THE EFFECT OF STOCK SPLITS AND LARGE STOCK DIVIDEND ON LIQUIDITY: EVIDENCE FROM THE NAIROBI STOCK EXCHANGE

BY

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Declaration

I, the undersigned, declare that this management project is my original work and has not been submitted to any institution or university other than the University of Nairobi for academic credit.

Signed: ------------------------------------- Date: -----------------

Simbovo Humphrey

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

Signed: -- Date: -----------------

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Dedication

This work is dedicated to my unborn, may you have a better future.

Acknowledgement

Since it is not possible to acknowledge everybody's contribution towards the success of this work, I wish to register my sincere appreciation and gratitude to the following few, whose support and assistance made it possible for me to undertake and complete this project.

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Abbreviation

AIPA: American Institute of Public Accountants

AMEX: American securities Exchange.

CAP: Committee on Accounting Procedures

CRSP: Centre for Research in Security Prices.

EABL: East African Breweries Limited

EMH: Efficient Market Hypothesis.

EPS: Earnings per Share

KENOL: Kenya Oil Company Limited

MPS: Market Price per Share.

NSE: Nairobi Stock Exchange.

NYSE: New York Stock Exchange.

REH: Retained Earnings Hypothesis

TAR: Trading Activity Ratio

Abstract

Since 1969, researchers have been bewildered with stock split, the pioneer study of Fama, Fisher, Jensen, and Ross, which tried to explain the reasons behind the noticeable increase in share prices before and after the announcement of the split. The study intended to find out whether or not stock splits have any effect on the liquidity of stocks. Specifically what motivates managers to engage in stock splits and to see if there was a change in liquidity before and after the splits.

This was a descriptive research design study, aimed at establishing the effect of stock splits and stock distribution on the liquidity of a share. The sample was drawn from a population of 48 companies listed at the Nairobi Stock exchange. The individual companies were sampled through cluster sampling technique due to qualities each company in the sample had, they had either had a stock split or declared a bonus issue of 25% and above. Data from secondary sources was used to compute the measure of Liquidity, which was proxy, by Trading Activity ratio.

The data collected from the Nairobi Stock exchange, was edited, coded, transformed and entered into various data analysis tools ready for analyses by use of excel and SPSS computer packages. Data was analyzed and presented in form of frequency tables, and charts.

The study found out that in the case of splits, most managers in Kenya opt for stock splits to maintain an optimal trading range. The two split at the Nairobi Stock Exchange, namely; East African Breweries Limited (EABL) and Kenya Oil Company (KENOL) had improved activity after the split compared to before the stock split. The Stock distributions (Bonus issues) had varied results; this can be attributed to the cases like; Kenya Finance bank, which in 1994 and 1995 declared a stock dividend and put was under receivership a few months after the 1995 stock dividend declaration. The Unga Group in 1998 distributed stock dividend at the rate of one for every five held and yet the company incurred huge losses that year (Mbugua, 2004). The Kenyan investors seem to associate bonus issues with bad news, leading to the decline in liquidity of stocks, in the case stock dividends.

CHAPTER ONE: INTRODUCTION

1.1 Background

The management of a firm endeavours to maximise the shareholders wealth given the firms resources. In order to meet this objective, there are several key financial functions. These include investing, financing and dividend decisions (Weston and Copeland, 1988). Financing decisions involve raising of funds from internal and external sources whilst investing decisions involve the use of the funds to create cash flows. Dividend policy determines the division of earnings and distribution of the company stock among the shareholders. Division of earnings entails cash dispersal to the shareholders. In addition to paying cash dividend, some companies pay stock dividend or declare stock splits (Kaen, 1995). Neither of them involves payment of cash (Brealey and Myers, 1991).

Karanja (1987) studied dividend practices of publicly quoted companies in Kenya and found out that there are many reasons why firms should pay dividends. One of the reasons was lack of investment opportunities, which promise future cashflow. Dividend policy does not only involve the decision on whether to pay dividend or not, but also how much dividend to pay, the mode of payment and when to pay dividend.

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 (Investopedia Staff, 2005). 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. Both stock splits and bonus issues occur when the board of directors authorises a distribution of common shares to existing shareholders of the company. The distribution is done proportionately, and thus, shareholders end up with the same proportionate ownership they had before the Stock split and/or bonus issue (Onyango, 1999).

Fama, Fisher, Jensen, and Ross (1969) define a stock split as an exchange of shares in which at least five shares are distributed for every four held. This also includes stock dividends of 25% or greater (Grinblatt, Masulis and Titman, 1984) and (Fama et al, 1969). Stock dividend is paid in addition to or in lieu of cash dividend. Stock dividend simply is the payment of additional stock to stockholders (Van Horne, 1995).

In an economic sense, stock splits and dividend are very similar, although typically used for different purposes. Only from an accounting standpoint is there a significant difference (Van Horne, 1995). In case of a stock dividend, the balance of the reserves and surpluses account decrease due to a transfer to the equity capital. This involves a reduction in retained earnings to maintain the book value of shares at par (Pandey, 1999). Since cash dividends are transfers of capital from retained earnings to common shares, this reduces the firm's ability to pay cash dividend because of the reduction in retained earnings (Mayo, 1998).

In differentiating between splits and stock dividend the Committee on Accounting Procedures (CAP) of the American Institute of Public Accountants (AIPA) has recommended that stock distributions below 20% to 25% be recorded as stock dividends, while those above 25%, be recognised as splits (Mbugua, 2004).

Stock splits and Dividends are methods of increasing the number of outstanding shares through a proportional reduction in par value of the share, recapitalisation achieved by changing the number of shares outstanding. Splits and stock dividend only affect the par value and number of outstanding shares, the shareholders' total funds remains unaltered. They involve replacing the old shares with new ones, issued at a new par value (Sharpe, Alexander and Bailey, 1999). The splits par value decreases as the number of outstanding shares increase. These results in dilution of the earnings per share (EPS) and market price per share (MPS) will fall proportionately (Pandey, 1999).

In theory, a stock split and dividend are merely accounting change, which leaves investors no better or worse off than they were before. Traditionally, stock splits are purely ornamental corporate events with no real economic consequence (Wulff, 1999). They are transactions that simply divided the same pie into more slices. It is widely believed that stock splits are purely superficial, since the firm's cash flows are unaffected (Brennan and Copeland, 1988). They rearrange the equity section of the balance sheet and do not increase the firm's assets that increase the potential earning power of the firm (Mayo, 1998).

According to Copeland and Weston, (1988) stock splits and dividends simply are increases in the number of shares outstanding without changing any of the underlying risk and return characteristics of the firm. We might expect that it will have little or no effect on shareholder wealth except for losses associated with clerical transaction costs that accompany the stock dividend. Theoretically, stock splits and dividends are not a thing of value to investors. They reduce market prices proportionately, so that the value of their holding remains the same.

This is inconsistent with the significant wealth effect associated with the announcement of a stock split (Dennis and Strickland, 1998). Improved liquidity (bid-ask spread, volume and volatility) is an attribute to Stock splits. However, empirical evidence suggests that there is no appreciable change in the trade volume of the firms' shares after the split (Lamourex and Poon, 1987). It is almost axiomatic in brokerage houses and among financial writer that common stock splits bring about a genuine gain to the holder of original stock (Barker, 1956). The lower prices after the splits broaden the market and increase the demand for the stock, with a resultant price increase.

The price increase is accredited to investor attempts to reduce uncertainty and the proposed split may be used as a source of information (Fama et al, 1969). One of the most puzzling anomalies in the behaviour of stock prices is the observation that the variance of returns increases significantly beginning of the ex-date of a stock split and large stock dividends (French and Foster III, 2002).

In Kenya bonus issue is a common form of dividend payment to shareholders (Onyango, 1999). Mbugua (2004) observes that stock dividend have become very controversial in Kenya; it is possible that some companies have knowingly abused it. The cases of Kenya Finance bank, which in 1994 and 1995 declared stock dividend and put under receivership a few months after the 1995 stock dividend declaration. The Unga Group in 1998 distributed stock dividend at the rate of one for every five held and yet the company incurred huge losses that year.

1.2 Statement of the Problem

Since the pioneer study of Fama, Fisher, Jensen, and Ross in 1969, there have been many studies, which try to explain the reasons behind the noticeable increase in share prices before and after the announcement of the split. They are several reasons advanced for this effect:

Baker and Gallagher (1980) found that managers tend to mention an optimal trading range to explain splits. Ross and Westerfield (1988) and Lakonishok and Lev (1987) suggest that a security has a proper trading range. In order to maintain a price that is within the optimal trading range, a stock split is necessary. Dolley (1933) and Barker (1956) maintain that the conventional price attracts trading and improves common stock liquidity. Stock splits are used to draw attention to the firms' shares and maintain the prices within this range (Grinblatt, Masulis, and Titman, 1984). Splits lower selling price, increases marketability of the shares that produces a wider distribution of ownership and increases investor interest in the company. This increased interest and marketability may ultimately cause the value of the stock to appreciate (Mayo, 1998). Improved attractiveness of shares to investors and anything that contributes to that objective should contribute to maximisation of share prices (Archer, Choate and Racettte, 1983). This explanation is derived from the Trading range hypothesis.

The management of a company may use a stock split to signal to the market future prospects of the company. This forms the bases of the signalling hypothesis. This hypothesis posits that a necessary precondition for a signal to be credible (and, thus, to cause a market reaction) is that there are costs associated with sending a false signal (Spence, 1973). The declaration of a stock split or dividend may convey information about future earnings to investor. In this sense, a stock split or dividend is an attention- getting device (Van Horne, 1995). Stock distributions accounted for by reducing retained earnings are a more credible signal of managerial optimism than stock distributions that do not reduce retained earnings (Crawford, Franz and Lobo, 2004). Empirical evidence suggests both stock prices and variance of returns increase after a stock split. The appreciation in share prices and increased return volatility needs an explanation.

Liquidity, a fundamental concept in finance, is defined as the ability to buy or sell large quantities of an asset quickly and at low cost (Chordia, Sarkar and Subrahmanyam, 2002) and (Pástor and Stambaugh, 2001). It is important in investment decisions and that fluctuations in various measures of liquidity correlate across stocks. Both investors and borrowers are typically concerned about liquidity. Investors desire liquidity because they are uncertain about when they will want to eliminate their holding of a financial asset. Borrowers are concerned about liquidity either because they are uncertain about their ability to raise funds needed unexpectedly, or because they are uncertain about their ability to continue to retain funding in the future (Diamond and Rajan, 1998).

More specifically, this study will attempt to answer the question: Do stock splits and stock dividend have any impact on liquidity?

1.3 Objective of the Study

i. To establish the reasons behind stock splits
ii. To establish the effect of a stock split and stock dividend on the liquidity of the company's shares

1.4 Importance of the Study

This study will be beneficial to several stakeholders. Firstly, there is a wealth of knowledge on stock split and dividend, the main question is can it be used to correctly interpret the situation at the Nairobi Stock Exchange? Secondly, the results of this study will be of great interest to:

Scholars: They will appreciate that companies at the Nairobi Stock Exchange are opting to split their stocks. The reason(s) behind these splits is not clear. Further, it will provide a framework for advance studies in this field. Several variants can be explored to revolutionize knowledge in this area of stock splits.

Investors: Both institutional and individual investors need to know the reasons behind the stock splits. Is management using the split as an attention getting device or trying to signal information to the market. This will enable them to make rational decisions given the information available to them.

