

**THE JANUARY EFFECT ON STOCK RETURNS OF FIRMS QUOTED AT THE
NAIROBI SECURITIES EXCHANGE**

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REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS**

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DECLARATION

This Research Project is my original work and has not been previously presented to any other University towards the award of any degree.

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This Research Project has been submitted for examination with my approval as University Supervisor.

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I express gratitude to God our Father for granting me gift of life, health, strength and knowledge that He bestowed upon me and for the far He has brought me in this academic journey. I additionally express sincere gratitude to my Supervisors, Dr. Winnie Nyamute and Ms. Hellen Kinyua, for their continuous support while undertaking the project. To my MBA colleagues Eric, Faith, Hezron and Jacinta, my sincere gratitude for the love and support you've me during this course.

DEDICATION

I dedicate the research paper to my parents, Mr. & Mrs. Riany for granting me the opportunity to go to school and acquire knowledge; and to my siblings for the support they have provided during this study.

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ABSTRACT

This research project aimed at investigating presence of January effect on stock returns on the various sectors at the Nairobi Securities Exchange in order to address a methodological gap which had been identified of inconsistent findings put across by previous researchers with regard to the existence of seasonal effects at the Nairobi Securities Exchange. The Efficient Market Hypothesis underpinned the study. The descriptive research design was adopted. The population was 65 companies that were listed at the NSE as at December 31, 2015; out of this population, only 55 companies qualified as they provided the full set of data on prices of stock. The secondary data was sought from the NSE data vendors. The stock prices were then utilized to compute the January mean returns and also rest of the year mean returns. Paired t-test was then utilized to establish if there might have been a difference of a significant amount in mean returns. From the paired t-test, there was difference in mean returns in certain years of the period under study while other periods there was no significant difference in returns. This study established that there was January effect across 9 of the 10 sectors that were studied. The combined paired t-test indicated that there was also January effect on the NSE overall. The study recommended that investors should carefully look at the trends in the month of January and create portfolios that will enable them maximize returns. It also recommends that further studies on seasonality of stock returns conducted could explore on including other factors that affect the movement of stock prices for more robust results.

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ABBREVIATIONS

NSE	Nairobi Securities Exchange
NYSE	New York Securities Exchange
P/E	Price Earning
ROY	Rest of the Year
RTGS	Real-Time Gross Settlement
UK	United Kingdom
US	United States

CHAPTER ONE INTRODUCTION

1.1 Background of Study

Efficiency Market Hypothesis stands associated with the Random walk theory whose notion is that flow of information is unhindered such that any new information is instantaneously mirrored in prices of stocks through immediate amendment of stock prices to this new information; that stocks are efficiently priced to reflect all available information and that capital markets are efficient (Clarke et al 2001). Fama (1970) stated that where markets are efficient, there is rivalry among the numerous intelligent players which resulting in a state any given period the actual prices of the securities mirror event-based information; past or future events.

Previous researchers however have documented market anomalies that have attempted to show contradiction of the EMH. The varied findings concerning calendar anomalies in the market are seasonal effects (Lakonishok et al, 1987). There are patterns in daily returns around weekends and month-end that have been seen to depart from the random walk theory. Traditional asset pricing models cannot therefore be able to explain these patterns exhibited by stock returns where on a particular day or month, returns tend to rise or fall (Wong et al, 2007). Some of these patterns include the effect of day of the week effect, the turn of the month and January, among others.

Rozeff & Kimney suggested that market anomaly January effect shows that the mean return daily during the January is relatively higher than mean daily returns for other month; they recorded the effect in NYSE from 1904 to 1974. Berument & Kiyamaz (2003) noted there was effect of day of week on volatility of stock and returns on stocks with the

least and greatest returns being observed on Monday and Wednesday respectively. Poshakwale (1996) noted prices at Bombay Stock Exchange did not follow the random walk normal returns were distinctive every day of the week. Sifuna (2012) showed non-appearance of day of the week effect at Nairobi Securities Exchange. Kai (2009) showed absence of turn of month effect at NSE whereas John (2011) noted absence of January effect at the NSE.

1.1.1 January Effect

Lakonishok et al (1987) asserted that seasonality in stock markets refers varied compilation of outcomes with regard to calendar anomalies; stock markets collectively indicate returns are constantly greater during some calendar periods than others.

January effect indicates stock returns generally are greater in volume in January as opposed to other. Rozeff & Kinney (1976) found seasonal patterns at the NYSE during the period 1904-1974; compared to all other calendar months, the mean monthly return was higher in January. Reinganum (1983) asserted that the tax loss-selling may have attributed to January effect; that prices of stocks will decline in months later in the year as owners of stocks dispose of them to realize capital losses. Keim (1983) asserted that in developed countries like the US and the UK, January effect may be attributed to settlement procedures, insider trading and tax-loss selling. King'ori (2005), however, found that there is no January effect at the NSE.

1.1.2 Stock Returns

Return generated by investors out of a stock market are referred to as stock market returns; these might be in the form of realized profit by trading of stocks (capital gain) or dividend received by shareholders from the company (Strong, 1992).

EMH asserts stock market that is operationally efficient is anticipated stay “externally and informational efficient”; that prices of securities at any period should be an unbiased reflector of every information accessible on the anticipated future cash flows of a security as well as the risk the investor has assumed in possessing this kind of a security (Reilly & Brown, 2003). Thus, the market gives a precise signal for the apportionment of assets because the price of a stock is a true representation of its intrinsic value. This further shows that the stock market indicators can be used as a predictor of future economic growth.

Good performance of a security market is a strong pointer of a healthy economy (Haroon and Shah, 2013); this provides investors a means of evaluating their portfolio and observing stock movement that may affect their profitability. Ondiala (2014) noted that a common form of generating stock returns is trading in the secondary market; that an investor could make a return through purchasing stock at a lesser price and generate profit by re-selling at a higher price.

1.1.3 January Effect on Stock Returns

In an efficient market, there are many rational investors whose aim is to maximize profits. If prices of stocks adjust immediately averagely minus a bias to new information

the markets are efficient, therefore the security's price will be a reasonable approximation of its intrinsic value and thus no abnormal returns.

Anomalies may influence returns (capital gains) as they can influence the stock prices and create arbitraging opportunities for investors. If January effect is present, there is an opportunity for investors to purchase stocks at low prices in other months prior to January and sell them in January when the value has increased. Dyl (1977) asserted that January effect may result from tax-loss selling towards the closure of a tax year in order for investors to decrease tax payable on stocks which they could have lost money during the year and the capital losses may be deductible from taxable income. They used this notion in the US. King'ori (2005) conducted an empirical study on stock market seasonality at the NSE. His finding was that NSE mean stock returns are equal over the months and quarters of the year tested indicating that January effect was not present at the NSE.

