EFFECT OF CHIEF EXECUTIVE OFFICER CHANGE ON STOCK RETURNS OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

## BY

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

## DECLARATION

I declare this research project is my original work and has not been submitted to any other college, institution or university

Signature Date. $\qquad$

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

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## DEDICATION

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## LIST OF ABBREVIATIONS

CEO - Chief Executive Officer

CMA - Capital Markets Authority

NSE - Nairobi Securities Exchange

NASI - NSE All Share Index

EMH - Efficient Market Hypothesis

AR - Abnormal Returns


#### Abstract

The change of the leadership of a firm is an important occurrence in a business organizations life. The transition of a firm management is a dire point in the existence of accompany and most changes that as a result of change don't only effect the directions by the management for the business but may also affect the return of the firm's shares. This study studied the effect of chief executive officer change on stock prices of firms listed at the Nairobi securities exchange. To achieve this objective, a descriptive research design was employed. The study population comprises of 13 firms listed at the NSE, which had changed their chief executive officers for the period between January 2012 and December 2016. This research paper used secondary sources of data. The retrieved data covered a period of 5 years from January 2012 and December 2016. The research paper adopted an event study methodology. The event period for the study was 31 days, where -15 days covered the pre CEO change announcement period and +15 days covered post CEO change announcement while the event day was 0 . The paired sampled statistics results established that there was a positive average abnormal return (AAR) after and before CEO change announcement and there was a significant and positive variation in stock returns of listed firms before and after CEO change announcement. The findings further established that there was a positive cumulative average abnormal return (CAAR) after and before CEO change announcement and that there was a significant and negative variation in stock returns of listed firms before and after CEO change announcement. The study concluded that CEO change announcements influences stock price of firms listed at the Nairobi Securities Exchange. The study recommended that the management of listed firms should not worry about making changes to the chief executive officers since CEO change announcement significantly affect the firm's stock prices.


## CHAPTER ONE: INTRODUCTION

### 1.1 Background of the Study

Changes in the Chief Executive Officer are seen to be highly important incidences in the corporate life. This influences the performance or otherwise of a business enterprise (Ojeka et al., 2017). According to the traditional finance theory, the key role of a CEO is to capitalize on the wealth of shareholders by making workable decisions in management. They are mostly accountable for complex and non-routine tasks such as spearheading the execution of and development of the strategy to be used in investment so as to ensure the wealth of the owners is maximized (Bruce \& Skovoroda, 2015). Therefore, given the scope and importance shareholders wealth maximization, CEO change represents major events looking at any corporation's history, with feasibly huge concerns for the firm and its shareholders (Kind \& Schläpfer, 2010).

Theoretically, the market efficiency hypothesis asserts that prices of the stock quickly change to show information that's new such as the declaration of changes of the CEO and adjustment of prices of stock correctly to show information that's different (Jiaqi, 2012). The agency theory supports that CEO change disciplines CEOs whose decisions have differed from the maximization of shareholders wealth goal (Hillier et al., 2006). The signaling theory argues that a CEO change is a firms signal that they plan to change the management of the company (Setiawan, 2011). Managers have distinct skill-sets and abilities. Thus, if a CEO is changed, the new CEO is seen to be more skilled than the old one was and there is a positive reaction in the market since the change means the performance of the firm is going to improve (Pessarossi \& Weill, 2013).

In Kenya, the Nairobi Securities Exchange acts as an economic institution, that improves the proficiency in formation of capital and its allocation this is a very important role. The exchange enables both corporations and the government to raise long-term capital, which enables them to finance new projects and expand other operations within the country (Opiyo, 2013). The NSE as an institution of capital market, also has a huge role in the economic development process in Kenya. The NSE has given Kenyans the ability to own shares by enabling businesses engage participation of local in their equity. Several corporations have also raised additional finance important for development and expansion (Bodicha, 2016). Like any other securities exchange, security prices of firms listed at the NSE are vulnerable to risks specific to the market from changes in rates of foreign currency exchange, interest rates and corporate announcements like mergers, stock splits and CEO succession. Corporate announcements are normally associated with uncertainty, which affects stock prices (Mugucia, 2013).

### 1.1.1 Chief Executive Officer Change

A CEO is an essential person who outlines the strategy of a firm in order to contest with others in the market (Setiawan, 2011). The CEO deals with functions of strategic nature like formulation and implementation of the company's vision and mission, coming up with strategy to attain both long and short term goals, along with making investment decisions that are strategic (Setiawan, Phua\& Chee, 2013). CEOs ability to make decisions enables them to change the destiny of their firm since they have the power to make decisions that are vital (Jiaqi, 2012). A CEOs ability, ultimate decisions and preferences impacts the firm as a result of the projects it selects, the culture of the corporate and its financial policy (Rosenberg, Clayton \& Hartzell, 2003).

A CEO change occurs due to various reasons and varying preceding circumstances and is as a result of a number of reasons such as dismissal, voluntary exit, death, or retirement due to either age or ill health (Mutwiri, 2013). New CEOs are of two types origin based: insider and outsider CEO. The former is more advantageous than the outsider since has knowledge that's better and understands the companies networks and environment better. If the company needs change that's radical in their strategy, a CEO from outside would give better performance since they bring fresh blood and fresh ideas (Setiawan, Phua \& Chee, 2013). The new CEOs choices nonetheless hinge on corporate characteristics like corporate size, performance and the corporate activities level of diversity (Setiawan, 2011).

CEO change is an essential occurrence for businesses; financiers normally react to the publication of such information (Setiawan, Phua \& Chee, 2013). CEO change creates a forum for assessing the efficiency and value of a leader in shaping the wealth of a firm (Ojeka et al., 2017). CEO change for investors is valuable info, used to make decisions when investing. There is a significant reaction in the market; this shows how the market sees announcements of CEO turnover as news that's good. Investors believe succession of a CEO the firms' effort to become more good. Investors also earn positive abnormal return in window periods (Setiawan, 2011). Investors are mostly relaxed with fresh CEOs familiar with the industry's dynamics in regards to the operations of the company and the challenges facing them specifically (Jiaqi, 2012).

### 1.1.2 Stock Prices

Stock price is the cost of purchasing securities on an exchange. Stock price is also referred to a share price fluctuates on a daily basis depending on the market forces of demand and supply (Mundia, 2016). A stock price is the current worth of its future money flows. High cash flows mean high stock price. Stock prices are variables that look forward. They condense information concerning the expected value of a firm. A share price at any period can be seen as if they are a function of future expected earnings. Share prices reflect investor's expectations regarding future earnings (Olaoye et al., 2016). The price of stock reflects the company's value and responds only to real changes in its well-being in real time, as determined by supply and demand, the basis of economics (Ojow, 2015).

Prices of the stock are established in the market, where supply from the sellers meets the demand of the buyer (Murugesu \& Subramaniam, 2013). The prices change on a daily basis due to forces from the market. Meaning stock prices change due to demand and supply. If a lot of people have the desire to buy an item as compared to those in the business of selling it, then the price goes up. On the other hand, if the sellers are more than the buyers, demand becomes lesser than the supply, and the prices fall (Olaoye et al., 2016). This fall in prices brings about reduced performance by the management. Replacing this management is a sure thing. Good prices show that times are good meaning that the management is doing great work and does not face any intimidation from the hiring and firing board (Ngonjo, 2013).

Stock price level is normally considered very significant primarily as a proxy for market liquidity. Share prices are always driven by index, a company's financial health, economic
trends and world news (Mundia, 2016). Investor's feelings about the worth of a company are shown by the price movement of stock. Share prices are driven by Indexes, world national news, economic trends, industry information and a company's financial health. High cash flows in terms of gathering of receivables from accounts and revenues, implies high prices of stock (Ojow, 2015). The company needs to establish a business that's viable so as to capitalize on stock price, so as to guarantee the steadiness of cash flows in the future. Any enhancements of revenue and reductions of cost create value as long as that action does not in any negative way impact future cash flows (Murugesu \& Subramaniam, 2013)

### 1.1.3 Effect of Chief Executive Officer Change on Stock Prices

CEO changes have traditionally produced instabilities in the market worth of a business and triggered investor response that was inappropriate. Both positively and negatively, CEO turnover has shown it makes huge impacts on the stock price of a firm (Aune \& Riise, 2015). CEO change has more negative risk than positive, more so if it was not planned. This is because of the probability that the incoming CEO could alter business strategy in a negative way. According to Jiaqi (2012) News concerning the firing of the managers of a corporate or employment of a new manager is given at the same time, so it leads to effects which are either negative or positive on prices of stock. Lee and James (2007) posit that the announcements of changes in CEO, successions managed poorly, and leadership changes that are sudden e.g., CEOs death harmfully upset the stock returns.

