THE IMPACT OF STOCK SPLITS ON STOCK PRICES FOR COMPANIES QUOTED AT THE NAIROBI STOCK EXCHANGE

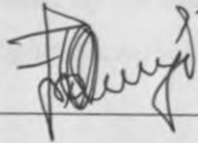BY

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A MANAGEMENT RESEARCH PROPOSAL SUBMITTED IN PARTIAL FULFILMENT FOR THE REQUIREMENTS OF MASTERS DEGREE IN BUSINESS ADMINISTRATION, DEPARTMENT OF FINANCE AND ACCOUNTING OF THE UNIVERSITY OF NAIROBI, SCHOOL OF BUSINESS.
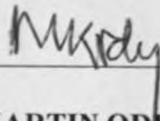
AUGUST 2011

DECLARATION

This project is my own original work and has not been presented for any academic award in any institution before now.

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

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DEDICATION

Dedicated to My wife, Son and Daughter
whose
sacrifices have made my life meaningful, worthwhile
and ushered delightful achievements upon me

ACKNOWLEDGEMENT

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ABSTRACT

The study aimed to investigate the impact of stock split on stock prices. The objectives of the study were to determine the relationship between stock splits on the stock prices after stock splits and to investigate the relationship between stock split and stock prices. The study analysed the returns of the split shares and compared the same with the market returns so as to establish the abnormality of returns for days sorrounding stock split. The study made use residual analysis model to analyze the data found on the stock prices before and after the announcement of stock splits i.e 30 days surrounding stock splits. The model, hence, analyzed the consequences of the stock splits announcement on the returns of the specific stocks. The event study methodology was used to assess if there was any abnormal market reaction to announcement of stock splits. This was done by comparing the trading activity ratio of companies sampled before and after the stock split. From the study it can be deduced that, the the Kenyan market reacts positively to stock splits, as indicated by the volumes of shares sold during the 30 days sorrounding the date of stock split. This study also indicated that, for most companies listed in the NSE and whose shares had undergone split, the volume of shares traded after the actual day split tended to be higher than those sold before split. This indicates an increase in the trading activity after the stock split as compared to that before the stock split. Bearing in mind that, most of time the announcement of events close to the stock split do stock splits do not happen, the capital market authority should develop policies to ensure that stock split pre-requisite for both the announcement date and the effective date are met. Therefore, there should be developed policies to ensure that stock split does not distablize the stock exchange system especially for companies that control the stock index significantly. The policies should also ensxure that the splint is done and received by investors with a greater marketability

CHAPTER ONE

INTRODUCTION

In this chapter will look at the background on the study, look at the relationship between the stock splits and the stock prices. In addition it will have brief on the history of the Nairobi Stock Exchange.

1.1   Background to the study

Over the years the relationship between stock splits and stock prices has been a subject of continuing interest to economists and practitioners. Stock splits have long been a puzzling phenomenon to financial economists. They usually occur after an increase in stock prices and usually elicit a positive stock price reaction upon the announcement. The reaction occurring after the announcement, however, has not been fully understood and explained (Conroy, Harris and Benet, 1990).

A stock split is a corporate action that increases the number of the corporation's outstanding shares by dividing each share, which in turn diminishes its price. The stock's market capitalization, however, remains the same, just like the value of the Ksh100 bill does not change if it is exchanged for two Ksh50. For example, with a 2-for-1 stock split, each stockholder receives an additional share for each share held, but the value of each share is reduced by half: two shares now equal the original value of one share before the split (Bondt and Thaler, 1985).

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A stock split results in a reduction of the par value and a consequent increase in the number of shares proportionate to the split. Theoretically, shareholders receive no tangible benefit from a stock split, while there are some costs associated with it. "Splits are at one level only cosmetic change, slicing the same pie into smaller pieces but not changing an investor's fractional ownership of the equity interest and votes in the company" (Lamoureux and Poon, (1987)). This means that if managers could increase share prices by splitting their firm's stock, both overvalued and undervalued firms will choose to split their shares, eliminating the informational content of the decision. Many financial economists in the stock market feel that splitting the shares of a stock produces, for various reasons, a greater total market value for the shares outstanding. This implies that there must be some benefit, either real or perceived, that results from a firm splitting its stock. If stock splits of common shares are nothing more than a cosmetic change and have no impact on the value of the firm, why does a large number of such splits occur every year?

1.1.1 Stock split and stock prices Hypothesis

Brennan and Copeland (1988b), McNichols and Dravid (1981), and Brennan and Hughes (1991), interpreted the positive stock market reaction to split announcements as a response to managers signaling favorable inside information. Signaling explanations are consistent with abnormal increases in earnings and/or dividends around the split. When a manager believes that the future share price will decrease, he may not be willing to split the stock due to the increased cost of trading a lower priced stock, or due to their reluctance to split the stock and then have the share price fallen below the manager's perceived optimal

trading range. While managers may not explicitly intend for the split to be a positive signal about the future prospects of the firm, the split conveys information to the market. Institutional owners may be better able to take advantage of this signal, compared to individual owners, either because they trade much more than individuals, and are not as wealth constrained, or because they are more efficient at interpreting and processing the signal.

The most common rationale behind stock splits according to the liquidity hypothesis is that there is an optimal price range for securities. The stocks that trade in this range are presumed to be more liquid since they have lower brokerage fees as a per cent of value traded. This optimal range is considered to be a compromise between the desires of wealthy investors and institutions that will minimize brokerage costs if securities are highly-priced, and the desires of small investors who will minimize odd-lot brokerage costs if securities are low-priced. The optimal trading range hypothesis is in contrast to the decrease in trading activity after a stock split that was observed by Copeland (1979) and Conroy et al. (1990).

Also, Muscarella and Vetsuypens (1996) showed that liquidity after a stock split improves which is accompanied by wealth gains for the investors. Their findings support the model of Amihud and Mendelson (1986) that predicts a positive relationship between equity value and liquidity. According to this model, rational investors discount illiquid securities heavier than liquid ones due to the higher transaction costs and the greater trading frictions they face.

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1.1.2 History of Nairobi Stock Exchange

The Nairobi Stock Exchange, which was formed in 1954 as a voluntary organization of stockbrokers, is now one of the most active capital markets in Africa. en shareholders is facilitated. The Exchange has also enabled companies to engage local participation in their equity, thereby giving Kenyans a chance to own shares. A stock market also enhances the inflow of international capital. They can also be useful tools for privatization programmes.

1.2 Statement of the Problem

Most companies split stocks for some underlying reason. First, is due to perception, companies are worried when the per share price gets too high that it will scare off some investors, especially small investors. Splitting the stock brings the per share price down to a reasonable level. And secondly, Liquidity ; if a stock's price rises into the hundreds of shillings per share, it may reduce the trading volume. Increasing the number of outstanding shares at a lower per share price aids liquidity (Lamoureux C and Poon P (1987)).

Stock splits remain one of the puzzling anomalies in the behavior of stock prices and stock liquidity since they are only numerical changes in stock price denominations that has no impact on investors' fraction of equity ownership. However, previous research has documented positive price performance subsequent to splits. Grinblatt et al. (1984) and Lamoureux and Poon (1987) support the signaling hypothesis that firms use stock splits to signal future positive earnings.

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Simbovo (2006) in his study " The effect of stocksplits & large stock dividend on liquidity" the study revealed that stock splits and divided have an effect on liquidity. In Kenya, the year 2006, stands out as one of the best years at the NSE. In 2006, the bull run was at its peak and many listed Companies experienced massive price appreciations at the bourse. To make their shares liquid and affordable for the small investors, many companies were obliged to split their shares. Taking East African Cables Ltd as a case in point, it announced a stock split of 10 to 1 in August 2006 and price had rallied from as low as Ksh150 to a high of Ksh.600 just before the split was effected. After the book closure on 4 September 2006 its share price started trading at Ksh.45 and has been oscillating between Ksh.40 and Ksh.50. Barclays Bank (K) Ltd is another case, they had their share split of 5 to 1 in late 2006. As usual, there was a price rally prior to the split that saw a share selling at Ksh 575, after the much-hyped split the highest price it ever traded at was Ksh90 but later on dropped to oscillate at the Ksh.70 level. Lastly, Sasini Tea Ltdafter moving from a loss to a profitability level announced a shares split of 5 to 1 in mid February 2007. Its price rallied to a high of Ksh150 pre split and started trading at Ksh.15 post split.

This movement of stock prices after split where some increase the value to the invetsor like the case of East African Cables Ltd. & Barclyas Bank Ltd and where the split reduces the value of the shares to the investor as in the case of Sasini Tea Ltd above makes an investor to ask if there is any significant impact of stock split on stock prices.

J.O.Aduda & Chemarum C.S.C (2010) in their study on market reacition to stock splits published in the African Journal Of Business & Management (AJBUMA) indicated that generally, there was an increase in the volumes of shares traded when stock splits were

announced. This was especially so in the days around the stock splits. Trading activity was

also seen to generally increase after the stock split as compared to that before the split. The

disparity in trading activity before and after the stock split was

found not to be very big except for the two splits thatoccurred in 2004. These are those of

East African Breweries Limited and Kenyo Oil Company Limited.

In both cases, there was a much higher tradingactivity immediately following the split. The

other companies showed increases in trading activities but not with disparities as high as

the two. The results showed there was a positive announcement effect onshares traded as a

result of stock splits. On the split date, there was a positive average abnormal return of

0.5473 which was very significant at 0.05% level. To track abnormal returns over a

number of trading days, the cumulative abnormalreturn was computed throughout the

event period.

The research was designed to answer the following research question, "How does the

market react to announcement of stock splits?" The study found that generally, the Kenyan

market reacted positively to stock split announcements. There was an increase in

volumes of shares traded after the stock split as compared to those before the stock split.

This was found to be in agreement with the study by Copeland (1979) which suggested

that companies split their stock to bring it back to an optimal price, which in turn increased

demand. Many of the splits that occurred in the Nairobi Stock exchange took place

from the year 2006 when there was a bull run in the market, leading to an increase in share

prices. Managers of the companies sought to split stock to encourage investors to purchase

their stock which appeared cheaper.

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This study showed that there were positive mean returns with respect to stock splits. This was similar to the results reported by Grinblatt et al. (1984) whofound that stock splits realized positive results around the split announcement dates. The study was also in agreement with the signaling hypothesis which stated that managers of companies split their stock to act as a means of passing information to stock holders and potential investors. Brennan and Copeland (1988) believed that managers only split their stock if they were optimistic that their future prices would rise, or at the very least not decrease. This study therefore seeks to investigate the effect of stock splits on stock prices.

1.3   Objectives of the Study

1.3.1 General Objective

The study aimed to investigate the impact of stock split on stock prices.

1.3.2 Specific Objective

The study aimed at addressing the following specific objective so as to fulfill its general objective is to investigate the relationship between stock split and stock prices.

1.4   Importance of the study

The study would be of benefit to the following;

i)   **Government and Policy Makers**: Decision makers at the various levels of management of the companies listed at Nairobi Stock Exchange will have an

insight on the impact of stock split on stock prices and what value is added to their investments.

ii)   **Academics**: Academics and business researchers will be able to borrow from the findings of this research to support literary citations as well as develop themes for further research. Specifically, the study hopes to make theoretical, practical and methodological contributions. The findings will contribute to professional extension of existing knowledge of stock split on stock prices and what value is added to their investments by helping to understand the current challenges for adopting these strategies or practices and their effects on service business performance.The study will open an avenue to scholars and form basis for further research.

iii)   **Investors/Stock Market Players**: Investors, for instance entrepreneurs, bankers, financial markets and institutions and financial institutions can use the findings from this research to aid them in implementing their organizational impact of the stock split on stock price to firms after splitting their stock, hence investment advisors will be able to advise clients in making investment decisions.

CHAPTER TWO

LITERATURE REVIEW

2.1 Firm Liquidity

The most common rationale behind stock splits according to the liquidity concept is that

there is an optimal price range for securities. The stocks that trade in this range are

presumed to be more liquid since they have lower brokerage fees as a per cent of value

traded (Conroy *et al.* (1990)). This optimal range is considered to be a compromise

between the desires of wealthy investors and institutions that will minimize brokerage

costs if securities are highly-priced, and the desires of small investors who will minimize

odd-lot brokerage costs if securities are low-priced. The optimal trading range hypothesis

is in contrast to the decrease in trading activity after a stock split that was observed by

Copeland (1979) and Conroy *et al.* (1990). Also, Muscarella and Vetsuypens (1996)

showed that liquidity after a stock split improves which is accompanied by wealth gains

for the investors. Their findings support the model of Amihud and Mendelson (1986) that

predicts a positive relationship between equity value and liquidity. According to this

model, rational investors discount illiquid securities heavier than liquid ones due to the

higher transaction costs and the greater trading frictions they face.

The alternative liquidity and trading range hypothesis comes from management claims that the motivation for split activities is to bring stock prices down to a preferred trading range and improve liquidity. Yet existing empirical research, finds that the impact of split on liquidity is mixed. Copeland (1979), Conroy, Harris, and Benet (1990), and Desai et al (1998), find that bid-ask spreads, increase, indicating worsened liquidity. Other authors such as: Lamoureux and Poon (1987), Muscarella and Vetsuypens (1996) show that the number of trades per day, increase subsequent to splits. Lakonishok and Lev (1998) finds that splits have no impact on split-adjusted trading volume.

Simbovo (2006) found out that, indeed stock splits and dividends do affect liquidity. In the case of splits there is a positive effect on liquidity after the split. These results were consistent with the optimal trading range where hypothesis, where a firm splits its shares, when the management feels that their shares are not affordable.

2.2   Patterns in Split Prices

In one of the best known empirical studies of stock splits, Lakonishok and Lev (1987) examine the 20-year period ending in 1982 and find that split factors are driven by the deviation of the current price from the market-wide average price and from the industry-average price. Alone, the market-wide price explains 26% of the variation in split ratios. The two factors together explain 32% of the variance. Such evidence shows a pattern of companies moving towards a price range, where this range appears shaped by the current levels of prices for other companies.