1.5 Hypotheses of the Study

The following hypotheses were tested in this study:

Ho: $\mu_{tar\,0} = \mu_{tar\,1}$

H_1: $\mu_{tar\,0} \neq \mu_{tar\,1}$

Where: $\mu_{tar\,0}$ the mean trading activity ratio before the event

$\mu_{tar\,1}$ The mean trading activity ratio after the event

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Fama, Fisher, Jensen, and Ross (1969) pioneered the study of informational content of a stock split. Using data from the New York Stock exchange (NYSE), their evidence indicated that the market used the announcement of a split to re-evaluate the stream of expected income from the shares. Moreover, the evidence showed that on average the market's judgments concerning the information implications of a split are fully reflected in the price of a share. Thus, the results of the study lend considerable support to the conclusion that the stock market was "efficient" in the sense that stock prices adjust very rapidly to new information. The evidence also suggested that in responding to a split, the market reacted only to its dividend implications. That is, the split causes price adjustments only to the extent that it is associated with changes in the anticipated level of future dividends.

Onyango (1999) set out to establish the reasons behind stock dividend and any gains derived from the bonus issues. In order to achieve her objectives, she sampled 62 dividend stocks made during the period 1994 to 1998 of stocks listed at the Nairobi stock exchange (NSE). The survey found out that managers believe that stock dividends bring benefits to a firm and helps conserve the firms' cash. Most managers use stock dividends as a signal to the market that the company has invested in new projects thus the need to capitalize retained earnings. She observed that shareholders tend to receive higher cash dividend after bonus issues. There was an increase in cash dividend of 10.23% after the issue of stock dividend, which was statistically significant.

In 2002, Gow-Cheng, Kartono and Ming-Shiun, examined whether stock split announcements contain information about future profitability, measured in terms of future earnings change, future earnings, or future abnormal earnings. Their results gave evidence of a positive relation between stock splits and future profitability. In addition, their analysis showed a negative growth in earnings for the two years after the announcements. A negative earnings growth in the two immediate post-split years was also observed for firms that increased dividend payments from the pre-announcement year or kept dividends the same. Gow-Cheng *el at* (2002) found very little evidence to support the hypothesis that a split is an action by the management of a firm to signal higher future earnings to the market. Their results indicated that, the split announcement year had the highest earnings change and then earnings changes decline substantially over the subsequent three years. In addition, they did not find evidence of abnormal stock returns over the three years after the split announcement. The gains from stock splits results in one year of above-average returns followed by four years of below-average performance. Investors who are initially excited by the stock split will stay away from it after a period of time (Gifford Jr., 1998).

Crawford, Franz and Lobo in 2004, questioned the underlying assumption of the Retained Earning Hypothesis (REH), the reduction in retained earnings resulting from the accounting method chosen for the stock distribution imposes costs on the distributing firm from debt covenants and/or state incorporation laws. The examination of dividend covenants in lending agreements, the analysis of the costs of changing a firm's state of incorporation, provide reason to question the validity of these costs. They found that, much of the evidence supporting the REH, reported in prior studies, are dependent upon various specifications and measurement choices. When different choices are made the evidence no longer supports the REH for the general population of publicly traded companies.

Mbugua (2004) studied the impact of stock dividend announcement on share prices and the impact of stock dividend size on stock returns. She examined 24 companies that had issued stock dividend. Her finds were that stock dividend announcement had an impact on stock returns. The results also indicated that the size of stock dividend had an effect on the stock returns.

In 2005, Goyenko, Craig, and Ukhov conducted a study, which tried to answer the following question in the end "Do Stock Splits Improve Liquidity?" Drawing samples from all splits recorded on the NYSE/ AMEX tape dated 1964 to 1997. They examined the effect of stock splits on long-run liquidity. Finance literature presents evidence that splits worsen liquidity, primarily based on a short after-event window. Using new proxies for percent effective spread constructed from daily data. This allowed them to track the liquidity of thousands of stock splits taking place from 1962 through 2003. Goyenko et al (2005) found that the net benefit of splitting, which provides a missing link supporting the trading range theory, the signalling hypothesis and the optimal tick size theory. All three theories could be true at the same time and their findings provide new evidence supporting all three.

Lipson and Mortal (2005), provide evidence on the extent to which binding tick sizes affect liquidity and clientele by examining splitting activity over time and comparing changes in liquidity and clientele across a number of stock splits. These splits differ in respect to the effects of tick size on the firms and their controls. In particular, they identified splits where tick sizes become more binding after the split and one where the tick size is unlikely to have been binding either before or after the split. They evaluated the effects binding tick sizes by documenting trends in stock split activity and by comparing the effect of splits on liquidity and clientele across distinct samples. In their analysis of stock split activity over time, they found that post-split prices do not decline even though tick sizes were reduced. Furthermore, these changes are not accompanied by any increase split activity. This consistency in price ranges suggested that relative tick sizes do not establish optimal price ranges.

2.2 Reasons for stock splits

There is ample empirical evidence that associates stock splits with positive abnormal returns around the announcement and the execution. There is also an increase in variance following the ex-day. Stock splits are a puzzling corporate event. While a split does not change a firm's equity value, the market tends to react to split announcements favourably. There are several hypotheses have been formulated to explain this occurrence. These include,

2.2.1 Signalling Hypothesis

The Signalling theory of Brennan and Copeland (1988), assumes that managers have private information about the future prospects of their own firm. If a firm with good prospects splits, then its percent effective spread will increase temporarily. Eventually the market will come to perceive the same good information that the managers knew causing the firm price to rise and the percent effective spread to return to evens out. If a firm with average or bad prospects splits its stocks, then its percent effective spread will increase permanently. This cost differential allows good firms to signal by splitting and prevents average or bad firms from mimicking.

The signalling hypothesis suggests that stock splits are actions made by management to reveal information about future earnings to the market. Asquith, Healy, and Palepu (1989), Rankine and Stice (1997) and Grinblatt, Masulis and Titman, (1984) are the main proponents of this hypothesis, in relation to splits. Supporting evidence of the hypothesis was advanced by Brennan and Copeland (1988), Titman (1984), Lakonishok and Lev (1987) and Brennan and Hughes (1991).

Stock splits are associated with positive excess returns because managers' use splits to convey favourable private information about their firms' future prospects to less informed owners and investors (McMenamin, 1999). Firms that are fairly priced or under priced will be motivated to take action to reveal information about their true value. By communicating their favourable private information, managers reduce information asymmetries between stockholders and management and move share prices to higher equilibrium values (Louis and Robinson, 2003).

Empirically, there is little evidence that split announcements provide informational content about a firm's improved future profitability. Stock splits are noisy signals particularly because managers may use them for purposes other than signalling. For instance, managers use stock splits to realign prices to lower trading ranges. In reality, mangers will possess intimate knowledge of the firms' operations. As insiders, they will have access to more information about the firm than shareholders and other stakeholders. This unequal access to and distribution of information between managers and owners is known as information asymmetry (Hickman, Hunter and Byrd, 1996).

The hypothesis proposes that splits are an action made by management to reveal information about future earnings to the market. Instead of signalling, Grinblatt, Masulis, and Titman

(1984) argue that splits can reduce informational asymmetries by attracting attention paid to a firm. Empirically, there is little evidence that split announcement provide informational content about a firm's improved future profitability. The extant literature strongly suggests that managers split their stock when they are optimistic about their firms' future prospect. However, existing studies also suggest that a stock split is only partially effective as a signal (Louis and Robinson, 2003).

Admati and Pfleiderer (1988) further argue that splits not only attract informed traders, but also noise traders because of lower post-split share prices. Fama el at (1969) speculates that investors might interpret the stock split as a message about future changes in the firms expected cash flows. It is the expectation of good times, and not the shareholders' affinity for current incomes that raises the prices. The rise in the stock prices following the split is known as informational-content effect (Ross, Westerfield and Jeffe, 1988). This suggests that splits are interpreted as a message about dividend increases.

The signalling theory predicts that splitting firms should receive positive abnormal returns on announcement. An empirical challenge for signalling is that there is no evidence that split firms actually experience a temporary increase in percent effective spread as compared to non-split firms. The signalling hypothesis may be a more plausible reason for splits with a small split factor. Fairly priced or under priced Firms will be motivated to take action to reveal information about their true value.

2.2.2 The Retained Earnings Hypothesis

First proposed by Grinblatt, Masulis and Titman (1984), the retained earnings hypothesis (REH), based on signalling theory. It posits that a necessary precondition for a signal to be credible (and, thus, to cause a market reaction) is that there should be costs associated with sending a false signal (Spence, 1973). REH is based on the assumption that the reduction in retained earnings resulting from the accounting method chosen for stock distribution imposes costs on the distributing firm from debt covenants. Implicit in the REH is the assumption that a reduction in total retained earnings necessarily results in a reduction in distributable funds.

These costs give added credibility to the signal contained in the stock distribution because the costs are large enough to deter false signalling. Costs associated with false signalling are a necessary precondition for the REH.

In the case of stock distributions, the penalty for a false signal occurs if the firm is restricted in its payment of cash dividends by debt covenants or state incorporation laws, and the restrictions are based on the firm's balance in retained earnings. If subsequent earnings are not sufficient to offset the reduction in retained earnings resulting from the stock distribution, then the cash dividend restrictions are more likely to become binding and force the firm to adopt a suboptimal payout policy (Crawford, Franz and Lobo, 2004). According to proponents of the REH, two potential sources of constraints on the firm's ability to pay cash dividends are: (1) contractual restrictions contained in the distributing firm's debt covenants, and (2) statutory restrictions imposed by the firm's state of incorporation.

The REH predicts that stock distributions accounted for by reducing retained earnings are a more credible signal of managerial optimism than stock distributions that do not reduce retained earnings (Crawford et al, 2004)). A firm that chooses to account for its distribution by voluntarily reducing retained earnings is presumed to be signalling management's confidence in its future earnings (Crawford et al, 2004). As stated by Rankine and Stice (1997; p. 165), "Since firms are free to choose [how to account for a stock distribution], the choice can reveal management's private information about the firm's future prospects. By voluntarily reducing the existing pool of distributable funds, managers of undervalued firms can signal their confidence that such a reduction will not negatively impact the firm's ability to make future cash distributions." Hence, if managers use their reporting discretion to signal favourable private information, they are likely to do so in conjunction with stock splits.

The reporting signal reinforces the stock split signal whereas the stock split signal lends credibility to the reporting signal. Grinblatt et al (1984) suggested that the higher average return for stock dividends could be due to the reduction in retained earnings that is generally associated with these distributions.

2.2.3 Trading Range Hypothesis

The trading range theory of Copeland (1979), suggest that a split lowers the price, which makes trading more affordable especially by avoiding odd lot trading costs. Eventually this leads to an increase in the base of traders in the firm. In turn, this eventually increases the volume of trade, which eventually lowers the percent effective spread. The empirical evidence finds that split firms experience an increase in the base of traders and an increase in volume. Baker and Gallagher (1980) surveyed top executives and found that the dominant executive belief is that splits keep stock prices within an optimal trading range, make it easier for small investors to buy round lots, and result in an increase in the number of shareholders. An empirical challenge for the trading range is that there is no evidence that split firms eventually experience a lower percent effective spread. In other words, there is no evidence that splitting firms receive a net benefit from doing so.