A series of studies have explored the relationship between CEO change and stock prices. In their study, Baker and Xuan (2016) found that the turnover of management declines the
connection between the returns that go before the new CEO and equity issues. Hillier et al. (2006) studied the consequence of CEO turnover on corporate performance and concluded that stock prices negatively react to announcements of CEO turnovers. However, Kind and Schläpfer (2010) investigated the content of information concerning turnovers of CEO by studying the performance during the dates the announcement is made and abnormal stock returns. The study found that turnovers that were forced did not provide a signal that was positive to holders of shares.

### 1.1.4 Nairobi Securities Exchange

This is the sole licensed exchanger of securities in the country and it is the5th largest in Africa. The NSE was founded in 1954 hence the exchange has a 62 -yearheritage in listing equity and debt securities (NSE, 2016). It is the biggest and oldest securities exchange in East Africa and most of the shares traded in the areas exchanges are cross-listed on the Kenyan exchange (Njuguna, 2015). The Nairobi Security Exchange (NSE) is a follower of the African and East African Securities Exchanges Associations, and an associate member of the World Federation of Exchanges. The Exchange also works in collaboration with the Uganda Securities Exchange and the Dar es Salaam Stock Exchange, plus the cross listing of different equities (Opiyo, 2013). The NSE is publicly traded and in Africa is the second self-listed exchange (NSE, 2016).

The NSE is controlled by the CMA and the Settlement Corporation and Central Depository and encompasses four counters: the Alternative Investment, the Main Investment, the Growth Enterprise and the Fixed Income Securities Market Segments (Njuguna, 2015). The NSE majors in both fixed and variable income securities. The latter are the shares
considered ordinary. They lack a payable dividend whose rate is fixed, since the dividend depends on both the decision of the director's board and the company's profitability. The fixed income securities include securities with fixed rates of dividends or interest not dependent on treasury of profitability like debenture stocks, preference shares and Corporate Bonds (Bodicha, 2016).

NSE provides a world class trading facility for local and international investors looking to gain exposure to Kenya and Africa's economic growth. Beyond the traditional Equity and Debt Markets, we have rolled out Real Estate Investment Trusts and we are on the cusp of launching M-Akiba, the Derivatives Market and Exchange Traded Funds, all with an aim of broadening our product offering and deepening our capital market (NSE, 2016). For measuring performance we mostly use two indices. The first was first put into use in 1994. It measures the performance of 20 blue-chip companies with fundamentals considered as strong and which have steadily given financial results that are positive and is called the NSE 20-Share Index. The NSE All Share Index (NASI) was created in 2008 as an alternate index to measure the performance of the overall market (Opiyo, 2013)

### 1.2 Research Problem

The change of leadership of a firm is an important occurrence in a business organizations life (Rosenberg, Clayton \& Hartzell, 2003). The transition of a firm management is a dire point in the existence of accompany and most changes that as a result of change don't only effect the directions by the management for the business but may also affect the return of the firm's shares (Ojeka et al., 2017). However, in most organizations, CEO changes start under the scapegoat hypothesis. This is when incumbent top manager are removed so that
there is someone to blame, yet poor performance could have been caused by outside factors not under their control. Additionally, most of the CEO changes are normally made under the assumption that CEOs performing poorly are swapped for successors of a high caliber who have the ability to change the poor performance of the firm, which might not be the case (Hillier et al., 2006).

In Kenya, the NSE listed company's number has increased and so has its index levels, capitalization and its turnover (Ngonjo, 2013). The NSE all-share index had posted positive total returns in the period 2008-2015 both when held at price change and with dividends re-invested in the index (NSE, 2016). However, prices of stock and the NSEs listed firms values have been gradually falling over the years. For instance, in 2015, the NSE listed companies' value shrunk by around Kes 250.0 BN. The value of their wealth as measured by market capitalization also dropped to Kes 2.05 tn on from Kes 2.30tn. Additionally, cumulative returns on investments fell by $20.97 \%$ as measured by the more reflective NSE 20-Share Index (Dyer \& Blair Investment Bank, 2016). As such, most of the listed firms share prices among them the National Bank of Kenya, Uchumi supermarkets, Barclays Bank and Mumias Sugar has been on the decline frequent changes of the chief operating officers in the recent years.

There exist a number of studies on the consequence of CEO change on the prices of shares but the studies provide inconsistent findings. For example, Jiaqi (2012) explored the outcome of the declaration of turnover of CEO and the stock prices. The study established that unusual returns, average abnormal returns and cumulative abnormal returns were not significantly difference from zero hence CEO changes announcement had an insignificant effect on stock prices. However, Pessarossi and Weill (2013) studied the effect of CEO
turnover announcements on the stock prices of firms in China and found that CEO turnover had a positive and significant effect on stock market reaction.

In Kenya, Lessonet (2012) studied the effect of CEO changes on the value of a company and concluded that the value of a company is influenced by its CEO exit announcement but the study focused on firm performance and not stock prices. Mugucia (2013) studied the effect of CEO and chairmanship changes and stock performance of listed manufacturing companies in Kenya and found a significant relationship between return on security and return on stock before and after CEO and chairmanship change. The study however studied only listed manufacturing firms in Kenya and focused on both the chairperson and CEO changes. Most of the studies on CEO change indicate that CEO change is vital to any organization. Nevertheless, the have been carried out in different counties and industries and have obtained varied results. In Kenya, very few studies have explored the effect of CEO change on stock prices as most studies focus on firm performance. This leads to the research question, what is the effect of chief executive officer change on stock prices of firms listed at the Nairobi securities exchange?

### 1.3 Research Objective

To determine the effect of chief executive officer change on stock returns of firms listed at the Nairobi securities exchange

### 1.4 Value of the Study

The findings of this study may be of value to investors, the management of listed firms, policy institutions and to the academic sector.

## i. Investors

The study will come up with conclusion on whether CEO change affects and recommendations on how to handle CEO change. Therefore, investors can use the findings of the research to determine the appropriate time to buy shares of firms which have made announcement on CEO change.

## ii. Management and Board of Directors

The management and board of directors of the listed firms may also use the study conclusions and recommendation to determine the appropriate time on which to make announcements on CEO changes.

## iii. Policy institutions

Regulatory and policy formulation institutions like the capital markets authority and the Nairobi securities exchange can also use the study findings to formulate strategic policies concerning CEO succession of listed firms to ensure such announcement do not erode the value of shares.

## iv. Scholars and future researchers

Finally, the study intends to add on to the available finance literature on CEO changes and its effects on stock price. Prospective scholars can also use this research as a basis for their own studies and to identify gaps, which this study will not address.

## CHAPTER TWO: LITERATURE REVIEW

### 2.1 Introduction

This section describes the theoretical review, the determinants of stock prices of listed firms and the empirical review. The chapter also presents a conceptual diagram and a summary of the reviewed studies.

### 2.2 Theoretical Review

### 2.2.1 Efficient Market Hypothesis

The EMH was formalized by Fama (1970) and states that all available, relevant information should be shown by the security prices. Hence, changes in actual returns from the expected returns should be unplanned for, on average they ought, to be zero and not related to information accessible to the market. According to the EMH, security prices are adjusted by an efficient capital market rapidly because of the input of fresh info. Present security prices thus reflect fully on all information available and are denoted to as an informationally efficient market (Dong, 2012). This hypothesis is connected with the notion of a Random Walk Theory whose logic is that tomorrow's change in price will show only news from tomorrow and not be contingent on the days changes in price, that is if information flow is not prevented and info is promptly shown in prices of stock (Olaoye et al., 2016).

