

**JANUARY EFFECT ON STOCK RETURNS AT THE NAIROBI SECURITIES  
EXCHANGE NAIROBI, KENYA**

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**DECLARATION**

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

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

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## **DEDICATION**

I dedicate this project to my Mum Sofia, my Sheila and the two lovely Sons Kyle and Jayden who have stood as my pillar throughout the project.

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## ABBREVIATIONS

|      |   |
|------|---|
| EMH  | Efficient Market Hypothesis             |
| NSE  | Nairobi Securities exchange             |
| NYSE | New York Securities Exchange            |
| P/B  | Price Earning                           |
| ROY  | Rest of the Year                        |
| SPSS | Statistical Package for Social Sciences |
| RTGS | Real-Time Gross Settlement              |
| UK   | United Kingdom                          |
| USA  | United States America                   |

## **ABSTRACT**

Although an efficient market can lead to abnormal stock returns, presence of January effect can influence the investors' returns. In Kenya, January Effect on stock returns has been revealed by studies a lot of the studies are focused on the differences between returns on various time of the year. Out of the local and global studies reviewed very few comprehensively concentrated on the effect of January effect on returns on stock at NSE between 2011 to 2015, thus a research gap. Therefore the study was undertaken to explain whether January effect is persistent in this market and affects stock returns. Knowledge of the market seasonality is of great importance to investors since such knowledge would signal the right time to buy or sell stocks. It is important for the investors to know the seasonality of the stock market for them to take the advantage. It is against this status of affairs that the present was carried out to fill the existing knowledge gap in an effort to providing adequate knowledge to investors that would signal the right time to buy or sell stocks during this seasonality at the NSF. Thus the purpose of this study was to examine the January effect on stock return the different sectors in the NSF hence confirming the persistent effect of January on returns on stock at the NSE. The study used descriptive design and had the 65 companies listed at the NSF as at 31<sup>st</sup> December 2015 as the target population. The research is pegged on data from secondary sources including those of Nairobi Stock Exchange, NASI indices collected from the Kenya's bourse. This study used the monthly all share index data for the Nairobi Securities Exchange (NSE). The portfolio performance for this study was evaluated using the Sharpe's ratio. The Chi-squared ( $Z^2$ ) test was used to assess if there is any statistically significant differences between the actual (observed) mean returns and hypothesized (expected) mean returns of the portfolios.

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of the Study**

The Hypothesis of the Efficient Market (EMH) holds that the current prices at the securities exchange fully reflects all the available past and current information. Fama (1970) stated that the efficiency of informational in the financial markets require that the markets prices and the rates of return reflects all available information at any given time. Equity prices can be estimated based on past performances, thus, the seasonality available in stock returns is evidence of the weak market efficiency. This informs the securities market participants to establish new methods to maximize on returns with respect to market trends. According to Fountas and Segredakis (2002), the hypothesis of tax-loss-selling is used as evidence that the stock returns seasons exists.

The various seasons' impacts that facilitate higher or lower returns with respect to financial markets and especially equity returns depend on the time of discovery. These impacts are referred to as anomalies since traditional asses pricing models are not able to explain their occurrence (Wong, Ho & Dollery 2007). Examples include: the January, which day of the week it is and which week of the month it is effect. The discoveries of misnormas of such nature weaken market efficiency since asset prices can be predicted using past performances using the calendar effect and are not random. Investors benefit from anomalies since they are able to develop strategies and make a lot of profit from the anomalies.

Aly et al., (2011) postulate that seasonality creates situation where a stock returns reveal regular patterns during specific times, month, and day of the week or week of the month. Higher and lower returns are acquired during different times, days, weeks, or months of the year (Hossain & Uddin, 2011; Kuria & Riro, (2013). Seasonality in stock returns makes it hard for investors to predict equity prices based on past pattern, which is a violation of market efficiency that are considered the weak type (Kuria & Riro, (2013). Many investors sell low value shares during end of the year in countries where the tax month is December. The selling of the low value shares at lower prices decreases the prices of the stock.

However, when December comes to an end, people close their accounts until January when the start buying shares leading to the bouncing of back the stock prices. This means stocks have higher returns in January unlike other months.

### **1.1.1 The January Effect**

The January effect anomaly originates shortly before the year-end, where the sale of securities is made during year end by many investors to make lucrative end of year reports, increasing volumes traded and lowering prices. Investors sell securities in their endeavor to minimize tax liability, based on Tax loss selling hypothesis (Dbouk, Jamali & Kryzanowski, 2013), and Window dressing hypothesis (Ng & Wang, 2004). The concept of investors focusing on minimizing tax obligation and trade in stocks that have suffered a decrease on price during the year is the assumption underlying the Tax loss selling hypothesis.

The sale of stock during year end by investors is undertaken to make lucrative their end of year reports is thinking behind the Window dressing hypothesis. This increases volume traded lowering prices towards the end of the year (Balaban, 1995) and increase the demands in the new-year. As a consequence, during the start of the next year an increase in demand and prices is experienced leading to high January returns (Starks *et al*, 2006) and the investors buy again the stock or purchase other stocks that appear to make more returns.

The January effect is mainly observed in Japanese markets and United States of America In the USA, the tax month is December. Owing to this situation, financial institutions sell shares whose values have dropped to minimize tax liability resulting in decreased stock prices (Chien, Lee & Wang, 2002). After December, investors start acquiring shares, resulting into stock prices bouncing back to the normal prices. This results in high returns at the beginning of the year, therefore the January effect as described by Balaban, (1995). January effect mirrors the agency problems linked to portfolio disclosures of organizational investors rather than individual investors (Ng & Wang, 2004).

### **1.1.2 Stock Market Returns**

The alteration in the stock prices comparative to the early values at trhe opinion of depositor's decision to acquisition the standard is the meaning of Stock marketplace

returns. The Efficient Market Hypothesis (EMH), holds that for a when stock markets are said to be efficient, they are required to have incorporated sufficient and relevant information; so, the prices of securities are not biased since they mirror relevant information and data. (Reilly & Brown, 2004).

According to Ondiala (2014), trading in the secondary market is often used to generate stock returns; that an investor could make a return through purchasing stock at a lesser price and generate profit by re-selling at a higher price. It is important to note that daily, the share prices in the stock markets change. Market capitalization changes are as a result of fluctuated share prices, establishment of new prices of shares and bonuses. This means that more stock market activity is due to stock market increased investments. The shares actively traded are the basis for market turnover, which is the inflow and outflow in the stock market. Otuke, (2006), discovered that a stock market change occurs due to share prices fluctuations or number of traded shares and the actively traded shares daily. Share prices depend on their demand since the price of particular stock may appreciate in the morning and the process is not stagnant, it keeps on changing within the day (Mlonzi, Kruger & Nthoesane, 2011).

### **1.1.3 January Effect and Stock Returns**

A lot of studies conclude that stock market is efficient. However, some studies contradict with the conclusion since they document long term January anomalies disagreeing with the efficient market hypothesis. For instance, Cooper *et al.* (2006) study on January anomaly concluded that January returns are viewed as being predictable during the year. To counter these appearances, investors devise trading strategy; by selling securities on when returns are high and buying on at season when returns are low in order to make excess profits (Pandey, 2002). This approach helps retrieve unusual returns with respect to past year patterns. January effects affect the stock markets returns at NSE, where the average stock return records that in January, there are higher returns compared to the rest of the months in the year, suggesting that stock returns are in season.

The tax-loss-selling hypothesis does not sufficiently explain the whole concept of seasonality of returns in stock. January returns result in high seasonality in stock market. Thus, suggesting the existence of market imperfections resulting in seasons in the stock market. Hence, it is vital to understand seasons in the market to benefit from them. A crucial aim of this study is to understand stock returns predictability, since the market anomalies are considered by investors before joining the stock market. With the help of the accurate information, investors are able to buy stock at low prices and sell them at high profits in an efficient market; however, the high profit margins are not possible.

#### **1.1.4 Nairobi Securities Exchange (NSE)**

The Nairobi Securities Exchange (NSE) being the main stock market in Kenya with an automatic dais for listing as well as dealings in 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). The NSE is an avenue for investors to trade securities and realize returns through capital gains or by earning a return through dividend distributed.

The NSE (2013), report underscore that the exchange has been one of the most celebrated investment markets in Kenya in the recent memory owing to its rich returns. It has become part and parcel of Kenya's economy and any cyclical changes in this market impacts the lives at household level as well as organisations. The NSE deals in both fixed income securities and the variable income securities. It consists of both the primary and secondary market. Currently, there are 65 listed companies grouped into agricultural, commercial, telecommunication, gas, automobile, allied, petroleum, finance, market segment, manufacturing, growth enterprise, real estate (NSE, 2017).