Angel (1997) provided another view of splits driving prices to a desired level, which is based on achieving an optimal relative tick size. Studying NYSE and AMEX firms for the decade ending in 1993, Angel finds that 50% of the cross-sectional variance in the split price (price at the announcement divided by the announced split factor) can be explained by factors that proxy for the firm's "idiosyncratic risk, firm size, and the number of investors who `know about' a stock" (p. 675). This modeling suggests that it is firm-specific information that determines the optimal split price. Given that the minimum absolute tick size on US exchanges has been constant, maintaining the optimal relative tick size may result in a firm's picking approximately the same split price in successive splits.

An examination of how the current split price depends on the last split price, the current market-wide average price, the current industry average price, and the current average price of similar-sized companies. This approach combines both firm-specific price data (last split price) as well as current market pricing information. The market-wide and industry average prices follow (Lakonishok and Lev, 1997). The size-based average reflects the observed positive link between firm size and share price (Angel, (1997)). The last split price should be important if firms design splits to return prices to some price level that itself is constant over time. Survey evidence suggests that managers do seek such a preferred price level. Moreover, empirical data suggest that at least at the market-wide level, prices are remarkably constant over time.

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2.3 Hypothesis on Reaction of the Market to Stock Splits

Several hypotheses have tried to explain the reaction of the market around the announcement day and can be summarized as follows:

2.3.1 Signaling Hypothesis

It interpreted the positive stock market reaction to split announcements as an investors' response to managers' signalling favourable inside information. Signalling explanations are consistent with abnormal increases in earnings and/or dividends around the split.

Brennan and Copeland (1988), McNichols and Dravid (1981), and Brennan and Hughes (1991), interpreted the positive stock market reaction to split announcements as a response to managers signalling favourable inside information. Signalling explanations are consistent with abnormal increases in earnings and/or dividends around the split. When a manager believes that the future share price will decrease, he may not be willing to split the stock due to the increased cost of trading a lower priced stock, or due to their reluctance to split the stock and then have the share price fall below the manager's perceived optimal trading range. While managers may not explicitly intend for the split to be a positive signal about the future prospects of the firm, the split conveys information to the market. Institutional owners may be better able to take advantage of this signal, compared to individual owners, either because they trade much more than individuals, and are not as wealth constrained, or because they are more efficient at interpreting and processing the signal.

A signaling explanation of splits based on information asymmetries between managers and investors has received considerable attention in the academic literature (Ross, 1977; Leland and Pyle, 1977). Its basic notion is that managers use splits to signal good information to investors. According to this view, the key role of splits is to convey information, not to seek out some optimal price level. Value increases on split announcements are often attributed to this signaling effect.

Theories combining informational issues and transactions costs yield further insights into splits. To be a credible signal that will not be copied by firms without good news, splits must carry with them some increase in costs. Such costs may take the form of increased transaction costs in trading lower-priced shares (Brennan and Copeland, 1988).

Recent empirical findings (McNichols and Dravid, 1990; Ikenberry, Rankin, and Stice, 1996; and Pilotte and Manuel, 1996) have been interpreted by the authors as especially supportive of the marriage between information and transaction costs portrayed by Brennan and Copeland (1988). According to this view, lower prices and smaller firms lead to higher trading costs for investors. Specifically, the studies find market reactions to split announcements are negatively related to firm size and post-split price and positively related to the size of the split factor. The signaling explanation is that managers split to achieve lower prices only if they have especially good information about the prospects for the firm.

In contrast, Muscarella and Vetsuypens (1996) provide empirical support for the liquidity benefits of splits even when signaling is not likely a contributing factor. Using the unique circumstance of American Depository Rights (ADRs), Muscarella and Vetsuypens find that the prices of both the ADR and the underlying stock increase on the announcement of an ADR split even when there is no accompanying stock split in the firm's home market. They also find increases in trading activity after the split, which they cite as additional evidence of liquidity benefits. Han's (1995) finding of liquidity benefits in reverse splits is further evidence for the role of transaction costs in explaining splits.

Whatever the financial market consequences, the evidence that company executives base splits on the notion of a preferred price range is overwhelming and long-standing. Based on a survey of companies with splits in the first third of the century, Dolley (1933) reports that over 90% of the managers responding said that the primary reason for splits was a wider distribution of shares, which was "accomplished, presumably, by reducing the market value per share and thus facilitating trading, as well as by increasing the absolute number of shares outstanding" (p. 70). Over half a century later, Baker and Powell (1993) report that managers' major stated purpose of splits (during the years 1987 through 1990) is to "lower the stock price and thus bring it into a preferred trading range Over 70% of the managers surveyed cited a preferred price range or a stock's liquidity as the primary reason for split; only 14% pointed to signaling information as a primary motivation.

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2.3.2 Liquidity Hypothesis

The liquidity hypothesis suggests that firms split their stocks to maximize liquidity and, with it, their market value. However, evidence on the effect of splits on liquidity is mixed (Copeland, 1979 ; Conroy et al, 1990; Ferris et al, 1995). To a large extent, these discrepancies are due to the fact that the concept of liquidity is complex and difficult to define.

According to Kyle (1985), liquidity includes a price dimension (tightness or the cost of turning around a position over a short period of time), and a size dimension (depth or the size of an order flow innovation required to change prices by a given amount). To quanlify it, the use of ex ante and ex post liquidity measures are used to take into account characteristic elements of transactions and of incoming orders in the limit order book.

The most common rationale behind stock splits according to the liquidity hypothesis is that there is an optimal price range for securities. The stocks that trade in this range are presumed to be more liquid since they have lower brokerage fees as a per cent of value traded. This optimal range is considered to be a compromise between the desires of wealthy investors and institutions that will minimize brokerage costs if securities are highly-priced, and the desires of small investors who will minimize odd-lot brokerage costs if securities are low-priced. The optimal trading range hypothesis is in contrast to the decrease in trading activity after a stock split that was observed by Copeland (1979) and Conroy *et al.* (1990). Also, Muscarella and Vetsuypens (1996) showed that liquidity after a stock split improves which is accompanied by wealth gains for the investors. Their

findings support the model of Amihud and Mendelson (1986) that predicts a positive relationship between equity value and liquidity. According to this model, rational investors discount illiquid securities heavier than liquid ones due to the higher transaction costs and the greater trading frictions they face. The turn of month liquidity hypothesis also may provide a partial explanation for the January effect. Based on the arguments presented above, the existence of a reliable turn of month surge in stock returns does not necessarily imply that the stock market is unformationally inefficeint (Ogden, 1990).

The alternative liquidity and trading range hypothesis comes from management claims that the motivation for split activities is to bring stock prices down to a preferred trading range and improve liquidity. Yet existing empirical research, finds that the impact of split on liquidity is mixed. Copeland (1979), Conroy, Harris, and Benet (1990), and Desai et al (1998), find that bid-ask spreads, increase, indicating worsened liquidity. Other authors such as, Lamoureux and Poon (1987), Muscarella and Vetsuypens (1996) show that the number of trades per day, increase subsequent to splits.Lakonishok and Lev (1998) finds splits have no impact on split-adjusted trading volume.

2.3.3 Retained Earnings Hypothesis
In declaring a stock distribution that reduces retained earnings, managers are seen as signalling their confidence in being able to replenish the retained earnings account with future earnings' streams.

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A great deal of confusion surrounds the "retained – earnings problem" and there's even more confusion about how to solve it. Actually retained earnings are a liability money owed to the shareholders. They can be paid to the shareholders in the form of dividends. If and when the business is wound up and liquidated, they can be paid to the shareholders as liquidating distributions, (Smucker, 2004).

Corporate retained profits have well determined effects on both total and non durable consumers' expenditure, with coefficeints which do not differ significnatly from those on disposable income in a standard consumption function, the effects also appear in a life – cycle model which excludes disposable income. Retentions convey no useful information about future values of the other arguments of either consumption function. The implications of an alernative explanatory hypothesis, of a discrepancy between the princples and practice of national accounting, are not rejected (Sumner, 2004).

It is generally accepted that firms declaring stock distributions of 25 per cent or greater consider them as stock splits which, therefore, have no effect on retained earnings. Stock distributions of less than 25 per cent are considered as stock dividends that reduce the retained earnings account. Since stock dividends reduce retained earnings, and thus the firm's ability to pay cash dividends, they have been viewed as conveying information regarding managers' outlook about future earnings. In declaring a stock distribution that reduces retained earnings, managers are seen as signalling their confidence in being able to replenish the retained earnings account with future earnings' streams. In effect, the signal

has value because it is costly. This line of reasoning has been called the "retained earnings hypothesis" (Peterson *et al.*, (1996)).

2.3.4 Neglected-Firm Hypothesis

It states that if there is little known about a firm its shares trade at a discount. Thus, firms use the split to both draw attention and ensure that information about the company is going to be spread wider than before.Banz (1986) finds that risk – adjusted stock returns are a montone decreasing function of firm size. It focuses on the interaction between size effct and other anomalies, example P/E ratio effect. Other studies empahsize the magntitude of the size effect.

Another proxy for differnetial information is the neglected – firm effect, under this hypothesis, firms neglected by analysis investors, financial analysis, and other investment agencies suffer from lack of information or asymmetric information (Arbel and Strebol, 1983). Thus neglected stocks should earn substanlially higher returns to compensate for this gap of equal access to firm informtion.

Arbel and Swanson (1993) in the context of stock splits predominantly propose the neglected-firm hypothesis. It states that if there is little information about a firm, its shares trade at a discount. Thus, the firm's managers use the split to draw attention to ensure that information about the company is wider recognized than before.

Information structure is not monolithic across financial assets. This is clearly demonstrated by divergent of security research whereby some companies receive intensive and continous attention by analysts while other get virtuallly no regular coverage at all. Consequently, the

amounts and quality of information available to investors differ across securities (Arbel and Strebel, 1982).

2.3.5 Optimal Tick Size Hypothesis

The optimal relative tick size hypothesis tries to explain the paradoxical behaviour of retail investors, who increase their buys around splits despite the increase in transaction costs. Angel (1997) noted that the minimum price variation rules determined the minimum bid-ask spread that could be quoted. No quoted spread could then be less than the minimum price variation.

A company may split its stock to move its share price into the range where the institutionally mandated minimum absolute tick size is optimal relative to the share price.According to the relative tick size hypothesis, a stock split would affect liquidity by increasing the relative minimum price variation. This always happens in markets that apply a single absolute tick size to most stocks. Depending on the size of the stock split, the relative tick can increase if the absolute tick size remains constant, and it can rise or fall if the mimum price variation decreases (Arnold and Lipson, 1997).

Angel (1997) introduced the optimal tick size hypothesis. According to this hypothesis, in equity markets there is an institutionally mandated minimum absolute tick size, which is optimal relative to the share price. A wider tick size reduces transaction costs and offers more incentives for limit orders, enhancing liquidity. On the other hand, a wider tick size increases the cost to investors inherent in a wider percentage spread. Hence, there is a cost trade-off and an optimal point where the companies want to be. A stock split is one

mechanism used by the companies to move their share prices into the optimal range of the tick size.

2.3.6 Self Selection Hypothesis

It states that managers use splits to move share prices into a trading range, but condition their decision to split on expectations about the future performance of the firm. Ikenberry *et al.* (1996) used the self-selection hypothesis as a synthesis of the signalling and the trading range hypothesis. In particular, it states that managers use stock splits to move share prices into a trading range, but condition their decision to split based on expectations about the future performance of the firm.

2.3.7 Dividend Hypothesis

It states that the positive returns around the announcement day are not the result of the split per se, but the result of the increased dividend announcements that followed, or preceded the stock split.

Copeland (1979) supported the view that split announcements may be interpreted as news about dividend increases. In other words, the positive abnormal returns around the announcement day are not the result of the split per se, but the result of the dividend increases or decreases that followed or preceded the stock split. "Higher dividends provide investors with signals of management's increased confidence in their companies' future levels of profitability and cash flows. Thus, it is not stock splits per se that cause higher stock prices, but rather management's emphatic statements of continued confidence in the

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company's future performance conveyed to the market in the form of larger than expected dividend increases" (Copeland, 1979).

2.4   Effects of Stock Splits on Share Prices

A stock split is a procedure that increases a corporation's total number of shares and share prices outstanding without altering the firm's market value or the proportionate ownership interest of existing shareholders. The price is adjusted such that the before and after market capitalization of the company remains the same and dilution does not occur. This action, which requires advance approval from the company's board of directors, usually involves the issuance of additional shares to existing stockholders.

All stock splits are not created equally. More specifically, stock splits can vary depending upon what type of impact a firm wants to have on its underlying share price. For example, if a firm wants to cut its share price in half, then it will complete a 2-for-1 stock split. If it wants to lower its share price even further, then it may complete a 3-for-1 stock split. Before announcing a stock split, a firm's board of directors must first decide on a distribution rate. Typically expressed as a ratio , this distribution rate will determine exactly how many shares of stock the firm hands over to its existing shareholders.

After a stock split has taken place and new shares have been distributed, a firm's share price will simultaneously increase or decrease by the inverse of this distribution ratio. For example, in a 2-for-1 split (the most common type), the underlying firm doubles its total number of shares outstanding, but its stock price is subsequently halved. The end result to

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current shareholders is that they now hold twice as many shares of stock, but the stock's price is half of what it was previously. Therefore, the total dollar value of their holdings remains unchanged.

Less common is the "reverse stock split," which as the name implies, will have precisely the opposite effect. A firm completes a reverse split by reducing its number of shares outstanding. This forces the company's underlying stock price higher.Ultimately, stock splits are merely a tool used by management to maintain some semblance of control over share prices. By themselves, though, they are essentially a non-event, such as trading four quarters for a dollar. In the end, splits accomplish little more than simply slicing a pie into thinner pieces. Though an investor may acquire more of those slices, or shares, after a split, neither the company's value nor his/her ownership interest will materially change.(Arbel and Strebel, 1982).

