.0045	0.0675	-0.0567	-0.0038	0.0826	-0.0554	0.0182	-0.0003
Unga Group Ltd.	-0.0342	-0.0262	0.0596	0.0098	0.0558	-0.0451	-0.0223	0.0081	0.0071	-0.0119	-0.0073	-0.0006
Express Ltd.	0.0077	-0.0082	0.0432	0.0019	0.0737	-0.0680	0.0009	-0.0038	-0.0208	-0.0092	-0.0240	-0.0006
KenGen Ltd.	0.0000	0.0135	-0.0183	0.0162	-0.0180	-0.0392	-0.0528	0.0214	0.0301	0.0078	0.0231	-0.0015
Kenya Re-Insurance Corporation Ltd.	-0.0028	-0.0021	0.0098	-0.0023	-0.0067	0.0064	-0.0033	-0.0038	-0.0050	-0.0041	-0.0077	-0.0020
Crown Berger Ltd.	-0.0028	-0.0574	-0.0128	0.0019	0.0076	0.0134	0.0569	-0.0502	-0.0007	0.0237	-0.0034	-0.0022
Rea Vipingo Plantations Ltd.	0.0300	-0.0719	0.0013	0.0019	-0.0067	0.0264	-0.0271	-0.0067	-0.0036	-0.0012	-0.0034	-0.0055
Mumias Sugar Co. Ltd.	0.0055	-0.0101	-0.0070	-0.0023	-0.0109	-0.0400	0.0319	-0.0038	-0.0179	-0.0041	-0.0034	-0.0057
AccessKenya Group Ltd.	-0.0158	-0.0347	-0.0042	-0.0008	-0.0260	0.0176	0.0065	0.0072	-0.0116	-0.0069	-0.0006	-0.0063
Carbacid Investments Ltd.	-0.0142	0.0022	-0.0217	0.0254	-0.0297	0.0064	0.0009	-0.0450	0.0422	-0.0453	-0.0034	-0.0075

Eveready East Africa Ltd.	-0.0291	0.0157	-0.0120	0.0019	-0.0067	0.0064	0.0144	-0.0038	-0.0274	-0.0041	-0.0445	-0.0081
Sameer Africa Ltd.	-0.0203	0.0081	-0.0164	0.0019	-0.0007	0.0004	0.0009	-0.0098	-0.0067	-0.0405	-0.0097	-0.0084
AR	-0.1067	-0.1722	0.1313	-0.0071	0.0170	0.0236	0.0624	-0.0958	-0.0081	0.0128	-0.1301	-0.0248
MAR	-0.0056	-0.0091	0.0069	-0.0004	0.0009	0.0012	0.0033	-0.0050	-0.0004	0.0007	-0.0068	-0.0013
CAR	-0.0056	-0.0147	-0.0078	-0.0081	-0.0073	-0.0060	-0.0027	-0.0078	-0.0082	-0.0075	-0.0144	-0.0082
MCAR	-0.0056	-0.0102	-0.0094	-0.0091	-0.0087	-0.0082	-0.0075	-0.0075	-0.0076	-0.0076	-0.0082	-0.0082
T TEST MAR	0.3977	0.0271	0.3441	0.6274	0.6238	0.3989	0.9502	0.3795	0.8379	0.5045	0.6240	0.5196
df	35	35	35	35	35	35	35	35	35	35	35	35
P Values	0.6933	0.9785	0.7328	0.5345	0.5368	0.6924	0.3485	0.7066	0.4078	0.6171	0.5367	0.6168
T TEST CAR	0.3977	0.0252	0.1886	0.3102	0.5391	0.3527	0.3800	0.2824	0.2835	0.4319	0.3767	0.3356
P Values CAR	0.6933	0.9801	0.8515	0.7582	0.5932	0.7265	0.7062	0.7793	0.7785	0.6685	0.7086	0.7392

Appendix 15: 2011 Daily abnormal returns for participants.