The theory proposes that the information available concerning the firms value are reflected fully by current stock prices, and there is no way to gain profits in excess, (over the overall of the market), by using this information. According to the theory, share prices on the
market place react fully and instantaneously to all information available (Olaoye et al., 2016). The theory further presupposes stock prices show the entire firm's public information; hence to change the stock's price information must not be expected. Therefore, if fresh info makes investors expectation of the business garnering higher (lower) cash flows in the future, the business stock price rises (drops) in response (Dong, 2012)

The information hypothesis states that change of a CEO shows that the poor choices in management are yet to be exposed to the community. Therefore, the unevenness of info between insiders and outsiders reduces the moment the change in CEO made public and the reaction of the market is negative due to the exposure of info about the poor choices in management by the board (Pessarossi \& Weill, 2013). According to the theory, the pronouncement of resignation of a CEO is information publicly accessible and may cause adjustment of prices of stock. Thus, a change occurrence should be reflected as a form that's half-strong. In this form, the EMH positions that all information will be processed as soon as it is available to the public by the market and prices will be adjusted instantly to match with the information's value-relevancy (Dong, 2012)

### 2.2.2 Agency Theory

This theory as proposed by Meckling and Jensen (1976) proposes occurrence of managerial mischief when owner's interests and managers interests (agents) diverge; a likely answer to this organization problem is the configuration of agent and owner interests (Nyberg et al., 2010). This theory sees managers as agents and owners as principals and identifies actuality of an agency loss. This is the level where returns to the owners, that is, the residual
claimants, go under what they would be if the principals, applied control directly on the corporation. The agency theory highlights that managers may seek maximization of their own utility curve at the detriment of corporate value (Ngonjo, 2013).

The agency theory looks at the likely lack of goals alignment, actions between principals and agents and preferences (Nyberg et al., 2010). The agency theory argues that incumbent CEOs follow their own interests at the shareholders expense and thus need to be monitored by a board of directors. According to the theory, in order to configure change in CEO with the interest of the shareholders, agency theory recommends having a majority of outside directors on boards and preventing CEO duality (Walther, Morner \& Calabrò, 2015). The theory postulates that to the point at which monitoring CEO effectiveness and effort directly to create shareholders value is costly, agency theory advices incentive contracts usage in which case the pay of the CEO is linked clearly to performance of the firm (Bruce \& Skovoroda, 2015).

### 2.2.3 Signaling Theory

Proposed by Spence (1973) the signaling theory describes actions as a result of two parties (organizations or individuals) having contact to information that's not the same. Characteristically, the first party maybe the sender, must make a decision if and what way to signal/communicate the info, and the second party, that is the receiver, must decide how to understand the communication. Signaling is an activity undertaken by a party so as to impact the thinking and in so doing affect the other parties actions (Dong, 2012). The signaling theory assumes that the firm's director's board has inside info on the future
performance of the firm they may use a number of devices important in signaling to pass info to the market (Hillier et al., 2006).

The signaling theory further supports that CEO change is seen as a good thing by investors since a new one is likely to bring ideas that are new for bettering the company's performance (Setiawan, Phua \& Chee, 2013). Even though CEO change comes after a decrease in operating performance, firings of CEO still has a huge amount of information that is new and negative regarding the current year's earnings of the firm (Hillier et al., 2006). According to the signaling theory, the replacement of the special human capital hints about the current company's exceptional performance and its future project. Thus, changing a firm top manager conveys a signal to the public.

### 2.3 Determinants of Stock Prices of Listed Firms

### 2.3.1 Corporate Governance

Corporate government is a method through which conflicts in an agency are mitigated and hence guarantee returns that are sufficient for funding suppliers. Structures of corporate governance that are well planned make it easy to deal with these problems and hence add to the firm's value being high (Liu, Uchida \& Yang, 2012). The corporate governance methods put to work to guarantee efficiency of the economic consist of creditor monitoring, shareholder monitoring, contracts of executive remuneration, policy of dividends and the controlling context of the corporate law regime and exchanges of stock. Corporate governance works to protect the corporation's rights for the providers of external equity finance and they get a sensible return (Malik, 2012). To aid economic growth and financial
development justification of more transparency in financial markets is needed and stronger corporate governance (Mugaloglu \& Erdag, 2013).

It is important for good corporate governance to enable sustainability and continuity of the businesses that sustain growth in the economy (Malik, 2012). It also in conjunction with transparency lets investors become involved in the process of efficient price formation whereby all information that's related is shown to stock prices immediately. Efficient price discovery is important for stability of prices, often measured by price volatility. The lack of proper governance activities and transparency at the level of firm, the process of price formulation would not be as efficient. This suggests greater volatility in the prices (Mugaloglu \& Erdag, 2013). Therefore, corporate governance is among the major factors used to determine stock price (Malik, 2012).

### 2.3.2 Macroeconomic Factors

Important macroeconomic variables like rate of exchange, rate of interest gain inflation and industrial out, money supply, economic growth affect prices of stock. Inflation is the overall increase in the price levels whereas the total production of services and goods valued at current prices is termed as Nominal GDP (Pradhan \& Dahal, 2016). Money is an assortment of assets in liquid nature and is used to conduct trade as the exchange medium and for debt payment exchange rate is the cost charged for currency exchange of money from different countries. Exchange rate movements often center on the credit markets condition as a result of change. This is shown by interest rate differential changes across countries, and in the monetary policies changes of the central banks (Singh, Mehta \& Varsha, 2011).

An increase in inflation decreases the consumers' appetite for purchasing products, mainly the ones which are non-essential, causing a decrease in the manufacturer's productivity and, therefore, profits becoming lower. In that case, investors may lose their enthusiasm to purchase such companies 'shares, if they are financial market that are listed, and influences a share prices drop (Pradhan \& Dahal, 2016). If a currency value rises in a specific country that is industrialized, it implies that the product importers will pay extra to purchase products, declining their imports. It leads to a sales reduction of exporting firms, thus, a decrease in share price. Offering high interest bank rates will make many investors pick the banking sector as a choice of investment instead of financial markets due to the definite high bank interest rates (Singh, Mehta

### 2.3.3 Firm Performance

Corporate performance is a product of the activities and return on investment in a given period. The performance improvement of the business increases firm value will peak the interests of both the owner and manager (Dalvi \& Baghi, 2014). Firm performance indicates the profit making ability in an investment and every business activities of a firm, organization, enterprise or company indicates how an efficiently managed firm/company can generate profit via the market available resources. Firm performance provides investors with a signal of a company's well-being. When companies are profitable, their share prices rise and so investors make gains. Similarly, when companies are not doing well, their share prices go down leaving investors at a loss (Olaoye et al., 2016). The profitability level is an anticipated future profitability proxy, and therefore it aids in prediction of future returns, steady with the dividend discount model (Dalvi \& Baghi, 2014).

### 2.4 Empirical Review

Ojeka et al (2017) studied the influence of CEO (Chief Executive Officer) succession on the financial performance of companies on the Nigerian stock exchange list. This study used the return on asset and paired t-test, return on capital employed, Tobin's Q and return on equity as financial performance measures. The findings revealed that firms that went through effects of forced CEO turnovers experienced performances that are disrupted and therefore had declined performances after the succession of the CEO. The findings also found a substantial decrease in companies' performance for those that had insider beneficiaries. The authors however observed that an increase in performance of businesses where the Chief Executive Officer resigned of his own accord and an outsider CEO became the successor.

Quigley, Crossland and Campbell (2017) explored how perceptions shareholders regarding Chief Executive Officer Importance have transformed with time. The paper employed a study event of methodology and explored 240 abrupt and unforeseen chief executive officer demises to determine the absolute reactions in the market among listed firm in the United States for the period between 1950 and 2009. The findings established that shareholders behave relatively consistent to the conviction that CEOs have turned out to be more and more prominent in recent years.

Mutwiri (2013) analyzed the share price performance firms in the Nairobi Stock Exchange list before and after CEO exit for the period between 2008 and 2013. The paper used an event study methodology where cumulative average abnormal returns (CAAR) and abnormal returns (AR) were calculated. The findings showed that the volatility that arises
when a CEO change had a noteworthy effect on the share prices performance. This research recommended that quoted firms boards should plan a succession strategy and take into account the effect of succession.

Setiawan, Phua and Chee (2013) studied the effect of Chief Executive Officer (CEO) turnover on market reaction among Indonesian firms for the period between 2000 and 2010. Using the paired T-test the results revealed the existence of a positive effect on the chief executive officer turnover announcement. The study also found that both routine and non-routine turnover had a positive reaction on the announcement on an incoming outsider CEO but there was an insignificant market reaction by investors on the announcement of an insider-incoming chief executive officer.

Setiawan (2011) investigated analysis of reactions in the market to CEO turnover declaration in Indonesia. The paper sampled 59 companies from 1992 to 2003 and used a t-test use to examine the Chief Executive Officer Turnover declaration information content. The findings revealed that a positive market reaction to all Chief Executive Officer turnover proclamations and the positive reaction to routine change in the market, but the non-reaction to non-routine transformation. The study also found that the market also responds positively to inside leaders' succession to becoming CEO, but then the market offered a mixed reaction when outside successors became the new CEO.