2.5   Relationship between Stock Splits and Shares Price

There exists the link between splits and share price at the firm level. First, we show that a large proportion of the cross-sectional variation in split prices (price to which a stock splits) can be explained by readily available public information. A significant contributing factor is the stock price level after a firm's last split. Managers appear to engineer splits to return their company's share price to a particular level that is remarkably stable over time. This role for the lagged split price has not been incorporated in prior studies. Second, we take advantage of these regularities in split prices to construct new tests to discriminate between the information and liquidity effects of splits. Using our findings on patterns in

split prices, we use public information to estimate an expected split factor for a company. This anticipated factor should reflect liquidity concerns and the average information effect of splits. Unlike prior studies that investigated share returns around split announcements, our approach develops a firm-specific measure of expectations, rather than looking only at the absolute level of share price or split factor. We find that abnormal returns to shareholders are significantly higher when management announces a larger-than-anticipated split factor.

We also find that analysts increase earnings forecasts significantly more when managers announce a split factor larger than anticipated. Unlike share returns, which may be driven by information and transactions-cost factors, earnings forecasts are direct predictions of corporate performance. Overall, our findings are consistent with splits signaling information to investors. The evidence suggests an important role for the level of the share price that is typically overlooked in financial models of corporate and investor behavior. One possible rationale for the importance of historical prices is that they capture firm-specific market microstructure factors that are stable over time. For instance, Angel (1997) argues that a firm's optimal price can be understood in terms of maintaining an optimal relative tick size, which itself depends on firm-specific characteristics.

Following this train of thought, our evidence can be viewed in terms of management decisions to split below an optimal "liquidity-based" price in order to convey especially positive news to the market. This logic follows the spirit of signaling interpretations of

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splits (e.g. Brennan and Copeland, 1988). Our results and prior research (e.g. Angel, 1997; and Schultz, 1997) provide limited support for microstructure explanations but such factors do not appear to explain fully the role of lagged split price. A more behavioral interpretation of an optimal price level is that investors frame their decisions about stocks in terms of dollar prices rather than percentage returns. Such framing behavior is well documented in many areas of human conduct and may help explain the puzzling phenomenon of mutual fund stock splits.

A third interpretation of our evidence is that investors (and analysts) have no preconceived preferred price level but simply learn from a firm's past split behavior. For instance, Pilotte and Manuel (1996) provide evidence that investors use a firm's previous post-split earnings performance to interpret a newly announced split. Following this interpretation, suppose that managers think there is an optimal price and split their stock to keep the price at that level over time. Investors then can infer managers' private information based on the announced split price and react to that information. Management belief in a preferred price level is overwhelmingly supported by survey data (e.g., Baker and Powell, 1993) even if the motivation for that belief is less clear.'

2.6 Stock Split Cycle

According to Securities Markets, (2007), many of the share splits on the NSE artificially inflate companies share prices and follow the hypothetical share split cycle:

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i. **Pre-Announcement:** Stocks tend to climb faster than usual during the 60-day period prior to a split announcement, and even that rate of increase will normally accelerate during the final 30 days before the announcement.

ii. **Announcement:** Stocks often jump sharply on the split announcement, and may continue to increase in value during the following few days.

iii. **Dormancy:** A few days after the announcement, stocks will usually begin to drift into a "dormancy phase." This is when the stock will level off and consolidate its recent gains. However, exceptionally strong stocks in a leading sector may not go through a dormant phase as they continue to power higher. The shorter the period between the announcement and the execution date, the shorter the dormant phase.

iv. **Pre-Split Run:** When a stock nears its split execution date, it tends to pull out of the dormancy stage, and accelerate as it heads into the split.

v. **Split Execution:** Stocks generally move higher quickly as they begin trading at the post-split price.

vi. **Post-Split Depression:** Once the initial excitement of the split fades away, the stock typically decline on lower volume for a period of time. The flow of the market and its sectors will also affect how the split life cycle plays out. Traders and investors should consider the market and sector environment when deciding on their trades. Each stock split behaves differently. Some will soar after a split announcement, and others will drop. A lot can depend on how much appreciation the stock enjoyed before the split.

2.7   Empirical Evidence on Stock Splits

Studying the determinants of split ratios, Lakonishok and Lev (1987) use price data to show that the marketwide average price and, to a lesser extent, the industry wide average are targets for the size of split. Moreover, splits are preceded by unusually high growth in earnings and dividends. The empirical properties of stock splits also appear to be fundamentally different from those of stock dividends; apparently, it is inappropriate to view stock splits and stock dividends as the same phenomenon executed on different scales.

Bhana (1991) examined the changes in share price as a response to substantial changes in share split options by Johannesburg Stock Exchange (JSE) listed stocks during the period 1970-1988. The results provide strong support for the share split as liquidity option for company stocks.

Financial theories crafted to explain stock splits have relied primarily on two main attributes: transactions costs as investors and financial intermediaries interact and information flows between managers and investors. Theories focusing on interactions between investors and intermediaries investigate the notion that splits move prices to a new level that reduces trading costs or increases trading opportunities for investors. Based on market microstructure foundations, the optimal-tick-size hypothesis (Angel, (1997)) holds that firms split their stock to increase the size of the tick relative to the share price. A larger

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relative tick size "means greater protection for limit orders, fewer trading errors and lower costs of negotiation between traders" (Schultz, (1997), p. 1).

These advantages are traded off against the cost to investors inherent in a wider percentage spread that comes with a wider tick. As a result of this tradeoff and institutional practices that dictate a constant absolute tick size, a firm splits its stock in an attempt to maintain the optimal relative tick size. Angel finds that half the variation in split prices across firms can be explained by firm-specific factors consistent with his argument. The optimal-tick-size hypothesis also sheds light on why average NYSE prices would be constant over time, given the historical constancy of absolute tick size. Schultz (1997) questions the tick-size hypothesis based on his examination of intraday trades and quotes. He finds no evidence of split-induced reductions in trading costs but does document an increase in the shareholder base after splits. One possible reason for such an increase is that the wider spreads accompanying splits give brokerage firms sufficient incentive to provide information for example through research reports and bring in new investors (Brennan and Hughes, 1991). A wider distribution of stock may lead to lower capital costs in a market with incomplete information (Merton, (1987)).

2.8 Signaling Theory of Stock Splits on Stock Prices

A signaling explanation of splits based on information asymmetries between managers and investors has received considerable attention in the academic literature (Ross, (1977); Leland and Pyle, (1977)). Its basic notion is that managers use splits to signal good information to investors. According to this view, the key role of splits is to convey

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information, not to seek out some optimal price level. Value increases on split announcements are often attributed to this signaling effect.

Theories combining informational issues and transactions costs yield further insight into splits. To be a credible signal that will not be copied by firms without good news, splits must carry with them some increase in costs. Such costs may take the form of increased transaction costs in trading lower-priced shares (Brennan and Copeland, 1988).

Recent empirical findings (McNichols and Dravid, (1990); Ikenberry, Rankin, and Stice, (1996); and Pilotte and Manuel, (1996)) have been interpreted by the authors as especially supportive of the marriage between information and transaction costs portrayed by Brennan and Copeland (1988). According to this view, lower prices and smaller firms lead to higher trading costs for investors. Specifically, the studies find market reactions to split announcements are negatively related to firm size and post-split price and positively related to the size of the split factor. The signaling explanation is that managers split to achieve lower prices only if they have especially good information about the prospects for the firm.

In contrast, Muscarella and Vetsuypens (1996) provide empirical support for the liquidity benefits of splits even when signaling is not likely a contributing factor. Using the unique circumstance of American Depository Rights (ADRs), Muscarella and Vetsuypens find that the prices of both the ADR and the underlying stock increase on the announcement of an ADR split even when there is no accompanying stock split in the firm's home market. They also find increases in trading activity after the split, which they cite as additional

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evidence of liquidity benefits. Han's (1995) finding of liquidity benefits in reverse splits is further evidence for the role of transaction costs in explaining splits.

Whatever the financial market consequences, the evidence that company executives base splits on the notion of a preferred price range is overwhelming and long-standing. Based on a survey of companies with splits in the first third of the century, Dolley (1933) reports that over 90% of the managers responding said that the primary reason for splits was a wider distribution of shares, which was "accomplished, presumably, by reducing the market value per share and thus facilitating trading, as well as by increasing the absolute number of shares outstanding" (p. 70). Over half a century later, Baker and Powell (1993) report that managers' major stated purpose of splits (during the years 1987 through 1990) is to "lower the stock price and thus bring it into a preferred trading rangeOver 70% of the managers surveyed cited a preferred price range or a stock's liquidity as the primary reason for split; only 14% pointed to signaling information as a primary motivation.

2.9   Residual Analysis Model

The study analyzes the consequences of the stock splits announcement on the returns of the specific stocks and for the days surrounding the announcement date. This analysis is generally known as residual analysis and includes three steps. First, the event dates of stock splits for a sample of firms is identified and grouped the observations into a common event time. Second, within the overall test period (TP) of interest, we calculate the

following (estimate of the) abnormal return (AR) for each firm and for each period around the announcement date:

$$u_{jt} = R_{jt} - E(R_{jt}) \quad t \in \text{TP}. \tag{1}$$

where u_{jt} is the abnormal return for each firm and for each period around the announcement date; R_{jt} is the return of each company for each day of the period around the announcement day that the study examines (this is known from the collection of the data); $E(R_{jt})$ is known as expected return (and not the actual) and includes the returns of the market index that each company belongs to.

The general formula of calculation of $E(R_{jt})$ is:

$$E(R_{jt}) = a_j + \beta_j R_{mt} \tag{2}$$

As the component of R_{mt} is simply the returns of the market index for each company and for each day around the announcement (event day 0), the researcher will calculate the coefficients of a_j, β_j in order to find the number of $E(R_{jt})$ for each day and for each company. At this point it makes a division of the days in two periods, the TP and the estimation period. As TP we define the period from day −10 to +10 around the announcement date (event day 0). The estimation period is generally chosen as a period of time close to the TP but one in which the disclosure events under study are expected to have no effect on security prices. Furthermore, estimation period in this study is the period from day −30 to day −11 from the event day 0. This is intended to allow parameter estimation to be made during a period when there are no persistent abnormal returns. The above division is created to help calculate the a_j, β_j coefficients. More specifically, the study will calculate these coefficients via the following formula:

$$R_{jt} = a_j + \beta_j R_m + u_{jt} \tag{3}$$

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Equation (3) refers to the estimation period. coefficients a_j and β_j are estimated and are substituted in Equation (2) so as to get the expected returns $E(R_{jt})$ that refer to the TP. Surely, this variable refers to the TP of -10 to +10, but includes coefficients estimates of the estimation period -30 to -11. The market returns for each company (from the initial collection of data) and for the period -10 to +10 are found and therefore, the expected returns for the TP are calculated. Finally, computation of the mean abnormal returns across firms in the sample is done, possibly cumulated over the TP, as an estimate of $E(uj|yi)$ and test whether $E(uj|yi) = 0$ using a test statistic of the form:

t = Mean abnormal return/Standard deviation   (4)

Calculation of the mean abnormal return across the sample for each day of the TP is also done. This mean/average abnormal return is known as AAR (AAR_t). In order to find the AARt, calculation of the abnormal return (AR_t) for each company and for each one of the 20 days of the TP is undertaken. AR_t (or u_{jt}) is calculated according to Equation (1). The AR_t of company and day is found, as both R_{jt} (the return of each company for each day of the TP) and $E(R_{jt})$ (the expected return, whose calculation includes the coefficients of a_j, β_j of the estimation period).

Strong (1992) suggests that the formula that should be followed is Equation (4), or

t = AAR_t/S(AAR_e)   (5)

where AAR_t is the AAR of the estimation period and for the entire sample together and is equal to:

$$(AAR_e) = \sum AR_e/20 \qquad (6)$$

Where $\sum AR_e$ is the summation of abnormal market shares for time period $t = -30$ to $t = -11$ and $S(AAR_e)$ represents the standard deviation of the AAR of the estimation period and is equal to:

$$S(AAR_e) = \sqrt{\sum (AR_e - AAR_e)^2/19} \qquad (7)$$

The effects of the stock split announcement over the TP of days -10 to +10 is clear after calculating the cumulative average abnormal returns (CAAR) as follows:

$$CAAR = \sum AAR_t$$

2.10 Conclusion

The practice of stock splits on stock prices for companies quoted at the Nairobi Stock Exchange risk management has changed dramatically over the past two decades. Originally, stock split was implemented on an uncoordinated basis across different units of the firm. The primary focus of these ad hoc stock splits programs was to minimize costs of particular units.

An examination of how the current split price depends on the last split price, the current market-wide average price, the current industry average price, and the current average price of similar-sized companies. This approach combines both firm-specific price data (last split price) as well as current market pricing information.

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methods that were used to collect information that showed the effect of stock splits on share prices of a firm that has issued the same. The chapter is constructed into research design, population, sample and sample selection, data collection, data variables and data analysis.

3.2 Research Design

The study used the survey research design. Strong (1992) define a descriptive survey as an attempt to collect data from members of a population in order to determine the current status of that population with respect to one or more variables. According to McWilliams and Siegel (1997), an event study is a statistical method to assess the impact of an event on the value of a firm. This is a survey research to explore the existing status of two or more variables at a given point in time. For this research, the researcher prefered to carry out survey on the impact of stock splits on stock prices for the companies quoted at the Nairobi Stock Exchange. This design is deemed suitable for this study since the study would, through data collection from the respondents, assess attitudes, opinions and draw conclusions based on the findings. In addition, the method offered the researcher a wide coverage of the population of study and facilitated comparisons as well as being financially economical, given the wide geographical coverage of the population of study.

3.3   Population

The population of interest comprised of the all the firms listed on the Nairobi Stock Exchange that have issued stock spilts.