This hypothesis purports that there is an "optimal" trading range and that splits realign pre-split share prices to this range (Lakonishok and Lev, 1987). Realigning share price could draw more attention to a stock (Grinblatt et al, 1984)) and hence increase the liquidity of the stock (Muscarella and Vetsuypens, 1996). If stock distributions are motivated by management's desire to return their firm's stock price to an optimal trading range, then firms with higher prices will select larger distributions to achieve that objective.

Research by McNichols and Dravid (1990), and Crawford and Franz (2001) have also documented a positive correlation between the size of the distribution and the pre-distribution share price. This positive relation is explained by the trading range hypothesis for stock distributions. If a stock has a high pre-distribution share price, a larger distribution is required to return the stock to its optimal trading range. Because both announcement period return and distribution size are correlated with pre-distribution share price, a comparison of returns for distributions of varying sizes that does not control for share price, may show a spurious negative correlation between announcement period return and the size of the distribution.

The proponents of stock splits have argued that a security has a proper trading range (Ross and Westerfield, 1988). When securities are priced above this level, many investors may not have funds to purchase the security. Consequently, the firm will split its stock to keep its price in this trading range. Companies move their prices toward an optimal perceived trading range after the share prices have risen significantly (Wulff, 1999). There is an optimal trading range as show by Lakonishok and Lev (1987). Muscarella and Vetsuypens (1996) suggested that liquidity improves after a stock Split, which is accompanied by wealth gains to the investors. These findings are support an earlier model by Aminhudm and Mendelson (1986). The model predicted a positive relationship between value of the firm and liquidity.

An alternative explanation for stock splits is that firms may prefer their shares traded within a particular price range (Copeland, 1979). Management might have this preference because when stock prices are too high, many small or uninformed investors cannot afford to trade in round lots, thereby affecting the liquidity of the stock. Splitting shares would improve liquidity by enlarging clientele and hence reducing the trading cost of the stock. Moreover, management may prefer to bring more small investors—investors who tend not to exercise too much control—into the firm to create a more controllable ownership mix (Powell and Baker, 1993).

According to this hypothesis investors discount illiquid securities heavily compared to liquid ones. This implies that an investor will have a high rate of return for illiquid securities. Stock splits have costs, which if increased will affect the liquidity. An empirical challenge for the trading range is that there is no evidence that split firms eventually experience a lower percent effective spread. In other words, there is no evidence that splitting firms receive a net benefit from doing so. The hypothesis is not likely to be a plausible explanation for splits with a small split factor because small split factors would not effectively reduce the share price enough to a certain range (Aminhud and Mendelson, 1986).

2.2.4 Neglected Firm Hypothesis

Neglected firms are usually the smaller firms that analysts tend to ignore. Information available on these smaller companies tends to be limited to those items that are required by law. Arbel and Swanson (1993) proposed the hypothesis. It states, if there is little known about a firm. Its shares will trade at a discount. The firm will use the split to draw attention to ensure that information about it is widely recognized than before.

In an efficient market, information content associated with splits should be incorporated in the stock prices on announcement. In this market, splits would neither create nor destroy value. There should not be any price reaction on the execution date. However, in the real world, splits have impact. Firms do split their stocks, which they would not bother with if it were completely irrelevant. On a split announcement, there is a significantly positive abnormal return (Goyenko et al, 2005). According to the Efficient Market Hypothesis (EMH), the above theories are not capable of explaining the well-documented ex-day behaviour of stock splits. Maloney and Mulherin (1992) and Conrad and Conroy (1994), suggest that abnormal returns around the ex-day cannot be earned by an investor but are evoked by measurement errors caused by changes in the bid-ask spread. These measurement errors are also known as microstructures of the market.

Market microstructure is the area of finance that studies the process by which investors' latent demands are ultimately translated into prices and volumes (Madhavan, 2000). A central idea in the theory of market microstructure is that asset prices need not equal full-information expectations of value because of a variety of frictions and departures from symmetric information affecting the trading process. Specifically, microstructure relaxes different elements of the random walk model. Stock splits lower the prices of the stock and make it more accessible to investors. Implicit in this statement is the belief that investors prefer lower priced shares and reduced share prices will benefit the current stockholder by widening the market for their share.

2.2.5 Optimum Tick Size Theory

Harris (1996) and Angel (1997) proposed the optimal tick size theory. The idea is that a split causes an increase in percent effective spread. This eventually causes more limit orders to be submitted for two reasons. First, some traders will switch from using market orders (which are now more costly) to using limit orders (which are now more profitable). Secondly, some people will be enticed to become pseudo market makers who profit by submitting limit order on both sides and gaining the spread. The increase in limit orders will eventually cause the percent effective spread to crossover and drop below where it would be without the split. The empirical evidence finds that after a split the number of limit orders does increase and the limit order / market order ratio does go up. An empirical challenge for the optimal tick size is that there is no evidence that spliting firms eventually experience a lower percent effective spread. Again, there is no evidence that splitting firms receive a net benefit from doing so (Goyenko et al, 2005).

Tick size is the minimum price variation. Harris (1994) predicts that a reduction in the minimum price variation will cause spreads to narrow and depth (that is size) to decline. Ahn, Coa and Choe (1996) examined the change in liquidity the AMEX reduced the tick size and found that both spread and depth declined with a smaller tick size.

One real consequence of a split is that the tick size increases as a proportion of the stock's price. A decrease in the stock prices and increase in the relative tick size are indistinguishable results of a split (Schultz, 2000). Angel (1997) argues that splits are intended to move relative ticks to desired levels. He showed that relative tick sizes are remarkably constant across markets, and argues that the effects of binding tick sizes on liquidity provision and clientele determine this optimal relative tick size.

Tick size may matter because a larger tick size may result in more profitable market making, providing brokers with additional incentive to promote the newly split stock. Splits increase the dealers' profits and lower the cost of market making. One way in which market making become profitable following a split is that an increase in the relative tick size implies a wider minimum spread.

Harris (1997) proposes several ways in which larger tick sizes may reduce costs. First, with large ticks, there are few errors and misunderstandings about the transaction prices. Errors are costly and time consuming to correct. The desire to avoid errors may slow trading. With a coarse price increment, there is less room for misunderstanding. In addition, a large tick size minimizes costly negotiation. Schultz (2000) argues that even if the increase in tick size following a stock split reduces costs, the increase in volatility following a split may increase the cost of market making. On the other hand, wider spreads provide an incentive for some brokers to promote the stocks to retail traders and, since companies that provide trading services often employ analysts, analysts may tend to cover stocks where trading profits are higher.

One possibility is that the extent to which tick sizes are binding establishes the normal trading range and causes changes in liquidity and clientele. Furthermore, an optimal relative tick size implies that the dollar tick sizes chosen by NYSE will determine the optimal price of a security. Certainly, binding tick sizes will lead to wider spreads and increased gross revenue to liquidity providers since they restrict the ability of liquidity providers to compete by posting incrementally better prices (Lipson and Mortal, 2005).

2.3 Effect of Stock Splits on Liquidity

At Webster's, definition number 4, regarding trading, for "liquidity" is consisting of or capable of ready conversion into cash. At investorwords.com: "liquidity" is the ability of an asset to be converted into cash quickly and without any price discount (Hommel, 2005). Market liquidity is considered as capacity of financial markets to absorb temporary fluctuations in demand and supply without undue dislocations in prices (Datar, 2000). Bagehot (1971) and Black (1971) described liquidity as the trade-off between sacrificing on price and immediacy, assuming that the trader always got his desired quantity. It is important to note that by taking the shadow cost on quantity seriously, we are not merely adding another constraint. Rather, it is the interactions between the shadow costs of the three dimensions, time, price and quantity.

Liquidity, a fundamental concept in finance, can be defined as the ability to buy or sell large quantities of an asset quickly and at low cost (Chordia, Sarkar and Subrahmanyam, 2002) and (Pástor and Stambaugh, 2001). The vast majority of equilibrium asset pricing models do not consider trading and thus ignore the time and cost of transforming cash into financial assets or vice versa. Liquidity appears to be a good candidate for a priced state variable. Liquidity is important for investment decisions and recent studies show that fluctuations in various measures of liquidity are correlated across stocks. Both investors and borrowers are typically concerned about liquidity. Investors desire liquidity because they are uncertain about when they will want to eliminate their holding of a financial asset. Borrowers are concerned about liquidity either because they are uncertain about their ability to raise funds, when needed unexpectedly because they are uncertain about their ability to continue to retain funding in the future (Diamond and Rajan, 1998).

It is generally acknowledged that liquidity is important for asset pricing. Illiquid assets and assets with high transaction costs trade at low prices relative to their expected cash flows, that is, average liquidity is priced (Harvey, Geert, and Lundblad, 2005). In 2005, Harvey et al focused their research on markets where liquidity effects may be particularly strong, namely emerging markets. In a 1992 survey by Chuhan, poor liquidity was mentioned as one of the main reasons that prevented foreign institutional investors from investing in emerging markets.

Kyle (1985) argues that spreads are an increasing function of the probability of facing an informed trader, and since the market-maker cannot distinguish between order flow from informed traders and order flow from noise traders, she sets prices that are an increasing function of the order imbalance that may indicate informed trading. This implies an inverse relationship between price impact and liquidity. Alternatively, price impact measures for a particular stock may be large for reasons unrelated to asymmetric information issues or liquidity.

The previous literature finds that stock splits worsen liquidity, as measured by percent effective spread, over a short horizon (60 to 180 days) after the split. By liquidity, we mean the average cost of trading a measured by percent effective spread (Goyenko et al, 2005). Goyenko et al (2005) found that split firms initially experience worse liquidity than control firms, but return to even in 10 to 20 months and then cross-over into better liquidity in 60 months. In the finance literature, we are accustomed to event study effects that happen immediately. In particular, we are used to the idea that financial markets decipher complex information very quickly and so prices react in minutes. However, with stock splits we are not only concerned with the immediate price effect, but with the long run trading behaviour of investors and/or the long-run revelation of private information as well. We conjecture that there are long-run liquidity effects, in addition to short-run liquidity effects. This makes sense because the leading split theories all propose mechanisms that take time to work.

2.3.1 Measuring Liquidity

Amihud and Mendelson (1986) show that turnover is negatively related to illiquidity costs. Given the scarcity of realized transaction cost data for emerging equity markets, their main liquidity measure exploited the effect transactions costs may have on daily returns. According to Harvey et al (2005) liquidity and transactions, costs are notoriously difficult to measure. Liquidity itself is not observable and therefore, has to be proxied by different liquidity measures (Von Wyss, 2004).

Market liquidity is difficult to define, given its multifaceted nature. Broadly speaking, there are mainly three possible dimensions of market liquidity: tightness, depth and resiliency (Wong and Fung, 2002). Amihud (2002) examines the average ratio of the daily absolute return to the dollar trading volume on that day. This ratio delivers the absolute (percentage) price change per dollar of daily volume. This is interpreted as the daily price impact of order flow. Usually the following four aspects or dimensions are distinguished:

Trading Time: is the ability to execute a transaction immediately at the prevailing price. The waiting time between subsequent trades or the inverse, the number of trades per time unit is measures for trading time.

Tightness: The ability to buy and to sell an asset at about the same price at the same time. Tightness shows in the clearest way the cost associated with transacting or the cost of immediacy (Von Wyss, 2004). Measures for tightness are the different versions of the spread. It is measured by how far the bid or ask prices diverge from the mid-market prices. It is important to market players as it measures the costs incurred. Of the various indicators, the bid-ask spread is one of the most frequently used (Wong and Fung, 2002).

