MARKET REACTION TO STOCK SPLIT S

Empirical Evidence from the Nairobi Stock Exchange

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Abstract

There are several theories that have been advanced to explain why companies split their stock. The most common ones are to achieve an optimal price range for liquidity, to achieve an optimal tick size and to signal managements’ confidence in the future stock price. This paper examined the effect of stock splits at the Nairobi Stock Exchange. This was achieved by studying nine companies that had undergone stock splits in the period 2002 to 2008. The study made use of the trading activity ratio to determine whether stock splits elicit any reaction in the Kenyan market. The study made use of daily adjusted prices for sample stock for the event window of 101 days, consisting of 50 days before and 50 days after the stock split. The event study methodology was employed in the determination of the effects of the split. Abnormal returns were calculated by use of the market model and t-tests are conducted to test the significance. The study found out that the Kenyan market reacts positively to stock splits, as shown by a general increase in volumes of shares traded around the stock split. There is also an increase in trading activity after the stock split as compared to that before the stock split. This is consistent with the signaling hypothesis, which states that managers of companies split their stock to act as a means of passing information to stock holders and potential investors. The study equally found out that on the split date and on days around the stock split, there was a positive average abnormal return that was very significant at 0.05% significance level. Results of the cumulative abnormal return indicated that there is a positive cumulative abnormal return across the different event windows.

Keywords: Stock Splits & Market Reaction

1. Introduction

1.1 General Background

Fama et al. (1969) defined a stock split as an exchange of shares in which at least five shares were distributed for every four formerly outstanding. This meant that stockholders got additional shares for every share previously held. Dhar and Chhaodharia (2008) found that splits occurred at any ratio; the most commonly used ones being 2:1, 3:2, 5:4, 4:3 etc. After a two for one (2:1) split, for instance, each shareholder had twice as many shares, but each represented a claim on only half as much of the corporation’s assets and earnings. Investopedia Staff (2005) saw a stock split as a corporate action, which increased the number of a corporation’s outstanding shares, achieved by dividing each share, which in turn diminished its price with the stock market capitalization remaining the same.

Onyango (1999) noted that stock splits and bonus issues occurred when the board of directors authorized a distribution of common shares to existing shareholders of the company. Distribution was done proportionately; hence shareholders ended
up with the same proportionate ownership they had before the split or bonus issue. Agreeing with this, Leung et al. (2005) reiterated that a stock split was a decision by the company's board of directors, to increase the number of shares outstanding by issuing more shares to current shareholders. A stock split then increased the number of shares in a public company. Savitri and Martani (2008) noted that with a split, each old share was split into a number of new shares with a reduced par value, leaving the total share capital unchanged. By stock split, every stock holder got additional stock without paying to the issuer company.

Wooldridge and Chamber (1983) noted that when a stock split occurred, the balance sheet items remained the same; except that the total number of outstanding shares of the company increased proportionately to the ratio of split. They also noted that a stock split was usually done by companies that had seen their share price increase to levels that were either too high, or beyond the price levels of similar companies in their sector. The primary motive was then to make shares seem more affordable to small investors, even though the underlying value of the company had not changed.

According to Grinblatt et al. (1984), stock splits were widely believed to be purely cosmetic since the corporation’s cash flows were unaffected directly. Theoretically, stock splits were thought to be cosmetic corporate events as they merely involved the breakup of one share into a certain number of shares and a reduction of a higher to a lower share trading price without changing shareholders’ wealth and relative shareholdings. However, although early empirical studies found no abnormal performance after stock splits, Fama et al. (1969) found a positively significant market reaction to stock split announcements. Stock splits then did not appear to be as cosmetic as they should be.

Simbovo (2006) found that the concept of stock split was relatively new in the Nairobi Stock Exchange, with the first split ever having occurred in 2004. As such, not much research had been done in the local market. While carrying out a research on the effects of stock splits and large stock dividends in the Kenyan stock market, two splits identified were those of Kenya Oil Company Limited (formerly Kenol/Kobil) and East African Breweries Limited, both of which occurred in the year 2004. Simbovo (2006) found that stock splits and stock dividends affected liquidity, being positive in the case of splits. These results were consistent with the trading range hypothesis, where managers split their stock when they felt they were not affordable. A split was then found to lower prices, as it made shares more affordable by avoiding odd lot trading costs.

Musau (2007) noted that there was a Bull Run that kicked off in the Nairobi Stock Exchange in the year 2006, which made the market gain more than 50%. As earnings of companies increased, so did the demand for shares by the public. The price appreciation forced many companies to split shares owing to the nature of majority of the Kenyan investors. Companies such as Kenol/ Kobil (Kenya Oil Company Limited), East African Cables Limited, CMC Holdings Limited, ICDCI (Centum Investments Company Limited) and Barclays Bank Limited that were highly priced opted to split shares to make them affordable to the public, and to benefit the company as well as potential investors. Musau (2007) also noted that before the companies split their stock, two typical market conditions were witnessed. First, there was a high demand for companies’ shares which propelled the prices upwards. Secondly, more retail investors took up positions so as to qualify from the split multiples.

Although stock splits seemed not to contribute to firm value, there were some hypotheses that supported stock split as a signaling device. Fama et al. (1969) suggested that splits acted as a means of passing information from managers to stockholders. By announcing splits, a company reduced any information asymmetries that might have existed between stockholders and management. Some hypotheses considered that there was an optimal trading range of stocks and stock splits helped adjust the stock prices to be within optimal range. Copeland (1979) noted that firms split their stock to keep stock prices within an optimal trading range; a price range within which trading was most liquid for stocks of a company. Further, Copeland (1979) agreed that an increase in trading volume either from signaling or optimal trading range enhanced stock prices eventually.

Other hypotheses advocated for improved liquidity and the existence of an optimal tick size. Baker and Powell (1993) revealed that the main motivation for the executives to split stock was for improved liquidity. High-priced stocks tended to be illiquid due to the psychological reason and transaction costs. Therefore, when the prices climbed up to a certain level, the executives split the stock to lower prices to facilitate trading and hence enhance liquidity. Angel (1997) came up with the notion that companies strived for an optimal tick size, noting 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.
Lakonishok and Lev (1987) noted that the optimal trading range hypothesis suggested that a stock split and a stock dividend changed the stock price to more optimal trading ranges, which in turn increased the demand for stock, leading to a positive stock price effect. Lamoureux and Poon (1987) reported that the number of shareholders increased after a split. Charitou et al. (2005) found substantial gains to shareholders around the announcement and execution of splits. Elfakhani and Lung (2003) examined stock splits in the Canadian market and found that stock split announcements resulted in positive cumulative abnormal returns. A market was then said to react positively to a stock split if there was a higher demand for stock following a split, or if it resulted in a substantial gain in the number of shareholders. Results to the contrary indicated a negative effect or no effect at all.

