EFFECT OF STOCK SPLITS ON STOCK RETURNS OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

BY

STEPHEN T. WAWERU

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NOVEMBER, 2017
DECLARATION

I declare that this is my work and has not been presented to any institution or university other than the University of Nairobi for examination.

Signed: _____________________ Date: __________________________

STEPHEN WAWERU

D63/85528/2016

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

Signed: _____________________ Date: __________________________

MR. MARTIN ODIPPO

Lecturer, Department of Finance and Accounting

School of Business, University of Nairobi
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I take this opportunity to thank the almighty God for seeing me through the completion of this project. A work of this magnitude is never accomplished without reminiscence to our creator. In addition, I am grateful to my employer, Office of the Auditor General through Deputy Auditor General, Mr. Sylvester Kiini for approving my temporal relocation from Mombasa to Nairobi to pursue a career of my choice. This invaluable support will always be a source of motivation to dedicate extra effort to my office obligations. To my Family, friends and colleagues thanks for the tremendous support during my entire study period of this program. I would also like to express my deepest gratitude to my supervisors Mr. Martin Odipo and Dr. Cyrus Iraya for their guidance and pieces of advice during the research project period.
DEDICATION

I dedicate this work to my wife Zipporah Wangui and my children Hellen, Monica and Valentine. I thank you very much for the love, Patience and sacrifices that you have made for me. I have been forced to be away from you most of the time and at the hour of need but with your understanding, patience and prayers, we have reached this far.
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ABSTRACT

Most investors strongly believe that a stock split is an indication of a company’s success. The neo-classical financial theory however argues that splits are nothing but mere numeracies changes that shouldn’t affect the firm’s market value. Financial economic studies have for long tried to address this contradiction and empirical regularities linked to stock splits have been discovered. Splits are specifically linked to variations in the return, risk, return, liquidity and volume attributes of the stock. This study sought to determine the effect of stock splits on stock returns of firms listed at the Nairobi Securities Exchange. The study analyzed the reaction of stock returns of 14 listed firms 30 days before stock split and 30 days after the stock split. The 14 firms are the ones that had split their stocks between the year 2004 and 2016. The study discussed the abnormality of the stock returns and the cumulative abnormality. The study found out that only Equity Bank Ltd, Kenya Power & Lighting Company Ltd, Athi River Mining Cement, Carbacid Investments Ltd and East African Breweries Ltd recorded positive average abnormal returns. All the other 9 firms reacted negatively to stock split over the 61 day event window. However, none of the abnormalities (positive or negative) was found out to be statistically significant as was evidenced by the t-test values. The reaction of the stocks to stock split was very fast which implies that the Nairobi Securities Exchange is efficient. The abnormality was mostly noted 1 day before the stock split to 1 day after the split. The study concludes that stock split has a cumulative negative effect on stock returns of firms listed at the Nairobi Securities Exchange. The study also concludes that 64.29% of the firms listed at the Nairobi Securities Exchange react negatively to stock split while 35.71% react positively. The study also concluded that this reaction is not statistically significant. The quick reaction to the stock split indicated that the Nairobi Securities Exchange was efficient. Presence of abnormal reaction to stock split though not statistically significant was attributed to speculative trading at the Nairobi Securities Exchange. This indicates a need for investor education as a way of reducing speculative trading which results to abnormal reaction. The capital Markets Authority should implement policies, rules, regulations and trading guidelines to monitor the trading activities of the Nairobi Securities Exchange as this will make the market efficient and reduce abnormalities that make the investors gain or lose unfairly.
CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The main objective of any firm is the maximization of the wealth of its shareholders. This means that every corporate event undertaken by the firm should be geared towards achieving this goal. A share split is a major corporate event and is therefore no exception. Dennis and Strickland (2002) define a stock split as an accounting change in the share composition and it should therefore not theoretically elicit any reaction on the stock return. However considerable research undertaken has indicated that stock returns positively reacts to a stock split. Brooks and Su (2003) emphasizes that stock splits must accrue some benefits to the firm. The fact that many stock splits of common shares occur annually imply that stock splits have a great effect on the firm’s value.

This study was guided by several theories such as the signaling theory, liquidity theory and optimal trading range theory that have tried to explain the relationships between stock splits and stock returns of firms. According to the signaling model of stock splits, stock splits serve as a costly indicator of the private information of the managers since there is an increase in trading costs with the declining prices. This hypothesis was constructed from Fisher, Fama, Jensen and Roll (1969), who argued that all forms information asymmetries between the management and stockholders could be reduced through the announcement of splits. Liquidity hypothesis argues that managers may undertake stock splits of their firm to improve the firm’s liquidity and that is the fundamental reason why managers split their firms stocks (Baker & Gallagher, 1980). Optimal range trading theory proposes that the investors, either
knowingly or unknowingly, find stocks which trade within a specified range. In case a stock exceeds this range, most of the time the affected firm introduce a stock split to reduce the share price again to the optimal range (Copeland, 1979).

Stock splits were recently introduced in the Kenyan market, only dating back to 2004 when the first firm conducted a split of its stock. Since then other listed firms have followed the same route. The first firms to do a stock split in 2004 included the East African Breweries Limited (EABL) and Kenya Oil Limited (KENOL). High prices of the stocks were the major driver for the splits, with the stocks trading at Ksh.478 and Ksh.372 per share respectively (Karuitha, Onyuma & Mugo, 2013). There have been fifteen stock splits between 2004 and 2016 at the NSE. Of all the fifteen stock splits only four were reverse stock splits for Barclays bank, Equity Bank, Kenya Power and Lightening Company and Carbacid Investments in the ratio of 5:1, 10:1, 8:1 and 5:1 respectively. The most preferred split ratio was 1:10 with six companies using it, followed by 1:5 with four companies using it (NSE, 2015).

1.1.1 Stock Splits

According to Brooks and Su (2003) the process through which a firm decreases its stock face value through increasing the amount of outstanding shares and the same time holding the total capital base of the company intact is referred to as a stock split. A stock split allows for a rise in the number of shares through proportional reduction in the stock’s par value. The ideal application scenario for a stock split is when a company seeks to attain a substantial decrease in the per share’ market price. The principal purpose is to place the stock in a more popular trading range. The stock of a super-growth company may not sell quickly at several hundred dollars per share. Usually it is split periodically. The total number of shares increases accordingly, and price falls to a popular trading range (Gray, Smith & Whaley, 2003).
Dhar and Chhaochharia (2008) argued that stock splits simply entail altering the number of a company’s outstanding shares and adjusting the share price appropriately to recover. They pointed out that a split could occur at any ratio. For instance after a (2:1) split, implies that every shareholder have twice the number of shares owned and only half of the corporations earnings and assets. They further noted that the balance sheet items are always constant although the sum of the company’s outstanding shares increases systematically as per the split ratio. Although stock splits are normally categorized as other forms of paying dividends it is different from stock dividends. Nkonge (2010) pointed out that the difference between stock dividends and stock splits presents itself in the accounting treatment. Stock dividends are distributed from the retained earnings however stock splits have no effect on distributable equity.

1.1.2 Stock Returns

Stock return refers to the gain or loss of the value of a share during a specific period usually quoted as a percentage. It consists of capital gains as well as any income received by the investor from the stock (Mugambi & Okech, 2016). Stock returns can be used to predict output and investment since they are forward-looking variable which outlines future discount rates and cash flow expectations. Stock returns serve as an index to investors or governments in making their investment decisions. Investors of different financial capacity are able to invest in stocks as long as they are able to get a return that is higher than their cost of capital (Wang, 2012).