Day	-5	-4	-3	-2	-1	0	1	2	3	4	5	
COMPANY	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	MAR
Rea Vipingo Plantations Ltd .	0.0746	0.0611	0.3300	-0.4251	-0.0009	0.0215	-0.0052	0.0206	-0.0161	0.0285	-0.0112	0.0071
Barclays Bank of Kenya Ltd.	-0.0054	-0.0122	0.3165	-0.3983	0.0591	0.0007	-0.0040	0.0030	0.0083	0.0362	0.0102	0.0013
Equity Bank Ltd.	-0.0008	-0.0030	0.3071	-0.3983	-0.0094	0.0136	0.0396	0.0286	-0.0028	-0.0039	-0.0033	-0.0029
Sasini Ltd .	-0.0087	0.0010	0.3350	-0.4578	0.0003	0.0203	-0.0037	0.0261	0.0643	-0.0262	-0.0387	-0.0080
Athi River Mining Ltd	-0.0008	-0.0030	0.2941	-0.4307	0.0095	0.0029	0.0260	-0.0452	-0.0133	-0.0013	0.0541	-0.0098
Mumias Sugar Co. Ltd.	-0.0087	-0.0030	0.2991	-0.4549	0.0129	-0.0117	0.0002	-0.0094	0.0247	0.0229	0.0098	-0.0107
Kakuzi Ltd.	-0.0008	0.0470	0.2799	-0.4307	-0.0037	-0.0525	0.0002	-0.0012	0.0219	0.0203	0.0011	-0.0108

E.A.Cables Ltd.	-0.0098	-0.0075	0.3071	-0.4489	0.0056	0.0011	0.0002	0.0080	0.0135	-0.0013	0.0031	-0.0117
Car & General (K) Ltd.	-0.0008	-0.0030	0.3071	-0.3994	-0.0946	0.0965	-0.0907	-0.0901	0.0243	0.0344	0.0861	-0.0118
Kenya Power & Lighting Co Ltd.	0.0022	-0.0030	0.2983	-0.4247	-0.0007	-0.0035	0.0090	-0.0099	-0.0001	-0.0013	-0.0030	-0.0124
Kenya Commercial Bank Ltd.	-0.0103	-0.0189	0.2974	-0.4536	-0.0171	0.0033	-0.0032	-0.0046	0.0067	0.0089	0.0510	-0.0128
Standard Chartered Bank Kenya Ltd.	0.0388	-0.0410	0.3015	-0.4420	-0.0037	-0.0093	-0.0113	0.0339	-0.0058	-0.0013	-0.0059	-0.0133
The Co-operative Bank of Kenya Ltd.	-0.0043	0.0006	0.3036	-0.4307	-0.0037	-0.0035	0.0002	0.0024	-0.0037	-0.0013	-0.0059	-0.0133
Housing Finance Co.Kenya Ltd.	-0.0282	-0.0061	0.3134	-0.4307	0.0245	-0.0005	-0.0028	0.0171	-0.0151	-0.0043	-0.0181	-0.0137
National Bank of Kenya Ltd.	-0.0008	-0.0143	0.3186	-0.4079	-0.0148	0.0077	-0.0220	0.0102	-0.0001	-0.0350	0.0057	-0.0139
Jubilee Holdings Ltd.	-0.0131	-0.0030	0.3071	-0.4307	0.0151	-0.0035	-0.0059	-0.0012	-0.0001	-0.0013	-0.0182	-0.0141
NIC Bank Ltd.	-0.0521	-0.0030	0.2711	-0.4307	-0.0037	-0.0129	0.0002	-0.0012	0.0093	0.0548	0.0118	-0.0142
Trans-Century Ltd.	-0.0008	0.0702	0.2238	-0.4389	-0.0037	-0.0035	0.0002	-0.0345	-0.0001	0.0332	-0.0059	-0.0146
British-American Investments Co.(Kenya)Ltd .	0.0165	-0.0114	0.2900	-0.4307	-0.0384	0.0145	0.0268	-0.0098	-0.0175	0.0076	-0.0147	-0.0152
Bamburi Cement Ltd.	-0.0072	-0.0030	0.2749	-0.4307	0.0297	-0.0035	0.0002	0.0053	-0.0065	-0.0013	-0.0253	-0.0152
Diamond Trust Bank Kenya Ltd.	-0.0263	0.0023	0.2759	-0.4253	-0.0037	0.0125	-0.0051	-0.0012	-0.0001	-0.0119	0.0101	-0.0157
CFC Insurance Holdings Ltd.	-0.0521	-0.0030	0.2801	-0.3751	-0.0563	0.0187	-0.0215	-0.0456	0.0173	0.0273	-0.0059	-0.0196
E.A.Portland Cement Co. Ltd.	-0.0008	-0.0030	0.3071	-0.4307	-0.0203	-0.0035	-0.0252	-0.0273	-0.0180	-0.0013	-0.0059	-0.0208
Kenya Airways Ltd.	-0.0099	-0.0030	0.2888	-0.4774	-0.0429	-0.0240	0.0002	-0.0324	0.0106	-0.0332	-0.0279	-0.0319