### **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 6 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). Regarding the matter of if markets are efficient, there exist no investment windows which can return to abnormal stock outcomes and the uptake of such securities by investors in such a market expected to have average return rate (Bodie & Kane, 2002). However, presence of January effect can influence the investors' returns. In Kenya, January Effect on stock returns has been revealed by studies carried out by Nyamosi (2011), Wachira (2012), John (2013), and Allan and George (2013).

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 study by Nyamosi (2011), revealed that the January effect exists at NSE, show existence of seasonality's at the NSE between 2001 and 2010 as Wachira (2012) study confirmed existence of January effect at NSE. Kuria (2013) revealed that there exist the seasonal effect in the Nairobi Securities Exchange, the study by John (2013), documented that there lacked significant correlation between the January effect and stock returns at the Nairobi Securities Exchange. However, Allan and George (2013) found that January month higher returns and the December month returns are lower as compared to return for other months for period between 2010 - 2013. Several global studies have confirmed January effect in the United Kingdom ((Jaffe & Westerfield, 1985), Japan, Canada and Australia, Sweden (Claessons (1987) and Graah-Hagelbäck & Kroon (2005), USA (Moosa, 2007) and other developed countries. These studies have confirmed both the January and the July effect.

Many researches on seasonality of stock markets depend on the varying returns across calendar times. Out of the local and global studies reviewed very few comprehensively concentrated on the turn of the effect of January on returns on stock at NSE between 2011 to 2015, thus a research gap. Therefore, there was need for a study to be carried out to explain whether January effect is persistent in this market and affects stock returns. Knowledge of the market seasonality is of great importance to investors since such knowledge would signal the right time to buy or sell stocks. It is important for the investors

to be knowledgeable on the seasonality of the stock market to benefit from them. In the real world, stock markets are not perfect, which provide a fertile ground for stock return seasonality caused by market imperfections (Sharpe, Alexander & Bailey, 2005). It is against this status of affairs that the present study will be conducted to fill this knowledge gap in an effort to providing adequate knowledge to investors that would signal the right time to buy or sell stocks during this seasonality at the NSE. Thus, this study sought to examine the January effect on stock return the different sectors in the NSE hence confirming the persistent January effect on stock returns at NSE.

### **1.3 Research Objective**

The objective of this study was to examine the January effect on stock returns at the NSE.

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

This study would be beneficial various stakeholders in the stocks markets depending on their interests and focus. The government will find the findings significant for policy formulation in regard to stock markets regulations and taxation. It can use the findings of the study in sensitizing its citizens on how to invest wisely.

The findings will form a basis of additional up to date knowledge with a platform to critique and challenge some of the propositions or even confirm. Other researchers will find the study useful especially when researching further on related areas. They would also make use of the findings to improve on the gaps in the study.

The stockbrokers will benefit on this information on how to strategize on maximizing their clients' portfolio return. Stockbrokers can also use the findings of the study when educating potential investors on profitable time of the month of January to make investments at.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviewed concepts of the study, the models developed to determine the stock returns by researchers, followed by a conceptual framework and past studies which have been carried out in the recent studies on anomalies due to seasonality. One of the exceptions that is extensively discussed in this chapter is the January phenomenon in relation to stock returns. The chapter ends by summarizing the findings by studies reviewed to explain some of the anomalies discussed.

#### **2.2 Theoretical Framework**

The models reviewed include; the Theory of the Random Walk, the Arbitrage Pricing Theory and Efficient Market Hypothesis.

##### **2.2.1 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 must assume an additional risk proportionate with the abnormal gains. Malkiel (2003), stated that due to the irregularity of information and grounded prices, changes in prices are deemed to be random and not predictable. Therefore, the prices of stocks are grouped in a random walk.

Reasoning behind the theory of random walk is the movement of key info unhindered and is promptly replicated in stock market 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 seeks to establish whether stock returns exhibit a pattern in the month of January.

### **2.2.2 Arbitrage Pricing Theory**

The Capital Asset Pricing Model (CAPM) is just the Arbitrage Pricing Theory (APT) since they both test for the linear relationship between expected returns of assets with their covariance with variables that are random. APT was developed primarily by Ross (1976a, 1976b). APT has its basis that there are a number of risk factors that are diversifiable (this varies from CAPM which holds to one risk factor). The risk factors of APT adopt a macroeconomic nature and are systematic, hence, influence stock returns.

Mclaney, (2009) posits that the model of APT is not dependent on one risk factor to explain the relationship between risk and return. Ross (1976b), adds that in theory of APT, linear functions of different macro-economic factors and market indices are used to present expected returns from financial assets. It is believed that the areas of risk are subtle to changes represented by a beta coefficient ( $\beta$ ) of a specific factor. Fama and French (1992), on the other hand, assessed microeconomic variables that are firm-specific such as size of the firm, leverage and earnings-price ratios, market beta, and the of equity of book-to-market to clarify returns of stock, hence, proof of the importance factor model.

The Arbitrage Pricing Theory explains that linear functions of different macro-economic factors and theoretical market indices can be used to present returns expected from financial assets. The theory assumes that the areas of risk are subtle to changes represented by a beta coefficient ( $\beta$ ) of a specific factor. The APT is different from the CAPM developed by John Lintner (Lintner, 1965) and William Sharpe (Sharpe, 1964) which approximates an investment risk systematically using one factor. Dubravka and Petra, (2010) establish that the major shortcoming of APT is that the factors included in the model are unknown and must use econometrical or statistical computation.

The APT demands that the potential risks are perceived by investors in order to approximate sensitivities of factors. A study in the United States of America, conducted by Chen et al (1986) sought to assess macroeconomic financial variables with respect to monthly data to test the systematic factor effect on the prices of stock in the US. The team of researchers adopted different variables including term structure, production by industries, inflation, market index, premium risk and oil prices and consumption. The outcome from the study indicated that all the variables affected stock prices with inflation having the highest influence during high volatile periods.

### **2.2.3 Efficient Market Hypothesis**

The efficiency of the market hypothesis (EMH) is highly influenced by seasonality (Agrawal, 2014). This theory shows that a market that is efficient takes place where the prices in the market are grounded on impartial approximates of the real worth of an investment. The EMH further state that the current securities price is fair and unbiased since it has traded for the exact price. Kuria, (2013) concluded that the existence of stock returns seasonality is possible, however, the conclusion contradicts with the hypothesis of efficient market.

This theory of EMH is a very important aspect in finance. William, (2002), states that EMH shows how fast and accurately new information influences the reaction of the market. The entrance of new information and data into the market is rapid in the form of economic reports, statements that are politically based, announcements from companies, or public surveys. Efficient information in the market facilitates quick and accurate rapid change of securities prices to the new data and information. This hypothesis postulates that all the information available are fully reflected in the prices of securities in the market. Due to the incorporation of all relevant information to the securities prices, an investor is restricted from making additional returns. Hence, EMH suggests that the market cannot be outperformed using stock selection of timing (Allan & Kuria, 2013). Seasonal returns have been reported in financial context. Board, (1988), referred to the seasons as calendar anomalies.

According to Kuria and Riro (2013), EMH is considered to represent a complex market. Thus, markets in countries that are developed are in position to gain more consideration from international investors. Agathee (2008), states that African markets have to prove their efficiency in order to attract global investments in the form of funds since investors are keen on the efficiency and interest level offered by stock markets. An assumption of capital markets is that they are efficient since they incorporate all the information available in determining the prices of various securities. This learning was focused on the consequence of January in the standard revenues of (NSE) in Kenya.

## **2.3 Empirical Review**

### **2.3.1 Determinants of Stock Market Returns**

Nawaz and Mirza (2012), posit that a phenomenon can be described as a stock market anomaly if its pattern is of unusual nature and impact on stock returns. Several anomalies of similar nature have been pointed out, namely that of the holiday outcome, the January effect and finally the weekend effect. Stock outcomes that are high before a holiday point to the holiday effect, according to Keef and Roush (2005). Brockman and Michayluk (1998) held further that pre-holiday returns are correlated, positively with companies with low capitalization and Ariel (1990) concurs, adding that such are predominant in capital markets of the US. Owners of capital always want high returns that deliver shorter payback on their investments. Therefore, management of firms are expected to come up with decisions that make the most of the wealth of owners as measured through cash flows after tax.