The availability of adequate market information and the effectiveness and efficiency of stock in the allocation of shares and equities is determined by Stock returns. Changes in stock prices create some form of uncertainty for the investors which influence the stocks’ demand and supply (Taofik & Omosola, 2013). Shares and stock
markets react to any prize-shaping information, relevant for future market development (Širucek, 2013). Firms with higher stock returns are more profitable and thus they generally contribute to economic growth (Aliyu, 2011). Therefore, stock markets returns’ uncertainties is a fundamental aspect of the aggregate economy since unstable economic growth trends makes consumption and investment difficult (Erdogan, 2012).

Stock returns are mostly measured using the stock market indexing. The performance of a specific stock is shown by fluctuations in its stock price. Just like a rise in stock prices indicates positive stock performance while a decrease shows declining performance, a higher stock index marks a better performing market or sector, as compared to a lower stock index (Daferighe & Sunday, 2012). In Kenya, the NSE 20 share index is used in the calculation of stock returns since it acts as a benchmark for the measurement of the performance of the stock market.

1.1.3 The Relationship between Stock Splits and Stock Returns

Naidu (2000) defines a stock split as a numerical change that has no effect on the financial position of the investors. Gallagher and Baker (1980) define a stock split is a mere arithmetic activity which leads to a decline in par value and a subsequently a rise in the number of shares associated with the split with no effect on all other capital accounts. Based on these arguments, a share split should therefore not on itself elicit any reaction from the market. However, empirical evidence in several markets indicates that on average, stock returns increase due to split announcements.

Stock splits accrue positive abnormal returns both in the short-run and long term. Marloney and Mulherin (2009) provided a proof of the effect of increase in wealth near the dates of announcement of NASDAQ stock splits sample which took place
between early 1985 and late 1989. This authors noted important price run-up ten days before the announcement date and an increase in price by small magnitude around the date of execution than those experienced on the date of announcement.

Brennan and Copeland (2001) argue that the signaling model submits that stock splits may be used by managers to convey positive information to the market. A survey of corporate managers by Chen and Kim (2011) indicated that splits are undertaken to the firm’s liquidity position and contain the stock prices within a reasonable trading range. Most corporate managers assume that lower stock prices give small traders an opportunity to purchase round lots. A survey conducted by Gray et al., (2003) indicate that most firms are unable to pay dividends and leading to high dependence on stock splits for the effective management of their share prices if the cost of stock repurchases is high.

1.1.4 Nairobi Securities Exchange

The NSE is registered and controlled by the CMA. Its obligation is to watch over the listed firms as well as to offer a platform for transacting of securities. According to Ngugi (2005), the NSE was established in 1954 as a deliberate association of securities broker listed under the Societies Act. Ngugi (2005) also noted that trading of shares at the NSE was opened to all people to transact when Kenya became an independent country in 1963. The NSE plays a vital role in the Kenya economy as it facilitates the mobilization of savings, makes available a platform for the development of the economic services and increases enhanced financing source to companies (NSE, 2017).

Stock splits are a recent phenomenon at NSE compared to the more established markets where stock splits are more entrenched while firms intending to perform
stock splits at the NSE must seek additional approval from CMA other than that of the shareholders. There were fifteen stock splits between 2004 and 2014 at the NSE. The first case of stock split at NSE occurred in 2004 where three companies—Kenya Oil Company Ltd, East African Breweries Ltd and East African Cables split their stocks in the ratio of 1:10, 1:5 and 1:10 respectively. There were no stock splits in 2005 until in 2006 when again three companies split their stocks (Centum Ltd, Barclays Bank Kenya Ltd and Sasini Ltd).

In 2007, two companies split their stocks (CMC Holdings & Kenya Commercial Bank Ltd) while in 2008 and 2009; Nation Media Group and Equity Bank Ltd split their stocks respectively. Kenol Kobil again split its stock for the second time in 2010, together with Kenya Power and Lightening Company Limited. No stock split was witnessed in 2011. In 2012, only Athi River Mining Limited split its stock. City Trust and Carbacid Investments split their stocks in 2013. In 2014, 2015 and 2016, there were no stock splits at the NSE. Of all the fifteen stock splits only four were reverse stock splits for Barclays bank, Equity Bank, Kenya Power and Lightening Company and Carbacid Investments in the ratio of 5:1,10:1,8:1 and 5:1 respectively. The most preferred split ratio was 1:10 with six companies using it, followed by 1:5 with four companies using it (NSE, 2015).

1.2 Research Problem

Most investors strongly believe that a stock split is an indication of a company’s success. The neo-classical financial theory however argues that splits are nothing but mere numeracies changes that shouldn’t affect the firm’s market value (Dhar, Goetzmann, Shepherd & Zhu, 2003). Financial economic studies have for long tried to address this contradiction and empirical regularities linked to stock splits have been
discovered. Splits are specifically linked to variations in the return, risk, return, liquidity and volume attributes of the stock. According to the stock markets’ financial economists, splitting stock shares produces a greater value for the total market for the outstanding shares. This therefore implies that a firm splitting its stock accrues either perceived or real benefits. The fact that many stock splits of common shares occur annually implies stock splits have an impact on the firm’s value (Dasilas, Vamas & Katerina, 2006).

The concept of stock splits was recently introduced in Kenya and statistics show that the first stock split at NSE was recorded in 2004. By the year 2016, fourteen other stock splits had been recorded. Studies conducted at the NSE have reported cases of prices overreacting to new information and remaining unstable for many days. This has resulted to doubts on the market’s ability to efficiently reflect relevant information. Example of price overreacting include Crown Berger whose share price fell from KES 38 to KES 8 in August 2008 and later settled at KES 26.00 after its interim results (Nyamosi, 2011).

Empirical evidence is largely inconsistent and quite varied on the influence of stock splits on stock returns. In Germany, Wulff (2002) reported abnormal positive returns following a stock split among companies around the announcement day. In the US, Swanson and Arbel (1993) noted the stock splits at the American Stock Exchange (AMEX) and New York Stock Exchange (NYSE) positively reacted to the announcements of stock splits. Conroy, Benet and Harris (1999) found out that declining trading volume was experienced after share splits. Goyonke (2006) found that companies which split their share experienced poor liquidity states within the first 9 -12 months. Kumar and Gupta (2007) noted no impact of stock splits on the market.
Locally, Aduda and Chemarum (2010) studied market reactions to stock splits at NSE and found a rise in the trading volume and positive abnormal returns after the announcement of split. Nyamosi (2011) explored the association between company dividend and stock split for companies listed at the NSE and found prices overreacting to new information and remaining unstable for many days. Waithanje (2013) examined the long-run implication of stock split announcements on the performance of companies listed at the NSE. The results showed that stock split was positively related to market performance of firms. Bwihili (2013) studied the influence of stock splits on the NSE listed companies’ returns. It was noted that a positive reaction between the Kenyan market and stock splits. Gachuhi (2013) studied the impact of stock splits on the return volatility of firms at the NSE listing. The study found that seven out of the twelve splitting stocks exhibited an increase in post-split beta.