Depth: The ability to buy or to sell a certain amount of an asset without influence on the quoted price (Von Wyss, 2004). It refers to the volume of trades possible without moving prevailing market prices. A sign of illiquidity is an adverse market impact for the investor when trading. Market depth can be measured, aside from the depth itself, by the order ratio, the trading volume or the flow ratio. Conventionally, it can be measured either by the order amount on the order books, or by the fluctuation in bid-ask spreads as a result of market impact from order executions (Wong and Fung, 2002). The greater the relative imbalance of buy or sell orders, the further the market price must diverge from the standard bid or asks prices to clear the imbalance. The relative sensitivity of market prices to a unit of imbalance of order flows may also reflect the relative depth of the market.

Resiliency: The ability to buy or to sell a certain amount of an asset with little influence on the quoted price (Von Wyss, 2004). There is no clear-cut approach to measure resiliency, and one approach is to examine the speed with which the bid-ask spread and order volume are restored to normal market conditions after trades. Resiliency measures the speed with which price fluctuations resulting from trades reconverge, or the speed with which imbalances in order flows are dissipated. Market resiliency gives us a picture of potential market depth, which cannot be observed from prevailing order flows (Wong and Fung, 2002).

The above aspects of liquidity may be regrouped to display five different levels of liquidity: Firstly, the ability to trade at all. This first level of liquidity is obvious: If there is no liquidity at all in the market, no trading can take place. In a liquid market there exist at least one bid quote and one ask quote that make a trade possible. Secondly, the ability to buy or to sell a certain amount of an asset will have an influence on the quoted price. If it is possible to trade, the next question concerns the price impact of trading. In a liquid market, it is possible to trade a certain amount of shares with little impact on the quoted price. Thirdly, is the ability to buy or to sell a certain amount of an asset without influence on the quoted price. The more liquid a market becomes, the smaller is the impact on the quoted price. Therefore, as the liquidity increases, eventually a point will be reached where there is no more price impact for a certain amount of shares. Fourthly, is the ability to buy and to sell an asset at about the same price at the same time? Lastly, the ability to execute a transaction from points 2 to 4 immediately (Von Wyss, 2004).

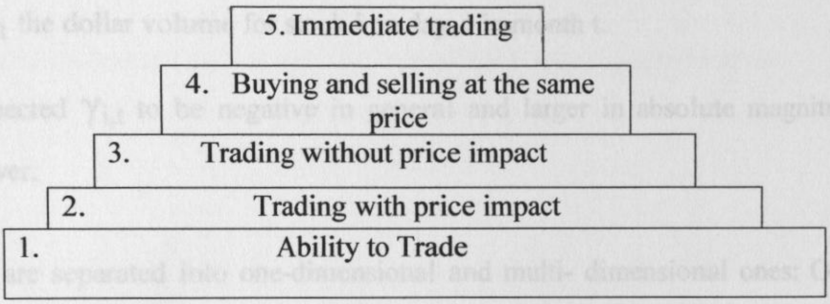

Figure 1: Levels of Liquidity

Source: Von Wyss (2004) Measuring and Predicting Liquidity in the Stock Market. Pg.8

Pastor and Stambaugh (2001), construct a firm specific liquidity measure by regressing a firm's return minus the market return on the lagged firm return and the lagged signed dollar volume of trading using daily data. The greater the price reversal on the next day, the more negative the coefficient on signed dollar volume, the more illiquid is the stock. The regression is repeated every month for every firm. Each month, the coefficient on the signed volume is averaged to provide a market wide liquidity measure. The measure is adjusted for the time-trend in market capitalization. Their final liquidity measure is the innovation from a regression of changes in the market-wide liquidity measure on lagged changes and the lagged level. Both measures require positive volume during the sampling interval, which might be problematic for some emerging markets where non-trading problems are particularly acute (as in our stock market). The regression equation is given below. Specifically, the liquidity measure for stock i in month t is the ordinary-least- squares (OLS) estimate of $\gamma_{i,t}$ in the regression,

$$r^{e}_{i,d+1,t} = \theta_{i,t} + \varphi_{i,t}\, r_{i,d,t} + \gamma_{i,t}\, \mathrm{sign}(r^{e}_{i,d,t}) \cdot v_{i,d,t} + \varepsilon_{i,d+1,t}$$

Where: $r_{i,d,t}$ the return on stock i on day d in month t

$r^{e}_{i,d,t} = r_{i,d,t} - r_{m,d,t}$

$r_{m,d,t}$ the return on the CRSP value-weighted market returns on day d in month t.

$\varepsilon_{i,d+1,t}$ is the error term

$v_{i,d,t}$ the dollar volume for stock i on day d in month t.

The researchers expected $\gamma_{i,t}$ to be negative in general and larger in absolute magnitude when liquidity is lower.

Liquidity measures are separated into one-dimensional and multi- dimensional ones: One-dimensional liquidity measures take only one variable into account, whereas the multi-dimensional liquidity measures try to capture different variables in one measure (Von Wyss, 2004).

2.3.1.1 One-Dimensional Liquidity Measures

1. Volume-related Liquidity Measures

The volume-related liquidity measures may be calculated as a certain volume, or quantity of shares, per time unit. Usually they are used to capture the depth dimension of liquidity, but there is also a relation to the time dimension since a higher volume in the market leads to a shorter time needed for trading a predefined amount of shares (Von Wyss, 2004). Trading volume is carefully investigated by Lee & Swaminathan (2000) in the context of momentum and value strategies. If the volume-related liquidity measures are high, this is a sign of high liquidity. These include:

Trading volume:

Trading volume for time *t* - 1 until time *t* is calculated as follows:

$$Q_t = \sum_{i=1}^{Nt} q_i$$

Where: Q_t is Trading volume per time interval.

N_t denotes the number of trades between *t*-1 and *t*.

q_i is the number of shares of trade *i*.

- **Turnover**

Like the trading volume, turnover (V_t) has to be calculated for a specific time interval:

$$v_t = \sum_{i=1}^{n} p_i \times q_i$$

Where: P_i denotes the price of trade *i*

N denotes the number of trades.

q_i is the number of shares of *i* traded.

- **Depth**

The market depth in time *t*, D_t, which is also referred to as quantity depth or volume depth (Von Wyss, 2004) is calculated as the sum of bid and ask volume in time *t*. q^A_t and q^B_t refer to the best bid and the best ask volume in the order book.

$$D_t = q^A_t + q^B_t$$

Where: q^A_t is the best ask volume.
q^B_t is the best bid volume.

2. Spread-related Liquidity Measures

The difference between the ask-bid prices and its related measures gives an approximation of the cost incurred when trading. In addition to fees and taxes, the trader has to pay the spread as cost for the immediate execution of a trade. The smaller the spread-related liquidity measures is, the more liquid the market (Von Wyss, 2004). These include;

- **Absolute spread**

The absolute spread is the differences between the lowest ask price and the highest bid price.

$$| S_t | = P^A{}_t - P^B{}_t$$

Where: $P^A{}_t$ refers to best ask price at time t

$P^B{}_t$ refers to best bid price at time t

$| S_t |$ is the absolute spread

- **Effective spread:**

The effective spread is a different spread concept: If the effective spread is smaller than half the absolute spread, this reflects trading within the quotes (Von Wyss, 2004).

$$Seff_t = | P_t - P^m{}_t |$$

Where: $P^m{}_t$ is the mid price

P_t denotes the last traded price before time *t*

$Seff_t$ is the effective spread

- **Relative effective spread**

The relative measure allows comparability across different stocks. Also the relative effective spread may be doubled to compare it to other relative spread measures.

$$RSeff_t = \frac{| P_t - P^m{}_t |}{P_t}$$

Where: $P^m{}_t$ is the mid price

P_t denotes the last traded price before time *t*

$RSeff_t$ is the Relative effective spread

3. **Time-related Liquidity Measures**

Time-related liquidity measures indicate how often transactions or orders take place. Therefore, high values of these measures indicate high liquidity. These are;

- **Number of transactions per time unit:**

$$N_t$$

Where: N_t denotes the number of trades between t-1 and t.

Like the trading volume, the number of trades is a widely used liquidity measure.

2.3.1.2 Multi-Dimensional Liquidity Measures

They combine the first four measures of spread in the numerator and volume in the denominator. Therefore, a high liquidity measures denotes low liquidity. These measures include;

- **Quote slope**

The quote slope has the spread in the numerator divided by log depth yields. A high quote slope denotes low liquidity. Graphically this measure is the slope of a line between the bid quote and the ask quote (Von Wyss, 2004).

$$QS_t = \frac{|S_t|}{Dlog_t} = \frac{P^A{}_t - P^B{}_t}{\ln(q^A{}_t) + \ln(q^B{}_t)}$$

Where: $|S_t|$ is the absolute spread

QS_t is the quote slope

$Dlog_t$ is the log of the quantity depth

$q^A{}_t$ is the best ask volume.

$q^B{}_t$ is the best bid volume.

- **Liquidity ratios**

The liquidity ratios combine turnover and return or number of trades and return, respectively.

I. Liquidity ratio 1

$$LR1_t = \frac{\sum_{i=1}^{N} q_i \times p_i}{|r_t|}$$

r_t denotes the return from period t - 1 to t, and V_t is the turnover. The liquidity ratio compares the traded volume to the absolute price change during a certain period. The higher the volume, the more price movement can be absorbed. Therefore, high liquidity ratios denote high liquidity. The liquidity ratio 1, also known as Amivest liquidity ratio (Von Wyss, 2004)

Similar to the liquidity ratio 1 is the return per turnover

$$\frac{1}{LR1_t} = \frac{|r_t|}{V_t}$$

II. Liquidity ratio 2

In this version of the liquidity ratio, the traded volume is corrected for the free float of the firm. The term $(N_e - N_o)$ denotes the difference between total number of shares and the number of shares owned by the firm (Von Wyss, 2004).

$$LR2_t = \frac{LR1_t}{N_e - N_o} = \frac{V_t}{(N_e - N_o)\,|r_t|}$$

Since free float does not change much in the intraday context, these derivations of the liquidity ratio are left out. Like liquidity ratio 1, higher the liquidity ratios the higher the liquidity.

III. Liquidity Ratio 3

The third liquidity ratio indicates the average price change of a transaction. While the liquidity ratios 1 and 2 depend on the absolute price of a stock, the liquidity ratio 3 overcomes this problem by only using the number of trades in the denominator. In contrast to the liquidity ratio one, a high liquidity ratio shows low liquidity. If the number of trades for certain time space is zero, the liquidity ratio 3 is forced to zero (Von Wyss, 2004).

$$LR\,3_t = \frac{\sum_{i=1}^{N} r_i}{N_t}$$

2.4 Effect of Stock Splits on Volatility

Stock Market volatility refers to the degree to which the price of a security, commodity, or market rises or falls within a short-term period (Mullins, 2000).

What Causes Volatility?

According to Mullins (2000) there are a number of things that cause volatility. These include:

Arbitrage; It is the simultaneous or almost simultaneous buying and selling of an asset to profit from price discrepancies. Arbitrage causes markets to adjust prices quickly. This has the effect of causing information to be more quickly assimilated into market prices. This is a curious result because arbitrage requires no more information than the existence of a price discrepancy.