Wooldridge and Chamber (1983) came up with another version of a stock split; the reverse split. They noted that the procedure was typically used by companies with low share prices that wanted to increase prices to either gain more respectability in the market or to prevent the company from being de-listed. This was found to be because many stock exchanges de-listed stocks if they fell below certain prices per share. They found that the announcement of a reverse split elicited a negative stock market response. They saw a notable difference between stock split and reverse split being that, while regular splits could be ends in themselves as vehicles to correct stock undervaluation, reverse splits did not aim at signaling the firm value but at moving share prices to more attractive trading ranges.

1.2 Reasons Why Companies Split Their Stock

The most common theories that are used to explain why companies split their stock include the motive to achieve an optimal price range for liquidity, to achieve an optimal tick size and to signal managements’ confidence in the future stock price.

The Optimal Price Range Hypothesis: Copeland (1979) came up with the notion that a stock split changed stock prices to a more optimal price, which in turn increased demand for the stock. Their hypothesis of the optimal price range stated that there was a price range within which trading was most liquid for stocks of a company. Firms were found to split their stock to keep prices within an optimal trading range. Baker and Powell (1993) revealed that the main motivation for the executives to split stock was for improved liquidity. High-priced stocks were found to be illiquid due to the psychological reasons and transaction costs. Therefore, when the prices climbed up to a certain level, the executive split the stock to lower prices which facilitated trading, hence they enhanced liquidity.

Conroy and Harris (1999) agreed with the optimal price range hypothesis and noted that when a stock became too expensive, a split brought it back to the optimal price range. Lakonishok and Lev (1987) argued that there existed benchmark values regarding stock prices and managers were guided by these comparative figures. Lamoureux and Poon (1987) also in agreement with this hypothesis noted that the managers’ expected stocks trading at lower prices to be generally more liquid and to attract a larger pool of potential investors. Managers were then found to make use of splits to extend their shareholder base, since the lower stock prices were more attractive to minority shareholders.

The Signaling Hypothesis: A signaling model for stock splits was first proposed by Brennan and Copeland (1988). According to the signaling theory, splits acted as a means of passing information from managers to stockholders. The signaling model of stock splits showed that stock splits served as costly signals of managers’ private information because trading costs increased as stock prices decreased. They built up the hypothesis from Fama et al. (1969), who suggested that by announcing splits, a company could reduce any information asymmetries that might have existed between stockholders and management. The stock price reduction resulting from a split then conveyed management’s conviction of rising future earnings. Since a stock split usually required a significant cash outlay, and because sending a false signal would punish the company with an unusually low stock price, a stock split was often seen as a more credible form of information diffusion than road shows or press releases.

Benartzi et al. (2005) argued that management split their stocks only if it considered the current level of stock price and earnings to be permanent. Brennan and Copeland (1988) saw the essence of signaling argument as being that managers only split their stock if they were optimistic that the future share prices would increase, or at the very least not decrease. If a manager believed that the future share prices would decrease, they would not be willing to split stock due to the increased cost of trading lower-priced stocks. McNichols and Dravid (1990) noted that managers did not explicitly intend for the split to be a positive signal about future prospects of the firm, but the split could still convey information to the market.
Agreeing with the signaling hypothesis theory, Conroy et al. (1999) found excess returns after stock splits were considerably higher when shareholders were surprised by a larger-than-expected split. Financial analysts were also found to increase their earnings forecast notably when the split factor was greater than expected. Excess returns earned by market participants then tended to be significantly higher when a company’s management decided on a split factor that the stock price would fall below an expected level.

The Optimal Tick Size Hypothesis/ Market-Maker Hypothesis: Angel (1997) came up with the market-maker hypothesis, which suggested that companies strived for an optimal tick size. The tick size was the minimum change in share prices. They noted that if there was a constant absolute tick size, the management of a company could influence the relative tick size through a stock split, that being the tick size in relation to the stock price. Recently, academics paid attention to the role of tick size on the decision of stock distributions. Most equity markets had rules on tick size; the minimum price variation. Therefore, the primary difference between equity markets was whether they used a single absolute tick size that applied to most stocks, or a tick size set that was a function of stock prices.

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. Larger tick sizes were found to make trading expensive, especially for smaller traders. Admani et al. (1989) also noted that the relative tick size was more influential on trading decisions and could even affect stock variation. Schultz (2000) agreed with the optimal tick size hypothesis, and suggested that if there was an absolute constant tick size on the stock exchange, a company’s management could influence the relative tick size relative to the stock price through a split. The tick size was then important in that a high tick size was conducive for market making, and it made it more profitable.

1.3 Positive Effects of Share Split

Several empirical studies reported excess returns on the announcement and effective dates of stock splits. Grinblatt et al. (1984) found that, in the period from 1967 to 1976, their sample of stocks realized excess returns during the three days surrounding stock split announcements. The findings of Desai and Jain (1997) pointed in the same direction, revealing that following stock splits, there was an excess return after a holding period of one year. After a holding period of three years, there was an even higher excess return. Ikenberry et al. (1996) examined two-for-one stock splits by NYSE and ASE firms from 1975 through to 1990 and obtained similar results. They observed excess returns in the first year after a stock split and better results in the first three years following a split. These gains were preceded by excess returns on the announcement date.

The findings of positive excess returns were also found in other markets. In their paper, Wu and Chang (1997) found excess returns on the Hong Kong Stock Exchange. They examined 67 splits in the period from 1986 to 1992, and found the excess returns over the three days surrounding a split announcement amounted to an astounding 18.2%. Similar observations were made in the German Stock Exchange. Wulff (2002) reported excess returns during the four days following stock split announcements as well as during the four days after the effective date. Bechmann and Raaballe (2004) reported positive and significant announcement effect for Danish stock splits. They explained this announcement effect as a consequence of an increased payout of the splitting companies. In another paper, Elfakhani and Lung (2003) examined the situation in Canada and found that stock split announcements resulted in positive cumulative abnormal returns.

Wulff (2002) noted that the liquidity hypothesis took the form of the trading range hypothesis, which stated that companies tended to move their share prices towards an optimal perceived trading range after the share price had risen substantially. Lakonishok and Lev (1987) agreed with this hypothesis, suggesting that a stock split changed the stock price to a more optimal trading range, which in turn increased the demand for stock, leading to a positive stock price effect. Consequently, when a stock became too expensive, Conroy and Harris (1999) noted that a split brought its price back into the optimal price range. Managers were seen to engineer splits to return their company’s share price to a particular level that was remarkably stable over time. Similar to financial ratios for different sectors, Lakonishok and Lev (1987) agreed that there existed benchmark values regarding stock prices and managers were guided by comparative figures.