Firm profitability is an essential indicator of a firm's wealth created for its owners. Dividend payments, further is a strong signal in the market of stock and can lead to an upsurge in the prices of stock in the bourse. Conversely, loses point to poor prospects and results in prices falling, generally (Makokha, 2012).

The rate at which a republic's money can be swapped for another republic's is known as conversation rate. The effects of money supply are both positive and negative. According

to Fama (1981), inflation rate positively correlates with money growth rate, thus, money supply rise can result in higher discount rates, hence, decreased prices of stock. However, the negative impact can be countered by growth of money that may lead to increased cash flows and prices of stock (Mukherjee & Naka, 1995).

The unpredictability of the exchange affects the financial sector of a country and especially its stock market. Study by Benita and Lauterbach (2007) indicated that the unpredictability of exchange rates has economic costs that influence stability of prices and a country and profitability of a firm. There are many reasons that indicate the importance of a link between exchange rates and stock prices. The first reason is that it influences the decisions on fiscal and monetary policy. A successful stock market leads to positive impacts on the overall demand (Kamuti, 2013).

The movement of exchange rate influences a firm's output level and a country's trade balance. The way share prices move in the stock market influences directly demands through liquidity effects and wealth and indirectly through exchange rates. A decrease in stock prices results in lower investors' wealth which ultimately leads to less economy liquidity. The decrease in liquidity of the economy decreases interest rates facilitating capital outflows which in turn cause the depreciation of the currency (Adjasi et al., 2008). According to Hsing (2011) in the Johannesburg stock market there is a constructive correlation between exchange rates and stock market. At the same time on the Taiwan stock market there is a positive link between stock returns and exchange rates (Cheng' et al., 2011). In observing the stock market in Mexico Bailey and Chung (1995) focused on fluctuations of exchange rates, stock returns, and political risks. The findings indicated a positive correlation between stock returns and fluctuation of exchange rates.

### **2.3.2 January Effect and Stock Returns**

Griggs (2008), describe January Effect as when stocks show unusual high returns during the end of December and the start of January. Research undertaken by Rozeff and Kinney (1976) and Brown et al (1983) assessed the United States of America stock market and the findings indicated higher January returns compared to the rest of the year. The researchers

adopted indexes that were market-weighted averages without dividends yields. They documented local currencies closing prices and suggested that the weighting scheme of an index may influence the outcome of the empirical studies. The data analysis from the study reported a significant seasonality in the United States capital markets.

Research by Cooper et al. (2006), adopted a different approach to assess the January returns and reported January returns volatility. The researchers reported that positive January returns follows positive returns for the rest of the year, while January returns that are negative are followed by indifferent returns from zero to the rest of the year. Specifically, January returns are deemed as predictive to the other returns of the rest of. This anomaly was the years referred to as the January effect by (Cooper et al, 2006). An analysis on the January effect in Singapore was undertaken by Wong et al. (2006). The tests of the January effect indicated higher returns in January compared to other months of the year during the pre-crisis period. However, according to the study the difference was not easily noticeable. The findings indicated negative returns for the Straits times index during the period, suggesting a diminishing January effect in later years

Hensel and Ziemba (1995), assessed the January Barometer's forecasting power globally. The findings were aligned with their earlier outcomes for the United States of America and reported predictive power for the January Barometer when there exists positive January returns for Canada, the United Kingdom, Japan, and Australia. The January Barometer returns were attributed to economic activities such as the sales made during Christmas. Hensel and Ziemba (1995), suggested a trading rule for the United States of America whose recommendation is purchasing stocks after positive January returns, while no relevant investment advice can be established from a negative January return. Keef and Roush (2005), indicated that most small firms during January obtained excess returns and partial of the returns were attained in the first five days of the month of January especially during the first day.

A study covering Hongkong, Japan, Malaysia, Singapore, South Korea and Taiwan on the effect of the Chinese New Year holiday in the period 1976 to 1990 on six stock markets

by (Yen, Lee, Chen & Lin, 2001) showed that the January effect with January returns being higher in comparison to other months with a confidence level of 95%. Research by Berges et al. (1984), indicate the trend of daily returns is highest during the month of January.

## **2.4 Empirical Studies**

To understand the anomalies presented by stock returns a number of researches have been undertaken. In this chapter the past studies on January effect in different markets in the companies listed on NSE Internationally have been reviewed; Choudhary (2001) undertook a study focusing on the January effect in the United States America and the UK and not Germany. A research by Thomas (2002) concluded that for the period 1987-1996 there existed an effect in the Swedish Securities Market in certain months of the year.

Another research by Lucey and Whelan (2007) revealed the existence of Halloween anomaly in the Irish equity market. Observation on the monthly return in the US stock index was carried out by Ahmed and Mustafa (2012). The study indicated that during the start and first half of the months, the stock market earned positive returns while during the second half, it earned zero average returns. The study concluded that weak monthly effects are mostly evident in foreign countries. With the Indian stock market in focus, (Bhattacharya *et al*, 2003) measured the day of week effect on revenues and the results shows that it predictability for the time period 1991-2000. Reporting and non-reporting weeks were used for the study which established Monday positive returns.

According to the findings of Bakshi and Chen (2005) inflation and prices of stock has a negative correlation, a fact that is empirically accepted. However, research by Caporale and Jung (1997) concluded a positive relationship between real prices of stock and unexpected and expected inflation. The duo observes that the negative impacts of inflation on prices of stock do not end after the output shocks are controlled. This is opposite to the finding by Fama. Representing Greece, Ioannides, Katrakilidis et al. (2002), researched on the link between rate of inflation and stocks in the market in the country for the period 1985-2000. With respect to a hypothesis presented by Fisher, there were discussions that inflation could be hedged by stock market.

Research by Kling and Gao (2005), found a very a strong effect during the year end in 1991 which was not recognized later since it disappeared. In Shanghai and Shenzhen, with February as the year ends, there were higher returns achieved in March and April. Findings by Raj and Kumari (2006) were not supportive of the findings by Bhattacharya et al. (2003) and Sarma (2004). A study by Kumari and Raj (2006) used hypotheses to test the stock market of India; the weekend, week day, January and April and one day in each week effects were investigated with the use of statistical techniques. The study did not establish the positive January and negative Monday effects in India. Instead, the study concluded positive Monday returns and negative Tuesday returns. In Singapore the January effect on the stock market was investigated by Wong et al. (2006). The tests from the study concluded higher returns in stock in January compared to the rest of the year. However, the difference was not easily noticeable. The findings indicated negative returns for the Straits times' index during the period, suggesting a diminishing January effect in later years.

For the period 1994 to 2006 in Malaysia, Wong, Ho, Dollery (2007), examined the monthly-effect on stock market. The data was divided into 3 sub periods. The findings indicated the existence of monthly effect which was different among months; the pre-crisis period experienced the February effect while the post-crisis period experienced the effect of January. After transaction cost being considered, the January effect was similar to the low-price effect since January returns for low price shares were lower in comparison to high priced shares (Moosa, 2007). The observation made by Moosa (2007), on the January effect was as a result of portfolio managers selling risky and losing stocks, window dressing during end of the year, and holding blue chip and cash to change the appearance of their portfolios to look conservative. The portfolio managers are also motivated to lock in their bonuses which depend on the return rate achieved within the year. The portfolio managers put to work all the finances allocated at the start of every year. Satisfactory returns during the year entice managers to secure their yearly bonuses by underrating the risks associated with their portfolios. The cycle goes on with the beginning of a New Year where managers move funds back into the stock.



Moosa, (2007) further observed that studies investigating capitalization of markets and stock markets relationships are used as hypothesis to explain problem measurements. This means that unusual high returns by small firms is mostly attributed to deception as a result of poor measurements of returns or compensation for the risk of holding onto particular stock. A similar research was carried out by Bundoo (2008), to analyze and test the day of week effect of the Mauritian stock exchange. The research reported a positive significance on Wednesdays and Fridays in the Mauritian stock exchange. Additionally, the study indicated in small magnitude a positive significance of the Monday effect. Complete analysis documented a significant September effect.

The stock exchange in Mauritius was examined for effect of day of the week by Agathee (2008) using regression techniques. The results indicated lack of a significant existence of effect of the day of week through the years from 1998 to 2006. The research concluded high Friday returns in compared to the other days in the week. However, the findings from descriptive analysis showed lower Tuesday returns.