The lack of consensus among the various scholars on the influence of stock split on stock returns by international researchers is reason enough to conduct further examination on the area of study. Although the findings of all the studies undertaken in Kenya so far indicate positive responses to stock splits, the studies done in the Kenyan market are quite few to give a conclusive result. In addition, most of the studies conducted in Kenya have attempted to explain the effect of stock splits on stock prices and stock market performances. This paper sought to identify how stock splits influence stock returns at the NSE by taking a period of (30 days pre-split and 30 days post-split). It attempted to give an explanation to the question, what is the effect of stock splits on stock returns of firms listed at the NSE?
1.3. Objective of the Study

To determine the effect of stock splits on stock returns of firms listed at the Nairobi Securities Exchange

1.4 Value of the Study

The finding of the study forms a future reference to researchers, scholars and students who may aspire to take out research on the same or correlated field. The study may also be helpful to scholars and researchers in identification of further areas of research on other related studies by highlighting related topics that require further research and reviewing the empirical literature to establish study gaps.

This study will assist investors in predicting the likely effects of stock values as a result of a share split announcement. They are concerned with the returns that accrue from their investments and as such any information that may act as a reference guide to them would be welcome. The study findings serve this purpose. Short term investors who speculate in the market would also use the findings of this study to position their purchasing and selling strategies in reaction to a stock split announcement. The long term investors will also be keen on the findings of this study.

The empirical findings of this study might be used by policy makers such as the Capital Markets Authority (CMA) in setting up polices that promote firms to split their stocks to realize high share prices. Corporate managers and analyst concerned about stock splits announcements explain the implication of this decision and determine the consequences of valuations by the splitting firm and other firms in the industry.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction
This chapter presents the theoretical framework applied in the study and reviews previous studies done on stock splits and stock returns. It contains the theoretical review, determinants of stock returns, empirical review, conceptual framework and summary of literature review.

2.2 Theoretical Framework
This presents review of the relevant theories that explains the associations between exchange rate and the returns of the stock market. The theoretical reviews covered are; the signaling theory, liquidity theory and optimal trading range hypothesis.

2.2.1 The Signaling Theory
This model was formulated courtesy of Brennan and Copeland (2001). This theory opines that information is conveyed from managers to the stockholders by means of splits. According to the signaling model of stock splits, stock splits serve as a costly indicator of the private information of the managers since there was an increase in trading costs with the declining prices. Their hypothesis was constructed from Fisher, Fama, Jensen and Roll (1969), who argued that all forms information asymmetries between the management and stockholders could be reduced through the announcement of splits. The reductions in stock price accruing from splits then determined the conviction of the management in getting future earnings. A stock split is often considered as a more reasonable form of information diffusion since it entails a significant cash outlay thus conveying the right information regarding the
company’s state to the market which saves the company from the trouble of low price fallouts.

Michaely, Benartzi, Thaler, and Weld (2005) argued that stocks splits by the management are only possible under permanent prevailing level of stock prices and earnings. According to Brennan and Copeland (1988), managers only undertake stock splits if they anticipate for an increase in future share prices or at least not a decline. If there are likelihoods of future decline in prices, then they was less likely to undertake stock splits since the lowered priced stocks are associated with higher trading costs. Studies by Dravid and McNichols (1990) assert that the management undertakes splits to convey both the firm’s future prospects and market information.

Conroy and Harris (1999) noted that when were surprised by more than the anticipated split, the excess returns after the splits were higher. There was also a rise in the earnings of the financial analysts when the actual split factor was greater than the anticipated. The market participants earned higher excess returns when the management of the company chooses a split index that the price of the stock falls below the anticipated level.

2.2.2 Liquidity Theory

This hypothesis argues that the managers of a may undertake stock splits of their firm to improve the firm’s liquidity that is the fundamental reason why mangers split their firms stocks (Baker & Gallagher, 1980). Vetsuypens and Muscarella (1996) examined splits of American Depository Receipts (ADRs) whose domestic shares are not associated with splits. The results revealed that solo- splits of ADR are arising due to the need to enhance the liquidity of ADR in USA. Furthermore, studies by Schultz
(2000) and Conroy (1999) found that there was a rise in the effective bid-ask spread arising from stock splits.

The liquidity hypothesis opines that stock splits leans on the basis that securities are traded within a price range that is optimal. The stocks traded within this given range are assumed to have higher liquidity since they are associated with lower brokerage fees as a per cent of the traded value. This range creates a contradiction between the wishes of the institutions that seek to contain brokerage costs on the lowest limits and the investors when the prices of securities are higher, and the small investors’ desires that use the least odd-lot brokerage costs when the prices of securities are lower (Conroy, 1999).

Copeland (1979) and Conroy and Harris (1999) noted a stock splits and concluded that the optimal trading range hypothesis contrasts with the trading activity. Vetsuypens and Muscarella (1996) further demonstrated that the liquidity accruing after stock splits is accompanied by investors’ wealth gains. Their studies were in line with the model formulated by Mendelson and Amihud (1986) that proposes a positive link between the value of equity and liquidity. This model argues that higher trading frictions and transactional costs faced by the rational investors forces them to discount illiquid securities more than the liquid ones.

2.2.3 Optimal Trading Range Theory

This hypothesis proposes that the investors, either knowingly or unknowingly, find stocks which trade within a specified range. In case a stock exceeds this range, most of the time the affected firm introduce a stock split to reduce the share price again to the “optimal range”. Copeland (1979) advanced the hypothesis that stock prices are shifted to more optimal prices by stock splits, resulting to an increase in demand for
stock. Carroll (2010) viewed the optimal trading range as greatly psychological since the investors whose funds to invest are limited prefer more to fewer stock shares despite the share of the amount to be invested being equal.

Mendelson and Amihud (1986) established a positive association between the value of equity and liquidity. They argued that illiquid shares are discounted by the rational investors more intensively than liquid shares due to higher costs of transaction associated with illiquid shares. Lamoreux and Poon (1987) agreed with the optimal price range hypothesis noting that the stocks traded for lower prices have a higher liquidity and attracts many investors. Managers therefore utilized stock splits to expand their shareholder base since low prices of stocks attracted more the minority shareholders.

2.3 Determinants of Stock Returns

Stock market returns has been a major concern for stock market investors, in that it directly affects the wealth they hold. Key factors that are believed to play a part in the overall performance of stock markets are as follows:

2.3.1 Company News and Performance

According to Dehuan and Jin (2008), firms’ performance affects returns of stocks at the stock exchange. In a study to investigate association between company performance (Yield on Equity, return on asset, profit margin, earning per share, changes in sales, as well as total asset turnover and stock revenues of the top accomplishing stocks registered on Shanghai stock exchange, Dehuan and Jin (2008) discovered that each of the variables is expressively linked with prices of the stock in the year prior to the disaster. But, in the crisis period the company performance have no descriptive authority toward stock price program.
Uddin (2009) examined the association of microeconomic aspects with the price of stock by using multiple regression equations. This study discovered a noteworthy linear connection among market yield as well as certain microeconomic aspects like net asset price per share, dividend proportion and earnings per share of bank renting, as well as insurance businesses. He also discovered that non-linear association amongst the variables is unimportant at ninety five percentage level of connotation.

Fisher (2009) determined the association between British stock returns and other dissimilar measurable variables. It displayed the effect of dividends, uncirculated profits, as well as company magnitude on stock revenues taken from 5 cross-sectional examples of equities cited on the London Stock Exchange between the period 1949 and 1957. Al-Shubiri (2010) examined the connection of microeconomic aspects with the stock value by use of multiple as well as simple regression examination. Fourteen profitable banks of Amman Stock Exchange, for the period 2005-2008, were nominated for the research. The research discovered highly positive noteworthy connection between the stock market price as well as NAV for each share. It also discovered negative noteworthy link on loaning interest rate and inflation.