Jaffe & Westerfield (1985) examined weekend effect in Australia, Canada, Japan and UK. Its results indicated the existence of the weekend effect in the 4 markets. Berument and Kiymaz (2003) investigated existence of day of the week effect on stock market volatility. Their findings showed that in equations for return and volatility, the day of the week effect was existent.

1.1.4 The Nairobi Securities Exchange

The Nairobi Securities Exchange (NSE) being the main bourse in Kenya with an automatic dais for listing and trading of numerous securities, was established in 1954 as Nairobi Stock Exchange, it was instituted as a volunteer alliance for stockbrokers in the European Congregation (NSE, 2016).

Capital Markets Authority (CMA) was put in place in 1990 in order to have a body in place that would be charged with promotion and facilitation of the development of efficient capital market in the country. The CMA regulates the NSE. In 1999 the CMA issued guidelines on constitution of audit committees in a bid to uphold sound corporate governance practices by listed companies. The NSE had increased the number of stock brokers over the years and the number of companies listed has increased to 64 as at July 2016. The cash settlement systems for equities and bonds has been improved to real-time gross settlement, and the live trading system through the NSE's automated trading system and the NSE Broker Back Office has also been implemented.

The NSE is an avenue for investors to trade securities and realize returns through capital gains or by earning a return through dividend distributed. Trading hours are currently six hours on weekdays and the settlement cycle for both sale and purchase of securities is T+3. Improvement such as settlement through RTGS has led to fast settlement which has allowed day traders and other margin traders, opening the market for short-selling and other strategies, increasing liquidity (CDSC, 2015). The NSE has contributed to the growth economy of Kenya by providing an enabling environment for companies to raise finances. It has also facilitated the public to invest into sectors of the economy that are fast growing and high yielding sectors; and at the same time offering protection to the individual investors through formal oversight and regulation of investments.

1.2 Research Problem

Financial markets are theoretically supposed to be efficient; the weak form efficiency of financial markets asserts movement of stock prices is random making it impossible for

price patterns and investors taking advantage of price movements. Stock price movements are independent of each other rendering technical analysis inaccurate making it extremely hard to outperform the market (Fama, 1970). Calendar effect trends have, however, been noted in various financial markets across the globe. These effects have been manifested in the form of varying rates of return on stocks during particular periods in a calendar year (Wong et al, 2007). The presence of these calendar anomalies can influence an investor's decision to purchase or sell a security and ultimately the return that the security will generate.

The NSE provides a platform for investors to trade securities. Trading at the Financial Market has over the years attracted the 64 companies currently listed at the NSE with an equity turnover of KES 371,006,206.00 as at July 2016. The introduction of the Growth Enterprise Market Segment in 2013 has seen more companies getting listed on the stock market. Volume of trading at the NSE has also increased as a result of cycle of settlement decreasing to T + 3 in July 2011 and introduction of RTGS settlement through the CBK in 2015 (NSE, 2016). The reintroduction of the Capital Gains Tax by the Finance Act 2014 also saw reduction in trading as foreign investors disposed of their stocks; CGT was later on removed from law by the Finance Act 2015.

Rozeff & Kinney (1976) observed a January patten in the NYSE stocks for the period 1904 to 1974 finding there was reality of the January effect at the NYSE. Research has also been conducted locally on the existence of calendar effects at the NSE. King'ori (2005) studied stock market seasonality at the NSE and his findings asserted absence of the January effect. Kai (2009) investigated presence of the effect turn of the month at NSE; he noted absence thereof. John (2011) and Wachira (2013) investigated the January

effect at the NSE and concluded that there was no January effect at the NSE. Muindi (2015) noted the day of the week effect was existent at NSE.

Various studies conducted have advanced contradictory results with regard to calendar effects, particularly in the Kenyan financial market. Results of the previous researchers have shown absence of the January effect at the NSE whereas other researchers who focused on other calendar anomalies established presence at the NSE. The NSE has categorized companies into 12 sectors. The researchers King'ori (2005), John (2011) and Wachira (2013) fixated their research on the whole population at the NSE which could have led to compensating effects among the sectors and companies. None of the studies had concentrated on establishing January effect at the sector level and were conducted prior to the decrease in the settlement cycle to T+3 and introduction of settlement of securities via RTGS by the CBK.

This research will look at trading at the NSE and sought to find the inter-sector seasonal effects on stock returns within the 12 sectors of the listed companies. The researcher will look at presence of January effect in the individual sectors at the NSE.

The question this research wishes to address is:

Is there a January effect on stock returns across all the 12 sectors of listed companies at the Nairobi Securities Exchange?

1.3 Objective of the Research

The objective of the study was to investigate the presence of January effect at the Sector level on stock returns at the Nairobi Securities Exchange.

1.4 Value of Study

Discoveries of this research is aimed at adding knowledge of the EMH with respect to the effect of the January at the NSE. The findings of this research will be used as reference in future in the field of EMH and possibly provide possible research gaps.

Efficient markets are a factor that investors consider while evaluating possible investment portfolios. The study findings will provide investors with knowledge that will assist them in making sound and informed investment decisions. It may will provide knowledge that will enable them adjust their portfolio taking into account January effect and thus maximize their returns.

Policy makers will also find this research useful as it may be a guide in making and/or reviewing existing policies that govern operation of financial markets. The CMA may use information from this research to formulate trading rule that will encourage the growth and development of the financial markets.

Financial analysts and stock brokers can use the findings of the research to educate potential investors on profitable periods to trade based on the existence of seasonality effects in the securities markets.

CHAPTER TWO:LITERATURE REVIEW

2.1 Introduction

This chapter evaluates the theoretical framework, determinants of stock market returns, empirical literature review on the January effect and stock returns, the conceptual framework and the literature review summary.

2.2 Theoretical Framework

The theoretical framework covers Efficient Market Hypothesis, Random Walk and Modern Portfolio theories.

2.2.1 Efficient Market Hypothesis

A market where there comprises great quantity of sensible investors competing, attempting to foresee the future market values of individual securities and present information is nearly easily accessible to every player is referred to as an efficient market. EMH further asserts that earning a profit from forecasting movement of prices is quite challenging and improbable; the main instrument behind changes in prices of stocks being the arrival of new information (Clarke et al 2001).