The outcome from the study reported that with the exception of January the returns did not rely of the month selected in the year. In the Mauritian Securities Exchange, higher returns were reported in June while lowest returns were in March (Agathee, 2008). McGowan and Ibrihim (2009), undertook a study on the effect day of the week in the Stock Market in Russia. The study applied the trading system index in Russia during the open market period of 1995 to August 2003. The study reported that Wednesday had the lowest returns which were negative, but not significant. The research indicated high returns on Friday which was positive, though not significant. The returns for Thursday, Tuesday, and Monday were all established to be the same.

Parekh (2009), observed some reason behind the high returns experienced in December in India in comparison to other months of the year. Many social occasions, festivals and cultural ceremonies are undertaken during December. Thus an increase in consumer products, industrial production is facilitated after clearing the previous period's backlogs. Hence, the economy of the country is revitalized. By end year in December the market is

enticing to many investors who turn to be bullish waiting the next period. A study by Hong and Yu (2009), on the stock markets of 51 countries reported that as a result of vacations and decreased levels of investments, mean returns, prices of assets and turnover reduce during the summer period (July-September) compared to the rest of the months in the year in countries situated at the Northern Hemisphere. The findings are aligned with the possibility of the existence of abnormal returns during November-April.

Wyeme and Olfa (2011), assessed the month of year effect on the Tunis Stock Exchange (TSE) for the period 2<sup>nd</sup> January 2003- 31<sup>st</sup> December 2008. The outcome from the study indicated higher and significant returns in April in comparison to other months, hence evidence of the April effect in Tunisia. Using regression analysis Marrett and Worthington (2011), measured the month of year effect on Australian daily returns. The findings reported existence of July, April, and December effects with a small cap influence in January, December, and August that reported higher returns. The sub-market returns assessment indicated a supportive month of year effect.

Regionally, Pathak (2012) used the S&P CNX Nifty to assess seasonality in the Indian stock market. The study represented the Indian stock market and tested seasonality on stock returns on the basis of monthly and daily data. The study concluded that there is no existence of the daily and monthly seasons in the Nifty return. The reason was as a result of increased investor awareness, volatility, and globalization, high performance of media, new derivatives entrants, and discretionary income in India. In Egypt, Zimbabwe, and Nigeria, the January returns were found to be positive (Alagidede, 2012). The February returns were concluded higher in Morocco, Kenya, and South Africa. While disregarding the tax loss hypothesis to elucidate the effect of January the liquidity shortcomings and omitted risk factors are responsible for the Egypt, Zimbabwe, and Nigeria January effect.

Locally, Moku (2003), in his study carried out at the NSE aimed to establish whether the NSE exhibits the week-end effect on the securities traded there. A sample of 43 equity stocks traded at the NSE was tested for equality (or differences) between the sample mean returns. Oluoch (2003), in his study was on the small size effect in the Kenyan stock market

and aimed to determine whether the small size effect is experienced in the NSE. The study utilized the firms quoted at the equity section of the NSE. The analysis used OLS regression. The study failed to detect any existence or prevalence of the anomaly at the market Oluoch (2003), in his study aimed to determine whether size effect is experienced at the NSE. The study failed to predict any existence or prevalence of the anomaly in the market. Oluoch (2003) in his study did not analyze the returns of small and large firms on a monthly basis. This research will thus provide evidence as to whether the results will be different if the January effect is put into consideration. Kamau (2003) examined the January effects at the NSE during the period July 1995 through June 2003. He made use of the NSE daily closing prices. Average daily returns were computed by applying the holding period return method. In his findings, the January effect was not a prevalent phenomenon in the period covered.

Onyuma (2009) researched the effect of month of the year for the period 1980-2006 at the NSE. The findings from the study showed a higher effect of January compared to other months in the year. A study by Nyamosi (2009) supported the presence of the January effect. Nyamosi (2009) applied regression analysis which provided negative coefficients indicating higher January returns in comparison to other months, hence, confirming the January effect. Allan and George later supported the existence of the January effect. The study conducted by Allan & George (2013) concentrated on the anomalies experienced in the NSE. The study assessed N201 and NASI for 12 years up to 2011. The study adopted the use of F-test and t-test which indicated a significance level of 5% of the coefficients obtained for January, September and July. Thus, the authors reported the presence of monthly effect in the Nairobi Securities Exchange. The study added that the returns for December and January were lower and higher respectively in comparison to other months of the year.

Wachira (2012), carried out a study focusing on the association between return on stocks on the NSE and January effect. The secondary data used was composed of two indices; the NSE all-share index and NSE 20-share index. From the regression analysis a negative coefficients were obtained by the model used. The coefficients supported the January effect

existence since they suggest higher return in January associated to additional months. The T-statistics confirmed that the coefficients were significant, thus, proof for the company of the January effect at NSE. A study on the anomalies present in the standard marketplace at the NSE was undertaken by Kuria (2013). The research focused on three anomalies; the weekend, monthly and effect of the day of the week. The findings from the analysis confirm the existence of seasonal effect at the NSE. Hence, the deduction made was that despite the use of regulatory developments and information technology, the stock market of Kenya is still not free from seasonal anomalies.

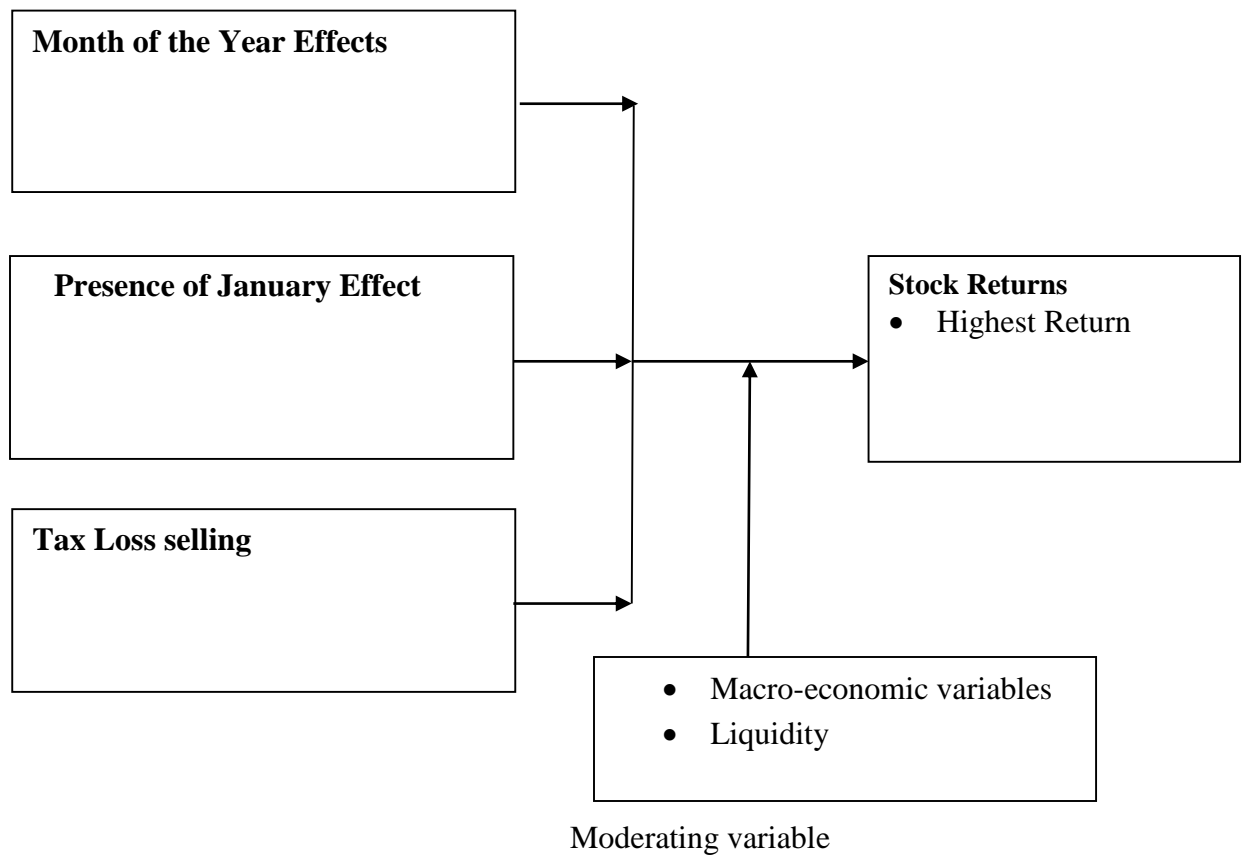
Muchemi (2012), examined the effects and implications pre-holiday in the largest markets in Africa. He used market indexes namely, N20I for Kenya, MASI index for Morocco, Tunisia's Tunn, NSE All Share Index for Nigeria; FTSE and JSE ZSE Industrial index for Southm All Share index and CASE30 Share Index Africa, Zimbabwe, and Egypt in that order. In Zimbabwe, Egypt and Nigeria, the January seasonality was evident. The February effect is evident in Kenya, South Africa, Nigeria, and Morocco. The hypothesis that stated all months are equal is rejected in Zimbabwe, Egypt, and Nigeria. There exists an insignificant variation and absence of January seasonality in Tunisia, South Africa, Kenya, and Morocco. The outcome disagreed with the findings by Claessens et al. (1995), which showed that there was no evidence of the month of the year in the Zimbabwean market.