3.4   Sample

Simple sampling was used from which a sample is to be drawn from all the companies listed in the Nairobi Stock Exchange. Stratified sampling results in more reliable and detailed information.

3.5   Data Collection

Secondary data was used in this study. This was prices from shares that have been spilt collected from the NSE library. The specific data that was collected is data on the stock split for the respective companies for a period of thirty (30) days before and thirty (30) days after the announcement of share split. The data comprised of share prices and number of transactions before and after the split.

3.6   Data Variables

3.6.1   Model

The study used residual analysis model to analyze the data found on the stock prices before and after the announcement of stock splits i.e 30 days surrounding stock splits. The model hence, analyzed the consequences of the stock splits announcement on the returns of the specific stocks.

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3.6.2 Measurement of Variables

The variable (changes in stock prices) which is determined by the stock split announcement was measured by evaluating the cumulative average abnormal returns (CAAR) following stock split announcement i:e

$$CAAR = \sum AAR_t$$

whereby AAR_t is the average anormal return on shares following 10 day before and after stock split announcement i.e abnormal return (AR_t/U_{jt}) for each company and for each one of the 20 days of the Test Period (TP) but:

$$u_{jt} = R_{jt} - E(R_{jt}) \quad t \in TP.$$

The AR_t of company and day is found, as both R_{jt} (the return of each company for each day of the TP) and $E(R_{jt})$ from (the expected return, whose calculation includes the coefficients of a_j, β_j of the estimation period).

$$Rjt = a_j + \beta_j R_m + u_{jt} \quad \text{and} \quad E(R_{jt}) = a_j + \beta_j R_{mt}$$

3.7 Further Data Analysis

The event analysis used in the study presented the data in a table and result from each column and compared. Graphs were also used in presentation of the data with aim of better presentation of the findings

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CHAPTER FOUR

4.0 DATA ANALYSIS, INTERPRETATION AND PRESENTATION

4.1 Introduction

This chapter presents the data findings on stock market reaction to announcement of company's stock split by analyzing the share/stock prices and market return around stock split announcement. These data were collected from the NSE offices. Analysis involved evaluation of abnormal return and security variability around split issue. Between 2002 to 2008, 9 companies had conducted stock splits.

Abnormal Returns (AR) of the shares were calculated by getting the difference between the share price return and market return (NSE-20 share index) with the same period. The objective of this was to determine if there was difference in the stock and market return or vice versa. Market reaction to stock split was done by computing the average Security Return Variability (SRV). This shows how variable (fluctuations in returns) the returns were before and after cross-border listing announcements. T-test was conducted to determine if the abnormality in mean returns were significantly different from zero.

4.2 Analytical model

The variable (changes in stock prices) which is determined by the stock split announcement were measured by evaluating the cumulative average abnormal returns (CAAR) following stock split announcement i:e

$$CAAR = \sum AAR_t$$

whereby AAR_t is the average abnormal return on shares following 10 day before and after stock split announcement i.e abnormal return (AR_t/U_{jt}) for each company and for each one of the 20 days of the Test Period (TP) but:

$$u_{jt} = R_{jt} - E(R_{jt}) \quad t \in \text{TP}.$$

The AR_t of company and day is found, as both R_{jt} (the return of each company for each day of the TP) and $E(R_{jt})$ from (the expected return, whose calculation includes the coefficients of a_j, β_j of the estimation period).

α_j, = ordinary least squares

intercept; the average rate of return of stock

at the market return is equal to zero i.e.

$E(Rj) - \beta E(Rm)$

β_j = stock sensitivity to market

return i.e. $\text{Cov}(Rjt, Rmt)/\text{Var}(Rmt)$

(the slope coefficient),

$Rjt = a_j + \beta_j R_m + u_{jt}$ and $E(R_{jt}) = a_j + \beta_j R_{mt}$

4.2 The split ratio for companies listed in the NSE and have undergone stock splits

Company	Split ratio	Date of stock split
Nation Media Group Ltd	2:1	Monday, August 04, 2008
Kenya Commercial Bank	10:1	Tuesday, April 03, 2007
CMC Holdings	10:1	Monday, February 26, 2007
Sasini Tea and Coffee	5:1	Thursday, February 15, 2007
Centum Investments	10:1	Friday, January 05, 2007
Barclays Bank of Kenya.	5:1	Thursday, November 30, 2006
East African Cables	10:1	Monday, June 05, 2006
East African Breweries	10:1	Monday, November 29, 2004
Kenya Oil Company Ltd	5:1	Monday, July 05, 2004

Figure 4.1: Trading index against days around stock split for KCB

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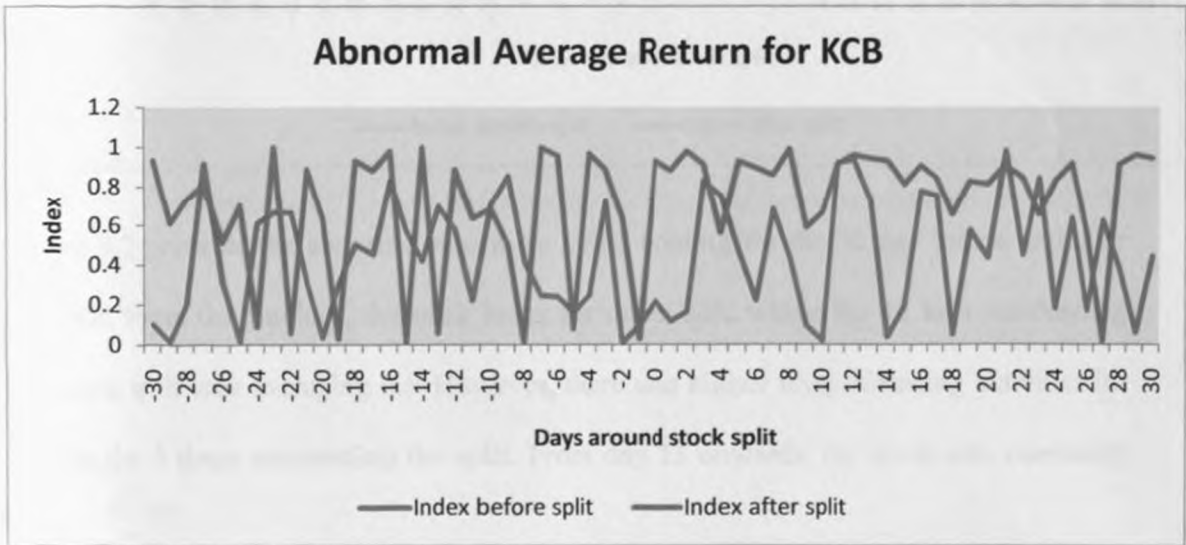
Figure 4.1 illustrates the trading activity ratio against days around stock split for KCB Limited. Results indicates an increase in shares traded during the 30 days around the split. The number of shares sold remained high during the entire period.

Figure 4.2: Trading index against days around stock split for CMC Holding

This is a market indicator used in technical analysis, calculated as follows: Arms Index = ((# of advancing issues / # of declining issues) / (Total up volume / Total down volume)). A value of less than 1 is considered bullish, greater than 1 bearish

Abnormal Average Return for CMC Holding

Days around stock split

——Index before split ——Index after split
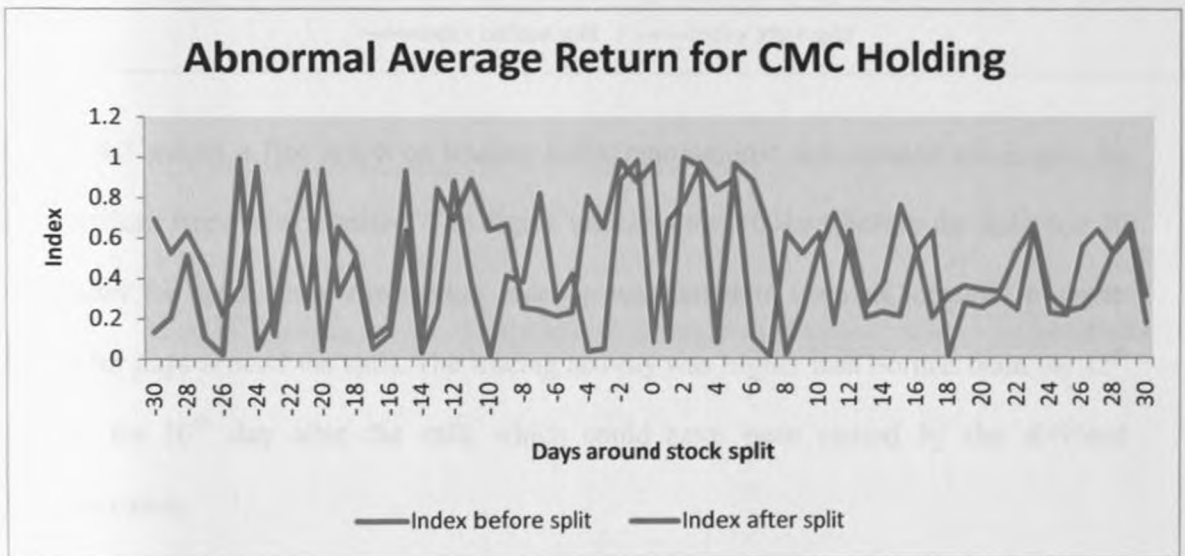
Figure 4.2 presents the abnormal return for CMC holding for the 30 day before and after the split. From the findings, the stock index for shares sold within the 30 days surrounding the stock split was averaging 0.6. However, there was higher level of trading activities for the for the 5 days surrounding the split. From day 13 onwards, the stock was constantly high.

Figure 4.3: Trading index against days around stock split for EABL

Abnormal Average Return for EABL

Days around stock split

Index before split ▬▬ Index after split
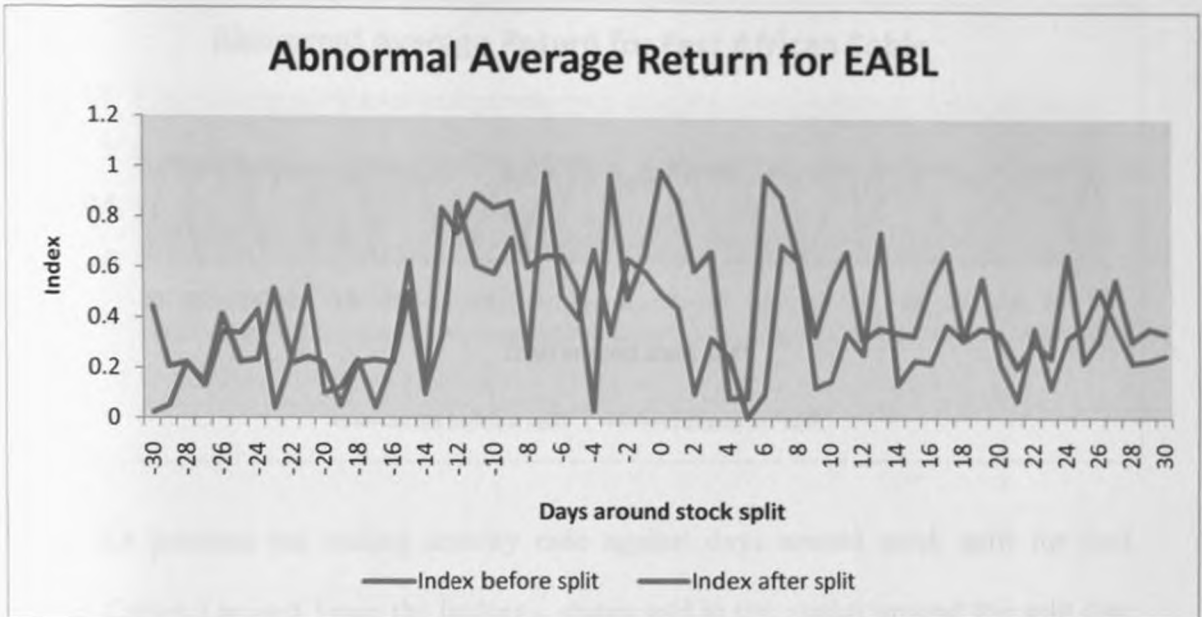
Figure 4.3 shows a line graph on trading index ratio against days around stock split for East African Breweries Limited. The figure indicates the 30 days before the split and 30 days after the split where the market reaction was found to have an increase in shares traded for days around the split. The trading activity was higher than normal from the 12th day to the 30th day after the split which could have been caused by the dividend announcement.

Figure 4.4: Trading index against days around stock split for East African Cables

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Abnormal Average Return for East African Cable
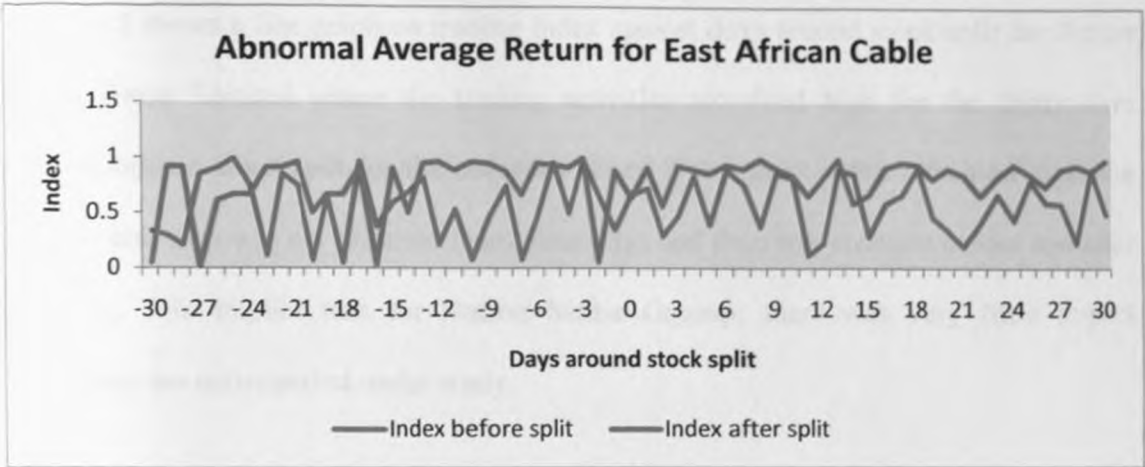
Figure 4.4 presents the trading activity ratio against days around stock split for East African Cables Limited. From the findings, shares sold in the market around the split date were almost same throughout the 30 days around the stock split thought the highest level of activity was experienced from the first day of split onwards.