The competition among the numerous market players in efficient markets results in a state that at any given point, the prices of an individual securities already mirror the outcome of information based on past and future events; thus the actual prices of the security will be a decent approximation of its intrinsic value at any point in an efficient market (Fama 1970).

Fama (1970) brought forward three forms of efficiencies: weak, strong and semi-strong form market efficiencies. The weak efficiency that share prices mirror every available historic information in share price movement and past rates of return. The Semi-strong efficiency affirms every information offered publicly is incorporated into a security's current market price, signifying that fundamental and technical analysis cannot be applied to achieve superior gains; suggesting that only information not publicly obtainable can profit investors seeking to receive super-normal returns on their investments. The strong efficiency proposes every present information, public and private, inside information included are fully included in the present rates of stocks. The foundation is that markets antedates, impartially future enhancements and consequently stock rate may additionally have included the information and evaluated in a much whole lot more unprejudiced manner than the insiders.

Efficient markets operate in weak form efficiency. Presence of calendar anomalies in markets is an indicator that markets are not operating efficiently as these anomalies create an opportunity for investors to create an abnormal return because stock prices changes are not random anymore and unpredictable and can thus be predicted based on previous patterns (Wachtel, 1942). Presence of the market anomalies at the NSE may be an indicator that the financial markets are not functioning efficiently as there is a pattern for predicting stock returns. This research sought to establish whether the anomaly January effect affected efficiency at the NSE.

2.2.2 Random Walk Theory

The belief that price behavior is unpredictable as it doesn't act on any predictive fundamental or technical pointers is referred to as the random walk theory. Its proponents follow the idea stocks chart a random and unpredictable path. They assert that for an investor to outperform the market he has to assume an additional risk proportionate with the abnormal gains.

Malkiel (2003) stated that since new information is irregular and prices are reasonably grounded, prices changes are anticipated to be random also not predictable. Therefore, stock prices follow a random walk. Reasoning behind the random walk is, if the information movement is unhindered and it is immediately replicated in stock prices, thus price difference in any day other than today replicate only in news for that day and therefore the autonomy of today changes in price (Ajayi et al, 2004).

The random walk implies that there is no seasonality in stock prices as they are entirely random and quite unpredictable. The presence of seasonality eliminates the randomness of stock prices and market participants can fetch abnormal profits as investors are able to spot predictable patterns of stock prices based on historic information. This research sought to establish whether stock returns exhibit a pattern in the month of January.

2.2.3 Modern Portfolio Theory

Advanced by Markowitz (1952), MPT asserts on how investors can build portfolios in a bid to make the most of return on investment at a particular magnitude of market risk. The MPT assumes that investors will assume a provided level of risk in order to achieve highest return on specified investment. However, investors are generally risk averse, if

they had a selection between two securities that have similar rates of return, they would choose the one with the risk level that is lower.

Markowitz (1952) suggested that to pick out gainful investments, buyers should not only study the relationship there is with risk and return but also focus on the end result of diversification to minimize overall risk in a portfolio. He further revealed that due to the fact that risk averseness is a character exhibited by investors, portfolios should be efficiently diversified. Previously investors constructed their investment portfolios basing their judgment on the risk-reward relationship of each security hence failure to account for the high level of correlation between returns on securities is probable. MPT is of the assumption that diversification reduces the risk in a portfolio only when combines assets have prices that move contrariwise.

Stock prices fluctuate on a daily basis. When purchasing stocks, investors think about the amount of yield they'll receive; with the expected return being high, the associated risk is also high. By considering seasonality of stocks, investors may build portfolios that maximize returns while at the same time reduce the risk associated with these stocks. They can diversify their portfolio by selecting securities that take into account dissimilar price movements and the rates of return of the stocks at different periods during the calendar year. They can also diversify their portfolio taking into account the different sectors at the NSE based on which sector exhibits the January effect.

2.3 Determinants of Stock Market Returns

Various studies have been undertaken to identify factors that influence stock prices in various stock markets. Some of the factors advanced include dividend, book value and

earnings, all being firm specific. As stock returns are the yields that the investors generate out of a stock market (Strong, 1992), investors would want to invest in shares that offer benefit of liquidity and thus, get the chance to out-perform the market and earn superior returns. Share prices are not self-determining in nature and thus both intrinsic and extrinsic factors both have an influence over the movement of stock prices.

2.3.1 Financial Market Anomalies

Empirical results that seem to be varying from models of asset-pricing behavior are known as market anomalies. They are an indication of inefficiency of markets i.e earnings prospects or underlying asset-pricing model experiencing a shortfall (Schwert, 2003). The appearance of such anomalies is contrary to the weak form market efficiency because the prices of assets are not haphazard but can be forecast based on the calendar effect; this creates an opportunity for arbitrage for investors to develop trading strategies and in return make abnormal profits. The EMH and Random Walk Theory became contentious particularly subsequent to capital markets exhibiting certain anomalies. Empirical studies show stock returns show a pattern during days of trading implying past stock prices can be utilized to forecast possible imminent stock price movements.

2.3.1.1 Day of Week Effect

This denotes the disparity of stock market returns by day of week such that in a week, negative returns generally are exhibited on Mondays whereas positive returns are exhibited on Fridays. French (1980), Rogalski (1984), Aggrawal & Rivoli (1989) conducted studies that record spread of stock market returns varies based on the day of the week. Muindi (2015) studied noted an existence of day of the week effect at Nairobi

Securities Exchange; average returns daily across all days of the week did not follow a normal distribution.

2.3.1.2 The January Effect

This refers to a pattern exhibited by stocks whereby there is an upward fluctuation of stock prices during the last trading days in December, a character that is exhibited through the first weeks of January. Studies done on the January Effect have revealed that conspicuous differences in returns behavior across the months of the year whereby returns in January are significantly greater as opposed to any other month. King'ori (2005), however, did not find any significant seasonal anomalies in the NSE; neither did John (2011).

2.3.1.3 The Turn of Month Effect

Brief rise in stock prices over the last few days of the month and first few days of the next is referred to as the Turn of Month effect. According to Hensel & Ziemba (1996) stocks have consistently shown greater returns on the last trading day and first four trading days of the month. The theory they advanced is that these effects are as a result of rise of cash inflows at month-end e.g. salary received and interest received. They asserted that exploiting this effect could lead to abnormal returns, Mulumbi (2010) found that the coefficient of determination for companies listed at NSE was greater than 90% and that the anomaly is present at the Nairobi Securities Exchange.