Ondiala (2014) study established that the many segments did not have announced turn of the month effect. On the overall, the effect offsets when the analysis is done on the overall NSE. This meant that in general the difference between end of the month prices and those recorded during the month was not significant. From the analysis of paired T-tests, in most circumstances, there was similarity with the month end' aggregate and that for the entire month hence failure to confirm the existence of calendar effects at the NSE. The research recommended that investors assess the performance of share price in the course of the month and therefore decided when to buy and sell shares of a given firm. The investors should study the movements in the markets and the relevant information very carefully and in order to know the right prices to by and sell the shares at the NSE.

## **2.5 Conceptual Framework**

This study proposes that the January effect yields highest return on stocks in the month in January than the rest of the year.

**Figure 2.1: Conceptual Framework**



Independent Variables

Dependent variable

**Source: Researcher (2018)**

This study proposed that the year influence the returns of stock market at the NSE. The month of January gives an average return which is proposed to be higher than other months of the year, implying a seasonality pattern in stock returns. Additionally, the study suggested that the hypothesis of tax-loss does not take responsibility for explaining seasons experienced in stock returns. The seasonality anomaly is strong as a result of the effect of January in the market of stock. Hence, the imperfections of the market of stock result in seasonality of stock returns.

The knowledge and understanding of seasons in the stock market is crucial to benefit from them. This study was focused on the certainty of return on stocks since investors use the knowledge and understanding on stock returns anomalies to make investment decisions. By understanding the workings of the stock market, investors are able to buy stock and shares at inferior values and vending them at advanced values. However, the unusual high profits are not easily possible.

## **2.6 Research Gap**

From the literature review it is evident that most studies on the January effect have been focused on the developed countries. The small number of studies focused on developing countries pay little to no attention on the rapidly emerging capital markets in Africa. Additionally, few studies have concentrated on the Nairobi Securities Exchange. The studies conducted on NSE report mixed results on the January effect anomaly. The studies have depended on the stock prices of companies and not the indexes of the NSE. This has led to the discussion as to whether January effect exists in the NSE. Notably, no study has tried to develop the January effect anomaly in the current market. The question often asked is whether the January effect anomaly exists in the NSE. It is crucial to study and assess this gap to help stakeholders including investors make informed decisions that will result in higher stock returns.

## **2.7 Summary of Literature Review**

Presence of January effect on stock returns present contradictory evidence on EMH. The effects of Calendar have been documented widely for countless 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.



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presented the methods i.e the research design, the population of study, data collection instruments and the procedure used for data analysis, that were used in conducting the study. The study entailed analysis of returns on stocks traded at the NSE to ascertain the existence and effect of the January effect on returns of the traded securities.

#### **3.2 Research Design**

The study used expressive study design. This design was implemented to gather information on the topic and extensively describe the variable available at the Nairobi Securities Exchange. It facilitated quick and easier data and information acquiring. The variable of the topic and hypothesis constructs was identified to enhance testing of theories. This research design enabled gathering of data and information that was presented in table forms for easier understanding of the data. It makes use of narration to organize information into trends that will later surface during data analysis. This method was considered appropriate because the study involves interacting with the target population in order for them to describe the January effects on the stock markets trend anomalies for corporations listed in NSE.

#### **3.3 Study Population**

The study sampled out all the 65 companies that were listed at the NSE by end of December 2017. This population consisted of companies consistently and continuously listed at NSE.

#### **3.4 Data Collection**

The study depended on only secondary data composed of NSE NASI indices collected from the NSE. The data was collected from NSE stock conversation in Kenya. The end of Month return and the effects January return was gathered for the assessment and testing.

### **3.5 Data Analysis**

The data to be collected from the NSE included share prices and dividend payments. This study used the monthly all share index data for the Nairobi Securities Exchange (NSE). The All share index includes all listings on the exchange. Descriptive analysis will be performed using SPSS version 21.0. The linear regression model below;

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Where  $Y$  is NSE All Share Index,  $X_1$  is the exchange rate,  $\beta_0$  is constant and  $\varepsilon$  is the error term of the model.

## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND DISCUSSION

#### 4.1 Introduction

This is the second final chapter which provides the descriptive and inferential statistical analysis. The general aim of the study was to investigate the effect of January effect on returns on stock at the NSE. The data was obtained from the NSE NASI indices. The month end return and January effects return was assessed and tested. More precisely, the study intended to assess the performance of the NSE across a 5 year period, 2013 to 2017, establish the percentage change in Kenya Shillings and US dollar exchange rate across a 5 year period, 2013 to 2017; and determine how changes in exchange rate affects changes on the presentation of the NSE across a 5 year period, 2013 to 2017.

#### 4.2 Descriptive Statistics

The study first sought to evaluate the variables underpinning the study across the 5 year period under consideration, January 2013 to December 2017. These include the performance change of the Nairobi Securities Exchange as indicated by both the NSE All and NSE 20 share indices and the percentage change in exchange rate movement given by Kenyan Shilling price of one US Dollar at time. Their mean, standard deviation, minimum and maximum values were determined as indicated in Table 4.1;

**Table 4.1: Descriptive Statistics**

|                     | <b>N</b> | <b>Min</b> | <b>Max</b> | <b>Mean</b> | <b>Std. Dev</b> |
|---------------------|----------|------------|------------|-------------|-----------------|
| NSE All Share Index | 60       | -9.74      | 10.29      | 1.233       | 4.035           |
| NSE 20 Share Index  | 60       | -10.22     | 7.57       | .067        | 3.902           |
| Exchange Rate       | 60       | -3.32      | 4.34       | .304        | 1.387           |

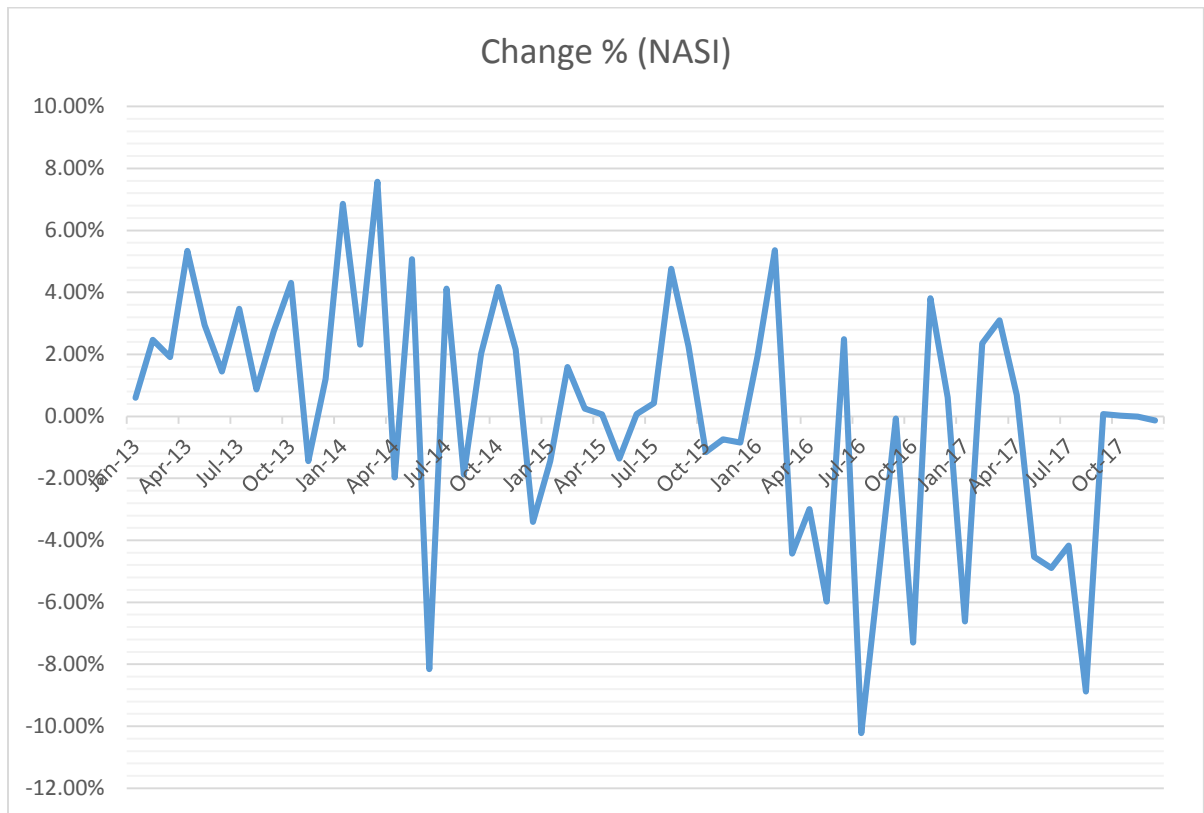
The NSE All share Index reported a mean of 1.233 over the 5 year duration under study (2013 – 2017) and a standard deviation of 4.035 (mean = 1.233, SD=4.035). NSE 20 share index recorded a mean score of 0.066 at a SD of 3.902. A mean of 0.304 was recorded in exchange rate with a standard deviation of 1.387 (mean = 0.304, SD=1.387).