Ondieki (2011) also studied the relationship between stock returns and CEO change announcement among quoted firms Kenya. The paper employed an event study methodology and covered 17 CEO change announcements from 2005 to 2009. The study calculated the average abnormal returns to determine their statistical significance and the
market model applied to determine the expected returns while the paired t test was used to test the formulated theories. The research results found the presence of a significant and negative affiliation between the stock returns and the announcement of chief executive succession date.

Wilson and Wang (2010) examined the affiliation between concurrent senior management appointments and discretionary accruals of listed firms in Australia from 1999 to 2007. The study employed panel data regression models. The study found that CEO reforms that go along with a concurrent revolution in chairperson of board are concomitant to important income-declining earnings management in the appointment year. The study also found an insignificant connection between chief financial officer changes and discretionary accruals and concurrent CEO. Additionally, the study found no indication of earnings management in the first compete financial period after CEO appointment, irrespective of whether the concurrent Chair or chief financial officer appointments took place or not.

Lee and James (2007) examined the relations between proclamations of top executives to reactions of shareholders, with focus on the possible gender effects from 1990-2000. The findings of the research indicated that reactions of investors to female CEOs announcements are suggestively further negative than those of their men counterparts. The paper also revealed that women recruited from the company (insiders) are positively perceived more than women who have been externally recruited. An analysis of past articles by the press found that articles on the announcement of female and male Chief Executive Officers found that female CEO appointment incline to stress gender, gender related and other profession or organizational deliberations.

Bennedsen, Perez-Gonzalez and Wolfenzon (2006) studied the effect of CEOs on outcome of firms in Denmark. The study focused on the impact of deaths of CEOs' immediate family members and CEO demises. The results of the study found that the two incidents are intensely connected firm decline in growth of sales, investment, and operating profitability. The study concluded that managers are a key determinant of firm performance.

Rosenberg, Clayton and Hartzell (2003) examined the CEO turnover effect on equity volatility by use of 872 CEO changes from 1979 to 1995 as an example. The investigation found that volatility rises following a CEO turnover, even if the CEO leaves willingly and is swapped by an insider. The study also found that involuntary turnovers upsurge volatility more than voluntary turnovers while voluntary departures, outside successions increase volatility over successions in the inside.

### 2.5 Conceptual Framework

A conceptual framework illustrates diagrammatically the hypothesized relationship between the research variables. This study conceptual framework is shown by figure 2.1 as follows

| Event |  |  |
| :--- | :--- | :--- |
| CEO change <br> announcement |  | Stock Prices  <br> $\bullet$ High stock prices <br> $\bullet$ Low stock prices |
|  |  |  |

## Figure 2.1 Conceptual Model

### 2.6 Summary of Literature Review

This chapter explored various studies on CEO changes and their effect on various concepts of organizations. For example, Ojeka et al (2017) studied the consequence of CEO change on a firm's financial performance. Quigley, Crossland and Campbell (2017) explored how the perceptions of shareholders' towards the importance of a CEO have changed through time. Setiawan, Phua and Chee (2013) studied the effect of Chief Executive Officer (CEO) turnover on market reaction. Bennedsen, Perez-Gonzalez and Wolfenzon (2006) studied the effect of CEOs on outcomes of a firm.

In Kenya, Mutwiri (2013) analyzed the performance of listed businesses in the NSE before and after CEO exit. Ondieki (2011) also studied the relationship between stock returns and CEO change announcement among quoted firms Kenya. From the reviewed studies apart from Ondieki (2011) it is evident that several studies have been carried out on CEO change announcement but its effects is investigated on firm performance an outcome. This indicates a scarcity of the relationship between CEO changes and stock prices specifically in Kenya.

## CHAPTER THREE: RESEARCH METHODOLOGY

### 3.1 Introduction

This section outlines the design used in research, the population to be considered for the study, data collection and analysis procedures.

### 3.2 Research Design

The objective of this research was to examine the effects of CEO change on stock prices of firms quoted at the NSE. To achieve this objective, a descriptive research design was employed. A descriptive study tries to define or describe a subject, mostly by coming up with a profile consisting of a collection of people, problems or events, by data collection and tabulation of the frequencies on study variables or their dealings (Cooper \& Schindler, 2007). Using the descriptive design, this study examined stock return trends 15 day before and 15 days after announcement of the CEO change and an estimation period prior to the event window of 25 days was also used.

### 3.3 Population of the Study

The study population comprises of 12 firms listed at the NSE, which had changed their chief executive officers for the period between January 2012 and December 2016 (See appendix I).

### 3.4 Data Collection

This research paper used secondary sources of data. The data on CEO change announcement was be retrieved from the NSE Company announcements section on their
website and data on share prices was obtained from the NSE library. The retrieved data covered a period of 5 years from January 2012 and December 2016.

### 3.5 Data Analysis

The research paper adopted an event study methodology. This methodology is a statistical technique, which assesses the effect of an occurrence on the value or performance of a firm. An event methodology examines stock value changes in advance to the day of the event and afterwards and estimates the stock returns on all days of the event. The daily returns to each stock were matched with the market returns to get the abnormal return and then the cumulative returns calculated. The event period for the study was 31 days, where -15 days covered the pre CEO change announcement period and +15 days covered post CEO change announcement while the event day was 0 as indicted in the timeline below.


Estimation Window

Event Window

The 15 day after and 15 before CEO change announcement covered the immediate and current data on CEO change announcement effects and stock prices. The daily stock returns of each firm were calculated for the period between which the company made the CEO change announcement as follows

$$
R_{i t}=\frac{P_{t-1}-P_{t}+D_{t}}{P_{t}}
$$

Where; $R_{i t}$ is the daily stock return, $P_{t}$ is the opening stock price, $P_{t-1}$ is the closing stock price and $D_{t}$ is the dividend paid

To determine the expected return the single-factor model by Fama (1976) was used. The formula was generated as follows

$$
E R_{i t}=\alpha_{i}+\beta_{i} R_{m t}+e_{i t}
$$

From the single-factor model by Fama (1976), it was assumed that investors have been compensated for risk thus the expected return was determined as follows

$$
E R_{i t}=\alpha_{i}+\beta_{i} R_{m t}
$$

Where; $E R_{i t}$ is the expected return of the security $i$ in period $t, \alpha_{i}$ is the alpha, $\beta_{i}$ is the beta coefficient, $R_{m t}$ is the market return in period $t$ and $e_{i t}$ is the unsystematic risk

Once the expected returns had been determined, the study determined the daily abnormal returns, average abnormal returns and the cumulative abnormal average return respectively. The abnormal returns were determined as follows

$$
A R j t=R j t-E R j t
$$

Where; ARit is abnormal return for security $i$ over time $t$, Rit is the return at time $t$ on security $i, E(R)$ is the expected return for security $i$ at time $t$,

The average abnormal returns per day was determined through the following formula

$$
A A R_{t}=\frac{1}{n} \sum_{t-1}^{n} A R_{t}
$$

Where: $A A R_{t}=$ Average abnormal returns, $n=$ Number of securities at that particular day, $A R_{t}=$ Abnormal Returns in period t ,

To determine the cumulative abnormal average return for the whole market the following formula was employed

$$
C A A R=\sum_{t=1}^{n} A A R
$$

Where; $C A A R=$ Cumulative abnormal average returns, $A A R=$ Abnormal average returns To establish the statistical significance after and before the CEO change announcement for the abnormal average returns (ARR) and the cumulative average abnormal return (CAAR) the paired t test was employed.

## CHAPTER FOUR: DATA ANALYSIS, RESULTS AND <br> INTERPRETATION

### 4.1 Introduction

This chapter presents the findings of the study and an interpretation of the research findings. The chapter entails the descriptive statistics, the graphical trends, inferential statistics and the findings interpretations.