2.3.2 Market Sentiments

Muriuki (2013) noted that market sentiment entails the sensibility of market contestants, independently as well as communally. This possibly is the annoying class since we know it is substantial disapprovingly, but we start to comprehend it. Market sentimentality is normally personal, unfair and fixed. For instance, it is possible to make a concrete verdict concerning a stock's forthcoming development predictions as well as the future might even authorize your forecasts, nonetheless temporarily the market may shortsightedly dwell on a single piece of newscast that keeps the stock theatrically high or low.
Market sentimentality is being discovered by the comparatively new arena of social money. It begins with the supposition that social money are actually not effectual more time, and this inadequacy could be elucidated by thinking and other communal disciplines. The notion of applying communal science to economics was completely legalized when Daniel Kahneman, was awarded the Economics 2002 Nobel Memorial Prize. Numerous of the thoughts in interactive business approve noticeable doubts: that stakeholders tend to exaggerate data which emerge effortlessly to mind; that numerous stakeholders respond with superior pain to losses than with preference to equal gains; and that shareholders tend to carry on in an error (Muriuki, 2013).

2.3.3 Exchange Rates

This is the rate at which one currency is being converted into another currency (Mohan & Chitraidevi, 2014). Changes in exchange rate influence commodity prices, which consequently creates competition between the domestic and foreign producers. A rise in the domestic currency’s value increases the price of domestic goods compared to the foreign goods which shifts demand to foreign goods from domestic goods. An appreciation of currency in a county that is dependent on exports reduces her exports’ competitiveness which negatively influences the domestic stock market (Kirui, Wawire & Perez, 2014).

A rise in the currency of a country lowers the imported goods’ cost, which encourages the production of inputs in the market of the emerging economies (Kuwornu, 2012). Accordingly, the depreciation of the domestic currency against foreign currencies, under elastic demand reduces the price of exports thus increasing the volume of the exports of the country (Kuwornu, 2012). The micro economic perspective holds that foreign exchange rate affects the value of the firm whereas the macro -economic perspective holds that if affects the economy as a whole. As such, the volatility of
exchange rate volatility affects the financial sector of country, precisely the stock market (Obura & Anyango, 2016).

### 2.3.4 Inflation

Tucker (2007) in his works describes inflation as the overall increment in the standard price level of services or goods in any given economy. Inflation is referred to as an overall increment in the level of prices and not specifically in relation to a unit of a given product or service. Sloman and Kevin (2007) in their research paper expound that inflation could take the form of either demand pull inflation which is brought about by the increase in demand of goods or the form of cost push inflation. The demand-pull inflation arises due to a general increase in the overall demand in the market which in return results to the raising of prices and partially increases of the output in a given economy. Cost push inflation is brought about by a rise in the levels or cost of production which may affect the firms thus resulting in the companies charging the consumers more (Hendry, 2006).

Higher inflation rates lead to higher prices for consumers which tend to slow business and reduce earnings for firms. Higher prices also tend to trigger a higher interest rate regime. Fama (1981) argued that inflation would have a negative correlation with real economic activity, which in turn would have a positive association to market performance. Thus, the stock index should be negatively correlated with the anticipated price level, with short-term interest rates serving as the proxy similar to the International Fisher Effect.

### 2.3.5 Interest Rates

The interest rate is defined as the savings’ price arising due to the loanable funds’ demand and supply (Obura & Anyango, 2016). Both the interest and income are
correlated. It basically seeks to ensure efficient resource utilization and help in the mobilization of financial resources (Osoro & Ogeto, 2014). The annual in which the lender charges the borrower to enable the borrower to advance a loan and demonstrated as a percentage of the sum of the loaned amount is referred to as interest rate. The neoclassical theory of interest rate states that, the cost of loans for investment by entrepreneurs becomes costly when there is an upshot in interest rates, therefore, investment activities in an economy shrinks as a result (Barnor, 2014).

The interest rate is considered the cost of capital and a rise or decline in interest rate have an effect on the investors’ investment decision (Olweny & Omondi, 2010). Accordingly, Rehman, Sidek and Fauziah (2009) argue that higher discount rates or interest rates reduces the cash flows’ present value, leading to an increase in interest rate and the opportunity cost of holding cash, which finally leads to a substitution effect between stocks and securities bearing interests such as bonds. According to Barnor (2014), a rise in interest rate influences investing decisions, thus investors adjust their investment structure, to fixed income securities from capital.

2.3.6 Money Supply

Money supply comprises of the legal tender of a country and all other liquid instruments flowing in the economy at a particular point in time. It could consist of the money in form of short term investments, the coins and notes currency, safe assets, cash and bank balance held in the savings and currents accounts. The economy of a country is affected by the money in supply and therefore the monetary authority has to regulate the amount in circulation through the monetary policies (Osamwonyi, 2003).
Tobin (1969) found a clear relationship of movement between the monetary policy and the stock market. The study laid emphasis on the importance of stock returns as a connection amongst the economic results. The study established a clear link in the economy and the stock returns. He also demonstrated that growth in money supply led to deficits in budgets that eventually affected stock returns.

2.4 Empirical Review

There are numerous empirical studies both locally and internationally to support the correlations between stock splits and stock returns, but these studies have produced mixed results.

2.4.1 Global Studies

Gupta and Gupta (2007) undertook a study entitled “Market Reaction to Stock Market Splits: Evidence from India” which holds that around the announcement dates, stock splits yield positive abnormal returns. Large and by splits were noted to improve the share’s trading volume and there was a rise in the number of traders served on a daily basis. The amount of turnover was however not increased leading to stocks liquidity in India. The author thus concluded most shares under splits were being traded at low market prices. It was noted that the low priced companies experienced stocks splits could be explained well by the neglected firm hypothesis, which was applicable in the Indian stock market.

Dhar and Chhaochharia (2008) studied the reaction of the market around the stock market’s bonus issues and stock splits. They sampled 82 bonus issues and 90 stocks splits as per the 15 companies listed in the BSE500 index between 2001 and 2007. Conducting an event study using an 81-day event window, they found a significant
Average Abnormal Return of 0.01%. Their study was therefore in line with the signaling hypothesis, and supported the developed stock markets’ findings.

Bildley (2009) investigated the impact of Stock splits on share prices in the Canadian Market. The study observed the Canadian market between 2004 and 2015. The findings revealed that there was an abnormal return within the first year which declined in the subsequent years. The results revealed that stock splits were positively related to share prices.

Potreus (2010) surveyed the link between stock splits and liquidity of listed firms in Scotland. The study used an events study in examining the listed firms. The data was specifically for the event window of 30 days before the stock splits date and another 30 days after the stock splits date. The study concluded that stock splits led to increased demand for securities which resulted to an increase in share prices.

Copeland (2014) conducted a study on how the American market reacted to stock splits and noted overwhelming returns four days before the split announcement. According to these studies, the aim of splits was basically to restore the stock prices within reasonable price range.

2.4.3 Local Studies

Simbovo (2006) examined the influence of large stock dividends and stock splits on liquidity at the NSE. The sample size used was five companies two of which had conducted stock splits. The other three companies had a stock dividend distribution greater than 25% of the issued shares. Using trading activity ratio as proxy to liquidity the study was done over 90 days prior and preceding the action. The period of the study was from 2004-2005. He found significant positive change in liquidity after the splits consistent with the trading hypothesis. However this was the negative for the
case of stock dividends where the stocks were split by the managers when they thought they were unaffordable.

Omondi (2010) analyzed the market reaction to stock splits in an effort of determining factors promoting stock splits practices in Kenya. The study analyzed market reaction to stock splits during before the period of announcement, during the announcement date and after the books closure. Omondi found that stock prices of companies that conducted the splits had their prices increase or decrease immediately during the split announcement period.