Technology; this includes more timely information dissemination, improved technology to make trades and more kinds of financial instruments. The faster information is disseminated, the quicker markets can react to both negative and positive news. Improved trading technology makes it easier to take advantage of arbitrage opportunities, and the resulting price alignment arbitrage causes. Finally, more kinds of financial instruments allow investors more opportunity to move their money to more kinds of investment positions when conditions change.

French and Foster III, (2002) observe that one of the most puzzling anomalies in the stock price behaviour is the observation that the variance of returns increase significantly beginning on the ex-date of stock splits and large stock dividend.

The existence of a post-split increase in return variance is baffling for two reasons. First, the stock split is an event fully known in the market prior to the ex-date. Any stock prices reaction to a split should happen at the time the firm declares the forthcoming stock distribution. Second reason is the fact that a stock distribution is a non-financial event for the firm, it produces no change in the net asset value or cashflows and should be irrelevant to the value of the firm. In a perfect market, the total market value of the firms' equity should be independent of the number of shares into which equity is divided (French and Foster III, 2002). It also possible that the post split volatility increases are attributed to market trading mechanism (the Market Microstructure).

Standard microstructure theory argues that an increase in volatility leads to an increase in market makers' inventory risk, which in turn leads to an increase in the bid-ask spread (Goyenko et al, 2005). Price discreteness and the bid-ask spread is two components of market microstructure that could cause measurement errors that could result in an upwardly biased estimate of return variance. Therefore, volatility can be one of potential sources of increase in spreads of split firms and worsening of their liquidity.

2.4.1 Measuring Volatility

There are several measures of volatility. Mullins (2000) suggests that the two most common (and most useful) measures of volatility: standard deviation and implied volatility.

Standard Deviation: Its most common measure of volatility.

Implied Volatility: A less well-known, but more valuable measure is implied volatility. This measure is the result of an important fact about derivatives: the price of the derivative along with the price of the underlying security produces two observations of the security's price. The implied volatility is volatility that the market is currently anticipating for the underlying asset, which can be a futures contract or a stock. Implied volatility is usually used for trading options on the underlying, but you can also use it to trade the underlying itself.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

Do stock splits and stock dividends above 25% affect liquidity of a firms' stock? In order to develop a consistent empirical answer, the study examined the effect of stock splits and stock dividends on the turnover and effective spread of the splitting firm. This was done through an event study. An event study is an empirical study that examines the behavior of firms' stock prices around corporate events (Kothari and Warner, 2004). The methodology is based on the assumption that capital markets are sufficiently efficient to evaluate the impact of new information on expected future of the firm.

Liquidity measures are separated into one-dimensional and multi- dimensional ones: One-dimensional liquidity measures take only one variable into account, whereas the multi-dimensional liquidity measures try to capture different variables in one measure. The study used the one-dimensional liquidity measures. The measure was trading activity ratio.

3.2 Population

All the equity securities listed at the Nairobi Stock Exchange. These were 48 in number as indicated in appendix 1.

3.3 Sampling

The sample of the study consisted of all the stock splits and large stock dividends, which is a stock dividend distribution greater than 25% of the issued shares and the 2 splits of East African Breweries Limited (EABL) and KENOL. The years of interest were from 2000 to 2005. These were deemed representative enough to draw a conclusion. See appendix 2.

3.4 Data Description and Collection

Liquidity itself is not observable and therefore, has to be proxied by different liquidity measures. The proxy used to measure liquidity was the Trading activity ratio for the respective companies sampled. The study used daily data from the NSE for individual stocks, 90 days before and after the event. These included the stocks' trade volume for the day and the tradable shares in issue. Data was collected using the table in appendix 3

In the finance literature, we are accustomed to event study effects that happen immediately. In particular, we are used to the idea that financial markets decipher complex information very quickly and so prices react in minutes. However, with stock splits we are not only concerned with the immediate price effect, but with the long-run trading behavior of investors and/or the long-run revelation of private information as well. We conjecture that there are long-run liquidity effects, in addition to short-run liquidity effects. This necessitates the use such a large event window, which is 90 days.

The data collected was transformed to trading activity ratio (TAR) using the following formula:

$$\text{TAR} = \frac{\text{No. of shares traded}}{\text{No. of tradable shares issued}}$$

3.5 Data Analysis

The data analysis has been done by comparing the trading activity ratio of the companies sampled before and after the event (the stock split or stock dividend). Using t-statistics, the hypotheses, has been tested. These tests are performed at the 95% confidence level.

CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

4.1 INTRODUCTION

The focus of the paper was on trading activity ratio 90 days after stock splits and stock distributions of above 25%. Data obtained from the Nairobi Stock Exchange, sampled five stocks between 2000 and 2005. These Stocks met the following criteria; they were either stock distributions of above 25% or stock splits. The trading activity ratio of respective stock was computed before and after the split/bonus.

4.2 DATA ANALYSIS

In order to test the hypothesis, SPSS was used to generate the tables and the graphs below for individual companies.

Table 1: East African Breweries Limited Summary Statistics

	TAR before the Stock split	TAR after the stock split
Count	90	90
Average	0.0535767	0.323213
Standard deviation	0.0610071	0.371824
Coefficient of variation	113.869%	115.04%
Minimum	0.0011	0.0
Maximum	0.2779	1.4668
Range	0.2768	1.4668
Standardized skewness	6.67345	6.52772
Standardized kurtosis	5.31419	4.67769

Source: Research Data

The above table shows the summary statistics for the two samples of data, the Trading Activity Ratio (TAR) before and after the stock split. The standardized skewness and standardized kurtosis, which are used to determine whether the samples come from normal distributions. Values of these statistics outside the range of -2 to +2 indicate significant departures from normality, which would tend to invalidate the tests which compare the standard deviations. In this case, both samples have standardized skewness values outside the normal range. Both samples have standardized kurtosis values outside the normal range.

Table 2: East African Breweries Limited Paired Samples Test

	Paired Differences					t	dfs	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Trading activity ratio before the split - Trading activity ratio after the split	-0.269637	0.3728332	.0393001	-0.347725	-0.191548	-6.861	89	.000
Standard Deviation				0.32519	0.436963			

Source: Research Data

This chart displays 95.0% confidence intervals for the mean and standard deviation of TAR before the split -TAR after the split. The standard interpretation of these intervals is that, in repeated sampling, these intervals will contain the true mean or standard deviation of the population from which the data come 95.0% of the time. In practical terms, we can state with 95.0% confidence that the true mean TAR before the split -TAR after the split is somewhere between -0.347725 and -0.191548, while the true standard deviation is somewhere between 0.32519 and 0.436963. Both intervals assume that the population from which the sample comes can be represented by a normal distribution. The confidence interval for the mean is quite robust and not very sensitive to violations of this assumption.

A t-test to compare the means of the two samples is undertaken. The observed mean difference between TAR before and after the split is -0.269637%. The Researcher constructs confidence intervals or bounds for the difference between the means. The interval for the difference between the means extends from -0.347725 to -0.191548. Since the interval does not contain the value 0, there is a statistically significant difference between the means of the two samples at the 95.0% confidence level. In this case, the test has been constructed to determine whether the difference between the two means equals 0.0 versus the alternative hypothesis that the difference does not equal 0.0. Since the computed P-value (ρ=0.000) is less than 0.05, we can reject the null hypothesis in favor of the alternative. Thus there is a difference in the two means, implying that, in this case, stock splits do affect the liquidity of a share. But these figures do not give the general direction of liquidity of the shares.

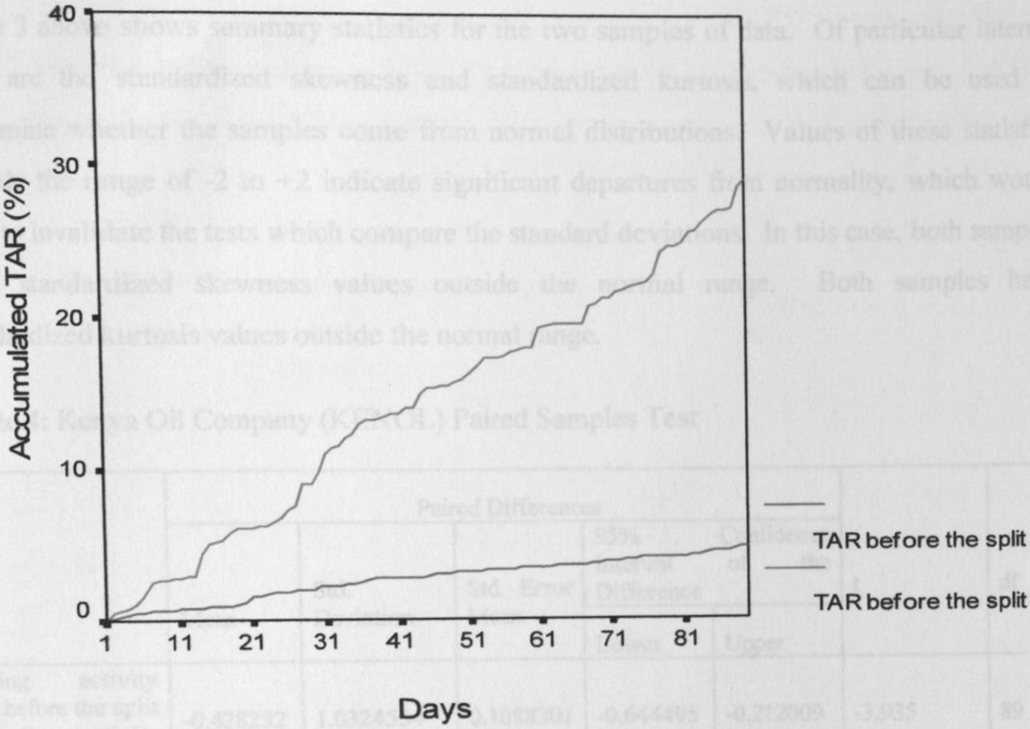

Figure 2: Graph of Accumulated TAR against Days for EABL

Figure 2 indicates that Accumulated TAR is an increasing function of time. TAR has improved after the split. There is indicated by the steeper gradient of the curve of TAR after the split than before the split. This indicates an improvement in liquidity after the split.

Table 3: Kenya Oil Company (KENOL) Summary Statistics

	TAR before the Stock split	TAR After the stock split
Count	90	90
Average	0.0528544	0.481107
Standard deviation	0.113488	1.01666
Coefficient of variation	214.718%	211.317%
Minimum	0.0	0.0
Maximum	0.6448	6.9169
Range	0.6448	6.9169
Standardized skewness	13.3763	15.8374
Standardized kurtosis	26.6784	39.119

Source: Research Data

Table 3 above shows summary statistics for the two samples of data. Of particular interest here are the standardized skewness and standardized kurtosis, which can be used to determine whether the samples come from normal distributions. Values of these statistics outside the range of -2 to +2 indicate significant departures from normality, which would tend to invalidate the tests which compare the standard deviations. In this case, both samples have standardized skewness values outside the normal range. Both samples have standardized kurtosis values outside the normal range.