Figure 4.5: Trading index against days around stock split for Nation Media Group

Abnormal Average Return for Nation Media Group

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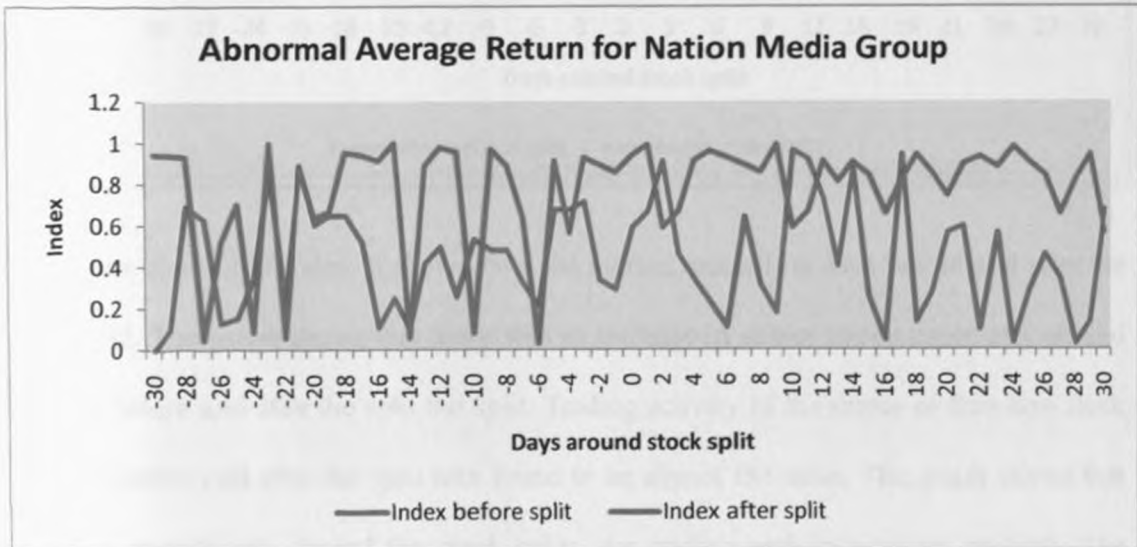
Figure 4.5 shows a line graph on trading index against days around stock split for Nation Media Group Limited where the trading activities remained high for the thirty days sorrounding the stock split for the company. Even if the stock index remained high, the level of activities was not different from other days and thus was constant before and after the split. This implies that for Nation Media Grpoup, there was very little impact throughout the entire period under study.

Figure 4.6: Trading index against days around stock split for Barclays Bank

Abnormal Average Return for Baclays Bank Ltd
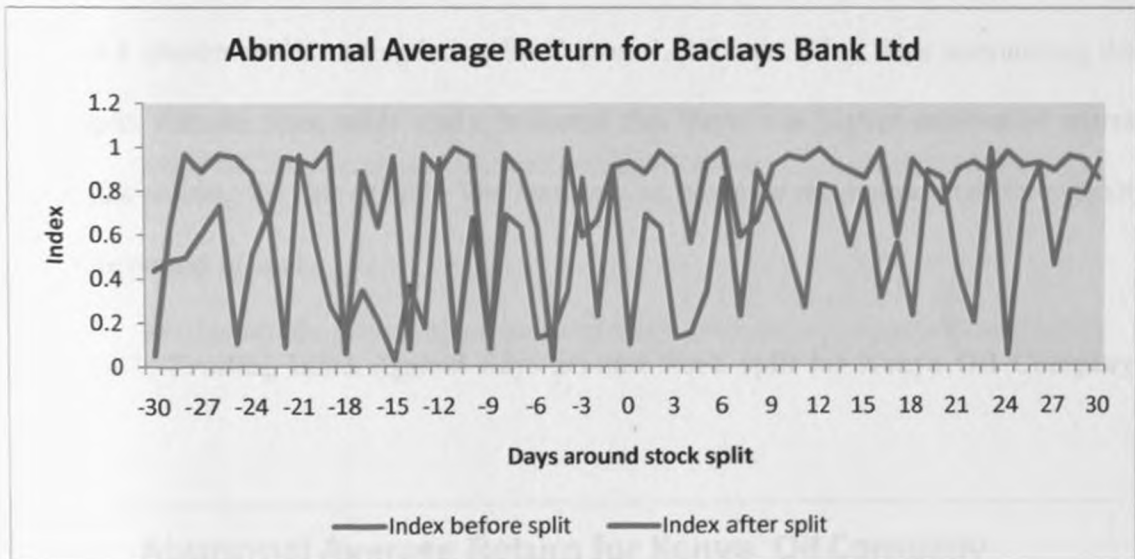
The figure above illustrates. It shows how the market reacted on days before and after the stock split. The graph shows that there was an increase in shares traded especially around 30 days before and after the split the split. Trading activity of the shares of Barclays Bank Limited before and after the split was found to be almost the same. The graph shows that on days immediately around the stock splits, the trading activity was not so high. The trading activity is seen to increase from around 6 days after the stock split.

Abnormal Average Return for Centum Ltd
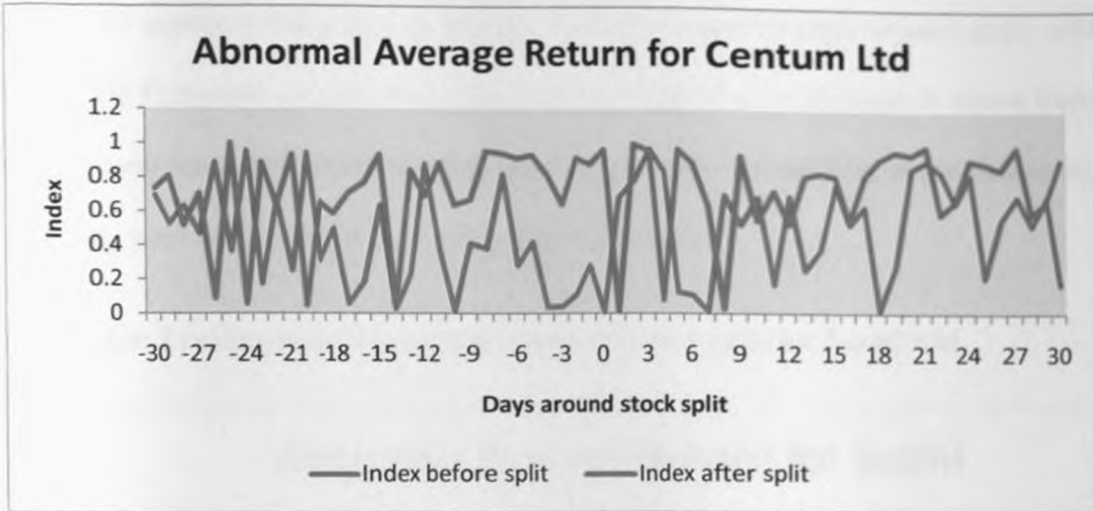
Figure 4.6 illustrates the trading index for Centum Ltd for the thirty days sorrounding the stock split. Results from tnhis study indicated that there was higher number of shares traded just aroiung the date of split. The number was, however maintained high throughout the entire period of study.

Figure 4.7: Trading index against days around stock split for Kenya Oil Company Ltd

Abnormal Average Return for Kenya Oil Company Ltd
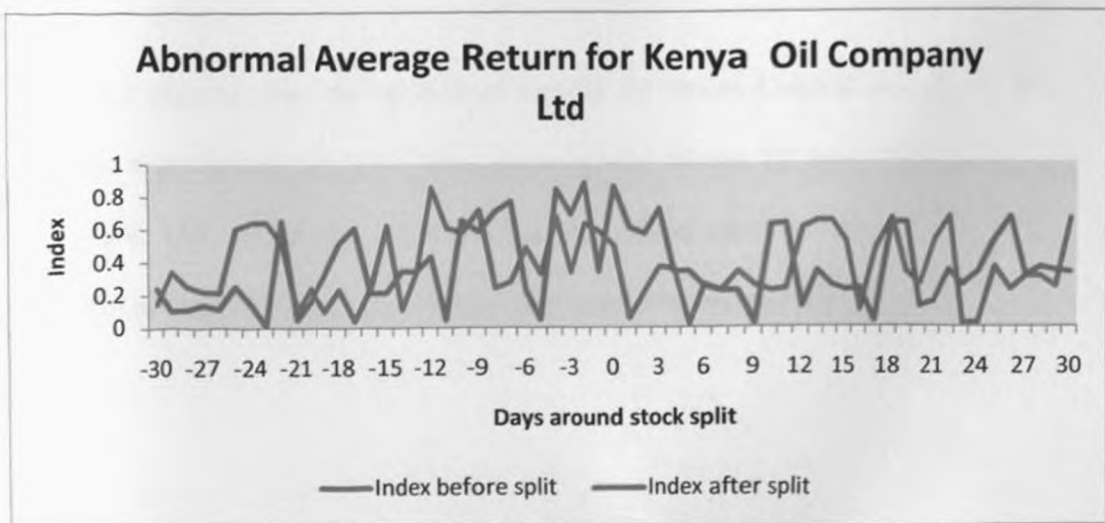
Figure 4.7 shows a line graph on trading index ratio against days around stock split for Kenya Oil Company Limited. From the findings, there was an increase in shares traded in days around the split as well as from day 12 onwards. In addition more shares for the compony were traded after the split than before the split.

Figure 4.8: Trading index against days around stock split for Sasini Ltd
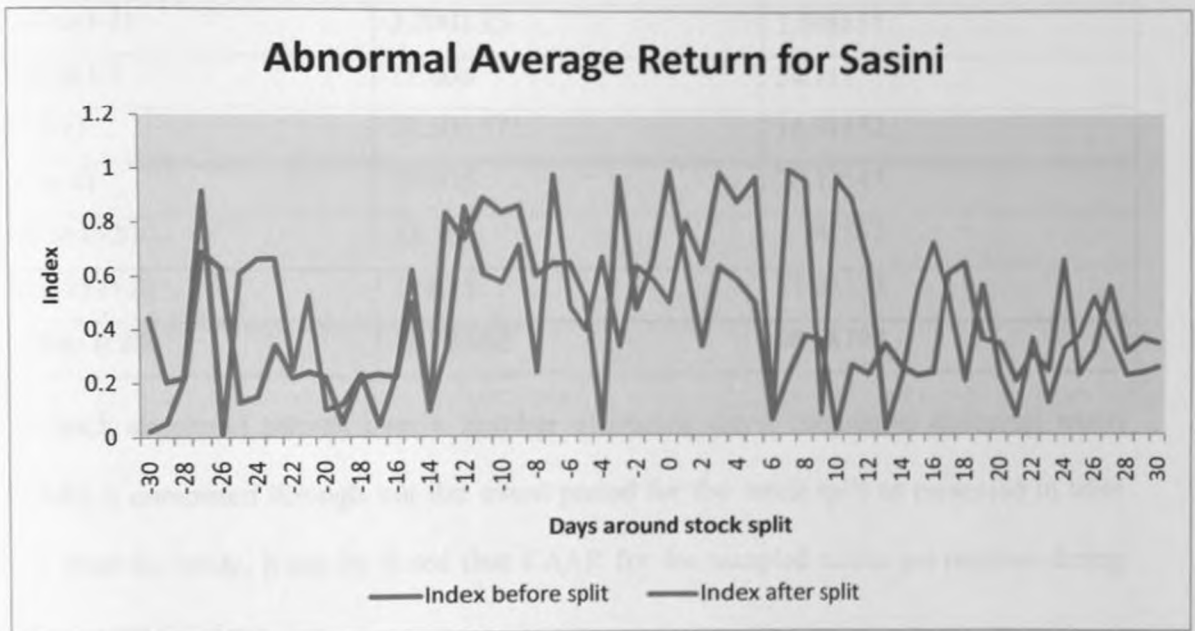
Figure 4.8 presents the level of trading activity for Sasini Limited stock split. The study indicates that trading activities were were highest during 12 days, before and after the stock split. The results also indicated that the trading activies after the split were more prevalent as compared to the number of shares sol;d before the split.

4.3 Abnormality of Returns Following Split Announcement

The study analysed the returns of the split shares and compared the same with the market returns so as to establish the abnormality of returns following stock splits.

Table 4.1: CAR across the Event Windows

Days	Mean of CAR	Variance
t-30 to t-21	3.200135	2.698851
t-20 to t-1	11.606	54.117
t0 to t1	30.50557	16.91172
t-1 to t1	29.065	26.12547
t+2 to t+20	22.383	1.745567
t+20 to t+30	29.035	57.56523
t-30 to t+30	16.28562	98.38799

To track abnormal returns over a number of trading days, cumulative abnormal return (CAR) is computed through out the event period for the stock split as presented in table 4.3. from the table, it can be noted that CAAR for the sampled stocks are positive during entire event window.