CFC Stanbic of Kenya Holdings Ltd.	0.0214	-0.0030	0.2745	-0.4307	-0.0037	-0.0035	0.0002	0.0044	-0.0057	-0.0069	-1.0059	-0.1053
AR	-0.0883	0.0350	7.4020	10.7342	-0.1643	0.0774	-0.0972	-0.1540	0.0955	0.1427	-0.9526	-0.4035
MAR	-0.0035	0.0014	0.2961	-0.4294	-0.0066	0.0031	-0.0039	-0.0062	0.0038	0.0057	-0.0381	-0.0161
CAR	-0.0035	-0.0021	0.2939	-0.1354	-0.1420	-0.1389	-0.1428	-0.1489	-0.1451	-0.1394	-0.1775	-0.1937
MCAR	-0.0035	-0.0028	0.0961	0.0382	0.0022	-0.0213	-0.0387	-0.0525	-0.1470	-0.1423	-0.1585	-0.1856

Appendix 16: 2011 Daily abnormal returns for participants.

Day	-5	-4	-3	-2	-1	0	1	2	3	4	5	
COMPANY	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	Ari	MAR
Williamson Tea Kenya Ltd .	0.0100	-0.0030	0.3816	-0.4257	-0.0579	0.0902	0.0812	0.0781	0.0570	0.0759	0.0586	0.0315
Kapchorua Tea Co. Ltd.	-0.0008	-0.0030	0.3071	-0.4559	0.0015	-0.0035	0.0827	0.0845	0.0788	-0.0013	-0.0791	0.0010
Carbacid Investments Ltd.	-0.0008	-0.0411	0.3071	-0.3812	0.0907	-0.0035	0.0002	-0.0012	-0.0001	-0.0013	-0.0059	-0.0034
Unga Group Ltd.	0.0141	0.0117	0.3168	-0.4259	-0.0132	0.0205	-0.0139	0.0179	-0.0001	0.0034	-0.0012	-0.0064
B.O.C Kenya Ltd.	0.0097	-0.0030	0.3071	-0.4098	-0.0037	0.0067	0.0002	-0.0769	-0.0001	0.0698	-0.0059	-0.0096
TPS Eastern Africa Ltd.	-0.0008	-0.0030	0.3244	-0.4476	-0.0209	-0.0035	0.0353	-0.0012	-0.0001	-0.0182	0.0200	-0.0105
Scangroup Ltd.	0.0613	0.0295	0.2254	-0.4307	-0.0105	-0.0035	-0.0343	0.0345	-0.0001	-0.0082	0.0149	-0.0111
AccessKenya Group Ltd.	-0.0104	-0.0321	0.2971	-0.4307	-0.0037	-0.0237	-0.0101	0.0196	-0.0001	0.0191	0.0441	-0.0119
Safaricom Ltd.	0.0156	-0.0030	0.2910	-0.4307	-0.0037	0.0128	-0.0159	-0.0012	-0.0001	-0.0013	-0.0059	-0.0129
Nation Media Group Ltd.	-0.0008	-0.0030	0.3071	-0.4378	-0.0037	-0.0035	0.0074	-0.0012	-0.0216	-0.0013	0.0160	-0.0129