Table 4: Kenya Oil Company (KENOL) Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference: Lower	Upper			
Trading activity ratio before the split - Trading activity ratio after the split	-0.428252	1.0324534	0.1088301	-0.644495	-0.212009	-3.935	89	0.000
Standard Deviation				0.900519	1.21004			

Source: Research Data

This chart displays 95.0% confidence intervals for the mean and standard deviation of TAR before the stock split-TAR after the stock split. The classical interpretation of these intervals is that, in repeated sampling, these intervals will contain the true mean or standard deviation of the population from which the data come 95.0% of the time. In practical terms, we can state with 95.0% confidence that the true mean TAR Before the stock split -TAR after the stock split is somewhere between -0.644495 and -0.212009, while the true standard deviation is somewhere between 0.900519 and 1.21004. Both intervals assume that the population from which the sample comes can be represented by a normal distribution. The confidence interval for the mean is quite robust and not very sensitive to violations of this assumption.

Table 4 also displays the results of t-tests concerning the center of the population from which the sample of TAR before the stock split -TAR after the stock split comes. The test is a t-test of the null hypothesis that the mean TAR Before the stock split -TAR After the stock split equals 0.0 versus the alternative hypothesis that the mean TAR Before-TAR After is not equal to 0.0. Since the P-value (ρ=0.000) for this test is less than 0.05, we can reject the null hypothesis at the 95.0% confidence level. Therefore there is a difference in the mean of TAR Before the stock split -TAR After the stock split. This indicates that stock split have an effect on the liquidity of stock.

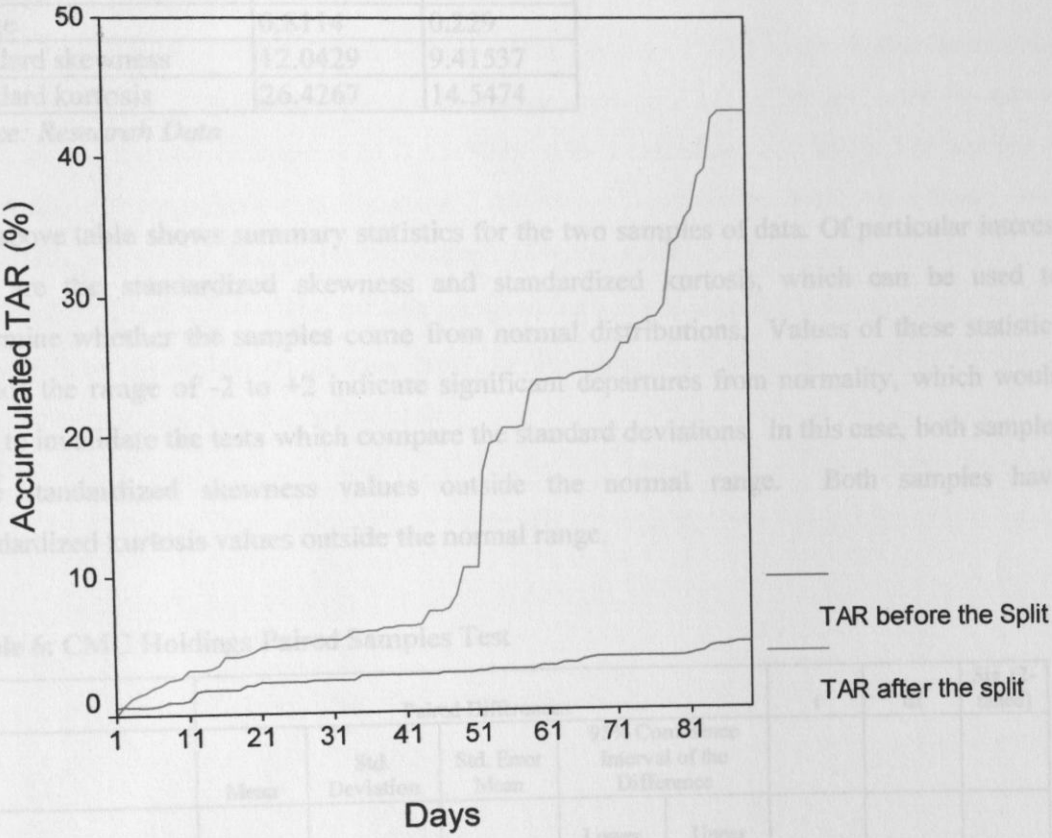

Figure 3: Graph of Accumulated TAR against Days for KENOL

Figure 3 also shows that Accumulated TAR is an increasing function of time. TAR has improved after the split. This is indicated by the steeper gradient of the curve of TAR after the split than before the split. This suggests that split will improve liquidity in the short term; this is contrary to the finds of (Goyenko, et al 2005).

Table 5: CMC Holdings Paired Summary Statistics

Summary Statistics

	TAR before	TAR after
Count	90	90
Average	0.0848278	0.0306267
Standard deviation	0.123497	0.0411468
Coefficient. of variation	145.586%	134.35%
Minimum	0.0	0.0
Maximum	0.8114	0.229
Range	0.8114	0.229
Standard skewness	12.0429	9.41537
Standard kurtosis	26.4267	14.5474

Source: Research Data

The above table shows summary statistics for the two samples of data. Of particular interest here are the standardized skewness and standardized kurtosis, which can be used to determine whether the samples come from normal distributions. Values of these statistics outside the range of -2 to +2 indicate significant departures from normality, which would tend to invalidate the tests which compare the standard deviations. In this case, both samples have standardized skewness values outside the normal range. Both samples have standardized kurtosis values outside the normal range.

Table 6: CMC Holdings Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Trading Activity ratio before the bonus - Trading Activity ratio after the bonus	0.054201	0.1313081	0.0138411	0.026699	0.081703	3.916	89	0.000
Standard deviation				0.114529	0.153894			

Source: Research Data

Table 6 displays 95.0% confidence intervals for the mean and standard deviation of TAR before bonus issue -TAR After bonus issue. The conventional interpretation of these intervals is that, in repeated sampling, these intervals will contain the true mean or standard deviation of the population from which the data comes 95.0% of the time. In practical terms, we can state with 95.0% confidence that the true mean TAR before bonus issue -TAR After bonus issue is somewhere between 0.026699 and 0.081703, while the true standard deviation is somewhere between 0.114529 and 0.153894 Both intervals assume that the population from which the sample comes can be represented by a normal distribution. The confidence interval for the mean is quite robust and not very sensitive to violations of this assumption.

Table 6 displays the results of paired t-tests of the sample of TAR before bonus issue -TAR After bonus issue. The observed mean difference between TAR before and after the split is 0.054201%, a standard deviation of 0.1313081, with a calculated t of 3.916. The test is a t-test of the null hypothesis that the mean TAR before bonus issue -TAR After bonus issue equals 0.0 versus the alternative hypothesis that the mean TAR before-TAR After is not equal to 0.0. Since the P-value for this test (ρ=0.000) is less than 0.05, we can reject the null hypothesis at the 95.0% confidence level. In this case, there is a significant difference in liquidity before and after the bonus issue.

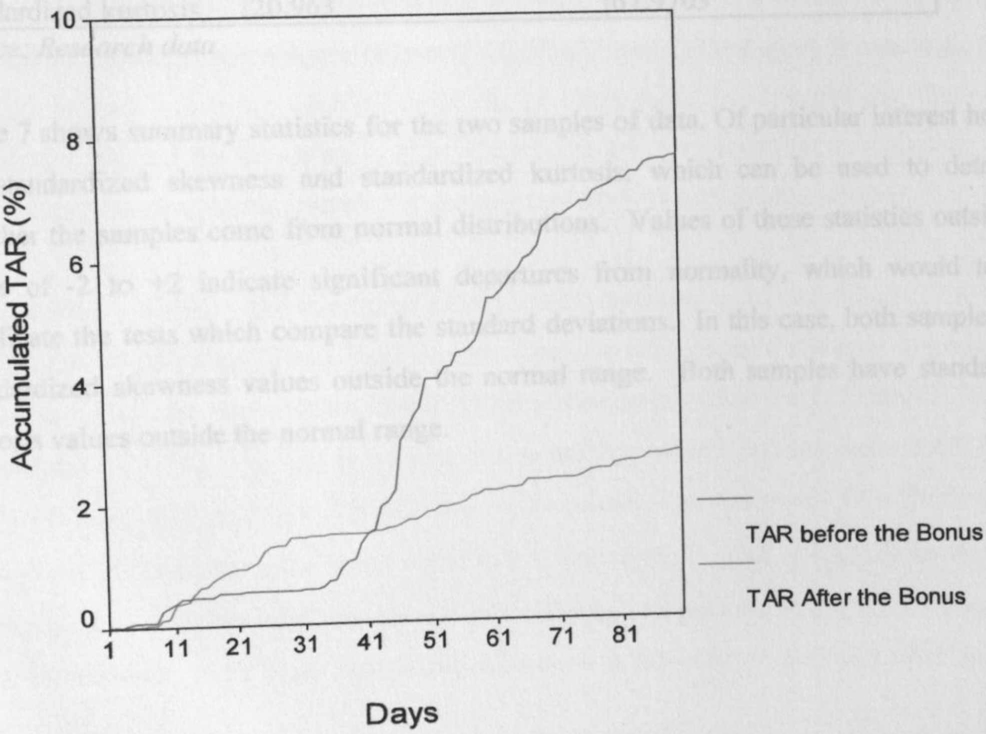

Figure 4: Graph of Accumulated TAR against Days for CMC Holding

Figure 4 shows that Accumulated TAR is greater after the bonus issue for the first 40 day after which the situation reverses. These results are conflicting and require further investigation. But this also indicates that in the short run, liquidity does worsen. These findings are consistent with (Goyenko et al, 2005). They found that liquidity worsens within the window of 90 to 120 days but does improve within a window of 60 months. This gives the researcher mixed results thus hard to say whether there in an improvement or a decline in liquidity 90 days after the bonus.

Table 7: Diamond Trust Paired Samples Statistics

	TAR Before the bonus issue	TAR After the bonus issue
Count	90	90
Average	0.0424178	0.0279822
Standard deviation	0.0747279	0.0600634
Coefficient of variation	176.171%	214.648%
Minimum	0.0	0.0
Maximum	0.4427	0.4756
Range	0.4427	0.4756
Standardized skewness	11.5172	20.1351
Standardized kurtosis	20.963	67.9703

Source: Research data

Table 7 shows summary statistics for the two samples of data. Of particular interest here are the standardized skewness and standardized kurtosis, which can be used to determine whether the samples come from normal distributions. Values of these statistics outside the range of -2 to +2 indicate significant departures from normality, which would tend to invalidate the tests which compare the standard deviations. In this case, both samples have standardized skewness values outside the normal range. Both samples have standardized kurtosis values outside the normal range.

Table 8: Diamond Trust Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Trading Activity ratio before the Bonus - Trading Activity ratio after the Bonus	0.014436	0.0912228	0.0096157	-0.004671	0.033542	1.501	89	0.137
Standard Deviation				0.0795657	0.106914			

Source: Research Data

The above chart displays 95.0% confidence intervals for the mean and standard deviation of TAR Before the bonus issue-TAR after the bonus issue. The established interpretation of these intervals is that, in repeated sampling, these intervals will contain the true mean or standard deviation of the population from which the data come 95.0% of the time. In practical terms, we can state with 95.0% confidence that the true mean TAR Before bonus issue -TAR After bonus issue is somewhere between -0.004671 and 0.033542, while the true standard deviation is somewhere between 0.0795657 and 0.106914. It is assumed that the population from which the sample comes can be represented by a normal distribution. The confidence interval for the mean is quite robust and not very sensitive to violations of this assumption, the confidence interval for the standard deviation is quite sensitive.