An alternative focus of much research was on the preferred trading range hypothesis, where managers split their stock following a major run-up in price to bring it back down to a lower trading range. Lamoureux and Poon (1987) realized that the managers’ expectation was that stocks trading at lower prices were generally more liquid and attracted a larger pool of potential investors. Managers then made use of splits to extend their shareholder base.
since the lower stock prices were more attractive to minority shareholders.

Consistent with a notion that shareholder base increased in the wake of a split, Angel et al. (2004) noted that there seemed to be increased trading activity by retail shareholders after a stock split. The activity of small-sized shareholders was found to have doubled over a 40-day period following stock splits. Trading activities of uninformed market participants were also seen to have increased following splits. Easley et al. (2001) also noted a slight shift of uninformed shareholders toward market orders; results that were consistent with the extension of the shareholders base, given that informed trading also increased.

Agreeing with the trading range hypothesis, Chemmanur et al. (2008) noted that the hypothesis applied primarily to retail, rather than to institutional investors. This they found to be because unlike retail investors, institutional investors did not face wealth constraints. Furthermore, institutions faced trading costs that were different from those of retail investors to the extent that they typically traded much larger positions, so that a lower stock price could cost institutions more in terms of brokerage commissions and other trading costs. These transactions cost aspect of splits was then found to make stocks less desirable for institutional investors after a split. The second reason found was that the information production hypothesis applied primarily to institutional rather than retail investors.

Brennan and Hughes (1991) argued that the dependence of the brokerage commission rate on share price increased the incentive of brokerage firms to produce information about firms after a split due to the increased commissions paid to the brokerage firm, thus ensuring that the splitting firm’s stock was priced closer to intrinsic value. Given that institutional investors had a long-term relationship with brokerage firms, institutional investors were likely to have significantly better access to the information produced by brokerage firms compared to retail investors. Irvine et al. (2007) presented evidence that brokerage analysts provided information to some institutional investors before publicly releasing the information. Further, given that they possessed economies of scale in the analysis and use of this information, institutional investors were likely to have better incentives and ability to process the information appropriately compared to retail investors.

It was also hypothesized by Baker and Gallagher (1980) that small investors could not afford to buy round lots when share prices were too high and that lowering the stock price attracted more small investors. Supporting this view, Schultz (2000) documented that empirical evidence of a higher presence of small buy orders were found around the time of the split. Lakonishok and Lev (1987) argued that splits helped return stock prices to their ‘normal’ trading range and showed that post split prices tended to converge to historic levels. Additionally, McNichols and Dravid (1990) showed that the stock split factor was larger, the further away the price was from ‘the norm’.

Several studies considered the relation of announcement effect to stock split. Fama et al. (1969) noted that stock splits were associated with a positive stock market effect, which acted as a means of passing information by management. Benartzi et al. (2005) argued that management split stocks only if it considered the current level of stock price and earnings to be permanent. Brennan and Copeland (1988) saw the essence of signaling argument as being that managers only split their stock if they were optimistic that the future share prices would increase, or at the very least not decrease. If a manager believed that the future share prices would decrease, they would not be willing to split the stock due to the increased cost of trading lower-priced stocks. McNichols and Dravid (1990) noted that managers did not explicitly intend for the split to be a positive signal about the future prospects of the firm, but the split could still convey information to the market. Institutional owners would then be in a better position to take advantage of the signal compared to individual owners, either because they traded much more than individuals and were not as wealth constrained or that they were more efficient at interpreting and processing the signal.

Grinblatt et al. (1984) realized that stock splits required a significant cash outlay and sending a wrong signal would punish the company with an unusually low stock price. A stock split was then seen as a more credible form of information diffusion. Furthermore, competitors would not get access to information and management would not be held responsible for making false promises about the future prospects when simply splitting the company’s stock. They also noted that due to the split, there was increased attention from the media, attention that further boosted stock prices. Ikenberry et al. (1996) found that there was an inverse relationship between firm size and announcement returns. They also noted that institutional investors had a tendency to ignore small firms since less information was generally available. Information generated by stock splits was then much more valuable to small firms than to larger ones whose information was in abundance. Lamoureux and Poon (1987) however cast doubt on
the notion that increased attention was necessarily favorable to stock prices. They believed then that just getting their name mentioned was then not enough to yield positive results.

Confirming the signaling hypothesis theory, Conroy et al. (1999) found excess returns after stock splits were considerably higher when shareholders were surprised by a larger-than-expected split. Financial analysts were also found to increase their earnings forecast notably when the split factor was greater than expected. Excess returns earned by market participants then tended to be significantly higher when a company’s management decided on a split factor that the stock price would fall below an expected level. Asquith et al. (1989) found that regular splitting firms had superior earnings performance in the years before the splits. The regular stock split conveyed to the market that the favorable pre-split performance was not temporary and would persist in the post-split years. This was found to be significant even after adjusting for contemporaneous industry performance. These two findings supported the signaling hypothesis that stock distribution itself conveyed the information of pre-split earning performance to the market. A comprehensive analysis of stock splits performance by Fama et al. (1969) found that abnormal returns in the month of the announcement were positive.

Subsequent studies by Ikenberry et al. (1996) found positive abnormal returns on the announcement day and on the days immediately surrounding, and that at the announcement period, abnormal returns were negatively related to post-split price. Brennan & Hughes (1991) noted that the lower the post-split price, the more optimistic and credible the manager’s signal was thought to be. Brennan & Copeland (1988) also found that the more negatively correlated the stock splits were with market capitalization, the more abnormal returns were larger for smaller firms. This was consistent with the hypothesis that more information was already impounded in market prices for larger firms, which presumably had greater investor visibility and trading interest, and was more likely to be optioned.

Fama et al. (1969) noted that dividend increases were positively associated with split announcements. About two-thirds of the split announcements were found to be closely associated in time with a dividend increase. Desai & Jain (1997) found that abnormal announcement period returns were also shown to be positively related to increases in dividends. Byun & Rozeff (2003) examined the post-split performance of 12,747 stock splits from 1927 to 1996 using calendar time regression analysis, as well as size and book-to-market reference portfolios. They found small or negligible abnormal returns, and concluded that the long-term stock split evidence against market efficiency was neither pervasive nor compelling.

Several studies found positive relations between split announcements and subsequent earnings, and forecast revisions. Ikenberry and Ramnath (2002) examined the earnings and analysts’ forecast revisions in the year after splits, using calendar time analysis, among other tests. They found that (1) the earnings of split stocks had fewer tendencies to contract than those of carefully-selected control stocks (2) analysts’ earnings forecasts tended to be pessimistic when the splits were announced, and (3) analysts tended to revise their forecasts only slowly afterward. Similar linkages were found between announcement period returns and forecast revisions. McNichols and Dravid (1990) hypothesized that splits conveyed information about future earnings, and further, that the split factor itself conveyed additional information. They found a positive relation between announcement period returns and analysts' earnings forecast errors and the split factor. Conroy and Harris (1999) related split announcement period abnormal returns to subsequent changes in analysts' earnings forecasts, and found a significant relation between forecast revisions and the extent to which the split factor was unexpected. The general conclusion of these studies was that positive announcement period returns were at least in part the result of positive information about the firm’s future performance.