Uchumi Supermarket Ltd.	0.0525	-0.0423	0.3071	-0.4365	0.0022	-0.0094	0.0061	0.0222	-0.0287	-0.0013	-0.0177	-0.0132
Crown Berger Kenya Ltd.	-0.0008	0.0270	0.2683	-0.3903	-0.0231	0.0163	0.0488	-0.0753	-0.0001	-0.0013	-0.0159	-0.0133
KenGen Co. Ltd.	-0.0222	0.0189	0.3071	-0.4307	0.0017	0.0124	-0.0207	-0.0119	-0.0055	0.0042	-0.0059	-0.0139
KenolKobil Ltd.	-0.0108	-0.0030	0.3071	-0.4307	-0.0138	-0.0086	-0.0049	0.0040	0.0050	-0.0013	0.0043	-0.0139
Standard Group Ltd.	-0.0008	-0.0030	0.3071	-0.4307	-0.0037	-0.0839	0.0876	-0.0369	-0.0001	0.0080	0.0033	-0.0139
British American Tobacco Kenya Ltd.	-0.0093	-0.0030	0.2900	-0.4263	0.0007	-0.0079	0.0002	-0.0012	-0.0088	0.0119	-0.0102	-0.0149
Centum Investment Co Ltd.	-0.0008	-0.0128	0.3038	-0.4273	-0.0103	-0.0035	0.0002	-0.0146	-0.0171	0.0056	0.0112	-0.0151
Total Kenya Ltd.	-0.0281	0.0064	0.3195	-0.4337	-0.0006	-0.0157	-0.0029	0.0112	-0.0185	-0.0075	-0.0028	-0.0157
Olympia Capital Holdings Ltd.	-0.0496	-0.0158	0.3071	-0.4307	-0.0426	-0.0035	0.0002	0.0529	-0.0001	-0.0013	-0.0059	-0.0172
Eveready East Africa Ltd.	-0.0008	-0.0030	0.3334	-0.4307	-0.0037	-0.0035	0.0002	-0.0012	-0.0258	0.0250	-0.0828	-0.0175
East African Breweries Ltd.	-0.0259	0.0164	0.2881	-0.4500	-0.0037	-0.0035	-0.0129	-0.0012	0.0065	-0.0079	0.0008	-0.0176
Pan Africa Insurance Holdings Ltd.	-0.0320	0.0508	0.3071	-0.4307	-0.0037	-0.0035	0.0002	-0.0216	-0.0001	-0.0221	-0.0378	-0.0176
Kenya Re Insurance Corporation Ltd.	-0.0197	-0.0030	0.3071	-0.4307	-0.0165	-0.0165	0.0002	-0.0012	-0.0265	-0.0283	0.0288	-0.0187
Sameer Africa Ltd.	0.0097	-0.0134	0.3176	-0.5036	-0.0936	-0.0035	-0.0121	-0.0012	-0.0001	-0.0013	-0.0059	-0.0279
AR	-0.0413	-0.0294	7.3352	10.3582	-0.2354	-0.0460	0.2229	0.0771	-0.0068	0.1193	-0.0809	-0.2767
MAR	-0.0017	-0.0012	0.3056	-0.4316	-0.0098	-0.0019	0.0093	0.0032	-0.0003	0.0050	-0.0034	-0.0115
CAR	-0.0017	-0.0029	0.3027	-0.1289	-0.1387	-0.1406	-0.1313	-0.1281	-0.1284	-0.1234	-0.1268	-0.1383
MCAR	-0.0017	-0.0023	0.0993	0.0423	0.0061	-0.0184	-0.0345	-0.0462	-0.0553	-0.0622	-0.0680	-0.0739
T TEST (MAR)	0.7980	0.6836	0.1822	0.7244	0.7092	0.5077	0.1150	0.3245	0.4989	0.9112	0.4069	0.5329