Table 8 above displays the results of paired t-tests concerning the sample of TAR Before bonus issue -TAR after bonus issue comes. The observed mean difference between TAR before and after the bonus issue is 0.014436%, a standard deviation of 0.0096157, with a calculated t of 1.501. The test is a t-test of the null hypothesis that the mean TAR Before-TAR After equals 0.0 versus the alternative hypothesis that the mean TAR Before bonus issue -TAR After bonus issue is not equal to 0.0. Since the P-value (ρ=0.317) for this test is greater than or equal to 0.05, we cannot reject the null hypothesis at the 95.0% confidence level. In this case, there is no significant difference in liquidity of the share after the bonus issue.

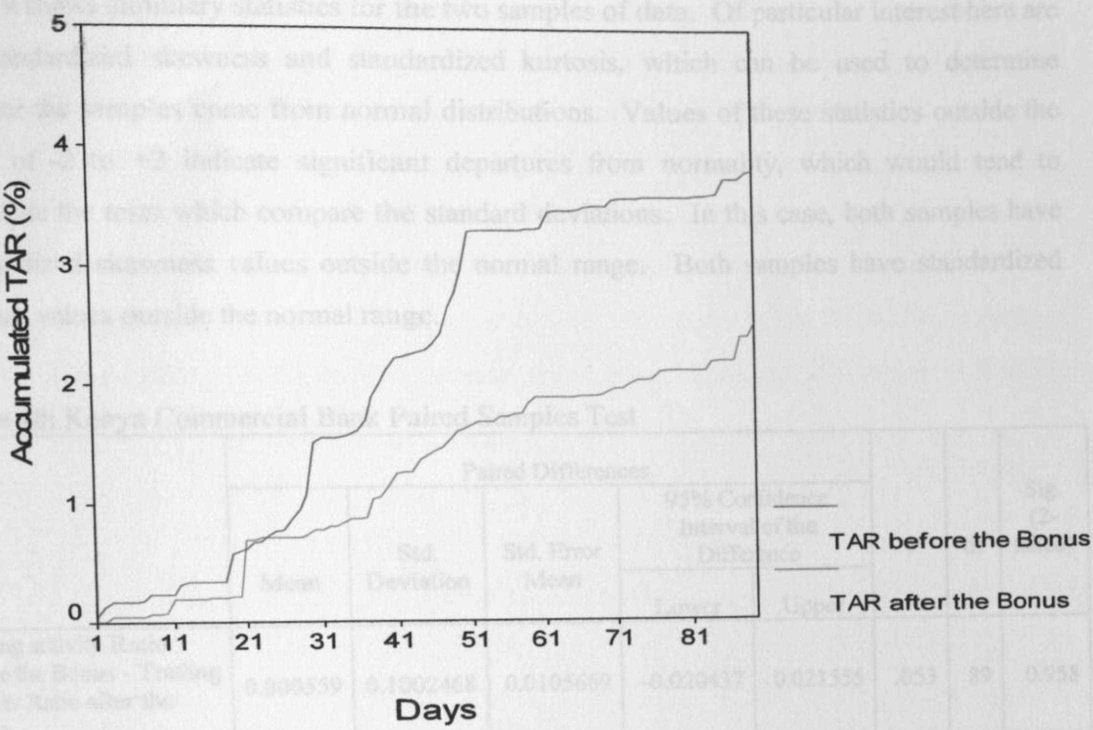

Figure 5: Graph of Accumulated TAR against Days for Diamond trust

Figure 5 shows that Accumulated TAR is greater before the bonus issue. This is indicated by the steeper slope of the curve of TAR before the Bonus issue compares to the curve of TAR after the bonus. These results support the observation of (Goyenko et al, 2005) that in the short run, liquidity does worsen. They found that liquidity worsens within the window of 90 to 120 days but does improve within a window of 60 months.

Table 9: Kenya Commercial Bank Summary Statistics

	TAR Before the bonus issue	TAR after the bonus issue
Count	90	90
Average	0.0261589	0.0256
Variance	0.0018356	0.00786247
Standard deviation	0.042844	0.0886705
Minimum	0.0001	0.0
Maximum	0.2256	0.6816
Range	0.2255	0.6816
Standard skewness	11.8964	22.5539
Standard kurtosis	19.1213	72.8044

Source: Research Data

Table 9 shows summary statistics for the two samples of data. Of particular interest here are the standardized skewness and standardized kurtosis, which can be used to determine whether the samples come from normal distributions. Values of these statistics outside the range of -2 to +2 indicate significant departures from normality, which would tend to invalidate the tests which compare the standard deviations. In this case, both samples have standardized skewness values outside the normal range. Both samples have standardized kurtosis values outside the normal range.

Table 10: Kenya Commercial Bank Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Trading activity Ratio before the Bonus - Trading activity Ratio after the Bonus	0.000559	0.1002468	0.0105669	-0.020437	0.021555	.053	89	0.958
Standard Deviation				0.0874366	0.11749			

Source: Research Data

The panel above displays 95.0% confidence intervals for the mean and standard deviation of TAR Before the bonus issue-TAR after the bonus issue. The classical interpretation of these intervals is that, in repeated sampling, these intervals will contain the true mean or standard deviation of the population from which the data come 95.0% of the time. In practical terms, we can state with 95.0% confidence that the true mean TAR before the bonus issue -TAR after the bonus issue is somewhere between -0.020437 and 0.021555, while the true standard deviation is somewhere between 0.0874366 and 0.11749. Both intervals are based on the assumption that the population from which the sample comes can be represented by a normal distribution. While the confidence interval for the mean is quite robust and not very sensitive to violations of this assumption, the confidence interval for the standard deviation is quite sensitive.

Table 10 above shows the results of paired t-tests concerning the sample of TAR Before the bonus issue -TAR after the bonus issue. The observed mean difference between TAR before and after the bonus issue is 0.000559%, a standard deviation of 0.0105669 with a calculated t of 0.053. The test is a t-test of the null hypothesis that the mean TAR Before the bonus issue -TAR after the bonus issue equals 0.0 versus the alternative hypothesis that the mean TAR Before the bonus issue -TAR after the bonus issue is not equal to 0.0. Since the P-value (ρ=0.958) for this test is greater than or equal to 0.05, we cannot reject the null hypothesis at the 95.0% confidence level. In this scenario, there is no significant difference in liquidity after the bonus issue.

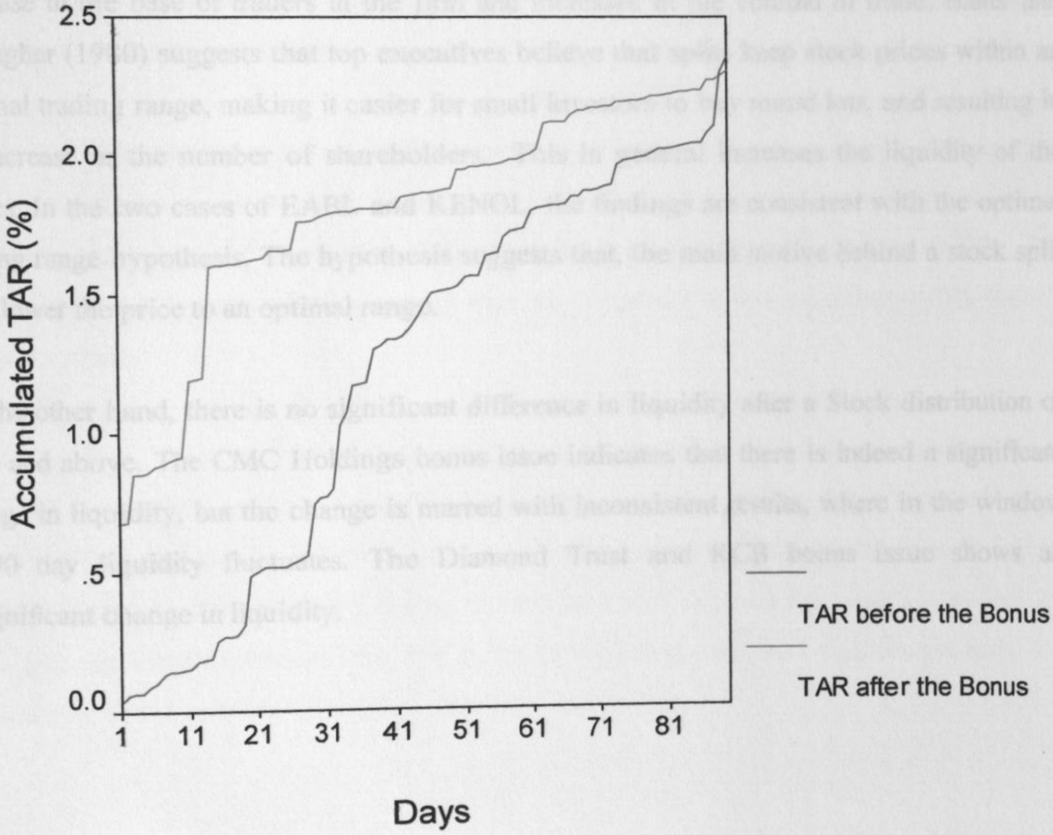

Figure 6: Graph of Accumulated TAR against Days for Kenya Commercial Bank

Figure 6 establishes that Accumulated TAR is greater after the bonus issue. Indicated the steeper slope of the curve of TAR after the Bonus issue compares to the curve of TAR after the bonus. But converges to a single point at the 89 days level, and cross over indicating a change in the liquidity status.

4.3 FINDINGS

The sample was made up of two stock splits and three stock distributions above 25%. The two split, that is, EABL and KENOL have consistent results. The results in this case indicated that there was a significant change in liquidity after the split. In both scenarios, liquidity improved after the split. According to Copeland (1979), the trading range theory, a split lowers the price, which makes trading more affordable. This eventually leads to an increase in the base of traders in the firm and increases in the volume of trade. Baker and Gallagher (1980) suggests that top executives believe that splits keep stock prices within an optimal trading range, making it easier for small investors to buy round lots, and resulting in an increase in the number of shareholders. This in general increases the liquidity of the shares. In the two cases of EABL and KENOL, the findings are consistent with the optimal trading range hypothesis. The hypothesis suggests that, the main motive behind a stock split is to lower the price to an optimal range.

On the other hand, there is no significant difference in liquidity after a Stock distribution of 25% and above. The CMC Holdings bonus issue indicates that there is indeed a significant change in liquidity, but the change is marred with inconsistent results, where in the window of 90 day liquidity fluctuates. The Diamond Trust and KCB bonus issue shows an insignificant change in liquidity.

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATION

5.1 Summary

In Chapter one, the research problem was identified and briefly discussed, the justification for the study was established; objectives of the study and the research hypotheses were established. The literature reviewed pertained to the research problem and a method of measuring liquidity was established in chapter two. The initial review of the literature gave rise to the following; do stock splits and stock dividend have any impact on liquidity. From this question, research objectives were established. These objectives were translated to research hypotheses to be tested. The literature review covered the various motives behind stock splits and distributions, the effect of these on liquidity and the effect of splits on volatility of return of the shares.

In chapter three, various research methodologies were reviewed and an appropriate research method pertaining to the research problem was selected. The preferred method in this case was an event study and secondary data from the Nairobi Stock Exchange (NSE). The samples used in this case were companies that had declared a bonus issue above 25% and the two stock splits.