Savitri and Martani (2008) noted that when information asymmetry existed, signaling theory suggested that companies with superior performance used financial information to send signal to the market. Stock splits were then seen to contain information, since the activities gave investors signaling effect to the market. They increased the investor perception about future earnings. Ross (1977) showed that if the cost of signal was higher for bad type of information than it was for good type, then the bad type could not find it worthwhile to mimic, and so the signal could be credible. This was because managers expected this to provide a good signal about their company’s performance to the market, and thus reduced information asymmetry. Grinblatt et al. (1984) argued that stock splits conveyed information about the current performance and future prospects of the splitting firms.

Admati et al. (1989) also noted that the relative tick size (absolute tick size relative to stock price) was more influential on trading decisions and even affected stock variation. Many researchers supported the belief of optimal relative tick size and developed models to estimate the optimal relative tick size.
Schultz (2000) suggested that if there was a constant absolute tick size on the stock exchange, a company’s management could influence the relative tick size relative to the stock price through a split. The tick size was important in that a high tick size was conducive for market making, and it made it more profitable. This was then likely to boost liquidity. Splits then increased the profitability of market making and hence increased the incentives to promote a stock. Additionally, high tick sizes eased price negotiations because reductions in possible execution prices reduced the time necessary to agree on the execution price. High tick prices, however, increased transaction costs for investors.

Anshuman and Kalay (2002) developed a market micro structure model based on a ‘rational expectations’ model of trade, that explained the benefit of an optimal effective tick size by distinguishing between two elements of the bid-ask spread: i) the asymmetric information component that resulted from the ratio of informed vs. uninformed traders in the market and ii) the discreteness related spread, due to the tick size relative to the price. They showed that if the effective discreteness related cost was higher, uniformed traders committed to searching for the optimal time to trade. As a result, these traders showed up to trade in the market at the same time, thus they lowered the ratio of informed to uninformed traders in the market in a given period, and hence reduced the asymmetric spread. Therefore, in equilibrium, firms equated the marginal cost and marginal benefit of these two spread components and found the optimal effective tick size. Anshuman and Kalay (2002) presented empirical evidence in support of this model.

A related argument by Harris (1994) was that a nontrivial tick (size) enforced time and price priority in the limit order book and thus encouraged market depth. This was that a larger tick size created incentives for liquidity traders to enter their orders in a timely manner due to the significant cost associated with waiting and being forced to move a tick up or down. Supporting this view, Lipson and Mortal (2006) documented a significant increase in institutional trading costs on the NYSE around 2001 when the minimal tick size was reduced to a penny as a result of line jumping and fewer limit order trades being fulfilled. The pension and mutual funds’ reaction to the tick change then led to reduced number of orders placed in the limit order bourse.

Dhar and Chhaochharia (2008) found that on the announce date, there was positive average abnormal return which was very significant at 0.01% level. They also found that 77% of sample companies had positive mean return in respect of stock split, Dhar and Chhaochharia (2008) study also supported the signaling hypothesis, consistent with the findings in the developed stock market. Stock splits were considered to be cosmetic events. Kuse and Yamamoto (2004) carried out a research of stock price anomalies following stock splits in Japanese firms. They found that there was excess cumulative abnormal return during the 30 business days before and after the stock split announcement. They came to the conclusion that stock markets did favorably evaluate announcements of stock splits. In their study, Kuse and Yamamoto (2004) divided their sample of 120 companies into two groups; one with a split factor less than 2 for 2 and the other with a split factor greater than 2 for 1. They found that the group with the larger split factor had a higher return immediately after the stock split announcement, with the peak cumulative abnormal return reaching about 28.8% 37 business days after announcement.

Kalay et al. (2007) noted that stock splits were associated with abnormal returns. They also noted that when they did not control for observations where there were earnings or dividend change announcements, the abnormal returns were significantly higher than when no controls existed. Boehme (2001) examined long-run performance of firms after stock splits and found that post-announcement abnormal performance was relatively short-run than long-run in nature. Most apparent abnormal returns appeared to be largely confined to the period beginning after the stock split announcement date and ending with the ex-date. Consistent with prior studies, Boehme (2001) noted that equally weighted calendar time portfolios documented statistically significant positive abnormal returns during the first year following the stock split announcement month. No evidence of abnormal performance was seen beyond the first post-announcement year.

Easley et al. (2001) found that stock splits tended to attract uninformed investors, but this effect tended to be offset by an increase in informed trading. Charitou et al. (2005) carried out a research on investor response to splits in the Cypriot market and found substantial gains to shareholders around the announcement and execution of splits. These gains did not seem to be explained by liquidity or signaling variables. They were, however, partly reversed in the post-split months, and this reversal was significantly related to the initial market reaction on the split execution date. This was evidence that Cypriot investors acted irrationally, misunderstanding the mechanics of stock splits. They noticed that while much was made of efficient processing of information in emerging markets, little or no
attention was paid to the ability of investors to process such information correctly.

Grayson (2005) examined why a drift was likely to occur after a split and found that the market was not efficient. As a result, not everyone in the market received the same information at the same time. Brokers were found to pitch the stock to different people differently hence causing a shift. They initially gave the information to their best customers, some of which would still be used months later by other investors. They noticed that unknowledgeable investors did not understand stock splits and believed that the shares were now cheaper. This resulted in the post-split shares being highly demanded. Louis and Robinson (2003) noted that managers split their stock when they were optimistic about the firm’s future prospects. Hence they found that if managers used their reporting discretion to signal private information, they were likely to do so in conjunction with stock splits. This signal was deemed credible by the market and thus elicited some positive reaction from investors.

Simbovo (2006) carried out a research on the effects of stock splits and large stock dividends in the Kenyan stock market. The research found that stock splits and stock dividends had an effect on liquidity, being positive in the case of splits. These results were consistent with the trading range hypothesis where managers split their stock when they felt they were not affordable. A split was then found to lower prices, making shares more affordable especially by avoiding odd lot trading costs. Simbovo (2006) also noted that prior to a company splitting its shares; two typical market conditions were witnessed. First, there was a high demand for company shares which propelled the prices upwards. Secondly, more retail investors took up positions to qualify from the split multiples. As this occurred he found there was a major change of guard and more corporate investors exited to look for other lucrative counters. The exit of major corporations steered excess supply leading to a fall in prices. After the split, the share price was started low and after some time appreciated tremendously for a short time.