2.3.1.4 The Weekend Effect

Also referred to as Monday effect, it alludes to a phenomenon that stocks exhibit relatively lesser returns on Mondays that returns exhibited on the preceding Friday. The

weekend effect is fairly strong in developed markets. However, in emerging markets and developing markets it may not always apply. Kii (2005) and Rutto (2014) revealed that the NSE does not exhibit the pattern.

2.3.2 Size of the Firm Effect

This is an observation that smaller firm; that investors in small firms reap higher returns as opposed to those who have invested in larger firms. Banz (1981) asserted that the lack of information about these small firms may cause investors to omit them from their portfolio, thus leading to a higher returns that are risk adjusted for the undesirable small firms. Fama & French (1995) found that the relevance of small firm effect and small firm have stronger earnings than large firms.

2.3.3 Price/Earning Ratio Effect

Price Earnings (P/E) ratio effect is a condition where a portfolio with a lesser average P/E ratio generates a greater risk-adjusted than that with a greater ratio. It is argued that stocks with a lower P/Es are more likely undervalued than have excess returns. Stocks with lower P/Es averagely earn higher risk-adjusted return than those with higher P/Es (Basu, 1977).

2.3.4 Price-Book Value Ratio Effect

Price-Book value ratio effect indicates that there is a negative correlation between price book value ratios and returns. Fama & French (1995) indicated companies with greater book-market ratios exhibit earnings that are constantly low, financial leverage that is higher, greater earnings, and uncertainty as opposed to those with low book -market equity ratios.

2.4 Empirical Literature Review

Rozzef & Kinney (1976) sought to observe the January pattern using NYSE stocks from 1904 to 1974 and established the average return for January was higher in comparison to the other months proving presence of the January effect at the NYSE.

Jaffe & Westerfield (1985) noted that most empirical studies have found that stocks earn an average return that is positive in nature at commencement and during quarter one and two of the calendar and zero average returns during the last two quarters. They found proof of the Monday effect in Australian, Canadian, Japanese and the UK markets. The lowest mean returns, in the study, occurred on Tuesday, and not Monday in Australia and Japan.

Poshakwale (1996) examined the weak form efficiency of the Bombay Stocks Exchange via the BSE national index data from 1987 to 1994. The study aimed at establishing whether prices on the Indian market followed a random walk; that the BSE is shows efficiency in the weak form; returns were the same all days of the week. The findings showed that the prices of the BSE were not randomly priced and that weekend effect existed a Fridays exhibited relatively higher returns.

Coutts & Sheikh (2002) tested the presence of month of year as well as day of week effect on stock returns on Johannesburg Stocks Exchange. The study was conducted for the period between 1987 and 1997 and data used was All Gold Index on the JSE. There was no evidence for the anomaly in the period of investigation. No persistent pre-holiday effect detected neither was there monthly seasonality.

King'ori (2005) conducted an empirical study on stock market seasonality at the NSE. The study population was all NSE listed companies as at 1994 December with the sample being those that listed continuously from January 1985 to December 1994. He used the Kruskal-Wallis test to evaluate the null hypothesis. His finding was NSE mean stock returns are equal over the months and quarters of the year tested indicating that January effect was not present at the NSE.

Osman (2007) in his study of holiday effect attempted to find out if stocks listed at the NSE exhibit returns on average on the days preceding holidays. The period studied was January 1998 to December 2006. The population of study was NSE-20 share index companies. He used the regression equation to analyze data collected and two-tailed test to assess the significance of coefficients derived from the regression equation. He found no holiday effect on stock returns at the NSE.

Kai (2009) investigated the actuality of turn of the month effect at the NSE. Studied population consisted of companies listed at the NSE with the sample being NSE-20 share index companies. The survey was descriptive in nature with descriptive statistics computed and run a regression model. The findings was that no evidence of turn of the month effect was present at NSE.

John (2011) investigated the presence of January effect at the NSE. The population of study was 50 NSE listed companies for 10 years to December 2011. Method of data analysis was linear regression and correlation analysis. There was no significant relationship between January and returns.

Sifuna (2012) investigated presence of day of week effect in Kenyan securities market. His study excluded all public holidays that fell between Monday and Friday. The period of study was between January 2007 and December 2011. He studied all NSE listed companies. The method of data analysis used was linear regression and F-test was conducted to identify deviation. The study showed absence of day of week effect at the NSE with Tuesday exhibiting greatest positive return and Wednesday the highest negative return.

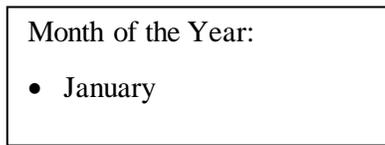
Wachira (2013) studied the January effect and market returns at the Nairobi Securities Exchange. His was to establish existence of January effect at the NSE. The study population all listed companies at NSE as at 2012 December with the data comprising of daily values of the two major indices. Regression analysis was used in data analysis of data collected with the coefficients confirming existence of the January effect. However, the T-statistics analysis confirmed that January effect does not exist at NSE.

Muindi (2015) studied the effect of day of week on stock returns at NSE. The study population was 62 companies listed on the NSE. The findings noted the presence of the day of the week effect at the NSE; average daily returns through all days of the week do not follow a normal distribution.

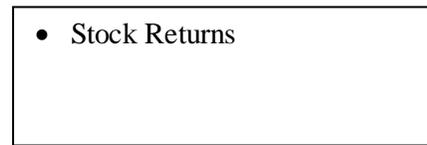
2.5 Conceptual Framework

Jabareen (2009) referred to Conceptual Framework as a network of interlinked concepts that together provide a thorough understanding of a phenomenon.

Independent Variable



Dependent Variable



(Author 2016)

Figure 1: Conceptual Framework

Figure 1 above seeks to show the relationship between the dependent (DV) and independent variable (IDV). The DV, stock returns, is dependent on the IDV, month of the year. This relationship implies that the stock returns realized is reliant upon the month of the year at a given point in time; that the month of year, January, has an effect on level stock returns.

2.6 Summary of Literature Review

Presence of January effect on stock returns present contradictory evidence on EMH. Calendar effects have been widely documented for various stock markets worldwide yielding different results for different countries with some researchers proving the existence of calendar effects. For instance, Rozeff & Kinney (1976) showed the existence of January effect at the NYSE, Jaffe & Westerfield (1985), Berument & Kiyamaz (2003) and Poshakwale (1996) show existence of calendar effects; Coutts and Sheikh (2002) showed the absence of monthly effect in stock markets. In Kenya, King'ori (2005) studied stock market seasonality at the NSE and his findings asserted absence of the January effect. Osman (2007) investigated holiday effect at the NSE; there was no presence of holiday effect during the period studied. Kai (2009) investigated turn of month effect at the NSE, he noted absence of the effect. John (2011) as well as Wachira

(2013) investigated January effect at NSE and concluded that there was no January effect at the NSE. Sifuna (2012) depicted absence of day of week effect at NSE. Muindi (2015) noted the presence of the day of week effect at NSE.