Nkonge (2010) studied how the securities returns at the NSE were affected by stock splits. He did this by examining the behavior of stock returns in a time span of 10 days before split date and 10 preceding the event. He also found that there were abnormal returns on the day of announcement of split, as well as two to the date of announcement.

Omenda (2011) investigated at NSE how liquidity was affected by stock splits. The sample size was 9 companies and the period of the study was from 2005 to 2011. He used a multi dimension measure of liquidity referred to as Amivest liquidity ration. It incorporates two variables which are price and volume of shares traded. The event window considered was 61 days consisting of 30 prior and 30 preceding the date of announcement. He found that 6 out of 9 companies studied had a higher aggregate liquidity ration prior to the date of split as compared to after date of split. In general there was a higher liquidity of stock in the days before the split as compared with the days after the split suggesting reduced liquidity after the split.

Obunde (2011) studied the effect of stock splits on stock performance of firms listed at the NSE with specific reference to trading volumes and returns. He studied the
performance of firms that had undertaken a stock split in the period 2004 to 2011 and found that trading volumes tended to increase with the announcement of the split. He also found that due to this overreaction by investors on the announcement, the short run liquidity and returns on the shares tended to rise, though momentarily.

Ojow (2015) sought to explore the effects of stock splits on stock prices for companies listed at the NSE. This study employed an event study methodology where the effect of stock split on share price was investigated for a period of 60 days in pre and post stock split date. The study covered the period between 2004 and 2014 with a sample size of eleven companies out of fifteen that had split their shares in that period. Secondary data collected from NSE on the daily stock prices of the eleven companies for 30 day pre and 30 day after the period of split. Coefficient of variation to measure the price volatility for the two periods-pre-split period and post-split period was calculated to determine the stock price behavior during the presplit and post-split periods. The stocks were found to be unstable in the pre-split periods but were stable in the post-split period. Stock prices were also found to be high during the pre-split period and low in the post-split period. This study concludes that split brought prices down and stabilized stock prices in the NSE.

Muinamia (2015) sought to determine the effect of stock splits on stock returns of firms listed at the NSE. An event study research design was used. This study focused on 14 firms that have spilt their stocks between the years 2004 and 2014. However, the study managed to collect secondary data from seven (7) firms out of 14 firms that had undertaken stocks split in the study period (2004-2014). This represents a response rate of 50% which was considered reliable for making generalizations of the whole population. The event window consisted of 61 days. Share price index for 30 day pre and 30 day post-split announcement date was used. The study found that
stock-splits impacts positively on stock returns, the findings observed that four companies reacted positively to stock splits during the period of the event. The study recommends that since stock split is new Kenyan market phenomenon, capital markets authority should encourage listed firms to split their stocks to boost their stock returns.

2.5 Conceptual Framework

The conceptual framework gives a portrayal of how the factors identified are related to each other. The factors characterized here are stock splits and stock returns. Olesaaya (2010) argued that depending on the economic significance of the information leading to a stock split, price rise or fall to a new level. He further indicated that a stock split has a relationship with company’s share returns. However, company’s returns are also influenced by change in interest rates, inflation rates, exchange rates and market sentiments.

Figure 2.1: The Conceptual Model

<table>
<thead>
<tr>
<th>Stock Splits</th>
<th>Stock Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of stock splits done between 2004 and 2017</td>
<td>Change in stock price</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sampled Control Variables</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflation rate</td>
<td></td>
</tr>
<tr>
<td>Interest rate</td>
<td></td>
</tr>
<tr>
<td>Exchange rate</td>
<td></td>
</tr>
<tr>
<td>Market sentiments</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: Researcher (2017)</td>
<td></td>
</tr>
</tbody>
</table>
2.6 Summary of the Literature Review

Various theoretical frameworks have attempted to explain the concept of stock splits. Three theories have been discussed in this theoretical review. The theories are namely: the signaling hypothesis, liquidity hypothesis and optimal trading range hypothesis. Some of the key determinants of stock returns have also been discussed in this section. Several empirical studies have been conducted both internationally and locally on stock splits and stock returns. These studies’ findings have also been discussed in this chapter.

There is lack of consensus among the various scholars on the influence of stock split on stock returns by international researchers. Although the findings of all the studies undertaken in Kenya so far indicate positive responses to stock splits, the studies done in the Kenyan market are quite few to give a conclusive result. In addition, most of the studies conducted in Kenya have attempted to explain the influence of stock splits on stock prices and stock market performances. Motivated by this gap, this study, therefore, seeks to explore the impact of stock splits on the stock returns for firms listed at the NSE.
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes methods of research to be applied to objectively establish the effect of stock splits on stock returns for firms listed at the NSE. It also shows the population of study, research design, data collection and analysis criteria.

3.2 Research Design

A research design refers to the method execute the study. This study adopted an event-study methodology which is premised on Efficient Market Hypothesis. The theory was advanced by Fama (1965) and argues that effective market stock prices promptly adjust to information as they become available to the market. Event studies evaluate stock returns to establish the influence of events like mergers, acquisitions, corporate news, and new stock issues among others, on stock prices. It specifically examines what happens to the stock price, prior to, during and after the event.

An event study according to Bodie and Marcus (2011) explains a technique of empirical research that assists in assessing the impact of a particular event on the market share prices. Since the study seeks to answer how the share returns are affected event study was a value adding methodology. According to Mackinlay (1997) financial markets can use the market data to predict the effect of a particular event.

3.3 Population

The study population consists of sixty four (64) companies listed at the NSE as at June 2017. The population is drawn from all the different segments at the NSE. The different segments at the NSE represent different sectors in the economy making the population a correct representation of the Kenyan economy.
3.4 Sampling Design and Sample Size

The sample design was based on the companies that have split their stocks between the year 2004 and 2017 at the NSE. During that period, 14 firms split their stocks between the years 2004 and 2017 and this was the sample size for the study.

3.5 Data Collection

Data was exclusively collected from a secondary source. It is always a regulatory requirement for firms listed at the NSE to report their values annually to the Capital Markets Authority. The data mainly relate to stock prices and NSE 20 share index figures for related stocks, as tabulated and stored by the NSE, for the period around each of the selected event dates.

3.6 Data Analysis

The data analysis to be used was quantitative in nature analyzed using the event study methodology. The event is the stock split in this case and the event day represents the day of the stock split and is denoted as t=0. The event window was 61 days broken as 30 days before the event date and 30 days after the event date (+30, -30) days.

3.6.1 Analytical Model

The Abnormal Returns (AR) was used to measure the impact of stock splits. According to Mackinely (1997), a normal return is defined as the expected return without taking into account stock movement caused by an event. The research used the Capital Asset Pricing Model (CAPM) to determine the expected rate of return on the shares. According to Sharpe (1964) the investor is rewarded for taking the systematic risk through the stock returns. The actual stock returns (R) are calculated as follows:
The formula for abnormal returns (AR) is given by:

\[ \text{AR}_{xt} = R_{xt} - \text{ER}_{xt} \]

where \( R_{xt} \) is the actual return, \( \text{ER}_{xt} \) is the expected return, and \( \text{AR}_{xt} \) is the abnormal return for stock \( x \) at time \( t \).

The cumulative abnormal returns (CAR) were computed as:

\[ \text{CAR} = \sum_{t=1}^{n} \text{AR}_{xt} \]

Where \( n \) is the number of time periods.