1.4 Negative Effects of Share Split

The survey by some studies such as Copeland (1979), Ohlson and Penman (1985), Lamoureux and Poon (1987), and Conroy et al. (1990) did not support the liquidity hypothesis. These studies found declining trading volume after the split. In addition, bid-ask spread which was normally used to proxy stock’s liquidity widened. There were hypotheses that considered the stock split as a means to increase the shareholder base but not for liquidity purpose. Baker and Gallagher (1980), Lakonikov and Lev (1987), and Lamoureux and Poon (1987) argued that the executives used the split to protect their interests from takeover threats. Larger investor base made it difficult for potential acquirers to control the company’s stake.

When looking at liquidity, empirical studies used different proxies. In his paper, Copeland (1979) found that turnover decreased in the year after a split. Bley (2002) examined 40 stock splits in the German stock market from 1994 to 1996. To avoid any size effects, the sample companies were divided into two groups according to their market capitalization. After stock splits, daily trading volume decreased significantly for the class of high market capitalization stocks. In the Canadian market, Elkahani and Lung, (2003) noted that both the number of transactions and the trading volume increased, whereas bid-ask spreads decreased following stock split announcements.

Goyonke et al. (2006) carried out a research on stock split and liquidity over an after-event window extending to six years and found that split firms initially experienced worse liquidity. They noted that there was worsening liquidity of split firms, which was temporary and was experienced within the first 9 to 12 months. They also noted that splits experienced gains in liquidity in the long run, often observed 24 months after the split. Gupta and Kumar (2007) found that there was no announcement effect associated with stock split in India. Baker and Gallagher (1980), Lakonishok and Lev (1987), and Lamoureux and Poon (1987) argued that the executives used the split to protect their interests from takeover threats. Larger investor base made it difficult for potential acquirers to control the company’s stake.

Szewczyk and Tsetsekos (1993) found that the proportion of institutional investors increased after the split. In addition, one was supposed to find negative response from investors if the split was used to defend the executive’s interest. Gorkittisunthorn et al. (2006) found that the proportion of insiders declined after the split. The result was consistent with the asymmetric information framework of market microstructure that lower informed traders resulted in narrower bid-ask spread and hence supported liquidity hypothesis. By using traditional event study method, they found positive responses on the announcement and effective dates. Byun and Rozeff (2003) examined the long-run consequences of 12 747 stock splits covering the period from 1927 to 1996. In contrast to most previous papers, they found that stock splits were essentially value-neutral transactions.
Leemakdej (2007) carried out a research of 100 splits in the Stock Exchange of Thailand and detected significantly negative returns in the 20 days before and 18 days after the effective date of the split, with the most significant returns clustered around the event date. This was in contrast to other studies that noted positive returns around stock split dates. Earnings and dividends were seen to increase after the split. There was also an increase in both the proportion of large shareholders and the number of investors, the bid-ask spread becoming narrower. Trading volumes were however found to be lower than before. This study also found the evidence that the systematic risk was lower during the split date but returned to previous level after the split. Boehme (2001) investigated long term effect from the split in the US market during 1950-2000 and found that the abnormal return was detected only in the first year and subsided afterwards. It was also reported that the significant abnormal return only occurred during 1975-1987 period because of lower systematic risk.

2.0 Statement of the Problem

Several studies have considered how markets react to stock split announcements. Dhar and Chhaochharia (2008) carried out a research on market reaction to stock splits and bonus issues in the Indian Stock market. They found a positive average abnormal return which was very significant. Wulff (2002) also carried out a research on market reaction to stock split in the German market and found excess returns during the first four days following the split announcement. These studies suggested that splits were mainly aimed at restoring stock prices to a normal range. Some support was also found for signaling motive of stock splits. Many studies done on stock splits in other markets found that majority of the time; markets reacted positively to stock split. In many of the studies, stock split announcements elicited positive results in support of the signaling, market maker and trading range hypotheses.

There were however, studies that found results to the contrary. Some studies found that markets reacted negatively. Goyonke et al. (2006) noted that firms that split their stock experienced worsening liquidity within the first 9 to 12 months. Lamoureaux and Poon (1987) and Conroy et al. (1990) found declining trading volumes after stock splits. Others studies saw that there was no effect on the market when stock split announcements were made. Gupta and Kumar (2007) found that there was no effect on the market associated with stock splits. Byun and Rozeff (2003) found that stock split were essentially value-neutral transactions and did not cause any market reaction. According to Grinblatt et al. (1984), stock splits and stock dividends, unlike cash dividend and capital structure changes, did not affect future cash flows of the firm. These stock distributions were seen as no more than a cosmetic accounting change with no direct cost or benefit. Agreeing with this, Brennan and Copeland (1988) noted that stock splits were purely cosmetic since the corporation’s cash flows were unaffected and each shareholders retained their proportionate ownership and the claims of other classes of security holders were unaffected. Wooldridge and Chamber (1983) noted that when a stock split occurred, the total number of shares of the company increased proportionately to the split, but the balance sheet items remained the same. Since stock splits merely involved the breakup of larger shares into smaller ones without affecting the balance sheet items, stock splits were then not expected to elicit any market reaction.

Empirical results however show that markets generally react when stock splits occur. Grinblatt et al. (1984) noted a significant increase in stock prices in response to announcements of cash dividends and capital structure changes. They noted that changes in the optimal dividend and debt levels stemmed from changes in expected cash flows, signaling a change in firm value. Fama et al. (1969) claimed that stock splits affected stock prices positively, solely because of their association with anticipated future dividends. Dhar and Chhaochharia (2008) found that on the announcement date, there was positive average abnormal return which was very significant. They also found that most of sample companies had positive mean return in respect of stock split. Simbovo (2006) found that stock splits affected liquidity positively, consistent with the optimal trading range hypothesis where firms split their stock to lower prices to an optimal range. Ikenberry et al. (1996) found positive abnormal returns on the announcement day and on the days immediately surrounding the announcement period.

Leemakdej (2007) detected significantly negative returns in the 20 days before and 18 days after the effective date of the split, with the most significant returns clustered around the event date. This was in contrast to other studies that noted positive returns around stock split dates. Boehme (2001) investigated long term effects from splits in the US market during 1950-2000, and found that an abnormal return was detected only in the first year and this subsided afterwards. It was also reported that the significant abnormal return only occurred during 1975-1987 period because of lower systematic risk. Goyonke et al. (2006) carried out a research on stock split and liquidity over an after-event window extending to six years and found that firms that split their stock...
initially experienced worse liquidity. They noted that the worsening liquidity was temporary, and was experienced within the first 9 to 12 months.

Gupta and Kumar (2007) found that there was no announcement effect associated with stock split in India. Lakonishok and Lev (1987) assumed efficient capital markets and stated that splits were without consequences for prices of a company’s stocks. They realized that through splitting, the invested capital was simply spread over a larger number of stocks with accordingly smaller values. They then did not expect splitting to alter future cash flows of a company, and stock prices were not expected to react to an announcement and execution of splits.