Studies by John (2011) and Wachira (2013) were conducted at on the NSE as whole which could have led to compensating effects among the sectors and companies. Previous research giving contradictory results, this research focused on all companies listed at the NSE across all the 12 sectors in a bid to analyze inter-sector calendar effects at the NSE.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses research methodology utilized in this study. It discusses the research design, Study population, methods of data collection and the data analysis techniques employed.

3.2 Research Design

A research design is defined as the blue print used to guide a research study in order to address the research problem; it refers to both structure of the research problem, the framework, organization of the relationship among the study variables and the plan of investigation used to obtain the empirical evidence on the perceived relationships (Cooper & Schindler, 2010). This study adopted a descriptive research design. The research design was useful in identification of variables and hypothetical constructs and was used to test the theories. It also allowed collection of large amounts of data.

3.3 Population

Mugenda & Mugenda (2003) describe study population as the whole group of events or objects on which researchers are interested in generalizing conclusions on. The population comprised 65 companies listed at the NSC as at December 31, 2015. These companies were then divided into the 12 sectors participating at the NSE.

3.4 Data Collection

Jupp & Sapsford (1996) describe data collection as the process of gathering information on targeted variables in a manner that then assists a researcher answer important questions and assess outcome. The study relied on secondary data that was acquired from the records at the NSE; in form of stock prices for the individual company that was obtained from the daily trading reports maintained at the Nairobi Securities Exchange historical library available at the NSE offices. Data collected was for a span of 5 years i.e. from January 1, 2011 to December 31, 2015.

3.5 Data Analysis Technique

Judd & McClelland (1989) define analysis of data as process of inspecting, cleaning, transforming and modeling data with the objective of discovering valuable information, suggestive of conclusions to support process of making decisions.

The study used descriptive statistics. SPSS Version 20 aided in data analysis. A non-parametric test of differences, the paired t-test, was used as a test of significance with a significance level of 0.05. This model of analysis was utilized by other researchers like Ondiala (2014) who also sought to establish the presence of turn of moth at NSE.

In a bid to determine the existence of January effect at NSE, the researcher conducted a paired t-test.

The daily stock returns were calculated as follows:

$$\text{Daily return on stocks} = \frac{P_{it} - P_{it-1}}{P_{it-1}}$$

Where:

P_{it} = Stock price of firm i stock on day t (closing price)

P_{it-1} = Stock price of firm i stock on day t-1

The daily return on stocks was used to calculate the mean monthly return of month t; and further calculate the mean returns for January and the rest of the year.

In a bid to determine existence of January effect at sectoral level, a paired t-test was conducted to establish whether there existed a disparity in mean returns for January and rest of the year (ROY).

The null hypothesis is $H_0: \text{Jan} = \text{ROY}$; the mean returns for January are equal to mean returns for the rest of the year.

The alternative hypothesis was $H_A: \text{Jan} \neq \text{ROY}$; the mean returns for January are not equal to mean returns for the rest of the year.

CHAPTER FOUR: DATA ANALYSIS AND PRESENTAION OF FINDINGS

4.1 Introduction

This chapter presents analysis, findings and discussion on January effect at Nairobi Securities Exchange. The objective of the study was to investigate January effect on stock returns at the sectors at NSE. A total of 65 companies were targeted, of which 55 had complete data for the five years under study i.e. 2011-2015, this formed 85% response rate. This study collected market share prices per segment and then computed stock returns. The study used SPSS Version 20 to aid in analysis of data.

4.2 Descriptive Statistics

This section presents the descriptive statistics of the population studied. It presents the descriptive statistics for the 10 sectors studied.

Table 4.1: Descriptive Statistics

Sector	Mean	Std. Deviation	Std. Error Mean
Agriculture	.0281	.00491	.00347
Automobiles and Accessories	.0200	.00020	.00014
Banking	.0121	.00785	.00555
Commercial and Services	.0054	.00226	.00159
Construction and Allied	.0003	.01142	.00807
Energy and Petroleum	.0038	.00343	.00242
Insurance	.0104	.00035	.00025
Investment	.0087	.00062	.00044
Manufacturing and Allied	.0593	.07099	.05019
Telecommunication and Tech	.0114	.00297	.00210

Source: Research Findings, 2016

The average returns for the Agriculture sector was 0.0281 with the standard deviation of 0.00491, for Automobiles and Accessories sector the mean was 0.0200 and with the standard deviation of 0.00020, banking sector exhibited an average score of 0.121 and the standard deviation of 0.00785. Commercial services sector had an average score of 0.0054 with a standard deviation of 0.00226, Construction and allied sector had a mean of 0.003 with a standard deviation of 0.1142, Energy and petroleum sector had a mean of 0.0038 with a standard deviation of 0.00343. Insurance sector's the average score was 0.0104 and standard deviation of 0.00062. For Manufacturing and allied sector, the average score was 0.0593 with a standard deviation of 0.07099 while Telecommunication and technology sector had an average score of 0.0114 with a standard deviation of 0.00210. The standard deviation for all the sectors shows that the gaps are deviated from the mean.

4.3 Paired T-test per Sector

The study conducted a paired t-test for the years 2011 to 2015 to test existence of a significant difference in mean returns. The null hypothesis of January effect was $H_0: \text{Jan} = \text{ROY}$; the returns for January are equal to returns for the rest of the year. The alternative hypothesis was $H_A: \text{Jan} \neq \text{ROY}$.

4.3.1 Agricultural Sector

The researcher conducted a paired t-test for agricultural sector for the period 2011-2015. The researcher used 0.05 significant levels for t-test.

Table 4.2: Paired t-test for Agricultural Sector

Period	Paired T-statistic	Effect
2011	-3.819	Significant
2012	-2.596	Significant
2013	-2.609	Significant
2014	0.528	Non-significant
2015	2.436	Non-significant

Source: Research Findings, 2016

The findings show that for the years 2011-2013 the p-value was below 0.05 indicating that there was calendar effect during this period; we therefore reject the null hypothesis for this period. However, the p-values for years 2014 and 2015 are above the significance level of 0.05. The null hypothesis is, therefore not rejected for this period.

4.3.2 Automobiles & Accessories Sector

The table below presents the findings of the analysis on the Automobiles and Accessories sector.