The findings agreed with Cooper *et al.* (2006), study on January anomaly concluded that January returns are viewed as being predictable during the year. To counter these appearances, investors devise trading strategy; by selling securities on when returns are high and buying on at season when returns are low in order to make excess profits. This approach helps retrieve unusual returns with respect to past year patterns. January effects affect the stock markets returns at NSE, where the average standard return is higher in January likened to the rest of the year, suggesting seasonality in stock returns (Pandey, 2002).

#### **4.2.1 NSE All Share Index**

The next item was meant to examine the performance of the NSE across the period, January 2012 to December 2016 as indicated by the change in the NSE All Share Index. The results were presented in figure 4.1 below;

Figure 4.1: Change % for NSE All Share Index



A generally declining trend was observed in NSE performance as indicated by the All Share Indices from January 2013 to December 2017. The sharpest decline was particularly noted in decline July 2016 at -10.22% and the highest peak at 7.57% in March 2014. Notable declines were also recorded in June 2014 at a -8.16% and in October 2017 at -8.88. A particularly declining trend was recorded from March 2014 to December 2017 falling from 7.57% to -0.13% respectively.

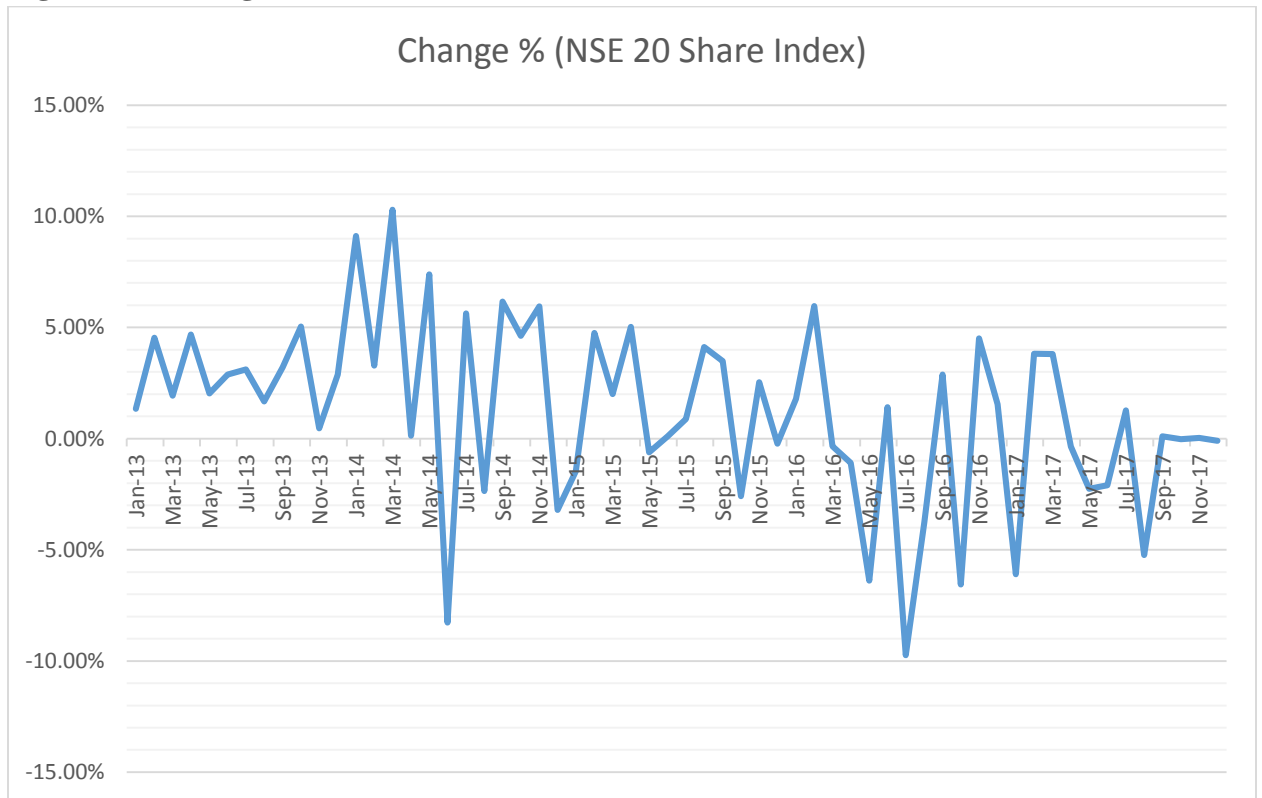
Makokha (2012) held that where a firm pays dividends it signals the stock market in a positive manner and as a result, share prices surge up, other factors held constant. Nyamosi (2011), who revealed that the January effect exists at NSE, show existence of seasonality's at the NSE between 2001 and 2010 as Wachira (2012) study confirmed existence of January effect at NSE.

Knowledge of the market seasonality is of great importance to investors since such knowledge would signal the right time to buy or sell stocks. It is important for the investors to be knowledgeable on the seasonality of the stock market to benefit from them. In the real world, stock markets are not perfect, which provide a fertile ground for stock return seasonality caused by market imperfections (Sharpe, Alexander & Bailey, 2005).

#### 4.2.2 NSE 20 Share Index

The study sought to establish the performance of the Nairobi Securities Exchange from, January 2013 to December 2017, as indicated in the percentage change in 20 Share Index. Findings are as presented in figure 4.2 below.

**Figure 4.2: Change % for NSE 20 share Index**



As illustrated in Figure 1.2, an alike decreasing trend was noted in the performance of the Nairobi Securities Exchange across the period January 2013 to December 2017, as indicated by the percentage change in the NSE 20 Share Index as was with the All Share