Studies by Grinblatt et al. (1984), Dhar and Chhaochharia (2008) and Fama et al. (1969) indicated that the markets reacted positively to stock split announcements, this being indicated by a significant increase in the number of shares traded in the stock market. Other studies by Leemakdej (2007), Boehme (2001) and Goyonke et al. (2006) indicated that markets reacted negative to stock splits. Gupta and Kumar (2007) and Lakonishok and Lev (1987) in their studies on stock splits noted that markets did not react to stock split announcements.

There then seemed to be no agreement on the effects of the stock split. The studies done in the Kenyan market have also been too few to give a conclusive result, hence the need to carry out the research. This study differs from the rest in that is relates to the Kenyan scenario. There has been no consensus on how markets generally reacted to stock splits. It was then not possible to generalize the kind of market reaction elicited by stock split to the Kenyan market, hence there existed a gap. The study sought to establish what happened in the Nairobi Stock Exchange when a company split its stock.

The objective of the study was to assess how the Kenyan stock market reacts to stock split announcements.

3.0 Research Strategy

The research was carried out as an event study. According to Serra (2002), event studies start with the hypothesis about how a particular event affects the value of a firm. The hypothesis that the value of the company has changed will then be translated in the stock showing an abnormal return. Serra (2002) notes that coupled with the notion that the information is readily impounded in to prices, the concept of abnormal returns (or performance) is the central key of event study methods. The study made use of the stock market data to measure the impact of a stock split on the participating firms over the period of study. It measured the deviation of the stockholders actual rate of return from the expected returns.

A census study was done, drawn from nine companies listed in the Nairobi Stock Exchange and which had undergone a stock split in the period 2002 to 2008. This period was selected because it was when there was improved growth in the Kenyan economy. The companies selected excluded those that have been suspended from trading at the stock exchange for any reason. The nine companies that had undergone stock splits during the selected period were the Nation Media Group Limited, Kenya Commercial Bank Limited, CMC Holdings Limited, Sasini Limited, Centum Investments Company Limited, Barclays Bank of Kenya Limited, East African Cables Limited, East African Breweries Limited and Kenya Oil Company Limited. A list of companies listed in the Nairobi Stock Exchange is shown in the Appendix I while a list of the sampled companies, the rates of split and split dates are shown in the Appendix II.

The study made use of the NSE handbooks for the periods under study to establish splits that had occurred and the split dates. Supplementary information was collected from secondary sources mainly through the financial statements of the surveyed companies, the Nairobi Stock Exchange’s daily closing prices and volumes, and from the companies’ websites. Internal secondary sources from within the companies were also used, including the companies accounting records, financial records and audited annual reports.

The study made use of daily adjusted prices for sample stocks for the event window of 101 days consisting of 50 days before and 50 days after the event date. Savitri and Martani (2008) made use of daily adjusted prices for sample stocks for 105 trading days in their study while Dhar and Chhaochharia (2008) thought 81 days was sufficient. The period of 101 days was selected because it was long enough to cover the effects of the splits. The period of 101 days was selected because it was long enough to cover the effects of the splits. The period of 101 days was selected because it was long enough to cover the effects of the splits.

The study timeline used was:
The event of interest in the study was the share split and the event window included the date of the announcement. The event date was the stock split date and the time period around the event date was used to aggregate abnormal returns on the individual stock. The announcement date was defined as the last stock exchange trading day before the actual split took place. This assumed that the information was known to the market before trading closed on the previous day and therefore could influence stock prices; otherwise, any reaction could happen only on the date of the split (day 0). Since it was impossible to distinguish between the two possibilities, any effect of the announcement was assumed to occur on the split date.

The study was done by comparing the trading activity ratio of the companies studied before and after the stock split. Using the standard t-test, the hypothesis was tested by performing the 95% confidence level tests. The trading activity ratio (TAR) was calculated as:

\[ \text{TAR} = \frac{\text{Number of shares traded}}{\text{Number of tradable shares issued}} \]

The appraisal of the event’s impact required a measure of the abnormal returns of the studied firms in the period around the announcement date and the effective date. The abnormal return was the actual ex-post return of the security over the event window minus the normal return of the firm over the event window.

The purpose of calculating abnormal returns was to try and capture the announcement effect, assuming the market was efficient. However, it was not easy to know when the market actually knew the information. In some cases, the announcements were made after market had closed and would only become tradable on the day of publication of announcement. The market reaction to the announcement was then on the event date (day 0). The study assumed that the announcement day was the event date.

Brown and Warner(1984) reiterated that, a simple methodology based on the market model was both well-specified and relatively powerful under a wide variety of conditions, therefore, the market model was used to compute the abnormal returns which was determined by the following ordinary least squares equation:

\[ R_{jt} = \alpha_j + \beta_j R_{mt} + \epsilon_{jt} \]

Where \( R_{jt} \) is the actual daily return security j at day t

\( \alpha_j = \) ordinary least squares intercept; the average rate of return of stock at the market return is equal to zero i.e. \( E(R_j) - \beta E(R_m) \)

\( \beta_j = \) stock sensitivity to market return i.e. \( \text{Cov}(R_{jt}, R_{mt})/\text{Var}(R_{mt}) \)

( the slope coefficient),

\( \epsilon_{jt} = \) the error term for security j at day t

\[ \text{Var} [\epsilon_{jt}] = \delta^2 \]

The test of significance of abnormal return was done with the hypothesis

\( H_0 : \text{AR}_{it} = 0 \)

\( H_1 : \text{AR}_{it} \neq 0 \)

The normal return was the expected return without conditioning on the event taking place. For firm j and event date t, the abnormal return was

\[ \text{AR}_{jt} = R_{jt} - E(R_{jt}) \] …………… (1)

Where \( \text{AR}_{jt} \), \( R_{jt} \) and \( E(R_{jt}) \) were the abnormal, actual and normal returns for the time period under study.

The Nairobi Stock Exchange Daily Price Index was also be used as a proxy for computing market return and this made use of the logarithm of daily return to avoid serial correlation.

The market return was computed as,

\[ R_{mt} = \log \left( \frac{I_t}{I_{t-1}} \right) \] …………… (2)

The daily return for security j was calculated by the equation

\[ R_{jt} = \log \left( \frac{R_t}{R_{t-1}} \right) \]

Where \( \alpha_j \) and \( \beta_j \) were derived by the market model over one year prior to the event month, relative to the announcement date and effective date (the announcement date and effective date were defined as 0 event day).