Table 4.3: Paired t-test for Automobiles & Accessories Sector

Year	Paired T-test	Effect
2011	-2.826	Significant
2012	0.436	Non-Significant
2013	-0.280	Significant
2014	1.215	Non-Significant
2015	7.146	Non-Significant

Source: Research Findings, 2016

The findings show that for the year 2011 and 2013, the p-value of below 0.05 indicating that there was calendar effect during this period; we therefore reject the null hypothesis. For the years 2012, 2014 and 2015 the p-value was above 0.05 significant level; the null hypothesis is for this period is therefore not rejected for this period.

4.3.3 Banking Sector

The table below presents the findings of the analysis on the banking sector.

Table 4.4: Paired t-test for Banking Sector

Year	Paired T-test	Effect
2011	-8.443	Significant
2012	-1.456	Significant
2013	2.164	Non-significant
2014	-1.227	Significant
2015	2.879	Non-significant

Source: Research Findings, 2016

The researcher established that there was a calendar effect in 2011, 2012 and 2014, this is depicted by the p-value of below 0.05; thus rejecting the null hypothesis. For the years 2013 and 2015 the p-value was above 0.05 therefore we do not reject the null hypothesis for this period.

4.3.4 Commercial & Services Sector

The table below presents the findings of the analysis on the commercial & service sector.

Table 4.5: Paired t-test for Commercial & Services Sector

Year	Paired T-test	Effect
2011	-1.195	Significant
2012	-0.996	Significant
2013	0.551	Non-significant
2014	2.089	Non-significant
2015	4.245	Non-significant

Source: Research Findings, 2016

The findings show that there was a calendar effect for the years 2011 and 2012 as the p-values were -1.195 and -0.995 respectively which is below the 0.05 significant level. For the periods 2013-2015 the p-values were 0.551, 2.089 and 4.245 respectively which is above the 0.05 significant level, thus there was no calendar effect during this period; hence null hypothesis is not rejected.

4.3.5 Construction & Allied Sector

The table below presents the findings of the analysis on Construction and Allied sector.

Table 4.6: Paired t-test for Construction & Allied Sector

Year	Paired T-test	Effect
2011	-1.885	Significant
2012	1.006	Non-significant
2013	-1.055	Significant
2014	0.972	Non-significant
2015	-0.403	Significant

Source: Research Findings, 2016

The study established that for the periods 2011, 2013 and 2015 the p-values were -1.885, -1.055 and -0.403 respectively which is below 0.05, thus there was calendar effect on stock returns during this period. For the years 2012 and 2014 the p-values were 1.006 and 0.972 respectively, thus the null hypothesis was not rejected and we conclude there is no difference between the January mean returns and rest of the year mean returns.

4.3.6 Energy & Petroleum Sector

The table below presents findings of the analysis on the Energy and Petroleum sector.

Table 4.7: Paired t-test for Energy & Petroleum Sector

Year	Paired T-test	Effect
2011	-50.819	Significant
2012	-0.622	Significant
2013	0.957	Non-significant
2014	-16.674	Significant
2015	1.842	Non-significant

Source: Research Findings, 2016

The table above shows the p-values of -50.819, -0.622 and -16.674 for the years 2011, 2012 and 2014 respectively which is below the 0.05 significant level, which means that there existed calendar effect for this period. For 2013 and 2015 the p-values were 0.957 and 1.842; we therefore reject the null hypothesis which implies that there was no significant difference in mean returns for January and the rest of the year.

4.3.7 Insurance Sector

The table below presents the findings of the analysis on the Insurance sector.

Table 4.8: Paired t-test for Insurance Sector

Year	Paired T-test	Effect
2011	-34.482	Significant
2012	-2.185	Significant
2013	0.807	Non-significant
2014	2.424	Non-significant
2015	2.182	Non-significant

Source: Research Findings, 2016

The study established that the p-values for 2011 and 2012 were -34.482 and -2.185 respectively which is below the 0.05 significant level, indicating that there was a calendar effect during this period. For the period 2013, 2014 and 2015 the p-values were 0.807, 2.424 and 2.182 respectively which are more than the significance level of 0.05 thus the null hypothesis was not rejected for the period.

4.3.8 Investment Sector

The table below presents the findings of the analysis on the Investment sector.

Table 4.9: Paired t-test for Investment Sector

Year	Paired T-test	Effect
2011	-12.525	Significant
2012	-0.184	Significant
2013	1.048	Non-significant
2014	0.033	Significant
2015	0.995	Non-significant

Source: Research Findings, 2016

The findings shows a p-value of -12.525, -0.184 and 0.033 for the years 2011, 2012 and 2014 respectively which is below the significance level of 0.05 indicating that there was a calendar effect during this period. For the period 2013 and 2015 the p-values were 1.048 and 0.995 respectively which is more than the 0.05 significant level we do not reject the null hypothesis for this period.

4.3.9 Manufacturing & Allied Sector

The table below presents the findings of the analysis on the Manufacturing & Allied sector.

Table 4.10: Paired t-test for Manufacturing & Allied Sector

Year	Paired T-test	Effect
2011	-1.068	Significant
2012	-0.130	Significant
2013	0.960	Non-significant
2014	-0.087	Significant
2015	2.972	Non-significant

Source: Research Findings, 2016

The study shows that for the years 2011, 2012 and 2014 the p-values were -1.068, -0.130 and -0.087 respectively which is below the significance level of 0.05 indicating that there was a calendar effect during this period; while for the years 2013 and 2015 the p-values were 0.960 and 2.972 respectively which is higher than the 0.05 significant level.

4.3.10 Telecommunication & Technology Sector

The table below presents the findings of the analysis on the Telecommunication & Technology sector.

Table 4.11: Paired t-test for Telecommunication & Technology Sector

Year	Paired T-test	Effect
2011	-20.351	Significant
2012	2.272	Non-significant
2013	3.793	Non-significant
2014	0.754	Non-significant
2015	0.947	Non-significant

Source: Research Finding, 2016

The findings established that the year 2011 had a p-value of -20.351 which was far much below the significant level of 0.05 indicating that there was a calendar effect in this year only; while for the rest of the years, 2012, 2013, 2014 and 2015 the p-values were 2.272, 3.793, 0.754 and 0.947 respectively leads us to reject the null hypothesis as there is no significant difference between mean returns for January and for the rest of the year.

4.3.11 Combined Paired T-test

A paired t-test was utilized to test whether there is significant difference in mean returns for January and rest of the year across the various segments at the NSE from the years 2011 to 2015. A t-statistic below 0.05 indicates existence of significant difference in January mean returns and the rest of the year.