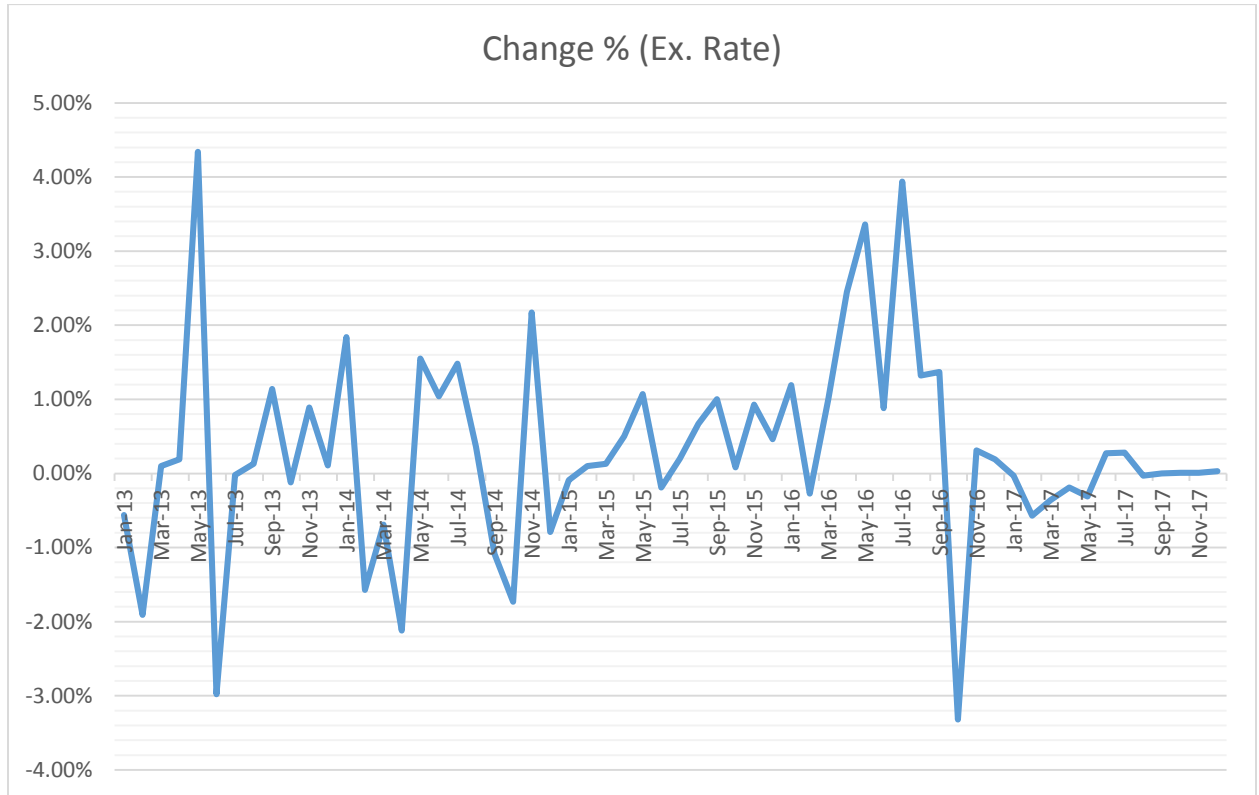
Index. The sharpest decline was particularly noted in August 2016 at a -9.74% decline and the highest peak at 10.29% in March 2014. Notable declines were also recorded in June 2014 at -8.27% and in August 2017 at -5.23% while notable peaks were also recorded in January 2014 at 9.11% and in February 2016 at 5.97%.

The findings agrees with Adjasi et al. (2008), who posited that the movement of conversation rate influences a firm's output level and a country's trade balance. The movement of share prices in the stock market influences directly demands through liquidity effects and wealth and indirectly through exchange rates. A decrease in stock prices results in lower investors' wealth which ultimately leads to less economy liquidity. The decrease in liquidity of the economy decreases interest rates facilitating capital outflows which in turn cause the depreciation of the currency (Adjasi et al., 2008).

#### **4.2.3 Exchange Rate**

The study then sought to establish the percentage exchange rate movement across the period, January 2012 to December 2016, as given by Kenyan Shilling price of one US Dollar. The results were presented in Figure 4.3 as shown below;

#### **Figure 4.3: Change % for Exchange Rate**



As illustrated in Figure 4.3, exchange rate movement was generally unstable across the 60 month period under study, characterized by sharp inclines and declines. The movement was highest in May 2013 at 4.34%, then in July 2016 at 3.94%. The sharpest decline was recorded in October 2016 at -3.32%, with the period from November 2016 to December 2017 stabilizing between 0.31% and 0.03% respectively.

The findings agrees with Fama (2011), that inflation rate positively correlates with money growth rate, thus, money supply rise can result in higher discount rates, hence, decreased prices of stock. However, as reported by Mukherjee and Naka (1995), the negative impact can be countered by growth of money that may lead to increased cash flows and prices of stock. The unpredictability of the exchange affects the financial sector of a country and especially its stock market. Study by Benita and Lauterbach (2007) indicated that the unpredictability of exchange rates has economic costs that influence stability of prices and a country and profitability of a firm. There are a number of reasons that indicate the importance of association between prices of stock and exchange rates. The first reason is



that it influences the decisions on fiscal and monetary policy. A successful stock market leads to positive impacts on the overall demand (Kamuti, 2013).

### 4.3 Normality Test

The normality of variables was done in order to determine if the data followed a normal distribution.

**Table 4.2: Normality Test**

|                     | Skewness  |            | Kurtosis  |            |
|---------------------|-----------|------------|-----------|------------|
|                     | Statistic | Std. Error | Statistic | Std. Error |
| NSE All Share Index | -.657     | .310       | .172      | .609       |
| NSE 20 Share Index  | -.096     | .310       | .482      | .609       |
| Exchange Rate       | .294      | .310       | 2.009     | .609       |

The results as shown in Table 4.2 show that Results for the kurtosis indicated that the distribution did not deviate significantly from a normal distribution -0.946 while the skewness has a value of 0.022 and a standard error of 0.22. It further complies with Onwuegbuzie and Daniel (2002), who posited that the values of Skewness and kurtosis range from +/-3 (SE) which then qualifies them as generally normal. These values were within the +/-3 range and therefore the study concluded that the data was normally distributed.

### 4.4 Inferential Statistics

A linear regression analysis was applied to ascertain how exchange rate movement affects the NSE All share Index performance at the NSE. In addition, Pearson correlation measured the degree of association among the different variables under study.

#### 4.4.1 Pearson Correlation Coefficient

Correlation was used to determine if the percentage change in exchange rate movement will increase, decrease or have no effect on the performance of Nairobi Securities Exchange as measured by both NASI and all Share Index. Correlation coefficients are

measured in the range of 0 to 1 with +1 being strong positive correlation, and 0 indicating no correlation. The analysis is presented on Table 4.3 below;

**Table 4.3: Correlation coefficients**

|                     |                     | NSE 20 Share Index | NSE All Share Index | Exchange rate |
|---------------------|---------------------|--------------------|---------------------|---------------|
| NSE 20 Share Index  | Pearson Correlation | 1                  |                     |               |
|                     | Sig. (2-tailed)     |                    |                     |               |
| NSE All Share Index | Pearson Correlation | .925**             | 1                   |               |
|                     | Sig. (2-tailed)     | .000               |                     |               |
| Exchange rate       | Pearson Correlation | -.111              | -.130               | 1             |
|                     | Sig. (2-tailed)     | .399               | .312                |               |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

As shown in Table 4.3 above, there is a strong significant correlation between the NSE All Share Index and NSE 20 Share Index (correlation coefficient,  $r = 0.925$ ; sig. = .000). NSE 20 Share Index and NSE All Share Index are metrics used to measure NSE performance hence are expected to have a coefficient correlation value closest to +1. At the same time, there was a weak and negative correlation between Exchange Rate and NSE All share Index (correlation coefficient,  $r = -.130$ ; sig. = .312) and NSE 20 Share Index (correlation coefficient,  $r = -.111$ ; sig. = .399).

According to Hsing (2011) the correlation between stock market and exchange rates in the Johannesburg stock market is positive. Research by Cheng' et al., (2011) reported a positive relation between stock returns and exchange rates in the Taiwan stock market. In observing the stock market in Mexico Bailey and Chung (1995) focused on fluctuations of exchange rates, stock returns, and political risks. In conclusion, the correlation between stock returns and fluctuation of exchange rates was significant and positive.

#### 4.4.2 Regression Analysis

The study conducted a linear regression analysis to establish the relationship between the dependent and independent variables. The regression analysis results were presented using regression model summary, analysis of variance (ANOVA) and beta coefficient tables.

The linear regression model below;

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Where  $Y$  is NSE All Share Index,  $X_1$  is the exchange rate,  $\beta_0$  is constant and  $\varepsilon$  is the error term of the model.

The degree to which variations in the dependent variable can be attributed to the variation of the independent variables (NSE All Share Index) is known as the Coefficient of determination. From Table 4.4, the  $R^2 = 0.017$ , implying that 1.7% of the variation in exchange rate can be explained by exchange rate while 98.3% is attributed to other idiopathic factors not captured in the framework.

**Table 4.4 Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .130 <sup>a</sup> | .017     | .000              | 4.03504                    |

Analysis of Variance results if the model is a good fit for the data from the p value.

**Table 4.5 Analysis of Variance**

| Model |            | Sum of Squares | df | Mean Square | F    | Sig.               |
|-------|------------|----------------|----|-------------|------|--------------------|
| 1     | Regression | 16.112         | 1  | 16.112      | .974 | .0312 <sup>b</sup> |
|       | Residual   | 943.329        | 57 | 16.550      |      |                    |
|       | Total      | 959.441        | 58 |             |      |                    |

a. Dependent Variable: NSE All Share Index

b. Predictors: (Constant), Exchange rate

A hypotheses of nullity state that there exists no linearity in the relationship between the said variables. The value of F could be in rejecting the null hypothesis i.e  $F(1, 57) = 0.974$  and  $df = 58$ , the test is insignificant ( $p = 0.312 > 0.05$ ). As a consequence, the null hypothesis was turned down and the researcher concluded that there was no linearity whatsoever, in the interplay between the variables in our model.