Table 4.2: Average Abnormal Returns

Days	AAR	t	Sig. (2-tailed)
-30	.4375	.816	.451
-29	1.3938	2.180	.081
-28	.5875	1.342	.237
-27	.7102	-1.000	.363
-26	1.0529	-.267	.800
-25	.3839	.951	.385
-24	.2612	1.410	.218
-23	.4774	.866	.426
-22	.3698	-.635	.554

-21	.3845	-1.230	.273
-20	.6196	.361	.733
-19	.4158	-.523	.623
-18	.3621	2.191	.080
-17	.4290	1.210	.280
-16	.2057	.735	.495
-15	.1673	.261	.805
-14	1.0176	.565	.596
-13	1.7646	1.066	.335
-12	1.2849	4.912	.004
-11	.3819	2.378	.063
-10	2.6129	2.938	.032
-9	.5799	3.022	.029
-8	1.4308	1.120	.314
-7	.5264	2.515	.053
-6	1.2743	.059	.955
-5	.3490	.262	.804
-4	.2696	1.926	.112
-3	.8296	1.390	.223
-2	1.0894	2.629	.047
-1	2.3329	1.967	.106
0	4.5166	1.834	.126
1	3.2317	-1.841	.125
2	.8559	-2.758	.040
3	.2945	-1.660	.158
4	.2251	-1.346	.236
5	.1447	.656	.541
6	.0607	-1.318	.245
7	.1299	.365	.730
8	.0411	-1.637	.163
9	.0692	-1.380	.226
10	.1885	-.131	.901
11	43.0224	.993	.366
12	1.5179	.171	.871
13	.1160	.974	.375
14	.2478	-.869	.424
15	1.1385	-1.404	.219
16	2.3328	-.104	.921
17	.7888	-1.196	.285
18	.2792	-.537	.614

19	.2432	.756	.483
20	.3464	1.020	.355
21	.2046	.438	.680
22	.7916	-1.897	.116
23	.1092	-1.144	.304
24	.8801	.081	.939
25	.0676	-.167	.874
26	.9100	-.024	.981
27	.4095	-.217	.837
28	1.2688	1.869	.121
29	17.2388	.716	.506
30	.2198	-.280	.790

The study sought to establish the variability of the stock return following the stock split announcements thus determine the market reaction to stock splits. The information presented in table 4.3 shows that that the variability in stock prices do increase erratically with time though there is more variability in the days preceding and after stock splits. In 2006, the security return variability rose to 11.1829, in 2004 the SVR rose to 6.0276 while in 2010 the SRV was 0. However, the t-significance shows 15 of the statistics were significant; 10 of which were in the post-announcement period. 6 out of the 10 were between t0 and t15.

The announcement day had an average ASRV of 3.9164 at 95% confidence level. Apart from day t1, t11, t15, t12, t15, t16, t22, t24, t26, t28 and t29, other periods had ASVR of less than 1. Results support the semi-strong form efficient market hypothesis since stock prices adjust so fast to public information that no investor can earn an above normal return by trading on the announcement day and period thereafter.

Table 4.3: Average Security Returns Variability

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Day	2004	2006	2007	2008	2010	Mean (ASRV)	STDEV	T-stat	Sig
-30	0.6486	1.3738	0.1320	0.0006	0.0323	0.4375	0.5234	2.047	0.096
-29	0.3331	1.1696	0.0052	5.0313	0.4296	1.3938	1.8582	1.837	0.126
-28	0.2113	0.4419	0.0055	1.8121	0.4668	0.5875	0.6349	2.267	0.073
-27	0.8964	1.2381	0.0083	0.0640	1.3443	0.7102	0.5702	3.051	0.028
-26	0.0594	1.7334	0.0119	2.8981	0.5617	1.0529	1.1117	2.320	0.068
-25	0.0346	0.5069	0.0272	0.0663	1.2843	0.3839	0.4850	1.939	0.110
-24	0.1453	0.3684	0.0059	0.7253	0.0612	0.2612	0.2629	2.434	0.059
-23	0.4345	1.2624	0.0110	0.0000	0.6792	0.4774	0.4699	2.488	0.055
-22	0.9193	0.4620	0.0967	0.1838	0.1871	0.3698	0.3010	3.009	0.030
-21	0.1250	0.2239	0.0206	1.5485	0.0043	0.3845	0.5874	1.603	0.170
-20	1.8711	0.0976	0.0073	1.0621	0.0597	0.6196	0.7380	2.057	0.095
-19	1.4651	0.0977	0.2385	0.1619	0.1160	0.4158	0.5269	1.933	0.111
-18	1.5442	0.1007	0.0005	0.0140	0.1512	0.3621	0.5936	1.494	0.195
-17	1.4605	0.0906	0.1224	0.1863	0.2852	0.4290	0.5200	2.021	0.099
-16	0.3775	0.3061	0.0322	0.2179	0.0949	0.2057	0.1282	3.932	0.011
-15	0.2186	0.0801	0.0000	0.0698	0.4682	0.1673	0.1663	2.465	0.057
-14	3.3650	0.5328	0.0030	0.9100	0.2773	1.0176	1.2111	2.058	0.095
-13	0.1503	0.1016	0.0007	8.5670	0.0036	1.7646	3.4017	1.271	0.260
-12	1.1081	0.0097	0.0199	5.2345	0.0523	1.2849	2.0187	1.559	0.180
-11	0.1222	0.0110	0.0252	1.7412	0.0097	0.3819	0.6810	1.374	0.228
-10	8.6351	0.0727	0.0102	0.0206	4.3257	2.6129	3.4394	1.861	0.122
-9	1.7088	0.0885	0.5916	0.1192	0.3914	0.5799	0.5939	2.392	0.062
-8	0.0597	0.0162	0.9214	2.4875	3.6694	1.4308	1.4331	2.446	0.058
-7	1.5091	0.0529	0.5722	0.2748	0.2228	0.5264	0.5191	2.484	0.056
-6	0.0842	0.0006	1.6167	0.0506	4.6194	1.2743	1.7801	1.754	0.140
-5	0.0534	0.0436	0.9875	0.2656	0.3947	0.3490	0.3457	2.473	0.056
-4	0.1488	0.0395	0.0364	0.0256	1.0976	0.2696	0.4164	1.586	0.174
-3	1.8347	0.0239	0.3873	0.1905	1.7117	0.8296	0.7799	2.605	0.048
-2	0.1197	1.3491	0.1161	2.1002	1.7619	1.0894	0.8281	3.222	0.023
-1	1.1701	1.5539	0.8913	7.6982	0.3512	2.3329	2.7111	2.108	0.089
0	6.0276	11.1829	1.4889	3.8835	0.0000	4.5166	3.9164	2.825	0.037
1	1.7725	1.5187	11.4097	0.9723	0.4855	3.2318	4.1131	1.925	0.112
2	0.0095	1.3087	0.6040	0.8164	1.5409	0.8559	0.5396	3.886	0.012
3	0.1961	0.6457	0.1237	0.2454	0.2614	0.2945	0.1820	3.962	0.011
4	0.1557	0.7719	0.0919	0.0585	0.0473	0.2251	0.2760	1.997	0.102
5	0.0528	0.5394	0.0007	0.1295	0.0011	0.1447	0.2029	1.747	0.141
6	0.0150	0.0761	0.0446	0.0850	0.0829	0.0607	0.0271	5.491	0.003
7	0.2558	0.0381	0.2120	0.1435	0.0000	0.1299	0.0981	3.244	0.023

8	0.1180	0.0317	0.0067	0.0164	0.0328	0.0411	0.0397	2.540	0.052
9	0.0072	0.2737	0.0116	0.0351	0.0185	0.0692	0.1027	1.651	0.160
10	0.0068	0.3708	0.1417	0.3916	0.0316	0.1885	0.1639	2.817	0.037
11	214.6492	0.3502	0.0016	0.1090	0.0020	43.0224	85.8135	1.228	0.274
12	6.1295	0.3091	0.0743	1.0443	0.0324	1.5179	2.3342	1.593	0.172
13	0.2915	0.1659	0.0146	0.0015	0.1063	0.1160	0.1066	2.666	0.045
14	1.0206	0.0698	0.0067	0.0145	0.1276	0.2478	0.3888	1.561	0.179
15	4.2719	0.0696	0.3222	0.0757	0.9529	1.1385	1.5994	1.744	0.142
16	11.1580	0.0147	0.0383	0.0217	0.4311	2.3328	4.4154	1.294	0.252
17	1.8423	0.5083	1.2693	0.2973	0.0269	0.7888	0.6696	2.886	0.034
18	0.0006	0.9078	0.2314	0.1860	0.0700	0.2792	0.3248	2.105	0.089
19	0.6219	0.1468	0.3364	0.0009	0.1102	0.2432	0.2181	2.732	0.041
20	1.4733	0.0933	0.0766	0.0390	0.0496	0.3464	0.5638	1.505	0.193
21	0.2350	0.2919	0.1320	0.1195	0.2447	0.2046	0.0673	7.444	0.001
22	2.9286	0.1434	0.3916	0.2655	0.2287	0.7916	1.0715	1.810	0.130
23	0.1761	0.0454	0.0218	0.1182	0.1846	0.1092	0.0663	4.038	0.010
24	4.0701	0.0088	0.0245	0.2514	0.0459	0.8801	1.5974	1.350	0.235
25	0.1415	0.0364	0.0679	0.0890	0.0031	0.0676	0.0470	3.521	0.017
26	4.0063	0.0065	0.3650	0.0089	0.1631	0.9100	1.5537	1.435	0.211
27	1.1965	0.1299	0.0001	0.1074	0.6134	0.4095	0.4468	2.245	0.075
28	2.8722	0.0613	0.0720	2.8798	0.4587	1.2688	1.3201	2.354	0.065
29	84.3086	0.0194	0.0137	1.0001	0.8521	17.2388	33.5374	1.259	0.264
30	0.5859	0.2114	0.0197	0.2769	0.0049	0.2198	0.2115	2.546	0.052

Table 4.4: Average Value of ASRV for Stock Split Announcement

Estimation Period	Security Return Variability
From day -15 to day +15	4.3362
From day -15 to day -1	1.0607
From day 0 to day +15	3.4875
From day 0 to day +1	3.8742
From day -1 to day 1	3.3604
Form day -3 to day +3	1.8787
From day -7 to day +7	1.0753

To analyze the speed at which the stock market absorbs the stock split announcement in its

prices, the study presented the average security return variability across the announcement

8	0.1180	0.0317	0.0067	0.0164	0.0328	0.0411	0.0397	2.540	0.052
9	0.0072	0.2737	0.0116	0.0351	0.0185	0.0692	0.1027	1.651	0.160
10	0.0068	0.3708	0.1417	0.3916	0.0316	0.1885	0.1639	2.817	0.037
11	214.6492	0.3502	0.0016	0.1090	0.0020	43.0224	85.8135	1.228	0.274
12	6.1295	0.3091	0.0743	1.0443	0.0324	1.5179	2.3342	1.593	0.172
13	0.2915	0.1659	0.0146	0.0015	0.1063	0.1160	0.1066	2.666	0.045
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17	1.8423	0.5083	1.2693	0.2973	0.0269	0.7888	0.6696	2.886	0.034
18	0.0006	0.9078	0.2314	0.1860	0.0700	0.2792	0.3248	2.105	0.089
19	0.6219	0.1468	0.3364	0.0009	0.1102	0.2432	0.2181	2.732	0.041
20	1.4733	0.0933	0.0766	0.0390	0.0496	0.3464	0.5638	1.505	0.193
21	0.2350	0.2919	0.1320	0.1195	0.2447	0.2046	0.0673	7.444	0.001
22	2.9286	0.1434	0.3916	0.2655	0.2287	0.7916	1.0715	1.810	0.130
23	0.1761	0.0454	0.0218	0.1182	0.1846	0.1092	0.0663	4.038	0.010
24	4.0701	0.0088	0.0245	0.2514	0.0459	0.8801	1.5974	1.350	0.235
25	0.1415	0.0364	0.0679	0.0890	0.0031	0.0676	0.0470	3.521	0.017
26	4.0063	0.0065	0.3650	0.0089	0.1631	0.9100	1.5537	1.435	0.211
27	1.1965	0.1299	0.0001	0.1074	0.6134	0.4095	0.4468	2.245	0.075
28	2.8722	0.0613	0.0720	2.8798	0.4587	1.2688	1.3201	2.354	0.065
29	84.3086	0.0194	0.0137	1.0001	0.8521	17.2388	33.5374	1.259	0.264
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From day 0 to day +1	3.8742
From day -1 to day 1	3.3604
Form day -3 to day +3	1.8787
From day -7 to day +7	1.0753

To analyze the speed at which the stock market absorbs the stock split announcement in its

prices, the study presented the average security return variability across the announcement

periods. As indicated by the table, stock variability was more in post announcement period than pre-announcement period; while t-15 to t-1 had ASRV of 1.0607, t0 to t15 had ASRV of 3.4875. Between t0 and t1 the ASRV was 3.8742, t-1 to t1 had a variability of 3.3604. Day t-3 to t3 had ASRV of 1.8787 and t-7 to t7 had ASRV of 1.0753. Therefore, the stock market positively absorbed stock split contained information positively.

Using the data presented in, the study analyzed the cumulative abnormal return over time and presented the data in

In 2004, figure 4.1 shows that the abnormal return rose steadily but less steepy between t-30 to t-10 which then rose steepily towards the end of the event window.

4.4 The trading activity ratio against days around stock split

The findings of the study are presented in tables and graphs.

4.4.1 Advantages for investors

There are plenty of arguments over whether a stock split is an advantage or disadvantage to investors. One side says a stock split is a good buying indicator, signaling that the company's share price is increasing and therefore doing very well. This may be true, but on the other hand, you can't get around the fact that a stock split has no affect on the fundamental value of the stock and therefore poses no real advantage to investors. Despite this fact the investment newsletter business has taken note of the often positive sentiment surrounding a stock split. There are entire publications devoted to tracking stocks that split and attempting to profit from the bullish nature of the splits. Critics would say that this strategy is by no means a time-tested one and questionably successful at best.

4.4.2 Factoring in commissions

Historically, buying before the split was a good strategy because of commissions that were weighted by the number of shares you bought. It was advantageous only because it saved you money on commissions. This isn't such an advantage today because most brokers offer a flat fee for commissions, so you pay the same amount whether you buy 10 shares or 1,000 shares. Some online brokers have a limit of 2,000 or 5,000 shares for that flat rate, but most investors don't buy that many shares at once. The flat rate therefore covers most trades, so it does not matter if you buy pre-split or post-split.