Table 4.12: Combined Paired T-test

	Test Value = 0.05					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence interval of the Difference	
					Lower	Upper
Agriculture	-6.303	1	.100	-.02186	-.0659	.0222
Automobiles and Accessories	-216.563	1	.003	-.03002	-.0318	-.0283
Banking	-6.821	1	.093	-.03786	-.1084	.0327
Commercial and Services	-27.979	1	.023	-.04462	-.0649	-.0244
Construction and Allied	-6.159	1	.102	-.04973	-.1523	.0529
Energy and Petroleum	-19.054	1	.033	-.04619	-.0770	-.0154
Insurance	-158.230	1	.004	-.03964	-.0428	-.0365
Investment	-93.974	1	.007	-.04130	-.0469	-.0357
Manufacturing and Allied	.186	1	.883	.00932	-.6285	.6471
Telecommunication and Technology	-18.379	1	.035	-.03856	-.0652	-.0119

Source: Research Finding, 2016

For Agricultural sector the p-value was -6.303 which is below 0.05. For Automobiles and Accessories sector the p-value was -216.563. For the Banking sector the p-value was -6.821 which is below 0.05, for Commercial and Services sector the p-value was -27.979, Construction and Allied sector the p-value was -6.159, Energy and Petroleum sector the p-value was -19.054, for Insurance sector the p-value was -158.230, for Investment sector the p-value was -93.974, for Manufacturing and Allied sector the p-value was 0.0186 while for the Telecommunication and Technology sector the p-value was -18.379. All the sectors, except for the Manufacturing and Allied, the p-value was below 0.05 significant

level, which shows that there was a January effect on stock returns at the NSE in these sectors, while for the Manufacturing and Allied, the findings shows no evidence of January effect on stock returns at the NSE in this sector.

4.4 Interpretation of Findings

In the Agriculture Sector, it was established that there was a significant difference in mean returns between January and the rest of the year. The Automobile & Accessories Sector observed a difference in mean returns for the month of January and the rest of the year. In the Banking Sector, there was a significant difference observed between the mean returns for the month of January and the rest of the year. The Commercial & Services Sector indicated a significant difference in means returns for the month of January and the rest of the year. In the Construction and Allied Sector, the observations also indicated a significance difference in mean returns for the month of January and the rest of the year. In the Energy & Petroleum Sector, the combine paired t-test established that there was a significant difference in mean returns for January and the rest of the year. The findings in the Insurance Sector indicated a significance difference in mean returns for January and the rest of the year. The Investment Sector findings indicated that there was a significant difference in mean returns for January and the rest of the year. There was no significant difference in mean returns for the month of January and the rest of the year for the Manufacturing & Allied Sector, while for the Technology and Telecommunication Sector there was a significant difference in mean returns. The study examined the presence of the January effect on Stock returns at the Nairobi Securities exchange. It was thus established that the January effect was present in 9 of the 10 sectors at the NSE.

CHAPTER FIVE: SUMMARY CONCLUSION & RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of data findings, conclusions, recommendations and the limitations of the study. The conclusions and recommendations were drawn to address the research question: Is there a January effect on stock returns across all the 12 sectors of listed companies at the NSE?

5.2 Summary of Findings

The objective of the study was to investigate the January effect on stock returns across sectors at the NSE. This was conducted using paired t-test to compare the difference in mean returns for January and the rest of the year. Based on these empirical findings, there existed mixed finding in regards to the existence of January effect at the Nairobi Securities Exchange. As illustrated in Table 4.12, at segment level, there is existence of January effect across 9 sectors; only one sector did not exhibit the January effect.

A paired t-test was tested the difference in mean returns for January and the mean returns for the rest of the year per sector, a p-value below 0.05 here implies the existence of significant difference between the two variables of January and the rest of the year. In the Agricultural sector the p-value for the years 2014 and 2015 were above the significance level while those of 2011 – 2013 were below the significant level of 0.05; the combined paired t-test revealed a p-value less than 0.05 indicating the presence of January effect in this sector. In the Automobiles and Accessories sector, the p-value for the years 2012, 2014 and 2015 were above the significance level while those of 2011 and 2013 were

below the significant level of 0.05; the combined paired t-test revealed a p-value less than 0.05 indicating the presence of January effect in this sector. In the Banking sector, the p-value for the years 2013 and 2015 were above the significance level while those of 2011, 2012 and 2014 were below the significant level of 0.05; the combined paired t-test revealed a p-value less than 0.05 indicating the presence of January effect in this sector. In the Commercial and Services sector, the p-value for the years 2013 to 2015 were above the significance level while those of 2011 and 2012 were below the significant level of 0.05; the combined paired t-test revealed a p-value less than 0.05 indicating the presence of January effect in this sector. In the Construction & Allied sector, the p-value for the years 2012 and 2014 were above the significance level while those of 2011, 2013 and 2015 were below the significant level of 0.05; the combined paired t-test revealed a p-value less than 0.05 indicating the presence of January effect in this sector. In the Energy & Petroleum sector, the p-value for the years 2013 and 2015 were above the significance level while those of 2011, 2012 and 2014 were below the significant level of 0.05; the combined paired t-test revealed a p-value less than 0.05 indicating the presence of January effect in this sector. In the Insurance sector, the p-value for the years 2013 to 2015 were above the significance level while those of 2011 and 2012 were below the significant level of 0.05; the combined paired t-test revealed a p-value less than 0.05 indicating the presence of January effect in this sector. In the Investment sector, the p-value for the years 2013 and 2015 were above the significance level while those of 2011, 2012 and 2014 were below the significant level of 0.05; the combined paired t-test revealed a p-value less than 0.05 indicating the presence of January effect in this sector. In the Telecommunication & Technology sector the p-value for the years 2012 to 2015

were above the significance level while that of 2011 was below the significant level of 0.05; the combined paired t-test revealed a p-value less than 0.05 indicating the presence of January effect in this sector. In the Manufacturing and Allied sector, the combined p-value was above the significance level of 0.05. The p-value for the years 2013 to 2015 were above the significance level while those of 2011, 2012 and 2014 were below the significant level of 0.05. These findings show that the January effect on stock returns was present across these 9 sectors; the p-value for Manufacturing and Allied sector indicated that there was no January effect on stock returns at the NSE.