The expected returns for security j at day t were defined as

\[ E(R_{jt}) = \alpha_j + \beta_j R_{mt} \] …………… (3)

Where \( (\alpha_j \text{ and } \beta_j) \) were ordinary least squares estimates of \( (\alpha_j \text{ and } \beta_j) \)

The daily abnormal returns were measured as

\[ \text{AR}_{jt} = R_{jt} - E(R_{jt}) \]

For each event date t, the cross-section average abnormal returns for all firms were defined as:
AARt= 1/ n ∑ AARt  ………………… (4)  
\tau = -50 to +50  
n= 101 for announcement date

The abnormal return observations were aggregated to draw an overall inference on the stock split event. Aggregation was done through time and across securities. To accommodate a multiple period event window, the study made use of the Cumulative Average Abnormal Return (CAAR) from \( \tau_1 \) to \( \tau_2 \) where \( T_1 < \tau_1 \leq \tau_2 \leq T_2 \).

The cumulative average abnormal returns (CAARt) for all firms for 101 days were then calculated as the sum of the abnormal returns.

\[ \text{CAARt} = \sum_{\tau=-50}^{+50} \text{AARt} \quad \quad (5) \]
\( \tau=\tau_1 \)
\( n= 101 \) for announcement date

4.0 Data Analysis, Findings and Discussions

The study made use of daily adjusted prices for sample stocks for the event window of 101 days consisting of 50 days before and 50 days after the event date. 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 trading activity ratio (TAR) was calculated as:

\[ \text{TAR} = \frac{\text{Number of shares traded}}{\text{Number of tradable shares issued}} \]

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.

4.1 The Trading Activity Ratio against Days around Stock Split

In order to test the hypothesis, tables and graphs were generated for individual companies. The findings of the study are presented in those tables and graphs. The tables used to generate graphs for percentage against days around stock splits are shown on Appendix III. The graphs plotted are for percentage trading activity ratios against days around stock splits, showing how the volumes traded were affected after stock splits were announced.

Table 1 in the appendix III presents results of volumes of shares traded and the number of shares tradable fifty days before and fifty days after the stock split by East African Breweries Limited. The percentage trading activity ratio is calculated and this is plotted on the graph represented by Figure 1.

Figure 1- Graph of Percentage Trading Activity Ratio against Days around Stock Split for East African Breweries Limited

![Graph of Percentage Trading Activity Ratio against Days around Stock Split for East African Breweries Limited](image)

Source: Research Data

Figure 1 shows a plotted graph of percentage trading activity ratio against days around stock split for East African Breweries Limited. 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 in days around the split. Activity after the split date was however found to be much higher than that before the split. The activity was found to be even higher between day 24 and day 31. This was found to have occurred following a dividend announcement around this time, hence leading to an increase in trading activity.

From the results presented on the volumes of shares traded and the number of shares tradable fifty days
before and fifty days after the stock split by Kenya Oil Company Limited, the percentage trading activity ratio is calculated and this is plotted on the graph represented by Figure 2.

**Figure 2 - Graph of Percentage Trading Activity Ratio against Days around Stock Split for Kenya Oil Company Limited**

![Graph of Percentage Trading Activity Ratio against Days around Stock Split for Kenya Oil Company Limited](image)

**Source: Research Data**

Figure 2 shows a plotted graph of percentage trading activity ratio against days around stock split for Kenya Oil Company Limited. It shows how the market reacted on days before and after the stock split.

The above graph shows that there was an increase in shares traded in days around the split. The trading activity of stocks of Kenya Oil Company Limited was found to be much higher in days after the stock split as compared to days before the split. The trading activity was especially high around the first 20 days after the stock split.

From the results presented on the volumes of shares traded and the number of shares tradable fifty days before and fifty days after the stock split by East African Cables Limited, the percentage trading activity ratio is calculated and this is plotted on the graph represented by Figure 3.

**Figure 3 - Graph of Percentage Trading Activity Ratio against Days around Stock Split East African Cables Limited**

![Graph of Percentage Trading Activity Ratio against Days around Stock Split East African Cables Limited](image)

**Source: Research Data**

Figure 3 shows a plotted graph of percentage trading activity ratio against days around stock split for East African Cables Limited. 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 in days around the split. Activity after the split date was however found to be higher than that before the split. The trading activity was found to be very high around 30 days before and after the stock split.

From the results presented on the volumes of shares traded and the number of shares tradable fifty days before and fifty days after the stock split by Barclays Bank Limited, the percentage trading activity ratio is calculated and this is plotted on the graph represented by Figure 4.

**Figure 4** (below) shows a plotted graph of percentage trading activity ratio against days around stock split for Barclays Bank Limited. 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.

**Figure 4 - Graph of Percentage Trading Activity Ratio against Days around Stock Split for Barclays Bank Limited**

![Graph of Percentage Trading Activity Ratio for Barclays Bank Limited](image1)

**Source: Research Data**

From the results presented on the volumes of shares traded and the number of shares tradable fifty days
before and fifty days after the stock split by Centum Investments, the percentage trading activity ratio is calculated and this is plotted on the graph represented by Figure 5.

Figure 5 (below) shows a plotted graph of percentage trading activity ratio against days around stock split for Centum Investments. 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 in days around the split. Activity after the split date was found to be much higher than that before the split. The trading activity was even higher from 40 days after the stock split. The activity was seen to have increased to such levels after an announcement that dividends would be issued.

**Figure 5 - Graph of Percentage Trading Activity Ratio against Days around Stock Split for Centum Investments**

![Graph of Percentage Trading Activity Ratio for Centum Investments](image2)

**Source: Research Data**

**Figure 6 - Graph of Percentage Trading Activity Ratio against Days around Stock Split for Sasini Limited**

![Graph of Percentage Trading Activity Ratio for Sasini Limited](image3)

**Source: Research Data**
Figure 6 shows a plotted graph of percentage trading activity ratio against days around stock split for Sasini Limited. It shows how the market reacted on days before and after the stock split. Trading activity was seen to increase from day 5 after the stock split to day 40 after the stock split. There is also an increase in trading activity from day 19 to day 31 before the stock split. The graph shows that there was a significant increase in shares traded after the split as compared those that before the split.

From the results presented on the volumes of shares traded and the number of shares tradable fifty days before and fifty days after the stock split by CMC Holdings, the percentage trading activity ratio is calculated and this is plotted on the graph represented by Figure 7.

Figure 7 shows a plotted graph of percentage trading activity ratio against days around stock split for CMC Holdings. It shows how the market reacted on days before and after the stock split. The graph shows that there was generally an increase in shares traded when stock splits were announced. This can be shown by the increase in trading activity before and after the stock split. Trading activity after the split date was however found to be more than that before the split. The trading activity was found to be especially high from day 13 to day 40 after the stock split.

From the results presented on the volumes of shares traded and the number of shares tradable fifty days before and fifty days after the stock split by Kenya Commercial Bank Limited, the percentage trading activity ratio was calculated and this is plotted on the graph represented by Figure 8.