The findings concur with Rozeff and Kinney (1976), study which assessed the United States of America stock market and the findings indicated higher January returns. The researchers adopted indexes that were market-weighted averages without dividends yields. They documented local currencies closing prices and suggested that the weighting scheme of an index may influence the outcome of the empirical studies. The data analysis from the study reported a significant seasonality in the United States capital markets. Cooper et al. (2006), adopted a different approach to assess the January returns and reported January returns volatility. The researchers reported that positive January returns follows positive earnings in the rest of the year, yet returns in January which were negative are followed by indifferent returns from zero to the rest of the year. Specifically returns for January wre deemed as predictive to the other in the years. This irregularity was referred to as the January effect by (Cooper et al, 2006).

Table 4.6 shows the findings of the test of unstandardized beta coefficients which indicates the equation of the linear model.

**Table 4.16 Beta Coefficients**

| Model |               | Unstandardized |            | Standardized |       |      |
|-------|---------------|----------------|------------|--------------|-------|------|
|       |               | Coefficients   |            | Coefficients |       |      |
|       |               | B              | Std. Error | Beta         | t     | Sig. |
| 1     | (Constant)    | 1.346          | .534       |              | 2.522 | .014 |
|       | Exchange Rate | -.376          | .384       | -.127        | -.978 | .332 |

a. Dependent Variable: NSE All Share Index

The prediction equation is  $Y = 1.346 - 0.376X_1 + \varepsilon$

The regression equation derived from coefficients table reveal that a unit change in exchange rate movement leads to a 0.127 decrease in NSE All Share Index performance. According to the findings of Bakshi and Chen (2005) inflation and prices of stock has a negative correlation, a fact that is empirically accepted. However, research by Caporale and Jung (1997) concluded a positive relationship between the actual prices of stock and unexpected and expected inflation. The duo observes that the negative impacts of inflation on prices of stock do not end after the output shocks are controlled. This is opposite to the finding by Fama. Representing Greece, Ioannides, Katrakilidis et al. (2002), researched on the link between rate of inflation and stocks in the market in the country for the period 1985-2000. With respect to a hypothesis presented by Fisher, there were discussions that inflation could be hedged by stock market. Keef and Roush (2005), indicated that most small firms during January obtained excess returns and half of the returns were obtained within the first five days of January especially during the first day (Yen, Lee, Chen and Lin, 2001).

## **CHAPTER FIVE**

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

#### **5.1 Introduction**

This is the final chapter of this study which presents summary of the findings, conclusions, recommendations for improvement, and finally provides areas where further studies can be conducted. The chapter has been presented as follows.

#### **5.2 Summary of Findings**

This study was carried out to examine the effect of January on the return on stock as the Nairobi Securities Exchange. The data required for this study was collected from the NSE NASI indices. The month end return and January effects return were assessed and tested. Specifically, the study sought to assess the performance of the NSE across a 5-year period, 2013 to 2017, establish the percentage change in Kenya Shillings and US dollar exchange rate across a 5 year period, 2013 to 2017; and how changes in exchange rates affects performance of NSE for a period of five years i.e from 2013 – 2017.

From the findings, the NSE All share Index reported a mean of 1.233 over the 5 year duration under study (2013 – 2017) and a standard deviation of 4.035 (mean = 1.233, SD=4.035). NSE 20 share index was rated at a mean score of 0.066 (St Dev. 3.902) SD=3.902). A mean of 0.304 was recorded in exchange rate with a standard deviation of 1.387 (mean = 0.304, SD=1.387).

A generally declining trend was observed in NSE performance as indicated across all the Share Indices across the period from January of 2013 to December 2017. The sharpest decline was particularly noted in decline July 2016 at -10.22% and the highest peak at 7.57% in March 2014. Notable declines were also recorded in June 2014 at a -8.16% and in October 2017 at -8.88. A particularly declining trend was recorded from March 2014 to December 2017 falling from 7.57% to -0.13% respectively.

A declining trend was recorded in the performance of the NSE across the period January 2013 to December 2017, as indicated by the percentage change in the NSE 20 Share Index as was with the All Share Index. The sharpest decline was particularly noted in August 2016 at a -9.74% decline and the highest peak at 10.29% in March 2014. Notable declines were also recorded in June 2014 at -8.27% and in August 2017 at -5.23% while notable peaks were also recorded in January 2014 at 9.11% and in February 2016 at 5.97%.

Exchange rate movement was generally unstable across the 60 month period under study, characterized by sharp inclines and declines. The movement was highest in May 2013 at 4.34%, then in July 2016 at 3.94%. The sharpest decline was recorded in October 2016 at -3.32%, with the period from November 2016 to December 2017 stabilizing between 0.31% and 0.03% respectively. The results for the kurtosis indicated that the distribution did not deviate significantly from a normal distribution -0.946 while the skewness has a value of 0.022 and a standard error of 0.22. It further complies with Onwuegbuzie and Daniel (2002), who posited that Skewness and kurtosis numerals with a range of +/- 3 (SE)

Correlation was used to determine if the percentage change in exchange rate movement will increase, decrease or have no effect on the performance of Nairobi Securities Exchange as measured by both NASI and all Share Index. From the findings, there is a significant and a very strong and positive correlation between the NSE All Share Index and NSE 20 Share Index (correlation coefficient,  $r = 0.925$ ; sig. = .000). NSE 20 Share Index and NSE All Share Index are metrics used to measure NSE performance hence are expected to have a coefficient correlation value closest to +1. On the other hand, a weak and negative correlation was observed between Exchange Rate and NSE All share Index (correlation coefficient,  $r = -.130$ ; sig. = .312) and NSE 20 Share Index (correlation coefficient,  $r = -.111$ ; sig. = .399). The regression equation derived from coefficients table reveal that a unit change in exchange rate movement leads to a 0.127 decrease in NSE All Share Index performance.

### **5.3 Conclusion**

In conclusion, the study found that performance of Nairobi Securities Exchange market can be described as both unpredictable and on the decline as the case observed from January 2013 to December 2017. A declining trend was recorded in the performance of the NSE across the period January 2013 to December 2017. Foreign exchange movement was on average unstable across the 60 month from January 2013 to December 2017. These variations can be due to the price of currency which is determined by demand and supply of the currency in the forex market leading to flexible exchange rate system. Hence this new system becomes responsible for currency fluctuation as a result of regular changes in demand and supply predisposed by numerous factors from the external and internal environment.

The Pearson's partial correlation and regression analyses of the study indicated a weak and negative relationship between the performance of the Nairobi Securities exchange rates. Exchange as measured by the NSE 20 share index and the NSE All Share Index. The weak and negative association between exchange rate movement and financial performance of NSE reflect how unstable and volatile exchange rate have added to the declining trends witnessed in both the NSE All Share and 20 Share Indices. The applied significance of the foregoing study findings concerns the realization that whereas a number of methods to reduce risk exposure by NSE listed firms such as derivatives, hedging of the balance sheet, lagging and leading and amongst others these methods are to a significant extent too sophisticated and challenging to implement in such developing economies as Kenya having financial systems that are not adequately developed.

### **5.4 Recommendation**

The study recommends that listed firms ought to explore the course of continuous short term trainings and education which ought to be adequately practical as opposed to theoretical. The study further found a generally declining trend was observed in NSE performance as indicated by both the All Share and the 20 Share Indices across the period



January 2013 to December 2017. The same can involve the consultation of professional institutions comprised of bankers, finance specialists, consultants and accountants.

The study further recommends that the Government should also put in place more measures to increase the country's exports because this will help to improve performance of listed firms in Kenya. Local firms should be protected from the adverse consequences of currency movements, global competition and economic changes.

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

The research aimed to establish relationship between investigate the effect of January on returns on stock at the NSE. Due to the fact that period of doing research was limited, the researcher was under huge pressure to collect data. This proved to be a big difficulty as the researcher had to ensure that the process went on are required.

The study relied on secondary data collected from NASI indices extracted from the NSE between 2013 to 2017 and hence the results could not be generalized to all the other years to cover a longer period of time.

### **5.6 Suggestions for Further Research**

The study suggests that a similar study can be done in future with changes of measure from monthly to daily share prices. The duration of the study, upon which metrics were computed may be important. The ratio between the range and the mid-range especially is likely to be conforming for short run and the reverse for long run.

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