### 4.2 Descriptive Statistics

The average prices, returns, abnormal returns, average abnormal returns and the cumulative average abnormal returns are presented as descriptive statistics. Table 4.1 shows the results

## Table 4.1 Descriptive Statistics

|  | Av. Price | Av. Returns | Av. Abnormal <br> Returns | Av. AAR | Av. CAAR |
| :--- | :--- | :--- | :--- | :--- | :--- |
| KCB | 30.29 | 0.039 | 0.035 | 0.536 | 8.142 |
| BBK | 14.91 | 0.033 | 0.010 | 0.215 | 3.489 |
| SCBK | 298.56 | 0.016 | 0.001 | 0.274 | 4.284 |
| NIC | 53.91 | -0.015 | 0.040 | 0.1975 | 2.4174 |
| Kenol | 8.94 | -0.025 | -0.021 | 0.205 | 2.571 |
| KenGen | 12.88 | -0.004 | 0.020 | 0.1906 | 4.6184 |
| NSE | 20.32 | -0.008 | 0.017 | 0.130 | 3.112 |
| Total | 19.01 | 0.006 | 0.001 | 0.181 | 4.402 |
| NBK | 11.35 | -0.047 | 0.021 | 0.234 | 4.334 |
| I\&M | 110.13 | 0.425 | 0.011 | 0.243 | 4.183 |
| Mumias | 1.88 | -0.030 | 0.015 | 0.151 | 2.746 |
| Uchumi | 9.85 | -0.031 | -0.030 | -0.06 | -0.38 |

## Source: Research findings

The descriptive results on table 4.1 indicate that average price and returns for KCB and Barclays bank (BBK) are $30.29,14.91,0.039$ and 0.033 respectively whereas average price
and returns for standard chartered bank (SCBK) and NIC bank are 298.56, 53.91, 0.016 and -0.015 respectively. The finding also show that the average price and returns for Kenol and Kengen are $8.94,12.88,-0.025$ and -0.004 while the average price and returns for NSE and Total Kenya are 20.32, 19.01, -0.008 and 0.006 correspondingly. The findings further indicate that the average price and returns for NBK and I\&M bank are 11.35, 110.13, 0.047 and 0.425 whereas the average price and returns for Mumias and Uchumi supermarkets are $1.88,9.85,-0.030$ and -0.031 respectively. The descriptive findings indicate that on average Standard Chartered bank and I\&M bank had the highest share prices while Mumias, KenolKobil and Uchumi had the lowest share prices. The findings further show that the KCB, BBK, SSCK, Total Kenya and I\&M bank had positive average returns while NIC bank, Kenolkobil, Kengen, NSE, NBK, Mumias and Uchumi had negative average returns.

### 4.3 Graphical Analysis

### 4.3.1 Abnormal Returns (AR)

Figure 4.1 shows the graphical trend of the abnormal returns of the firms which had changed their CEO over the period between 2012 to 2016.


Figure 4.1 Abnormal Returns Trend

## Source: Research findings

Figure 4.1 indicates that the abnormal returns of the firms were fluctuating up and down before CEO change but after CEO change announcement they increased gradually in the first five days followed by normal fluctuations after the $5^{\text {th }}$ day.

### 4.3.2 Average Abnormal Returns (AAR)



Figure 4.2 Average Abnormal Returns trend

## Source: Research findings

The results on figure 4.2 indicate that the average abnormal returns of the firms were gradually increasing before CEO change announcement but fell on the first day and the gradually increased from the second day 14 and then a fall in day 15 .

### 4.3.3 Cumulative Average Abnormal Returns (CAAR)



## Figure 4.3 Cumulative Average Abnormal Returns Trend

## Source: Research findings

The findings on figure 4.3 show that that the average cumulative returns were steadily increasing before CEO change but slightly declined after CEO change announcement the gradually continued to increase.

### 4.4 Inferential Statistics

The study employed the statistical package for social studies to run the Paired Samples Statistics for AAR and CAAR before and after CEO change announcement. The results were presented as follows

### 4.4.1 Paired Samples Statistics for AAR

Table 4.2 presents the findings of the paired samples statistics for AAR

Table 4.2 Paired Samples Statistics for AAR

|  |  | Mean | N | Std. Deviation | Std. Error Mean |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Pair 1 | AAR before | .28105 | 15 | .139146 | .035927 |
|  | AAR after | .11528 | 15 | .223327 | .057663 |

## Source: Research findings

The findings on table 4.2 indicate that ARR before CEO change had mean value of 0.28105 while the mean value ARR after CEO change announcement was 0.11528 . This is an indication that there is a positive average abnormal return (AAR) after and before CEO change announcement.

### 4.4.2 Paired Samples Test for AAR

Table 4.3: Paired Samples Test for AAR

|  | Paired Differences |  |  |  |  |  | df | Sig. $\quad(2-1$tailed) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mean | Std. <br> Deviation | Std. Error $95 \%$ Confidence <br> Mean Interval of <br>  the  <br> Difference   |  |  |  |  |  |
|  |  |  |  | Lower | Upper |  |  |  |
| Pair AAR before 1 AAR after | . 165773. | 3.252464 | 065186 | 025963 | 305583 | 2.543 | 14 | . 023 |

## Source: Research findings

The paired sampled test for AAR results on table 4.3 indicates that the $t$ statistics value of 2.543 and the p value of 0.023 are significant at $95 \%$ confidence level. This indicates that
indicates that there is a significant and positive variation in stock returns of listed firms before and after CEO change announcement.

### 4.4.3 Paired Samples Statistics for CAAR

Table 4.4: Paired Samples Statistics for CARR

|  |  | Mean | N | Std. Deviation | Std. Error Mean |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Pair 1 | CAAR before | 1.67211 | 15 | 1.370756 | .353928 |
|  | CAAR after | 5.57703 | 15 | .778797 | .201084 |

## Source: Research findings

The paired sample statistics on table 4.4 indicates that CARR before CEO change had mean value of 1.67211 while the mean value ARR after CEO change announcement was 5.57703. This is an indication that there is a positive cumulative average abnormal return (CAAR) after and before CEO change announcement.

### 4.4.4 Paired Samples Test for CAAR

Table 4.5: Paired Samples Test for CAAR

|  | Paired Differences |  |  |  |  |  | df | $\begin{array}{\|l} \hline \text { Sig. } \\ (2- \\ \text { tailed }) \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mean | Std. <br> Deviation | Std. Error $95 \%$ Confidence <br> Mean Interval of the <br>  Difference   |  |  |  |  |  |
|  |  |  |  | Lower | Upper |  |  |  |
| Pair CAAR before <br> 1 CAAR after | -3.90492 | . 641786 | . 165708 | -4.26032 | -3.54951 | -23.565 | 14 | . 000 |

## Source: Research findings

The paired sampled test for CAAR results on table 4.5 indicates that the $t$ statistics value of -23.565 and the $p$ value of 0.000 are significant at $95 \%$ confidence level. This indicates that indicates that there is a significant and negative variation in stock returns of listed firms before and after CEO change announcement.

### 4.5 Discussion of the Finding

The findings of the study found that that there is a positive average abnormal return (AAR) after and before CEO change announcement. The average abnormal returns paired sampled test established a significant and positive relationship between CEO change announcement and stock prices of firms listed at the NSE. This means that there is a significant and positive variation in average abnormal stock returns of listed firms before and after CEO change announcement.

In similarity to the above findings, Mutwiri (2013) established that the volatility that arises when a CEO change had a significant effect on the share prices performance. Jiaqi (2012) also found that news concerning the firing of the managers of a corporate or employment of a new manager is given at the same time, so it leads to effects which are either negative or positive on prices of stock. Further, Lee and James (2007) revealed that the announcements of changes in CEO, successions managed poorly, and leadership changes that are sudden e.g., CEOs death harmfully upset the stock returns

However, on the contrary a study by, Ojeka et al (2017) revealed that firms that went through effects of forced CEO turnovers experienced performances that are disrupted and therefore had declined performances after the succession of the CEO. Kind and Schläpfer (2010) found that turnovers that were forced did not provide a signal that was positive to
holders of shares. Setiawan (2011) found that the market also responds positively to inside leaders' succession to becoming CEO, but then the market offered a mixed reaction when outside successors became the new CEO.

The study also established that there is a positive cumulative average abnormal return (CAAR) after and before CEO change announcement. The cumulative average abnormal returns paired sampled test established a significant and negative relationship between CEO change announcement and stock prices of firms listed at the NSE. This means that there is a significant and negative variation in cumulative average abnormal stock returns of listed firms before and after CEO change announcement.

In similarity, Ondieki (2011) found the presence of a significant and negative affiliation between the stock returns and the announcement of chief executive succession date. In their study, Baker and Xuan (2016) revealed that the turnover of management declines the connection between the returns that go before the new CEO and equity issues. Additionally, Hillier et al. (2006) concluded that stock prices negatively react to announcements of CEO turnovers. Quigley, Crossland and Campbell (2017) concluded that shareholders behave relatively consistent to the conviction that CEOs have turned out to be more and more prominent in recent years.

However, on the contrary a study by Setiawan, Phua and Chee (2013) on the contrary established that both routine and non-routine turnover had a positive reaction on the announcement on an incoming outsider CEO but there was an insignificant market reaction by investors on the announcement of an insider-incoming chief executive officer.

# CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS 

### 5.1 Introduction

This chapter provides a summary of the study findings, the research conclusions and recommendations. The chapter additionally gives the study limitations and outlines areas, which may require further research.