Figure 8 - Graph of Percentage Trading Activity Ratio against Days around Stock Split for Kenya Commercial Bank Limited

Figure 8 shows a plotted graph of percentage trading activity ratio against days around stock split for Kenya Commercial Bank Limited. 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 in days around the split.

From the results presented on the volumes of shares traded and the number of shares tradable fifty days before and fifty days after the stock split by Nation Media Group Limited, the percentage trading activity ratio is calculated and this is plotted on the graph represented by Figure 9.
Figure 9 shows a plotted graph of percentage trading activity ratio against days around stock split for Nation Media Group Limited. It shows how the market reacted in days before and after the stock split. The graph shows that initially there was a decrease in trading activity about 5 days before and after the stock split. Activity was then seen to increase from about 7 days around the stock split. The trading activity of the Nation Media Group Limited, unlike that of other companies that had split their stock before it, was not high. The graph showed that there was no reaction when Nation Media Group Ltd split their stock. The kind of activity shown by the graph is one that is expected when there is a normal trading activity of shares in the market.

The daily average abnormal returns of stock splits were calculated and the results presented in Appendix III by use of table 10. Figure 10 (below) shows a graph plotted of the cumulative average abnormal returns against the event window of 101 days. The line graph represents the cumulative abnormal return of stock splits in the Nairobi Stock Exchange.

5.0 Summary, Conclusions and Recommendations

5.1 Summary and Conclusions

Results 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 that occurred in 2004. These are those of East African Breweries Limited and Kenyo Oil Company Limited. 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 results showed there was a positive announcement effect on shares 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 abnormal return was computed throughout the event period. Table 10 in the appendix presented the cumulative abnormal return against the event window.
average abnormal returns across different event windows. The results indicate that there is a positive cumulative abnormal return during the entire event window abnormal return.

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.

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 stockholders 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.

5.2 Recommendations for Further Research

The key assumption of the event study method was the ability to identify the event date. In this case of stock splits, two key event dates did occur; the announcement date and the effective date. The data of announcement date was not complete so the effective split date was defined as the event date. Although the stock split announcement already contained information regarding future earnings and dividends expectations by management, the inclusion of these firms could have resulted in an overstatement of the effect of the split announcement on stock prices. The comparisons done were based purely on price trends and did not account for changes in the overall market conditions. Other market conditions could have arisen, which had effects on the general activity of shares in the market and on the returns, hence there was need to make use of the market model.

Stock splits were found to be relatively new in the Nairobi Stock Exchange. However, many companies intending to distribute their shares do so by use of bonus issues. Large bonus issues are not so different from stock splits. There is need to find out how the market reacts to bonus issues especially for bonus issues larger that are 25%.

This study made use of a simple methodology based on the market model to determine abnormal returns. There is need for further study in this area and a need to include more independent variables such as those relating to firm size and dividend expectations so as to determine whether when other factors are considered there market would still react positively to stock split announcements.

The study looked at theories relating to why companies split their stock. The reasons why companies split their stock were to achieve an optimal trading range, to achieve an optimal tick size and to signal managements’ confidence in the future stock price. There is need to carry out a research to find out whether the same reasons are true for the Kenyan Market.

References


### Appendices

#### Appendix I: Companies Listed In the Nairobi Stock Exchange

**AGRICULTURAL**
- Kakuzi Ord. 5.00
- Rea Vipingo Plantations Ltd Ord 5.00
- Sasini Ltd Ord 1.00

**COMMERCIAL AND SERVICES**
- AccessKenya Group Ltd Ord. 1.00
- Car & General (K) Ltd Ord 5.00
- CMC Holdings Ltd Ord 0.50
- Hutchings Biemer Ltd Ord 5.00
- Kenya Airways Ltd Ord 5.00
- Marshalls (E.A.) Ltd Ord 5.00
- Nation Media Group Ord. 2.50
- Safaricom limited Ord 0.05
- Scangroup Ltd Ord 1.00
- Standard Group Ltd Ord 5.00
- TPS Eastern Africa (Serena) Ltd Ord 1.00
- Uchumi Supermarket Ltd Ord 5.00

**FINANCE AND INVESTMENT**
- Barclays Bank Ltd Ord 2.00
- Centum Investment Company Ltd Ord 0.50
- CFC Stanbic Holdings Ltd Ord.5.00
- Diamond Trust Bank Kenya Ltd Ord 4.00
- Equity Bank Ltd Ord 5.00
- Housing Finance Co Ltd Ord 5.00
- Jubilee Holdings Ltd Ord 5.00
- Kenya Commercial Bank Ltd Ord 1.00
- Kenya Re-Insurance Corporation Ltd Ord 2.50
- National Bank of Kenya Ltd Ord 5.00
- NIC Bank Ltd Ord 5.00
- Olympia Capital Holdings Ltd Ord 5.00
- Pan Africa Insurance Holdings Ltd Ord 5.00
- Standard Chartered Bank Ltd Ord 5.00
- The Co-operative Bank of Kenya Ltd Ord 1.00

**INDUSTRIAL AND ALLIED**
- Athi River Mining Ord 5.00
- B.O.C Kenya Ltd Ord 5.00
- Bamburi Cement Ltd Ord 5.00
- British American Tobacco Kenya Ltd Ord 10.00
- Carbacid Investments Ltd Ord 5.00
- Crown Berger Ltd Ord 5.00
- E.A.Cables Ltd Ord 0.50
- E.A.Portland Cement Ltd Ord 5.00
- East African Breweries Ltd Ord 2.00
- Eveready East Africa Ltd Ord 1.00
- Kenya Oil Co Ltd Ord 0.50
- Kenya Power & Lighting Ltd Ord 20.00
- KenGen Ltd. Ord. 2.50
- Mumias Sugar Co. Ltd Ord 2.00
- Sameer Africa Ltd Ord 5.00
- Total Kenya Ltd Ord 5.00
- Unga Group Ltd Ord 5.00

**ALTERNATIVE INVESTMENT MARKET**
- A.Baumann & Co.Ltd Ord 5.00
- City Trust Ltd Ord 5.00
- Eaagads Ltd Ord 1.25
- Express Ltd Ord 5.00
- Williamson Tea Kenya Ltd Ord 5.00
<table>
<thead>
<tr>
<th>Company</th>
<th>Split</th>
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<tbody>
<tr>
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<td>2:1</td>
<td>04-Aug-08</td>
</tr>
<tr>
<td>Kenya Commercial Bank</td>
<td>10:1</td>
<td>03-Apr-07</td>
</tr>
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<td>CMC Holdings</td>
<td>10:1</td>
<td>26-Feb-07</td>
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<td>Sasini Tea and Coffee Limited</td>
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<td>15-Feb-07</td>
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<td>Centum Investments</td>
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<td>Barclays Bank of Kenya Ltd</td>
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Source: The Nairobi Stock Exchange