Dividends paid are considered irrelevant in this study and hence the returns capture the share price movement only. To calculate the normal/expected returns the following market model was used:

\[ \text{ER}_{xt} = \alpha + \beta R_{mt} \]

where \( \text{ER}_{xt} \) is the expected return on stock \( x \) at time period \( t \), \( \alpha \) is a constant, \( \beta \) is the security's price volatility relative to the overall market, and \( R_{mt} \) is the market return at time \( t \).

The coefficients \( \alpha \) and \( \beta \) for the market model are calculated using the ordinary least squares (OLS) regression based on historical price data of a stock and the market index during the estimation period. The Expected Return (ER) was estimated using the equation after the values of alpha and Beta are known.

The information important for the event is then measured by determining the Abnormal Returns (AR) which is the difference between the actual and normal/expected rate of return. Abnormal returns (AR) were estimated using the following model:

\[ \text{AR}_{xt} = R_{xt} - \text{ER}_{xt} \]
\[ \text{CAR}_{xT} = \sum_{t=1}^{N} AR_t \]

Where;

\(\text{CAR}_{xT} = \) Cumulative abnormal return on x share obtained in the event window \(T\),

\(T\) – The event window
CHAPTER FOUR
DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents the analysis and discussion of the findings on effect of stock splits on stock returns of firms listed at the Nairobi Securities Exchange. In this study, the researcher used secondary. The data was collected from the firms listed at the Nairobi Securities Exchange. The study was an event analysis of the effect of stock splits on stock returns. The study targeted firms that had split their stocks between the year 2004 and 2016.

The study analyzed the reaction of stock returns of 14 firms that had split their stocks 30 days before the split and 30 days after the split. The researchers used Microsoft’s Excel (2016) to analyze the data. Regression analysis was conducted to predict the expected stock returns which were in turn used to test for abnormality. T-test was used to test the significance of the effect of stock split on stock market returns of the firms listed at the NSE.

4.2 Response Rate

The study analysed the stock returns of all the 14 firms that had split their stocks between the year 2004 and 2016. Therefore, this study was a census and therefore a reliable way of determining the effect of stock splits on stock returns among firms listed at the Nairobi Securities Exchange.
4.3 Reaction of Stock Returns to Stock Splits

The study sought to determine the effect of stock splits on stock returns of firms listed at the Nairobi Securities Exchange. The study analyzed the reaction of stock returns of 14 listed firms 30 days before stock split and 30 days after the stock split. The section also discusses the abnormality of the stock returns and the cumulative abnormality. The detailed stock returns, abnormal returns and cumulative stock returns are as show in Appendix II.

4.3.1 Kenol Kobil Ltd Stock Returns

The reaction of Kenol Kobil Ltd stock returns to stock split of 23\textsuperscript{rd} October 2013 is as shown in figure 4.3.1.

**Figure 4.3.1: Kenol Kobil Ltd Stock Returns**

![Kenol Kobil Ltd Stock Returns](image)

*Source: Research Findings (2017)*

Kenol Kobil Ltd stocks were less sensitive to stock split with a major decline in returns being recorded 21 days after the event as evidenced by a stock return of -0.8699. Generally, Kenol Kobil Ltd stocks reacted negatively as evidenced by a decline from an average return of -0.013167 30 days before the stock split to an average of -0.038775 return 30 days after the stock split.
4.3.2 East African Breweries Ltd Stock Returns

The behaviour of East African Breweries Ltd stock returns to stock split of 26th August 2004 is as shown in Figure 4.3.2.

Figure 4.3.2: East African Breweries Ltd Stock Returns

Source: Research Findings (2017)

East African Breweries Ltd stocks returns reacted negatively to stock split where the returns decreased from a positive average return of 0.004238 30 days before the stocks were split to an average of -0.002353 30 days after the stocks were split. However, the immediate reaction after one day was positive as evidenced by an increase in return value from -0.000744167 on the event day to 0.057202665 1 day after. This indicates that East African Breweries Ltd stocks were sensitive to stock split.
4.3.3 Centum Investment Limited Stock Returns

The reaction of Centum Investment Limited stock returns following the stock split of 26th August 2004 is as shown in figure 4.3.3.

**Figure 4.3.3: Centum Investment Limited Stock Returns**

![Graph showing stock returns](image)

**Source: Research Findings (2017)**

Centum Investment Limited stock returns started reacting erratically 30 days before stock split. During this period, the stock returns oscillated between positive and negative returns. This indicates that some investors made profits while other made losses. However, Centum Investment Limited stock reacted positively to the stock split as evidenced by an increase in stock returns from an average of -0.005747 30 days before the stock split to an average of 0.000806872 returns 30 days after the event.
4.3.4 East African Cables Ltd Stock Returns

The results for the behaviour of East African Cables Ltd stock returns following the stock split of 10\textsuperscript{th} August 2006 is as shown in figure 4.3.4.

**Figure 4.3.4: East African Cables Ltd Stock Returns**

East African Cables Ltd stocks recorded a mild positive reactions as the average stock returns increased from an average return -0.035203078 30 days before the event to an average of 0.00335754 30 days after the event. 1 day before the stock split, the stock returns were negative (-0.011502) while the stock returns were positive (0.057187) 1 day after the stock split. The lowest return stock return of -0.88009 was recorded on the 18 days after the stock split.

4.3.5 I.C.D.C Investments Ltd Stock Returns

The results for the behaviour of I.C.D.C Investments Ltd stock returns following the stock split of 19\textsuperscript{th} October 2006 is as shown in figure 4.3.5.

**Figure 4.3.5: I.C.D.C Investments Ltd Stock Returns**
The results above show that I.C.D.C Investments Ltd stock returns were significantly sensitive to the stock split. The returns were erratic 20 before the split and 22 days after the split. Generally, I.C.D.C Investments Ltd stock returns reacted negatively as evidenced by decrease from an average of -0.000885382 to an average of -0.001521519 30 days before the stock split and 30 days after the stock split respectively.

4.3.6 Barclays Bank of Kenya Ltd Stock Returns

The results for the behaviour of Barclays Bank of Kenya Ltd stock returns following the 8th November 2006 general election are as shown in figure 4.3.6.

Figure 4.3.6: Barclays Bank of Kenya Ltd Stock Returns
Barclays Bank of Kenya Ltd had a quick reaction to stock split as evidenced by increase in stock return from 0.07386 on the event day to 0.32275 after the event. Overall, Barclays Bank of Kenya Ltd stocks reacted negatively to stock split as shown by a decrease in average returns from 0.004260439 30 days before the event to an average of -0.032649205 30 days after the stock split.

4.3.7 Sasini Ltd Stock Returns

The behaviour of Sasini Ltd stock returns following the 15th February 2007 general election are as shown in figure 4.3.7.

Figure 4.3.7: Sasini Ltd Stock Returns
Sasini Ltd stock o reacted sharply to stock split 1 day after the event by where the returns decreased immediately from -0.88502 on the day the stocks were split to -1.69407 one day after the split. However, Sasini Ltd stocks reacted negatively to the stock split. 30 days before the event, Sasini Ltd recorded an average stock return of -0.016739674. This reduced to an average of -0.024031827 30 days after the event. Basically, Sasini Ltd stocks were very sensitive to stock returns.

4.3.8 CMC Holdings Ltd Stock Returns

The results for the behaviour of CMC Holdings Ltd stock returns after stock split on 26th February 2007 are as shown in figure 4.3.8.