df	47.0000	47.0000	47.0000	47.0000	47.0000	47.0000	47.0000	47.0000	47.0000	47.0000	47.0000	47.0000
P VALUES (MAR)	0.4289	0.4976	0.8562	0.4724	0.4817	0.6140	0.9089	0.7470	0.6202	0.3668	0.6859	0.6072
T TEST (CAR)	0.7980	0.9312	0.9035	0.9655	0.9826	0.9908	0.9397	0.0718	0.6375	0.5860	0.4193	0.3434
P VALUES (CAR)	0.4289	0.3565	0.3708	0.3393	0.3308	0.3268	0.3522	0.9431	0.5269	0.5607	0.6769	0.7329

Appendix 17: Summary results for the year 2007.

Day	Participants MAR	Non Participants MAR	T Value	P Value	Participants CAR	Non Participants CAR	T Values	P Values
-5	-0.0025	0.0025	0.597	0.5543	-0.0025	0.0025	0.597	0.5543
-4	-0.0076	0.0048	0.1888	0.8513	-0.0101	0.0073	0.0184	0.8549
-3	0.0001	-0.0047	0.6855	0.4975	-0.01	0.0026	0.4654	0.6445
-2	0.0063	-0.0029	0.3754	0.7096	-0.0037	-0.0003	0.8657	0.3925
-1	-0.007	0.0083	0.1933	0.8479	-0.0107	0.008	0.4147	0.6809
0	-0.0087	-0.0037	0.709	0.483	-0.0194	0.0043	0.3674	0.7155
1	-0.0038	0.0007	0.6014	0.5514	-0.0232	0.005	0.3606	0.7614
2	0.0083	-0.0015	0.3596	0.7213	-0.0149	0.0035	0.5312	0.5986
3	0	-0.0038	0.8022	0.4278	-0.0149	-0.0003	0.6567	0.5157
4	0.006	-0.015	0.0936	0.926	-0.0089	-0.0153	0.8536	0.3992
5	0.0029	-0.0011	0.9169	0.3655	-0.006	0.0005	0.8778	0.3861

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Appendix 18: Summary results for the year 2008

	Participants	Non Participants			Participants	Non Participants		
Day	MAR	MAR	T Value	P Value	CAR	CAR	T Value	P Value
-5	0.0018	0.0116	0.2982	0.7672	0.0018	0.0116	0.2982	0.7672
-4	0.0029	0.0164	0.4296	0.6699	0.0047	0.028	0.203	0.8402
-3	-0.0008	-0.0119	0.1003	0.9206	0.0039	0.0161	0.5546	0.5824
-2	0.0046	0.0122	0.2862	0.7762	0.0086	0.0283	0.361	0.7201
-1	0.0076	-0.0101	0.0743	0.9412	0.0162	0.0182	0.9308	0.3578
0	0.0068	0.0147	0.3839	0.7032	0.0229	0.0329	0.6941	0.4919
1	0.0103	0.005	0.5515	0.5845	0.0332	0.038	0.8575	0.3965
2	0.001	-0.0004	0.9461	0.3501	0.0341	0.0376	0.9142	0.3664
3	-0.0035	-0.0055	0.887	0.3807	0.0306	0.0321	0.965	0.3406
4	-0.0001	-0.0223	0.1006	0.9204	0.0306	0.0099	0.5803	0.5651
5	-0.0022	-0.0178	0.1384	0.8907	0.0284	-0.0079	0.3537	0.7255