5.3 Conclusion

The analysis was done on ten sectors comprising the listed companies. The researcher used a paired T-test to establish whether the mean returns for January were significantly different from the returns of the rest of the year across the individual sectors at the NSE

All these sectors other than the manufacturing and allied sector had a p-value of below 0.05 which shows that the p-value was significant. This shows that the January returns for the Agriculture, Automobile & Accessories, Banking, Commercial & Services, Construction & Allied, Energy & Petroleum, Insurance, Investment and Telecommunication & Technology sectors were different from the mean returns for the rest of the year hence confirming existence of January effect on stock returns in these 9 sectors. For the Manufacturing and Allied sector, there were no difference between the mean returns for January and the mean returns for the rest of the year hence failure to confirm existence of January effect in this sector. Sectorial analysis on an annual basis also exhibited different results with some years showing presence of January effect on

stock returns while others showing the absence. The study is in contrast with the findings of Wachira (2013) and John (2011). This could have been as a result of inter-sector netting off effect.

5.4 Recommendations

The presence of January effect on stock returns at the NSE will enable investors to arbitrage on the difference in returns in the month of January and thus adjust their portfolio accordingly in a bid to maximize their returns. This will result in investors earning abnormal returns.

The study has indicates the existence of calendar anomalies at the NSE. This study, therefore recommends that the Capital Markets Authority formulates regulations that will aim at improving efficiency at the NSE. These regulations should be geared toward increased monitoring of performance of the stock market and subsequently ensure economic stability.

5.5 Limitations of the Study

The study used stock prices to calculate the mean stock returns. The use of the mean returns could be misleading as there are other factors such as debt that may influence the volatility of stock prices. Investors should therefore use other measures, such as return on assets, to value their returns.

The empirical data collected was representative of the listed firms only; and thus cannot be taken as a blanket approach to performance of stocks of all the firms in a particular sector owing to the fact that each firm has its own level of debt, style of management, and firm specific competitive advantages.

Due to cost of acquiring the data from the NSE, and time factor of collecting the data, the study was not done on all the companies listed at the NSE, as only 52 companies out of the listed 65, had complete data for the study.

The period of study as faced with several monetary and fiscal policy changes that may have has an effect on stock prices. Due to this factor, the findings may have been influenced by these monetary and economic factors.

5.6 Suggestions for Further Studies

For academic world, this research result is expected to become a valuable input in studies related to the effect of stock returns. This Research has not yet expressed all variables that can influence stock returns, then in order to increase knowledge development, other researchers who are interested in similar problems are suggested to conduct a continuation research by adding other variables other than stock returns.

The study was done for Kenya i.e. companies operating in Kenya, it is suggested that a cross sectional study be done for the other East African companies listed at the Stock Exchanges.

Further studies should be conducted to investigate whether tax-loss selling influences the behavior of investors and ultimately the prices of stocks.

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APPENDICES

Appendix I: Stock Prices Data Collection Sheet

Firm: _____ Sector: _____

No.	Month	Date	Closing Stock Price (Day t)	Opening Stock Price (Day t-1)	Daily Return
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Appendix II: Companies Listed at the NSE as at December 31, 2015

	FIRM	SECTOR
1	Kakuzi Ltd.	Agriculture
2	Rea Vipingo Plantations Ltd	Agriculture
3	Kapchorua Tea Co. Ltd	Agriculture
4	Eaagads Ltd	Agriculture
5	Sasini Ltd	Agriculture
6	Williamson Tea Kenya Ltd	Agriculture
7	Limuru Tea Co. Ltd	Agriculture
1	Car and General (K) Ltd	Automobile and Accessories
2	Sameer Africa Ltd	Automobile and Accessories
3	Marshalls (E.A.) Ltd	Automobile and Accessories
1	Barclays Bank Ltd	Banking
2	CFC Stanbic Holding Ltd	Banking
3	The Co-operative Bank of Kenya Ltd	Banking
4	Equity Group Holdings	Banking
5	Standard Chartered Bank Ltd	Banking
6	NIC Bank Ltd	Banking

7	National Bank of Kenya Ltd	Banking
8	Kenya Commercial Bank Ltd	Banking
9	Housing Group Ltd	Banking
10	Diamond Trust Bank Kenya Ltd	Banking
11	I & M Holdings Ltd	Banking
1	Express Ltd	Commercial & services
2	Kenya Airways Ltd	Commercial & services
3	Nation Media Group Ltd	Commercial & services
4	Standard Group Ltd	Commercial & services
5	TPS Eastern Africa (Serena) Ltd	Commercial & services
6	Scangroup Ltd	Commercial & services
7	Uchumi Supermarket Ltd	Commercial & services
8	Hutchings Biemer Ltd	Commercial & services
9	Longhorn Publishers Ltd	Commercial & services
10	Atlas Development & Support Services	Commercial & services
1	Athi River Mining	Construction and allied
2	Bamburi Cement Ltd	Construction and allied
3	Crown Berger Ltd	Construction and allied
4	E.A. Cables Ltd	Construction and allied

5	E.A. Portland Cement Ltd	Construction and allied
1	KenolKobil Ltd	Energy and Petroleum
2	Total Kenya Ltd	Energy and Petroleum
3	KenGen Ltd	Energy and Petroleum
4	Kenya Power & Lighting Co. Ltd	Energy and Petroleum
5	Umeme Ltd	Energy and Petroleum
1	Jubilee Holdings Ltd	Insurance
2	Pan Africa Insurance Holdings Ltd	Insurance
3	Kenya Re-Insurance Corporation Ltd	Insurance
4	Liberty Kenya Holdings Ltd	Insurance
5	Britam Holdings Ltd	Insurance
6	CIC Insurance Group Ltd	Insurance
1	Olympia Capital Holdings Ltd	Investment
2	Centum Investment Co. Ltd	Investment
3	Trans-Century Ltd	Investment
4	Home Afrika Ltd	Investment
5	Kurwitu Ventures Ltd	Investment
1	Nairobi Securities Exchange Ltd	Investment services
1	A.Baumann Co. Ltd	Manufacturing and Allied

2	B.O.C. Kenya Ltd	Manufacturing and Allied
3	British American Tobacco Kenya Ltd	Manufacturing and Allied
4	Carbacid Investments Ltd	Manufacturing and Allied
5	East African Breweries Ltd	Manufacturing and Allied
6	Eveready E.A. Ltd	Manufacturing and Allied
7	Kenya Orchards Ltd	Manufacturing and Allied
8	Mumias Sugar Co. Ltd	Manufacturing and Allied
9	Unga Group Ltd	Manufacturing and Allied
10	Flame Tree Group Holdings Ltd	Manufacturing and Allied
1	Safaricom Ltd.	Telecommunication and Technology
1	Stanlib Fahari I-REIT	Real Estate Investment Trusts