### 5.2 Summary of Findings

The objective was to determine the effect of chief executive officer change on stock returns of firms listed at the Nairobi securities exchange. The research employed a descriptive design, which entailed the examination of stock return trends 15 day before, 15 days after announcement of the CEO change, and an estimation period prior to the event window of 25 days was used. The research collected secondary data from 12 firms listed at the NSE, which had changed their chief executive officers for the period between January 2012 and December 2016. The study employed an event study methodology where the event period for the study was 31 days, where -15 days covered the pre CEO change announcement period and +15 days covered post CEO change announcement.

The descriptive result established that on average the Standard Chartered bank and I\&M bank had the highest share prices while Mumias, KenolKobil and Uchumi had the lowest share prices. Similarly, the results revealed that the KCB, BBK, SSCK, Total Kenya and I\&M bank had positive average returns while NIC bank, Kenolkobil, Kengen, NSE, NBK, Mumias and Uchumi had negative average returns. Graphical analysis revealed that the
abnormal returns of the firms were fluctuating up and down before CEO change but after CEO change announcement they increased gradually while the average abnormal returns of the firms were gradually increasing before CEO change announcement but fell on the first day and subsequently increased. The results also indicated that the average cumulative returns were steadily increasing before CEO change but slightly declined after CEO change announcement the gradually continued to increase.

The paired sampled statistics results established that there was a positive average abnormal return (AAR) after and before CEO change announcement and there was a significant and positive variation in stock returns of listed firms before and after CEO change announcement. The findings further established that there was a positive cumulative average abnormal return (CAAR) after and before CEO change announcement and that there was a significant and negative variation in stock returns of listed firms before and after CEO change announcement.

### 5.3 Conclusions

The research findings revealed a positive average abnormal return (AAR) after and before CEO change announcement and the average abnormal returns paired sampled test revealed a significant and positive relationship between CEO change announcement and stock prices of firms listed at the NSE. The study based on this finding concludes that there is a significant and positive variation in average abnormal stock returns of listed firms before and after CEO change announcement.

The findings of the study further revealed a positive cumulative average abnormal return (CAAR) after and before CEO change announcement and the cumulative average abnormal
returns paired sampled test revealed a significant and negative relationship between CEO change announcement and stock prices of firms listed at the NSE. The study based on this finding concludes that there is a significant and negative variation in cumulative average abnormal stock returns of listed firms before and after CEO change announcement.

### 5.4 Recommendations

The study made a conclusion that there was a significant and positive variation in average abnormal stock returns of listed firms before and after CEO change announcement. The study therefore recommends that the management of listed firms should not worry about making changes to the chief executive officers since CEO change announcement significantly affect the firm's stock prices.

The research concluded that there was a significant and negative variation in cumulative average abnormal stock returns of listed firms before and after CEO change announcement. The research therefore recommends that listed firms if they deem fit they can have a CEO succession plan since CEO changes affect the listed firms share prices.

### 5.5 Limitations of the Study

This study considered listed firms, which had changed their CEO for the period between 2012 and 2016 despite the fact that firms listed at the NSE had been changing their CEO before 2012. The findings, conclusions and recommendation of the research thus are limited with the considered study period of five years.

This research used an event study methodology and examined stock return trends 15 day before, 15 days after announcement of the CEO change, and an estimation period prior to
the event window of 25 days. The findings are thus based on the considered 15 day before and after CEO change announcement.

Additionally, the considered study period from 2012 to 2016 yielded a population of 12 firms which had undertaken a change in CEO. However, several firms had also undertaken CEO change before the period hence they were omitted for the study and did not form part of the population.

This study used secondary data to analyze the effect of CEO change on returns of listed firms shares. Secondary data however is historic in nature and normally indicates past events which may not reflect the current happenings and situation.

Finally, the study used quantitative data collected from secondary sources to assess the relationship between stock prices and how they are influenced by CEO change. The study therefore did not consider the qualitative aspect associated with CEO change and their effects on share prices of listed firms.

### 5.6 Suggestion for Further Research

The study explored the effect of chief executive officer change on stock prices of firms listed at the Nairobi securities exchange 15 day before, 15 days after announcement of the CEO change, and an estimation period prior to the event window of 25 days. The study recommends a similar study using a longer period of time to establish the long run effects of CEO change announcement.

This study considered all the listed firms however despite the fact that the NSE is divided into various segments like the banking sector, agriculture, insurance, telecommunications
and other segments. The study therefore recommends a similar study but on the specific segments at the NSE.

In addition, new CEOs are of two types origin based: insider and outsider CEO. The study did not consider whether the CEO was an outsider or insider. Thus, the study recommends a further research on the effect of either insider or outsider CEO change on stock prices.

Further, CEO change can occur through dismissal, voluntary exit, death, or retirement due to either age or ill health. This study did not explore on the effect of the form of CEO change on returns of the firms shares. This research therefore recommends a study of the relationship between the forms of CEO dismissal on stock prices.

Finally, this study focused on share prices and returns; however, CEO change affects other functions of firms. The study therefore recommends an assessment of the effect of CEO change on financial performance of firms 3 years before CEO change and three years after the CEO change.

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## APPENDICES

## Appendix I: List of firms, which made CEO changes from 2012 to 2016

## Company

1. Total Kenya
2. KCB group
3. National Bank of Kenya
4. Barclay Bank of Kenya
5. I\&M Holdings
6. Nairobi Securities Exchange
7. Standard Chartered Bank
8. NIC Bank
9. Mumias Sugar
10. Uchumi Supermarket 25/8/2015
11. Kengen
12. Kenol Kobil