A'priori, one would expect there to be a significant difference in the Actual Average Daily Returns (Day -30 to Day +30) and the Expected Average Daily Returns (Day -30 to Day +30) if the information surrounding the event impounds new, significant information on the market price of the firms' stock. If a significant risk adjusted difference is observed, then we support our hypothesis that this type of information did in fact significantly either increase or decrease stock price. To statistically test for a difference in the Actual Daily Average Returns and the Expected Daily Average Returns over the event period day -30 to day +30, we conducted a paired sample t-test for the three samples and found a significant difference at the 5% level between actual average daily returns and the risk adjusted expected average daily returns. Average Excess Return (AER) graphs are shown below. Results here support the alternate hypothesis $H2_1$: The risk adjusted return of the stock price of the sample of firms announcing stock splits is significantly affected around the announcement date as defined by the event period. This finding supports the significance of the information around the event since the market's reaction was observed.

Is it possible to isolate and observe the samples' daily response to the announcement from day -30 to day +30? If so, at what level of efficiency did the market respond to the information and what are the implications for market efficiency? Another purpose of this analysis was to test the efficiency of the market in reacting to the three samples of stock split announcements. Specifically, do we observe weak, semi-strong, or strong form market efficiency as defined by Fama, 1970, in the efficient market hypothesis? The key in the analysis is to determine if the AER and CAER are significantly different from zero or that there is a visible graphical or statistical relationship between time and either AER or CAER. T-tests of AER and CAER both tested different from zero at the 5% level of significance. Likewise, observation of the following CAER Charts (graphs of CAER from day –30 to day +30 for each sample) confirm the significant positive reaction of the risk adjusted returns for the two forward split samples up to 27 pre-announcement and a significant negative reaction for the reverse split sample up to 30 days prior to the stock split announcement.

ASBBS Annual Conference: Las Vegas February 2009 10 reverse splits. A total of 36,714 observations for the announcement samples and the corresponding S&P 500 stock index were analyzed using standard risk adjusted event study methodology. Results suggest that the firms' public stock split announcements did not affect stock price on the announcement day. Rather, for the two for one and three for two forward split samples, stock price exhibited a significant positive reaction up to 27 days prior to the announcement. For the reverse split sample, stock price exhibited a significant negative reaction up to 30 days prior to the announcement. Results support the semi- strong form efficient market

hypothesis since stock prices adjust so fast to public information that no investor can earn an above normal return by trading on the announcement day. Investors greet forward stock split announcement with a positive sign, whereas they view reverse splits as bad news. Management may be using stock splits to adjust stock price to a more marketable range, downward with forward and upward for reverse splits. Evidence here suggests signs of insider trading activity up to twenty-seven days prior to the announcement of the stock split.

As the price of a stock gets higher and higher, some investors may feel the price is too high for them to buy, or small investors may feel it is unaffordable. Splitting the stock brings the share price down to a more "attractive" level. The effect here is purely psychological. The actual value of the stock doesn't change one bit, but the lower stock price may affect the way the stock is perceived and therefore entice new investors. Splitting the stock also gives existing shareholders the feeling that they suddenly have more shares than they did before, and of course, if the prices rises, they have more stock to trade.

Another reason, and arguably a more logical one, for splitting a stock is to increase a stock's liquidity, which increases with the stock's number of outstanding shares. You see, when stocks get into the hundreds of dollars per share, very large bid/ask spreads can result (see Why the Bid/Ask Spread Is So Important.). A perfect example is Warren Buffett's Berkshire Hathaway, which has never had a stock split. At times, Berkshire stock has traded at nearly $100,000 and its bid/ask spread can often be over $1,000. By splitting shares a lower bid/ask spread is often achieved, thereby increasing liquidity.

CHAPTER FIVE

5.0 FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study, research findings, conclusions and recommendations, the chapter also gives suggestions for further studies

5.2 Summary of the study

The study aimed to investigate the impact of stock split on stock prices. The objectives of the study were to determine the relationship between stock splits on the stock prices after stock splits and to investigate the relationship between stock split and stock prices.The study analysed the returns of the split shares and compared the same with the market returns so as to establish the abnormality of returns for days sorrounding stock split.

The study made use residual analysis model to analyze the data found on the stock prices before and after the announcement of stock splits i.e 30 days surrounding stock splits. The model, hence, analyzed the consequences of the stock splits announcement on the returns of the specific stocks. The event study methodology was used to assess if there was any abnormal market reaction to announcement of stock splits. This was done by comparing the trading activity ratio of companies sampled before and after the stock split. The variable (changes in stock prices) which is determined by the stock split announcement

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were measured by evaluating the cumulative average abnormal returns (CAAR) following stock split announcement.

The study also made use of the Nairobi Stock Exchange Daily Price Index as a proxy for computing market return. This was done by getting the logarithm of the daily return to avoid serial correlation. The abnormal return observations were aggregated through time and across securities to draw an inference on the stock split event. The cumulative abnormal return for the event window was then calculated to accommodate the multiple periods.

5.3   Findings of the study

From the study it can be deduced that, the the Kenyan market reacts positively to stock splits, as indicated by the volumes of shares sold during the 30 days sorrounding the date of stock split. This study also iundicated that, for most companies listed in the NSE and whose shares had undergone split, the volume of shares after the actual day split tended to be higher than those sold before split. This indicates an increase in the trading activity after the stock split as compared to that before the stock split. The reason for this stock behavour could be the fact that, investors get information from the announcement of stock split, and thus reacting towards the particular stocks in an abnormal way and thus abnormal returns. On the split date, there was a positive average abnormal return of 0.641 which was very significant at 5% significant level (95% confidence level) as indicated under appendix I. Findings in this study can be supported by argument by Copeland (1979) who suggested that companies split their stock to bring it back to an optimal price, which in turn increased

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demand. Many of the splits that occurred in the Nairobi Stock exchange took place from the year 2006 when there was a bull run in the market, leading to an increase in share prices. Managers of the companies sought to split stock to encourage investors to purchase their stock which appeared cheaper.

Findings indicated that generally, there was an increase in the volumes of shares traded when stock splits were announced. This was especially so in the days around the stock splits. Trading activity was also seen to generally increase after the stock split as compared to that before the split especially for East African Breweries Limited and Kenyo Oil Company Limited as results of dividend payments announcement. At the same time, Nation Media Group did not influence the behavior of stock split by announcing the event since returns were found close to normal. In both cases, there was a much higher trading activity immediately following the split. The other companies showed increases in trading activities but not with disparities as high as the two. The findings showed there was a positive announcement effect on shares traded as a result of stock splits.

This study showed that there were positive mean returns with respect to stock splits. This was similar to the results reported by Grinblatt et al. (1984) who found that stock splits realized positive results around the split announcement dates. The study was also in agreement with the signaling hypothesis which stated that managers of companies split their stock to act as a means of passing information to stock holders and potential investors. Brennan and Copeland (1988) believed that managers only split their stock if they were optimistic that their future prices would rise, or at the very least not decrease.

5.4   Conclusions

From the study it can be learnt that, firms splitting their shares tend to underperform the non-splitting firms beyond one year after the split. Both size- and beta-adjusted excess returns are mostly negative in the second and third years following the split. Positive excess returns in the first year and subsequent negative excess returns in the second and third years after the split are similar to the short-term momentum and long-term reversals documented for stock returns in general. When firms are ranked on the market-adjusted excess returns in the six months prior to the split month, firms with the lowest 30% presplit excess returns do not exhibit post-split drift. This suggests that the generally positive excess returns in the first year following the split may be not underreaction to the split announcement per se, but rather the effect of momentum from presplit price runups.

5.5   Recommendations

From the study the researcher recommends that,

Bearing in mind that, most of time the announcement of events close to the stock split do stock splits do not happen, the capital market authority should develop policies to ensure that stock split pre-requisite for both the announcement date and the effective date are met.

There should be developed policies to ensure that stock split does not distablize the stock exchange system especially for companies that control the stock index significantly. The policies should also ensxure that the splint is done and received by investors with a greater marketability;

There should be enough training on the side of investors in order to enhance awareness on stock to balance the demand and supply and thus enhancing equilibrium in the market;

To avoid overstatement or understatement of the effect of the split announcement on stock prices, calculation of returns by the firms listed in the Nairobi Stock Exchange should be done with adequate consideration of the both the historical and pro forma data.

5.6 Suggestions for further studies

Given the scope and limitations of this study, the researcher suggests the following areas for further studies.

Since the comparisons done on the 9 companies were based purely on price trends and did not account for changes in the overall market conditions, a replica of the same study should be carried out considering every market conditions that could arise.

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APPENDICES

Appendix I: Introductory Letter

Chief Executive Officer,

Nairobi stock exchange,
Nairobi.

Dear Sir/Madam,

RE: PERMISSION TO CARRY OUT A RESEARCH ON IMPACT OF STOCK SPLITS ON STOCK PRICES AFTER THE SPLIT IN THE COMPANY.

I am a student at the University of Nairobi and in partial fulfilment of a Master's degree in Business Administration (MBA), I intend to carry out research in the bourse. The topic of the research will be 'Impact Of Stock Splits On Stock Prices' by taking a case of companies listed at the Nairobi Stock Exchange and have issued shares splits.

Your company is, thus, one of the main focuses for the study and the choice is based on fact that data on daily trading is readily available at the company's offices. I kindly request your assistance by licencing me to accesss the company's daily trading results of companies that have issued stock splits. Any documentations, reports or journals that you may have that are relevant to this topic of study may, thus, be availed to me at your discretion.

I will be glad if you kindly introduce me to the management. The research information will be confidential and will only be used for academic purpose.

 Thank you in anticipation

Yours Faithfully,

Onchwari E. N.

Appendix II: Companies that Have Issued Stock Splits

COMPANY	YEAR	RATIO
Kenya Oil Company Limited	2004	10:1
Equity Bank Ltd	12th Feb 2009	1:10
Nation Media Group Ltd	18th Mar 2008	2:1
Kenya Commercial Bank Ltd	5th Mar 2007	10:1
CMC Holdings Ltd	10th Aug 2007	10:1
Centum Investment Company Ltd	4th Oct 2007	10:1
E.A.Cables Ltd	10th Aug 2006	10:1
Barclays Bank Ltd	8th Nov 2006	1:5
ICDCI	4th Jan 2007	10:1
Sasini Co Ltd	14th Feb, 2007	5:1

Appendix III: Stock Index for Listed Companies

	AR1		AR2		AR3		AR4		AR5		AR6		AR7		AR8		AR9		
	Index before split	Index after split	Index before split	Index after split	Index before split	Index after split	Index before split	Index after split	Index before split	Index after split	Index before split	Index after split	Index before split	Index after split	Index before split	Index after split	Index before split	Index after split	Mean
-30	0.10012	0.93311	0.02321	0.4442	0.3355	0.0512	0.00124	0.94411	0.43902	0.0512	0.69235	0.13311	0.15022	0.2426	0.02321	0.4442	0.51506	0.21562	0.31885
-29	0.01493	0.61191	0.05253	0.2052	0.2935	0.91692	0.09991	0.94096	0.42321	0.63254	0.52561	0.20622	0.34112	0.1051	0.05253	0.2052	0.10306	0.66624	0.35537
-28	0.20155	0.13311	0.22322	0.2212	0.2026	0.91529	0.69116	0.9311	0.49132	0.96163	0.63254	0.51506	0.25413	0.1116	0.22322	0.2212	0.02164	0.95351	0.43917
-27	0.91692	0.20622	0.12921	0.1423	0.2426	0.01226	0.63014	0.04142	0.61191	0.22123	0.46163	0.10306	0.22261	0.1413	0.91529	0.69116	0.9626	0.94116	0.42183
-26	0.31529	0.51506	0.34411	0.415	0.9059	0.60933	0.12907	0.51506	0.13311	0.96621	0.22123	0.02164	0.21326	0.115	0.01226	0.63014	0.51455	0.91231	0.41603
-25	0.01226	0.10306	0.34092	0.2245	0.9916	0.66241	0.15022	0.10306	0.10622	0.95315	0.36621	0.99253	0.60322	0.25413	0.60933	0.12907	0.21225	0.99253	0.4337
-24	0.60933	0.02164	0.4311	0.2334	0.1493	0.66512	0.34192	0.02164	0.51506	0.21562	0.95315	0.0513	0.64131	0.14255	0.66241	0.15022	0.15226	0.0513	0.33381
-23	0.66241	0.99253	0.04142	0.51502	0.115	0.90219	0.25493	0.99253	0.10306	0.66624	0.11562	0.22114	0.64124	0.0101	0.66512	0.34192	0.34212	0.22114	0.43354
-22	0.66512	0.0513	0.25252	0.22041	0.25493	0.9119	0.22261	0.0513	0.02164	0.95351	0.66624	0.6366	0.51636	0.6506	0.25252	0.22041	0.204	0.6366	0.41048
-21	0.30219	0.22114	0.52543	0.24225	0.14255	0.96041	0.29326	0.22114	0.9626	0.94116	0.25351	0.9311	0.10215	0.0512	0.52543	0.24225	0.02215	0.95662	0.4387
-20	0.03511	0.6366	0.10129	0.22252	0.0109	0.5011	0.60322	0.6366	0.51455	0.91231	0.94116	0.04142	0.24153	0.1652	0.10129	0.22252	0.36956	0.02	0.34872
-19	0.30662	0.02915	0.12225	0.05122	0.6506	0.66241	0.64132	0.66624	0.21225	0.99253	0.31231	0.65257	0.10012	0.3201	0.12225	0.05122	0.11525	0.9621	0.38725
-18	0.5011	0.93197	0.23311	0.22114	0.0512	0.66512	0.64924	0.95351	0.15226	0.0513	0.49253	0.52543	0.23311	0.5131	0.23311	0.22114	0.94592	0.22114	0.43308
-17	0.45312	0.22103	0.04292	0.2322	0.9652	0.90219	0.51636	0.94116	0.34212	0.22114	0.0513	0.1013	0.04216	0.6102	0.04292	0.2322	0.06522	0.99132	0.38745
-16	0.22923	0.91931	0.24131	0.22219	0.3201	0.03511	0.10215	0.91231	0.204	0.6366	0.12114	0.16625	0.24131	0.2124	0.24131	0.22219	0.61655	0.95662	0.36667
-15	0.56512	0.01411	0.62261	0.5022	0.5931	0.90662	0.24953	0.99253	0.02215	0.95662	0.6366	0.93311	0.62261	0.2146	0.62261	0.5022	0.2124	0.02	0.51048
-14	0.41992	0.99253	0.11041	0.0969	0.6902	0.5011	0.10012	0.0513	0.36956	0.02	0.02915	0.04296	0.11041	0.34411	0.11041	0.0969	0.2146	0.9621	0.29237
-13	0.69597	0.0579	0.33223	0.83626	0.8184	0.95312	0.41673	0.88715	0.17585	0.9681	0.23197	0.84131	0.33223	0.34016	0.33223	0.83626	0.5346	0.66572	0.56979