Figure 4.3.8: CMC Holdings Ltd Stock Returns
CMC Holdings Ltd stocks reacted negatively to stock split. An average stock return of -0.019760334 was recorded 30 days before the stocks were split while an average stock return of -0.037938039 was recorded 30 days after the event. The reaction to stock split was immediate where the lowest value of -0.89524 was recorded 1 day after the stocks were split. In the rest of the days, the reaction of the stocks was mild.

**4.3.9 Kenya Commercial Bank Ltd Stock Returns**

The reaction of Kenya Commercial Bank Ltd stock returns following stock split on 3\textsuperscript{rd} April 2007 are as shown in figure 4.3.9.

**Figure 4.3.9: Kenya Commercial Bank Ltd Stock Returns**

The stocks of Kenya Commercial Bank Ltd reacted positively to stock split. An average stock return of 0.00008 was recorded 30 days before the stocks were split.
while an average stock return of 0.001768236 was recorded 30 days after the event. Although the general reaction was positive, the immediate reaction of the Kenya Commercial Bank Ltd stock was negative where stock return value of -0.90563 was recorded on the very day the stocks were split.

4.3.10 Nation Media Group Ltd Stock Returns

The results for the behaviour of Nation Media Group stock returns after stock split of 4th August 2008 are as shown in figure 4.3.9.

![Figure 4.3.10: Nation Media Group Ltd Stock Returns](image)

Source: Research Findings

Nation Media Group Ltd stock had an overall positive reaction to stock split as evidenced by an average increase from -0.015374192 30 days before the event to -0.008275997 30 days after the event. However, the immediate reaction of the Nation Media Group Ltd stock 5 days before the event to 3 days after the event was negative.

4.3.11 Equity Bank Ltd Stock Returns

The results for the behaviour of Equity Bank Ltd stock returns following stock split on 12th February 2009 are as shown in figure 4.3.11.
Figure 4.3.11: Equity Bank Ltd Stock Returns

Source: Research Findings (2017)

Equity Bank Ltd stocks had a very erratic reaction to stock split 30 days before the event and 30 days after the event. Although the reaction oscillated between positive and negative, overall the reaction of Equity Bank Ltd stocks to stock split was positive as shown by an increase from an average of 0.001119 30 days before the event to an average of 0.002062768 30 days after the event.

4.3.12 Kenya Power & Lighting Co. Ltd Stock Returns

The reaction of Kenya Power & Lighting Co. Ltd stock returns to stock split of 7th October 2010 is as shown in figure 4.3.12.
The stock Kenya Power & Lighting Co. Ltd had an overall negative reaction to stock split as shown by a reduction from 0.004674 30 days before the event to -0.002654 30 days after the event. Generally, the reaction was erratic as it oscillated between positive and negative both before and after the stock split.

4.3.13 Athi River Mining Cement Ltd Stock Returns

The behaviour of Athi River Mining Cement Ltd stock returns to stock split of 14th May 2012 is as shown in Figure 4.3.2.
Athi River Mining Cement Ltd reacted negatively to stock split. This is evidenced by drop in average returns from 0.00660 30 days before the event to -0.00009 30 after stock split. However, the stock returns of Athi River Mining Cement Ltd oscillated between positive and negative during the event window of 61 days. This shows that the Athi River Mining Cement Ltd stocks were sensitive to the stock split.

4.3.14 Carbacid Investments Ltd Stock Returns

The reaction of Carbacid Investments Ltd stock returns following the stock split of 23rd October 2013 is as shown in figure 4.3.14.

Figure 4.3.14: Carbacid Investments Ltd Stock Returns

Source: Research Findings (2017)

Carbacid investments Limited recorded an average of 0.000158 returns 30 days before the stock split event. This figure dropped to an average of -0.012723 30 days after the event. This indicates that Carbacid investments Limited reacted negatively to stock split. Specifically, Carbacid investments Limited stock returns suddenly shot-up from -0.002327373 1 day before the event to 0.049511446 1 day after the event. This shows that the stocks of Carbacid reacted immediately to stock split. However, the positive effect never lasted as shown by the average of -0.012723.
4.4 Abnormality of Stock Returns following the Stock Split

In order to establish the abnormal returns of the listed firms that had split their stocks between 2004 and 2016, the difference between the firms’ actual stock returns and expected returns was calculated. The results of the abnormal returns are shown in detail in Appendix II. The summary of the abnormal returns are as shown in Table 4.4 together with their level of significance.

Table 4.4: Abnormality of Stock Returns following the Stock Split

<table>
<thead>
<tr>
<th>Company</th>
<th>Average Abnormal Returns</th>
<th>STDEV</th>
<th>t-test</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenol Kobil Ltd</td>
<td>-0.02599</td>
<td>0.113</td>
<td>-24.447</td>
<td>-7.379</td>
<td>56.460</td>
</tr>
<tr>
<td>East African Breweries Ltd</td>
<td>0.00086</td>
<td>0.028</td>
<td>7.441</td>
<td>-5.632</td>
<td>40.264</td>
</tr>
<tr>
<td>Centum Investment Co. Ltd</td>
<td>-0.00203</td>
<td>0.029</td>
<td>-9.939</td>
<td>0.751</td>
<td>5.441</td>
</tr>
<tr>
<td>East African Cables Ltd</td>
<td>-0.01201</td>
<td>0.130</td>
<td>1.768</td>
<td>-5.263</td>
<td>36.280</td>
</tr>
<tr>
<td>I.C.D.C Investments Co. Ltd</td>
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<td>0.012</td>
<td>-3.641</td>
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<tr>
<td>Barclays Bank of Kenya Ltd</td>
<td>-0.01284</td>
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<td>-3.943</td>
<td>-4.632</td>
<td>33.210</td>
</tr>
<tr>
<td>Sasini Ltd</td>
<td>-0.02633</td>
<td>0.124</td>
<td>-13.416</td>
<td>-4.654</td>
<td>27.063</td>
</tr>
<tr>
<td>CMC Holdings Ltd</td>
<td>-0.02815</td>
<td>0.118</td>
<td>-23.147</td>
<td>-6.323</td>
<td>45.320</td>
</tr>
<tr>
<td>Kenya Commercial Bank Ltd</td>
<td>-0.01410</td>
<td>0.123</td>
<td>-16.491</td>
<td>-6.725</td>
<td>50.037</td>
</tr>
<tr>
<td>Nation Media Group Ltd</td>
<td>-0.01318</td>
<td>0.041</td>
<td>-16.186</td>
<td>-4.226</td>
<td>23.791</td>
</tr>
<tr>
<td>Equity Bank Ltd</td>
<td>0.00168</td>
<td>0.028</td>
<td>-0.95</td>
<td>0.340</td>
<td>0.442</td>
</tr>
<tr>
<td>Kenya Power &amp; Lighting Ltd</td>
<td>0.00147</td>
<td>0.019</td>
<td>10.489</td>
<td>0.825</td>
<td>2.247</td>
</tr>
<tr>
<td>Athi River Mining Cement</td>
<td>0.00369</td>
<td>0.021</td>
<td>10.319</td>
<td>0.150</td>
<td>2.227</td>
</tr>
<tr>
<td>Carbacid Investments Ltd</td>
<td>0.00205</td>
<td>0.132</td>
<td>9.291</td>
<td>-3.29</td>
<td>28.99</td>
</tr>
</tbody>
</table>

Source: Research Findings (2017)

The study found out that most firms reacted negatively to stock split over the 61 day event window. Only Equity Bank Ltd, Kenya Power & Lighting Ltd, Athi River Mining Cement, Carbacid Investments Ltd and East African Breweries Ltd recorded positive average returns. However, none of the abnormalities (positive or negative) was found out to be statistically significant. This is indicated by the t-test values that were greater than 0.05. All the firms (except I.C.D.C Investments Co. Ltd and Equity
Bank Ltd) recorded skewness and kurtosis values which were outside the range of ±1.96 indicating presence of abnormality in returns of the firm’s 30 days before and 30 days after the stock split was done. However, the abnormal returns recorded were less than 1 or -1 implying none of the investors benefited or greatly lost during the 61 day event window. The trend of the abnormality following the stock split is as shown in Figure 4.4.