Announcement Date

27/10/2015

29/12/2012

8/4/2016

27/11/2012

15/5/2016

8/1/2015

11/12/2013

25/6/2013

1/8/2015

15/1/2014

3/07/2013

## Appendix II: Abnormal Returns

| Event time | KCB | BBK | SCBK | NIC | KENO | KEGN | NSE | TOTAL | NBK | I\&M | MSC | UCH | AR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -15 | 0.074 | 0.014 | 0.047 | 0.021 | 0.032 | 0.038 | -0.008 | 0.076 | 0.087 | 0.033 | 0.007 | -0.026 | 0.033 |
| -14 | 0.076 | 0.056 | 0.065 | 0.049 | 0.015 | 0.050 | 0.035 | 0.049 | 0.076 | 0.074 | 0.068 | -0.016 | 0.050 |
| -13 | 0.058 | 0.008 | 0.057 | 0.026 | 0.005 | 0.127 | 0.034 | 0.043 | 0.040 | 0.028 | 0.035 | -0.002 | 0.038 |
| -12 | 0.080 | 0.089 | 0.075 | 0.022 | 0.011 | 0.026 | 0.068 | 0.044 | -0.021 | 0.065 | 0.040 | -0.060 | 0.037 |
| -11 | 0.093 | 0.020 | 0.074 | 0.036 | 0.020 | 0.030 | 0.043 | 0.070 | 0.138 | 0.043 | 0.019 | -0.002 | 0.049 |
| -10 | 0.080 | 0.012 | 0.031 | 0.018 | 0.041 | 0.045 | 0.035 | 0.079 | 0.124 | 0.029 | 0.010 | 0.060 | 0.047 |
| -9 | 0.066 | 0.021 | 0.048 | 0.005 | 0.032 | 0.020 | 0.068 | 0.038 | 0.064 | 0.032 | -0.069 | 0.049 | 0.031 |
| -8 | 0.072 | 0.055 | -0.027 | -0.013 | -0.007 | 0.011 | -0.010 | 0.021 | -0.099 | 0.031 | -0.019 | 0.007 | 0.002 |
| -7 | 0.076 | 0.028 | 0.003 | -0.042 | 0.013 | 0.023 | 0.031 | 0.061 | -0.014 | 0.005 | 0.074 | 0.000 | 0.022 |
| -6 | 0.056 | 0.001 | 0.027 | -0.021 | 0.022 | 0.082 | 0.050 | 0.054 | 0.027 | 0.000 | 0.003 | 0.010 | 0.026 |
| -5 | 0.070 | 0.051 | 0.011 | 0.015 | 0.021 | 0.065 | 0.024 | -0.004 | 0.036 | 0.059 | 0.052 | 0.031 | 0.036 |
| -4 | 0.070 | 0.068 | -0.024 | 0.055 | 0.008 | 0.046 | 0.052 | 0.003 | -0.072 | 0.023 | 0.127 | -0.025 | 0.028 |
| -3 | 0.072 | 0.025 | -0.006 | 0.058 | 0.052 | 0.061 | 0.066 | -0.002 | -0.001 | 0.036 | 0.083 | 0.001 | 0.037 |
| -2 | 0.054 | 0.037 | -0.007 | 0.020 | 0.037 | 0.072 | -0.006 | -0.026 | -0.015 | 0.043 | 0.090 | -0.010 | 0.024 |
| -1 | 0.063 | 0.035 | -0.032 | -0.007 | 0.028 | 0.112 | 0.019 | -0.043 | 0.104 | 0.067 | 0.005 | 0.005 | 0.030 |
| 0 | 0.075 | -0.067 | 0.002 | 0.022 | 0.048 | 0.026 | -0.004 | 0.051 | 0.001 | 0.009 | 0.012 | 0.030 | 0.0 |
| 1 | 0.091 | 0.009 | 0.025 | 0.008 | 0.012 | 0.013 | 0.013 | 0.038 | -0.086 | 0.045 | -0.017 | -0.033 | 0.010 |
| 2 | 0.058 | 0.006 | -0.018 | 0.001 | 0.005 | 0.034 | 0.032 | -0.010 | -0.091 | 0.011 | 0.065 | 0.001 | 0.0 |
| 3 | 0.052 | 0.024 | 0.036 | 0.056 | 0.030 | 0.026 | 0.026 | -0.021 | 0.021 | 0.029 | 0.002 | -0.044 | 0.020 |
| 4 | 0.062 | 0.015 | 0.027 | 0.035 | 0.021 | 0.054 | 0.028 | 0.041 | 0.068 | 0.031 | 0.025 | 0.041 | 0.037 |
| 5 | 0.057 | 0.019 | 0.042 | 0.016 | 0.072 | 0.031 | -0.004 | 0.026 | 0.204 | 0.029 | 0.025 | 0.000 | 0.0 |
| 6 | 0.061 | 0.017 | 0.042 | 0.051 | 0.092 | 0.066 | -0.020 | 0.117 | 0.038 | 0.000 | 0.021 | 0.004 | 0.04 |
| 7 | 0.085 | 0.005 | 0.107 | 0.049 | 0.056 | 0.014 | 0.029 | 0.020 | 0.032 | 0.034 | -0.063 | -0.005 | 0.0 |
| 8 | 0.077 | 0.051 | 0.030 | 0.071 | 0.040 | 0.087 | 0.059 | 0.037 | 0.036 | 0.030 | -0.045 | 0.000 | 0.039 |
| 9 | 0.080 | 0.044 | 0.072 | 0.050 | 0.041 | -0.012 | 0.028 | 0.049 | 0.109 | 0.026 | -0.042 | 0.000 | 0.03 |
| 10 | 0.052 | 0.066 | 0.060 | 0.044 | 0.047 | -0.036 | -0.002 | 0.070 | 0.038 | 0.029 | -0.008 | 0.000 | 0.030 |
| 11 | -0.009 | 0.082 | 0.052 | 0.064 | 0.025 | -0.074 | 0.101 | -0.034 | -0.067 | 0.034 | 0.158 | 0.000 | 0.028 |
| 12 | 0.064 | 0.046 | 0.013 | 0.073 | 0.040 | -0.047 | 0.019 | 0.015 | -0.024 | 0.041 | 0.153 | -0.005 | 0.032 |
| 13 | 0.077 | 0.047 | 0.052 | 0.086 | 0.081 | -0.128 | 0.104 | 0.034 | -0.025 | 0.028 | 0.020 | -0.050 | 0.027 |
| 14 | 0.071 | 0.056 | 0.060 | 0.079 | 0.020 | 0.033 | 0.042 | 0.049 | 0.100 | 0.028 | 0.077 | -0.043 | 0.048 |
| 15 | -0.939 | -0.940 | -0.942 | -0.946 | -0.960 | -0.900 | -0.954 | -0.945 | -0.829 | -0.972 | -0.906 | -1.001 | -0.020 |

## Appendix III: Average Abnormal Returns

| Event time | KCB | BBK | SCBK | NIC | KENO | KEGN | NSE | TOTAL | NBK | I\&M | MSC | UCH | AAR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -15 | 0.074 | 0.014 | 0.047 | 0.021 | 0.032 | 0.038 | -0.008 | 0.076 | 0.087 | 0.033 | 0.007 | -0.026 | 0.033 |
| -14 | 0.150 | 0.070 | 0.111 | 0.069 | 0.047 | 0.089 | 0.027 | 0.125 | 0.163 | 0.107 | 0.075 | -0.042 | . 83 |
| -13 | 0.208 | 0.079 | 0.168 | 0.095 | 0.052 | 0.216 | 0.061 | 0.168 | 0.204 | 0.135 | 0.109 | -0.044 | 21 |
| -12 | 0.288 | 0.168 | 0.243 | 0.118 | 0.063 | 0.242 | 0.129 | 0.212 | 0.183 | 0.201 | 0.149 | -0.104 | . 58 |
| -11 | 0.381 | 0.188 | 0.317 | 0.154 | 0.083 | 0.272 | 0.173 | 0.282 | 0.320 | 0.243 | 0.168 | -0.106 | 0.206 |
| -10 | 0.461 | 0.201 | 0.348 | 0.171 | 0.124 | 0.318 | 0.208 | 0.361 | 0.445 | 0.273 | 0.178 | -0.045 | 0.253 |
| -9 | 0.527 | 0.222 | 0.396 | 0.176 | 0.157 | 0.338 | 0.275 | 0.399 | 0.509 | 0.305 | 0.109 | 0.004 | 85 |
| -8 | 0.599 | 0.277 | 0.368 | 0.163 | 0.150 | 0.349 | 0.266 | 0.420 | 0.410 | 0.336 | 0.091 | 0.010 | 0.287 |
| -7 | 0.675 | 0.305 | 0.371 | 0.121 | 0.163 | 0.372 | 0.29 | 0.482 | 0.396 | 0.341 | 0.165 | 0.010 | 0.308 |
| -6 | 0.730 | 0.306 | 0.398 | 0.099 | 0.184 | 0.454 | 0.346 | 0.535 | 0.423 | 0.341 | 0.168 | 0.020 | 0.334 |
| -5 | 0.801 | 0.356 | 0.409 | 0.115 | 0.205 | 0.519 | 0.370 | 0.531 | 0.459 | 0.399 | 0.220 | 0.051 | 0.370 |
| -4 | 0.871 | 0.424 | 0.385 | 0.170 | 0.213 | 0.566 | 0.423 | 0.534 | 0.387 | 0.423 | 0.346 | 0.027 | 0.397 |
| -3 | 0.9 | 0.4 | 0.37 | 0.22 | 0.26 | 0.6 | 0. | 0.5 | 0.386 | 0.459 | 0.429 | 0.027 | 0.434 |
| -2 | 0.997 | 0.486 | 0.372 | 0.249 | 0.302 | 0.699 | 0.483 | 0.506 | 0.371 | 0.502 | 0.519 | 0.018 | 0.4 |
| -1 | 1.060 | 0.520 | 0.340 | 0.242 | 0.329 | 0.811 | 0.502 | 0.463 | 0.475 | 0.569 | 0.525 | 0.023 | 0.488 |
| 0 | 1.135 | 0.453 | 0.342 | 0.264 | 0.377 | 0.837 | 0.498 | 0.514 | 0.476 | 0.578 | 0.536 | 0.053 | 0.505 |
| 1 | 0.091 | 0.009 | 0.025 | 0.008 | 0.012 | 0.013 | 0.013 | 0.038 | -0.086 | 0.045 | -0.017 | -0.033 | 0 |
| 2 | 0.148 | 0.01 | 0.00 | 0.00 | 0.01 | 0.034 | 0.032 | -0.010 | -0.17 | 0.056 | 0.048 | -0.033 | 0.012 |
| 3 | 0.200 | 0.038 | 0.043 | 0.06 | 0.047 | 0.026 | 0.026 | -0.021 | -0.156 | 0.085 | 0.050 | -0.077 | 0.027 |
| 4 | 0.262 | 0.053 | 0.070 | 0.100 | 0.068 | 0.054 | 0.028 | 0.041 | -0.088 | 0.116 | 0.075 | -0.035 | 0.062 |
| 5 | 0.320 | 0.072 | 0.112 | 0.115 | 0.139 | 0.031 | -0.004 | 0.026 | 0.116 | 0.145 | 0.100 | -0.036 | 0.095 |
| 6 | 0.381 | 0.089 | 0.15 | 0.166 | 0.231 | 0.066 | -0.020 | 0.117 | 0.154 | 0.145 | 0.121 | -0.031 | 0.1 |
| 7 | 0.466 | 0.09 | 0.26 | 0.215 | 0.28 | 0.014 | 0.029 | 0.020 | 0.185 | 0.179 | 0.058 | -0.036 | 0.148 |
| 8 | 0.543 | 0.145 | 0.2 | 0.286 | 0.328 | 0.087 | 0.059 | 0.037 | 0.221 | 0.209 | 0.012 | -0.036 | 0.182 |
| 9 | 0.623 | 0.189 | 0.363 | 0.337 | 0.369 | -0.012 | 0.028 | 0.049 | 0.330 | 0.234 | -0.030 | -0.036 | 0.204 |
| 10 | 0.675 | 0.255 | 0.423 | 0.381 | 0.416 | -0.036 | -0.002 | 0.070 | 0.368 | 0.263 | -0.038 | -0.036 | 0.228 |
| 11 | 0.666 | 0.337 | 0.475 | 0.445 | 0.441 | -0.074 | 0.101 | -0.034 | 0.301 | 0.297 | 0.120 | -0.035 | 0.253 |
| 12 | 0.730 | 0.384 | 0.488 | 0.518 | 0.481 | -0.047 | 0.019 | 0.015 | 0.277 | 0.338 | 0.273 | -0.041 | 0.286 |
| 13 | 0.807 | 0.431 | 0.541 | 0.603 | 0.562 | -0.128 | 0.104 | 0.034 | 0.252 | 0.366 | 0.293 | -0.091 | 0.315 |
| 14 | 0.878 | 0.487 | 0.600 | 0.682 | 0.583 | 0.033 | 0.042 | 0.049 | 0.352 | 0.394 | 0.370 | -0.134 | 0.361 |
| 15 | -0.061 | -0.453 | -0.342 | -0.264 | -0.377 | -0.900 | -0.954 | -0.945 | -0.476 | -0.578 | -0.536 | -1.135 | -0.585 |