-12	0.5769	0.88715	0.85911	0.73913	0.2146	0.96763	0.49732	0.97825	0.94592	0.88715	0.88109	0.68867	0.85211	0.4311	0.85911	0.73913	0.08	0.20872	0.68295
-11	0.22251	0.6366	0.60892	0.89217	0.5346	0.88783	0.25662	0.95662	0.06588	0.99732	0.37238	0.88715	0.60822	0.04742	0.60892	0.89217	0.4681	0.2112	0.56415
-10	0.70482	0.68279	0.57849	0.83926	0.08	0.96681	0.53312	0.08	0.67655	0.95662	0.0141	0.6366	0.57848	0.65257	0.57849	0.83926	0.7442	0.26047	0.57792
-9	0.85343	0.5022	0.7162	0.86298	0.4681	0.95315	0.48102	0.9681	0.09997	0.08	0.41063	0.66684	0.71613	0.58544	0.7162	0.86298	0.08	0.5017	0.58473
-8	0.41793	0.01411	0.24138	0.60388	0.7449	0.87568	0.48056	0.88715	0.69176	0.9681	0.38113	0.25357	0.24138	0.70723	0.24138	0.60388	0.6506	0.66847	0.53739
-7	0.24678	0.99732	0.97852	0.64732	0.08	0.66684	0.32418	0.6366	0.63014	0.88715	0.81887	0.24116	0.27852	0.76625	0.97852	0.64732	0.0512	0.66572	0.58569
-6	0.24163	0.95662	0.48545	0.64924	0.4681	0.95357	0.21264	0.02915	0.12907	0.6366	0.28166	0.21237	0.48545	0.23371	0.48545	0.64924	0.2658	0.20872	0.42136
-5	0.16178	0.08	0.39803	0.51636	0.9566	0.94116	0.67674	0.91381	0.15028	0.02915	0.42081	0.23029	0.32803	0.04826	0.39803	0.51636	0.3801	0.03511	0.39894
-4	0.24803	0.9681	0.67107	0.02816	0.4988	0.91237	0.6753	0.56209	0.34198	0.99096	0.03623	0.80223	0.67107	0.84131	0.67107	0.02816	0.5237	0.20662	0.53763
-3	0.7249	0.88715	0.33591	0.96956	0.9882	0.99853	0.71415	0.92861	0.85493	0.59	0.04839	0.64848	0.33598	0.68867	0.33591	0.96956	0.6908	0.5087	0.6788
-2	0.00738	0.6366	0.63451	0.47585	0.654	0.0579	0.33765	0.89326	0.22861	0.66689	0.8846	0.98393	0.63459	0.88047	0.63451	0.47585	0.8884	0.9539	0.60716
-1	0.09882	0.02915	0.5846	0.65662	0.3449	0.88715	0.29096	0.85813	0.89326	0.9119	0.9834	0.87698	0.5846	0.33993	0.5846	0.65662	0.9846	0.96763	0.64077
0	0.22066	0.93197	0.49869	0.9908	0.6693	0.6366	0.59	0.93904	0.09997	0.93197	0.08045	0.96984	0.4987	0.85989	0.49869	0.9908	0.5346	0.88783	0.65721
1	0.11717	0.88109	0.43963	0.8681	0.7226	0.91381	0.66689	0.99096	0.69176	0.88109	0.68491	0.08481	0.0579	0.60899	0.80223	0.67107	0.08	0.96681	0.61832
2	0.16593	0.97938	0.09723	0.59	0.29	0.56209	0.9119	0.59	0.63014	0.97938	0.78398	0.99739	0.22724	0.57242	0.64848	0.33598	0.4688	0.95385	0.59912
3	0.8268	0.91381	0.31932	0.66689	0.4779	0.92861	0.46047	0.66689	0.12907	0.91381	0.97004	0.95669	0.37235	0.72624	0.98393	0.63459	0.7449	0.87568	0.69822
4	0.7527	0.56209	0.24765	0.08	0.8379	0.89326	0.34285	0.9119	0.15028	0.56209	0.83841	0.08	0.35663	0.34232	0.87698	0.5846	0.08	0.66685	0.50925
5	0.46636	0.92861	0.00184	0.08	0.3952	0.85813	0.23099	0.96047	0.34198	0.92861	0.89704	0.9688	0.02	0.34232	0.96984	0.4987	0.4688	0.95357	0.57285
6	0.22237	0.89326	0.09997	0.9681	0.8892	0.93904	0.10993	0.92861	0.85493	0.99096	0.10229	0.88715	0.2621	0.25423	0.08481	0.0579	0.2566	0.24116	0.50237
7	0.68429	0.85813	0.69176	0.88715	0.7584	0.90044	0.64148	0.89326	0.22861	0.59	0.01212	0.6366	0.22714	0.22261	0.99739	0.22724	0.4288	0.21237	0.56099
8	0.43904	0.33036	0.63014	0.6366	0.3775	0.33123	0.31333	0.25213	0.23326	0.66623	0.62752	0.02215	0.34122	0.22326	0.95669	0.37235	0.2882	0.22852	0.40387
9	0.09603	0.53	0.12306	0.33036	0.2636	0.30531	0.17631	0.33036	0.72176	0.3113	0.52325	0.23127	0.25423	0.02227	0.08	0.35663	0.654	0.05783	0.2982
10	0.01938	0.66623	0.15022	0.53	0.2213	0.24252	0.36214	0.53	0.52627	0.36047	0.62445	0.54212	0.22261	0.62175	0.9688	0.02	0.3442	0.88715	0.43553
11	0.91933	0.3113	0.34132	0.66623	0.1211	0.65562	0.31333	0.66623	0.26742	0.34225	0.17303	0.72176	0.23326	0.63014	0.88715	0.2621	0.6693	0.6366	0.48986
12	0.93694	0.36047	0.25433	0.3113	0.22261	0.22564	0.72322	0.3113	0.23005	0.33036	0.63407	0.52627	0.60328	0.12306	0.6366	0.22714	0.7226	0.91381	0.46072

13	0.72543	0.34225	0.74255	0.36047	0.23326	0.33036	0.40333	0.20333	0.21074	0.32261	0.25643	0.20333	0.64731	0.34132	0.02215	0.34122	0.29	0.56209	0.36323
14	0.03968	0.33033	0.13602	0.34225	0.25213	0.53	0.2762	0.30531	0.54333	0.23326	0.37643	0.23005	0.64324	0.25433	0.23127	0.25423	0.4779	0.92861	0.3547
15	0.1921	0.20333	0.23137	0.33036	0.23036	0.66623	0.25522	0.24252	0.20334	0.25213	0.76142	0.21074	0.51636	0.22261	0.54212	0.22261	0.8379	0.89326	0.38967
16	0.77611	0.30531	0.22103	0.53	0.53	0.3113	0.04533	0.65562	0.31321	0.33036	0.53004	0.54333	0.10215	0.23326	0.72176	0.23326	0.3952	0.85813	0.42419
17	0.75409	0.24252	0.37337	0.66623	0.66623	0.36047	0.3423	0.22564	0.56203	0.53	0.6321	0.20334	0.47525	0.03337	0.52627	0.60328	0.8892	0.93904	0.50137
18	0.05125	0.65562	0.31321	0.3113	0.3113	0.34225	0.13323	0.34132	0.22261	0.34132	0.01374	0.3113	0.65662	0.63175	0.20333	0.64731	0.7584	0.90044	0.39702
19	0.5757	0.22564	0.56203	0.36047	0.46047	0.20333	0.27313	0.25433	0.23326	0.25433	0.27331	0.36047	0.3302	0.63014	0.56203	0.36047	0.3775	0.99123	0.40489
20	0.43618	0.20333	0.22261	0.34225	0.34225	0.30531	0.56417	0.74255	0.25213	0.74255	0.25253	0.34225	0.2621	0.12306	0.22261	0.34225	0.8636	0.90591	0.41487
21	0.98039	0.30531	0.07211	0.20333	0.1372	0.24252	0.53506	0.23602	0.43304	0.23602	0.30531	0.33036	0.53	0.15022	0.07211	0.20333	0.3952	0.85813	0.34587
22	0.45149	0.24252	0.36158	0.30531	0.4112	0.65562	0.03212	0.33137	0.20044	0.33137	0.24252	0.53	0.66623	0.34132	0.36158	0.30531	0.8892	0.93904	0.42212
23	0.84131	0.65562	0.12172	0.24252	0.6713	0.22564	0.56443	0.22103	0.33123	0.22103	0.65562	0.66623	0.02	0.25433	0.12172	0.24252	0.7584	0.90044	0.42862
24	0.18304	0.22564	0.32303	0.65562	0.4352	0.34132	0.0321	0.37337	0.05061	0.37337	0.22564	0.3113	0.02	0.33036	0.32303	0.65562	0.3775	0.99123	0.346
25	0.63827	0.31613	0.37272	0.22564	0.7335	0.25433	0.22412	0.30531	0.74245	0.31321	0.21613	0.23326	0.3621	0.53	0.37272	0.22564	0.8636	0.90591	0.43528
26	0.17139	0.55603	0.51544	0.31613	0.6011	0.74255	0.46047	0.24252	0.3113	0.32261	0.55603	0.25213	0.22714	0.66623	0.51544	0.31613	0.8213	0.84258	0.4687
27	0.62477	0.01723	0.36724	0.55603	0.5243	0.23602	0.34225	0.65562	0.46047	0.23326	0.63752	0.33036	0.30531	0.3113	0.36724	0.55603	0.1211	0.65568	0.40565
28	0.38706	0.3113	0.22261	0.3113	0.22261	0.33137	0.0276	0.22564	0.20123	0.36047	0.52335	0.53	0.30531	0.36047	0.22261	0.3113	0.22861	0.82564	0.32825
29	0.06125	0.36047	0.23326	0.36047	0.23326	0.22103	0.13555	0.34132	0.72623	0.34225	0.62445	0.66623	0.24252	0.34225	0.23326	0.36047	0.89326	0.99096	0.40936
30	0.44511	0.34225	0.25213	0.34225	0.4352	0.37337	0.67577	0.56443	0.34207	0.25433	0.17303	0.3113	0.65562	0.33033	0.25213	0.34225	0.85813	0.59	0.41887

Appendix IV: Companies Listed on NSE

MAIN INVESTMENT MARKET SEGMENT

Agriculture
1. Rea Vipingo Ltd.
2. Sasini Tea & Coffee Ltd.
3. Kakuzi Ltd.

Commercial and Services
1. Access Kenya Group
2. Marshalls E.A. Ltd.
3. Car & General Ltd.
4. Hutchings Biemer Ltd.
5. Kenya Airways Ltd.
6. CMC Holdings Ltd.
7. Uchumi Supermarkets Ltd.
8. Nation Media Group Ltd.
9. TPS (Serena) Ltd.
10. ScanGroup Ltd.
11. Standard Group Ltd.
12. Safaricom Ltd.

Finance and Investment
1. Barclays Bank of Kenya Ltd.
2. CFC Stanbic Bank Ltd.
3. Housing Finance Company of Kenya Ltd.
4. Centum Investment Ltd.
5. Kenya Commercial Bank Ltd.
6. National Bank of Kenya Ltd.
7. Pan Africa Insurance Holdings Co. Ltd
8. Diamond Trust Bank of Kenya Ltd.
9. Jubilee Insurance Co. Ltd
10. Standard Chartered Bank Ltd.
11. NIC Bank Ltd.
12. Equity Bank Ltd.
13. The Co-operative Bank of Kenya Ltd.

Industrial and Allied
1. Athi River Mining Ltd.
   BOC Kenya Ltd.
2. British American Tobacco Kenya Ltd.
3. Carbacid Investments Ltd.
4. Olympia Capital Holdings Ltd.
5. E.A. Cables Ltd.
6. E.A. Breweries Ltd.
7. Sameer Africa Ltd.
8. Kenya Oil Ltd.
9. Mumias Sugar Company Ltd.
10. Unga Group Ltd.
11. Bamburi Cement Ltd.
12. Crown berger (K) Ltd.
13. E.A Portland Cement Co. Ltd.
14. Kenya Power & Lighting Co. Ltd.
15. Total Kenya Ltd.
16. Eveready East Africa Ltd.
17. Kengen Ltd.

ALTERNATIVE INVESTMENTS MARKET SEGMENT
1. A.Baumann&Co.Ltd
2. City Trust Ltd
3. Eaagads Ltd
4. Express Ltd
5. Williamson Tea Kenya Ltd
6. Kapchorua Tea Co. Ltd
7. Kenya Orchards Ltd
8. Limuru Tea Co. Ltd