**Figure 4.4: Average Abnormal Returns**

![Graph showing average abnormal returns](image)

**Source: Research Findings (2017)**

The findings also indicated that the stocks reacted very fast to stock split which implies that the stock market is efficient. The abnormality was mostly noted 1 day before the stock split to 1 day after the split. The abnormal returns dropped from 0.00214 1 day before the split to -0.03881 on the event day and then dropped further to -0.08739 1 day after the event.
4.5 The Cumulative Abnormal Returns

The results of the study on Cumulative Average Abnormal Returns of the listed firm following the stock splits are as shown in Figure 4.5.

**Figure 4.5: Cumulative Abnormal Returns (CAR)**

![Cumulative Abnormal Returns Graph](image)

*Source: Research Findings (2017)*

The study recorded negative Cumulative Average Abnormal Returns 30 days before and 30 days after the stock split. The decrease Cumulative Average Abnormal Returns was steady over the event window. However, the decline was much faster after the stocks were split. The values dropped from -0.1398 on the event day to -0.5571 30 days after the event. These findings indicate that stock split had a cumulative negative effect on the stock returns for firms listed at the NSE. This is contrary to the findings of Muimania (2015) and Potreus (2010) who found out that stock splits had a cumulative positive effect on the stock returns.
4.6 Discussion of Research Findings

The study sought to determine the effect of stock splits on stock returns of firms listed at the Nairobi Securities Exchange. The study analyzed the reaction of stock returns of 14 listed firms 30 days stock split and 30 days after the stock split. The 14 firms are the ones that had split their stocks between the year 2004 and 2016. The study discussed the abnormality of the stock returns and the cumulative abnormality.

In order to establish the abnormal returns of the listed firms that had split their stocks between 2004 and 2016, the difference between the firms’ actual stock returns and expected returns was calculated. The study found out that only Equity Bank Ltd, Kenya Power & Lighting Ltd, Athi River Mining Cement, Carbacid Investments Ltd and East African Breweries Ltd recorded positive average returns. All the other 9 firms reacted negatively to stock split over the 61 day event window. However, none of the abnormalities (positive or negative) was found out to be statistically significant as was evidenced by the t-test values.

The negative Cumulative Average Abnormal Returns indicated that stock split had a cumulative negative effect on the stock returns for firms listed at the NSE. This contrary to the findings of Muimania (2015) and Potreus (2010) who found out that those stock splits had a cumulative positive effect on the stock returns.
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses the summary of findings, the conclusions drawn by the study, recommendations for policy change and suggestions for future research. The study then presents the major limitations of the study.

5.2 Summary of Findings

The study sought to determine the effect of stock splits on stock returns of firms listed at the Nairobi Securities Exchange. The study analyzed the reaction of stock returns of 14 listed firms 30 days stock split and 30 days after the stock split. The 14 firms are the ones that had split their stocks between the year 2004 and 2016. The study discussed the abnormality of the stock returns and the cumulative abnormality.

The study found out that only Equity Bank Ltd, Kenya Power & Lighting Ltd, Athi River Mining Cement, Carbacid Investments Ltd and East African Breweries Ltd recorded positive average returns. All the other 9 firms reacted negatively to stock split over the 61 day event window. However, none of the abnormalities (positive or negative) was found out to be statistically significant as was evidenced by the t-test values. The reaction of the stocks to stock split was very fast which implies that the Nairobi Securities Exchange is efficient. The abnormality was mostly noted 1 day before the stock split to 1 day after the split.
The study recorded negative Cumulative Average Abnormal Returns 30 days before and 30 days after the stock split. The decrease Cumulative Average Abnormal Returns was steady over the event window. However, the decline was much faster after the stocks were split. These findings indicate that stock split had a cumulative negative effect on the stock returns for firms listed at the NSE. This contrary to the findings of Muimania (2015), Aduda and Chemarum (2010), Bwihili (2013) and Potreus (2010) who found out that those stock splits had a cumulative positive effect on the stock returns.

5.3 Conclusion

The study concludes that stock split has a cumulative negative effect on stock returns of firms listed at the Nairobi Securities Exchange. The study also concludes that 64.29% of the firms listed at the Nairobi Securities Exchange react negatively to stock split while 35.71% react positively. The study also concludes that this reaction is not statistically significant. The quick reaction to the stock split indicates that the Nairobi Securities Exchange is efficient.

5.4 Recommendations

Out of the 64 firms listed at the Nairobi Securities Exchange, only 14 firms have split their stocks between 2004 and 2016. Perhaps this is due to conflicting conclusions on the effect of stock split on stock returns. Capital Markets Authority should conduct more studies on the real impact of the stock split as a way of encouraging more firms to split their stocks.
The study found out that there was an abnormal reaction to stock split though not statistically significant. This can be attributed to speculative trading at the Nairobi Securities Exchange. This indicates a need for investor education as way of reducing speculative trading which results to abnormal reaction.

The capital Markets Authority should develop policies, rules, regulations and trading guidelines to monitor the trading activities of the Nairobi Securities Exchange as this make the market efficient and reduce abnormalities that make the investors loose or gain unfairly.

5.5 Limitation of the Study

The researcher found it difficult to obtain the secondary data because the contact people at the NSE had busy working schedules which derailed the completion of the data collection process. The researcher made extra effort in reminding contact person on the urgency of the data in order to meet academic deadlines.

The study was mainly dependent on secondary data available. This means that the accuracy of the data provided was dependent on the information available. Further, the researcher found it very difficult to obtain all the needed data from the Nairobi Securities Exchange. The researcher was therefore compelled to purchase some of the data from a licensed vendor. The vendor also didn’t have any data beyond 2006. Therefore, the researcher took long to compile and compute the returns, abnormal returns and cumulative abnormal returns.

5.6 Suggestions for Further Research

The researcher only considered a 61 day event window. That is 30 days before stock split and 30 days after stock split. This was relatively a short study period. The researcher
recommends that in future, a longer period should be considered since the effect of stock split might be felt even beyond the ±30 days.

The researcher analyzed the data on the assumption that stock split was the only major event that occurred and affected the stock returns within that event period. However, since the study was conducted over a long period of time (2004-2016), other studies should be conducted on the other possible events that could have affected stock returns.

Most of the previous studies reviewed in this study concluded that stock split had a cumulative positive effect on the stock returns of the listed firms. However, the findings of this study concluded that stock split had a cumulative negative effect on the stock returns of firms listed. Therefore, there is need for more studies to be conducted in order to arrive at an adequate conclusion on the effect of stock split on stock returns of listed firms.
REFERENCES


Nkonge (2010). *Effects of Stock Splits on Securities Returns of Companies Listed in Nairobi Stock Exchange*, Unpublished research project, University of Nairobi

NSE (2015). The organization website-www.nse.co.ke


Ojow K. (2015). *The effects of stock splits on stock prices for companies listed at the NSE,* Unpublished MBA Project, University of Nairobi

Olesaaya, E. (2010). *The effects of right issue on stock returns. Case study of companies Listed at the NSE.* Unpublished MBA project, University of Nairobi