Appendix 19: Summary results for the year 2009

	Participants	Non Participants			Participants	Non Participants		
Day	MAR	MAR	T Value	P Value	CAR	CAR	T Value	P Value
-5	0.0004	-0.002	0.8583	0.3963	0.0004	-0.002	0.8583	0.3963
-4	-0.004	-0.0043	0.9715	0.3376	-0.0035	-0.0063	0.8616	0.3945
-3	0.0004	0.0113	0.2051	0.8386	-0.0031	0.0051	0.6477	0.5212
-2	-0.0051	-0.0047	0.9616	0.3425	-0.0082	0.0004	0.661	0.5127
-1	0.0049	0.0026	0.7632	0.4502	-0.0033	0.0029	0.764	0.4497
0	-0.0035	0.0007	0.4638	0.6455	-0.0068	0.0036	0.6265	0.5349
1	0.0034	0.0108	0.1743	0.8626	-0.0034	0.0145	0.4213	0.676
2	0.0013	0.0095	0.2664	0.7914	-0.0021	0.0239	0.266	0.7918
3	-0.0043	-0.0042	0.9967	0.3254	-0.0063	0.0197	0.2753	0.7846
4	-0.0062	0.0081	0.0242	0.9808	-0.0125	0.0278	0.1026	0.9188
5	-0.0033	-0.0032	0.9949	0.3262	-0.0158	0.0245	0.1153	0.9088

Appendix 20: Summary Results for the year 2010

Day	Participants MAR	Non Participants MAR	T Value	P Value	Participants CAR	Non Participants CAR	T Value	P Value
-5	0.0004	-0.002	0.8583	0.3963	0.0004	-0.002	0.8583	0.3963
-4	-0.004	-0.0043	0.9715	0.3376	-0.0035	-0.0063	0.8616	0.3945
-3	0.0004	0.0113	0.2051	0.8386	-0.0031	0.0051	0.6477	0.5212
-2	-0.0051	-0.0047	0.9616	0.3425	-0.0082	0.0004	0.661	0.5127
-1	0.0049	0.0026	0.7632	0.4502	-0.0033	0.0029	0.764	0.4497
0	-0.0035	0.0007	0.4638	0.6455	-0.0068	0.0036	0.6265	0.5349
1	0.0034	0.0108	0.1743	0.8626	-0.0034	0.0145	0.4213	0.676
2	0.0013	0.0095	0.2664	0.7914	-0.0021	0.0239	0.266	0.7918
3	-0.0043	-0.0042	0.9967	0.3254	-0.0063	0.0197	0.2753	0.7846
4	-0.0062	0.0081	0.0242	0.9808	-0.0125	0.0278	0.1026	0.9188
5	-0.0033	-0.0032	0.9949	0.3262	-0.0158	0.0245	0.1153	0.9088

Appendix 21: Summary results for the year 2011

Day	Participants MAR	Non Participants MAR	T Value	P Value	Participants CAR	Non Participants CAR	T Value	P Value
-5	-0.0035	-0.0017	0.798	0.4289	-0.0035	-0.0017	0.798	0.4289
-4	0.0014	-0.0012	0.6836	0.4976	-0.0021	-0.0029	0.9312	0.3565
-3	0.2961	0.3056	0.1822	0.8562	0.2939	0.3027	0.9035	0.3708
-2	-0.4294	-0.4316	0.7244	0.4724	-0.1354	-0.1289	0.9655	0.3393
-1	-0.0066	-0.0098	0.7092	0.4817	-0.142	-0.1387	0.9826	0.3308
0	0.0031	-0.0019	0.5077	0.614	-0.1389	-0.1406	0.9908	0.3268
1	-0.0039	0.0093	0.115	0.9089	-0.1428	-0.1313	0.9397	0.3522
2	-0.0062	0.0032	0.3245	0.747	-0.1489	-0.1281	0.0718	0.9431
3	0.0038	-0.0003	0.4989	0.6202	-0.1451	-0.1284	0.6375	0.5269
4	0.0057	0.005	0.9112	0.3668	-0.1394	-0.1234	0.586	0.5607
5	-0.0381	-0.0034	0.4069	0.6859	-0.1775	-0.1268	0.4193	0.6769