## Appendix IV: Cumulative Average Abnormal Returns

| Event time | KCB | BBK | SCBK | NIC | KENO | KEGN | NSE | TOTAL | NBK | I\&M | MSC | UCH | CAAR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -15 | 0.074 | 0.014 | 0.047 | 0.021 | 0.032 | 0.038 | -0.008 | 0.076 | 0.087 | 0.033 | 0.007 | -0.026 | 0.033 |
| -14 | 0.224 | 0.084 | 0.158 | 0.090 | 0.079 | 0.127 | 0.020 | 0.201 | 0.250 | 0.140 | 0.081 | -0.067 | 0.116 |
| -13 | 0.432 | 0.163 | 0.326 | 0.185 | 0.131 | 0.342 | 0.081 | 0.369 | 0.454 | 0.276 | 0.191 | -0.111 | 0.237 |
| -12 | 0.720 | 0.331 | 0.569 | 0.303 | 0.194 | 0.584 | 0.211 | 0.581 | 0.636 | 0.476 | 0.340 | -0.214 | 0.394 |
| -11 | 1.101 | 0.5 | 0.886 | 0.457 | 0.2 | 0.8 | 0.3 | 0.8 | 0.956 | 0.720 | 0.508 | -0.320 | 0.601 |
| -10 | 1.562 | 0.720 | 1.234 | 0.628 | 0.401 | 1.174 | 0.591 | 1.224 | 1.401 | 0.993 | 0.686 | -0.365 | 5 |
| -9 | 2.089 | 0.941 | 1.630 | 0.804 | 0.558 | 1.512 | 0.866 | 1.623 | 1.910 | 1.298 | 0.795 | -0.362 | 39 |
| -8 | 2.688 | 1.218 | 1.998 | 0.967 | 0.708 | 1.861 | 1.132 | 2.043 | 2.320 | 1.634 | 0.886 | -0.352 | 25 |
| -7 | 3.363 | 1.523 | 2.369 | 1.088 | 0.871 | 2.233 | 1.428 | 2.525 | 2.716 | 1.975 | 1.051 | -0.341 | 1.733 |
| -6 | 4.094 | 1.829 | 2.767 | 1.187 | 1.055 | 2.687 | 1.775 | 3.060 | 3.139 | 2.316 | 1.219 | -0.321 | 2.067 |
| -5 | 4.894 | 2.186 | 3.177 | 1.302 | 1.260 | 3.206 | 2.145 | 3.591 | 3.597 | 2.716 | 1.438 | -0.270 | 2.437 |
| -4 | 5. | 2.6 | 3.562 | 1.472 | 1.47 | 3.7 | 2.5 | 4.125 | 3.984 | 3.138 | 1.785 | -0.243 | 2.834 |
| -3 | 6. | 3.05 | 3.9 | 1.701 | 1.7 | 4.39 | 3. | 4. | 4.370 | 3.597 | 2.214 | -0.216 | 9 |
| -2 | 7.705 | 3.5 | 4.31 | 1.950 | 2.04 | 5.0 | 3.5 | 5. | 4.741 | 4.099 | 2.733 | -0.199 | 3.727 |
| -1 | 8.766 | 4.06 | 4.65 | 2.192 | 2.36 | 5.910 | 4.042 | 5.626 | 5.216 | 4.668 | 3.258 | -0.176 | 6 |
| 0 | 9.900 | 4.518 | 4.996 | 2.456 | 2.746 | 6.747 | 4.540 | 6.140 | 5.692 | 5.246 | 3.794 | -0.123 | 1 |
| 1 | 9.991 | 4.527 | 5.021 | 2.464 | 2.758 | 6.760 | 4.552 | 6.178 | 5.606 | 5.291 | 3.777 | -0.157 | 4.731 |
| 2 | 10.139 | 4.542 | 5.029 | 2.473 | 2.775 | 6.794 | 4.585 | 6.169 | 5.429 | 5.346 | 3.825 | -0.190 | 4.743 |
| 3 | 10.339 | 4.580 | 5.072 | 2.538 | 2.822 | 6.821 | 4.611 | 6.148 | 5.273 | 5.431 | 3.875 | -0.266 | 4.770 |
| 4 | 10.60 | 4.633 | 5.142 | 2.638 | 2.890 | 6.874 | 4.639 | 6.189 | 5.184 | 5.548 | 3.949 | -0.302 | 4.832 |
| 5 | 10.92 | 4.705 | 5.25 | 2.753 | 3.02 | 6.905 | 4.6 | 6.214 | 5.300 | 5.693 | 4.049 | -0.337 | 4.927 |
| 6 | 11.302 | 4.79 | 5.40 | 2.920 | 3.26 | 6.97 | 4.61 | 6.332 | 5.454 | 5.838 | 4.170 | -0.368 | 8 |
| 7 | 11.767 | 4.888 | 5.670 | 3.135 | 3.547 | 6.985 | 4.644 | 6.351 | 5.639 | 6.017 | 4.227 | -0.404 | 5.206 |
| 8 | 12.310 | 5.033 | 5.961 | 3.421 | 3.87 | 7.073 | 4.703 | 6.388 | 5.860 | 6.226 | 4.239 | -0.440 | 5.387 |
| 9 | 12.933 | 5.222 | 6.324 | 3.758 | 4.244 | 7.061 | 4.731 | 6.437 | 6.190 | 6.460 | 4.209 | -0.476 | 5.591 |
| 10 | 13.609 | 5.477 | 6.747 | 4.138 | 4.660 | 7.025 | 4.729 | 6.507 | 6.558 | 6.724 | 4.171 | -0.512 | 5.819 |
| 11 | 14.275 | 5.814 | 7.223 | 4.583 | 5.101 | 6.951 | 4.831 | 6.473 | 6.859 | 7.021 | 4.292 | -0.547 | 6.073 |
| 12 | 15.004 | 6.198 | 7.711 | 5.101 | 5.582 | 6.904 | 4.849 | 6.488 | 7.136 | 7.359 | 4.565 | -0.588 | 6.359 |
| 13 | 15.811 | 6.629 | 8.251 | 5.704 | 6.144 | 6.777 | 4.953 | 6.522 | 7.388 | 7.725 | 4.858 | -0.679 | 6.674 |
| 14 | 16.690 | 7.115 | 8.852 | 6.386 | 6.727 | 6.810 | 4.995 | 6.571 | 7.741 | 8.119 | 5.229 | -0.813 | 7.035 |
| 15 | 16.629 | 6.662 | 8.509 | 6.122 | 6.350 | 5.910 | 4.042 | 5.626 | 7.264 | 7.541 | 4.692 | -1.948 | 6.450 |