In chapter four, the transformed data obtained from the NSE to Trading Activities Ratio (TAR) as shown in Appendix 4 was analysed and the results presented. Various tests were run, primarily t-test and skewness test to determine the validity of the results. The statistical Program for social sciences (SPSS) was utilised as a tool to assist the analysis process for qualifying the results obtained from the study. By utilising t-test and significance tests, the applicability of the results to a large population was verified.

5.2 Discussions

The study was designed to answer the following question; do stock splits and dividends affect liquidity? The researchers 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 are consistent with the optimal trading range hypothesis, where a firm splits its shares, when the management feels that their shares are not affordable. A split will lower the price, making trading more affordable especially by avoiding odd lot trading costs (Copeland, 1979).

On the other hand, the case of stock dividends gave mixed results. Where some of the stocks sampled showed that there was a change in liquidity after the bonus issue, but the change was not statistically significant. This was the case for diamond trust and KCB. Diamond trust's curve of accumulated TAR and Days shows that liquidity worsens after the bonus issue. As for KCB, the curve indicates that liquidity improves, but changes direction after 89 days. For the case of CMC Holdings, the change was statistically significant, but when accumulated TAR was plotted against Days. The curve intercepts twice, meaning that liquidity changes direction, giving no clear indication as to whether liquidity is improving or not.

5.3 Recommendations

There is evidence as revealed by the study that stock splits and dividend have an effect on liquidity. There is need for more research to be undertaken on stock splits and dividends with a focus on the effect that they do have on volatility of stocks. There is also further need to investigate the effect of stock splits and dividends have on liquidity, using different measures of liquidity, in particular, the spread, to verify if indeed liquidity does improve.

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APPENDICES

Appendix 1: List of All Companies Quoted at the NSE

	NAME OF COMPANY
1	Unilever Tea Kenya Ltd. Ord. 10.00
2	Kakuzi Ltd. Ord. 5.00
3	Rea Vipingo Plantations Ltd. Ord. 5.00
4	Sasini Tea & Coffee Ltd. Ord. 5.00
5	Car & General (K) Ord. 5.00
6	CMC Holdings Ltd. Ord. 5.00
7	Hutchings Biemer Ltd. Ord. 5.00
8	Kenya Airways Ord. 5.00
9	Marshalls (E.A) Ord. 5.00
10	Nation Media Group Ord. 5.00
11	Tourism Promotion Services Ltd. Ord. 5.00
12	Uchumi Supermarket Ltd. Ord. 5.00
13	Barclays Bank Ltd. Ord. 10.00
14	CFC Bank Ltd. Ord. 5.00
15	Diamond Trust Of Kenya Ord. 5.00
16	Housing Finance CO. Ltd.
17	ICDC Investment CO. Ltd Ord. 5.00
18	Jubilee Insurance CO. Ltd. Ord. 5.00
19	Kenya Commercial Bank Ord. 10.00
20	National Bank Of Kenya Ltd. Ord. 5.00
21	NIC Bank Ltd. Ord. 5.00
22	Pan Africa Insurance CO. Ltd. Ord. 5.00
23	Standard Chartered Bank Ord. 5.00
24	Athi River Mining Ord. 5.00
25	BOC Kenya Ltd.
26	Bamburi Cement Ltd. Ord. 5.00
27	British American Tobacco Kenya Ord. 5.00
28	Carbacid Investments Ltd. Ord. 5.00
29	Crown Berger Ord. 5.00
30	Olympia Capital Holdings Ltd. Ord. 5.00
31	E.A cables Ord. 5.00
32	E.A Portland Cement Ord. 5.00

33	East African Breweries Ltd. Ord. 10.00
34	Firestone E.A Ord. 5.00
35	Kenya Oil CO. Ltd. Ord. 5.00
36	Mumias Sugar CO. Ltd. Ord. 2.00
37	Kenya Power & Lighting CO. Ord. 20.00
38	Total Kenya Ltd. Ord. 5.00
39	Unga Group Ltd. Ord. 5.00
40	A Baumann & CO. Ord. 5.00
41	City Trust Ltd. Ord. 5.00
42	Eaagads Ord. 1.25
43	Express Kenya Ord. 5.00
44	Williamson Tea Kenya Ltd. Ord. 5.00
45	Kapchorua Tea CO. Ltd. Ord. 5.00
46	Kenya Orchards Ltd. Ord. 5.00
47	Limuru Tea Ord. 20.00
48	Standard Newspapers Group Ord. 5.00

Source: The Nairobi Stock Exchange.

Appendix 2: Sampled Company's Stock

Company	**Declared**	**Rate**	**Event Date**
KCB	Bonus	1:3	July 24, 2001
TOTAL	Bonus	1:2	May 16, 2001
DIAMOND TRUST	Bonus	1:4	July 25, 2003
CMC Holdings	Bonus	1:1	March 29, 2004
KENOL	Stock Split	10:1	June 23, 2004
EABL	Stock Split	5:1	August 27, 2004

Source: Nairobi Stock Exchange

Appendix 3: Data Collection Form

Company Name:

Date	**Issued Shares**	**Tradable Issued shares**	**Volume Traded**

Appendix 4: Data

EABL

Day	Volume traded before the split	Shares in issue before the split	Tradable shares before the split	TAR before the split (%)	Day	Volume traded after the split	Shares in issue before the split	Tradable shares before the split	TAR after the split(%)
1	1,326	109,830,026	57,144,563	0.0023	1	45,151	131,795,980	68,573,448	0.0658
2	53,823	109,830,026	57,144,563	0.0942	2	360,378	131,795,980	68,573,448	0.5255
3	107,301	109,830,026	57,144,563	0.1878	3	86,753	131,795,980	68,573,448	0.1265
4	81,425	109,830,026	57,144,563	0.1425	4	82,171	131,795,980	68,573,448	0.1198
5	72,284	109,830,026	57,144,563	0.1265	5	117,499	131,795,980	68,573,448	0.1713
6	1,326	109,830,026	57,144,563	0.0023	6	439,909	131,795,980	68,573,448	0.6415
7	47,303	109,830,026	57,144,563	0.0828	7	604,953	131,795,980	68,573,448	0.8822
8	3,402	109,830,026	57,144,563	0.0060	8	89,737	131,795,980	68,573,448	0.1309
9	1,926	109,830,026	57,144,563	0.0034	9	34,263	131,795,980	68,573,448	0.0500
10	2,023	109,830,026	57,144,563	0.0035	10	52,194	131,795,980	68,573,448	0.0761
11	66,656	109,830,026	57,144,563	0.1166	11	32,332	131,795,980	68,573,448	0.0471
12	711	109,830,026	57,144,563	0.0012	12	35,149	131,795,980	68,573,448	0.0513
13	16,096	109,830,026	57,144,563	0.0282	13	31,273	131,795,980	68,573,448	0.0456
14	638	109,830,026	57,144,563	0.0011	14	1,002,035	131,795,980	68,573,448	1.4613
15	39,249	109,830,026	57,144,563	0.0687	15	446,871	131,795,980	68,573,448	0.6517
16	1,005	109,830,026	57,144,563	0.0018	16	106,895	131,795,980	68,573,448	0.1559
17	25,556	109,830,026	57,144,563	0.0447	17	84,770	131,795,980	68,573,448	0.1236
18	4,158	109,830,026	57,144,563	0.0073	18	366,951	131,795,980	68,573,448	0.5351
19	53,148	109,830,026	57,144,563	0.0930	19	185,175	131,795,980	68,573,448	0.2700
20	137,811	109,830,026	57,144,563	0.2412	20	1,187	131,795,980	68,573,448	0.0017
21	158,777	109,830,026	57,144,563	0.2779	21	3,432	131,795,980	68,573,448	0.0050
22	34,490	109,830,026	57,144,563	0.0604	22	18,344	131,795,980	68,573,448	0.0268
23	97,169	109,830,026	57,144,563	0.1700	23	74,923	131,795,980	68,573,448	0.1093
24	25,240	109,830,026	57,144,563	0.0442	24	163,846	131,795,980	68,573,448	0.2389
25	28,013	109,830,026	57,144,563	0.0490	25	137,696	131,795,980	68,573,448	0.2008
26	6,471	109,830,026	57,144,563	0.0113	26	365,038	131,795,980	68,573,448	0.5323
27	41,642	109,830,026	57,144,563	0.0729	27	222,710	131,795,980	68,573,448	0.3248
28	34,800	109,830,026	57,144,563	0.0609	28	968,768	131,795,980	68,573,448	1.4127
29	20,486	109,830,026	57,144,563	0.0358	29	55,865	131,795,980	68,573,448	0.0815
30	116,773	109,830,026	57,144,563	0.2043	30	521,189	131,795,980	68,573,448	0.7600
31	28,827	109,830,026	57,144,563	0.0504	31	783,506	131,795,980	68,573,448	1.1426
32	5,624	109,830,026	57,144,563	0.0098	32	308,238	131,795,980	68,573,448	0.4495
33	1,796	109,830,026	57,144,563	0.0031	33	44,460	131,795,980	68,573,448	0.0648
34	7,889	109,830,026	57,144,563	0.0138	34	421,606	131,795,980	68,573,448	0.6148
35	32,494	109,830,026	57,144,563	0.0569	35	188,405	131,795,980	68,573,448	0.2747
36	53,602	109,830,026	57,144,563	0.0938	36	374,734	131,795,980	68,573,448	0.5465
37	122,848	109,830,026	57,144,563	0.2150	37	219,881	131,795,980	68,573,448	0.3207
38	36,188	109,830,026	57,144,563	0.0633	38	45,722	131,795,980	68,573,448	0.0667
39	10,068	109,830,026	57,144,563	0.0176	39	32,576	131,795,980	68,573,448	0.0475
40	13,099	109,830,026	57,144,563	0.0229	40	188,973	131,795,980	68,573,448	0.2756
41	7,276	109,830,026	57,144,563	0.0127	41	17,561	131,795,980	68,573,448	0.0256
42	2,449	109,830,026	57,144,563	0.0043	42	227,183	131,795,980	68,573,448	0.3313
43	3,233	109,830,026	57,144,563	0.0057	43	19,671	131,795,980	68,573,448	0.0287
44	10,438	109,830,026	57,144,563	0.0183	44	612,867	131,795,980	68,573,448	0.8937

45	79,727	109,830,026	57,144,563	0.1395	45	324,240	131,795,980	68,573,448	0.4728
46	36,023	109,830,026	57,144,563	0.0630	46	24,598	131,795,980	68,573,448	0.0359
47	9,030	109,830,026	57,144,563	0.0158	47	28,722	131,795,980	68,573,448	0.0419
48	29,675	109,830,026	57,144,563	0.0519	48	15,359	131,795,980	68,573,448	0.0224
49	47,203	109,830,026	57,144,563	0.0826	49	217,802	131,795,980	68,573,448	0.3176
50	13,170	109,830,026	57,144,563	0.0230	50	29,698	131,795,980	68,573,448	0.0433
51	1,331	109,830,026	57,144,563	0.0023	51	277,488	131,795,980	68,573,448	0.4047
52	7,290	109,830,026	57,144,563	0.0128	52	396,339	131,795,980	68,573,448	0.5780
53	14,654	109,830,026	57,144,563	0.0256	53	332,437	131,795,980	68,573,448	0.4848
54	3,129	109,830,026	57,144,563	0.0055	54	21,364	131,795,980	68,573,448	0.0312
55	47,970	109,830,026	57,144,563	0.0839	55	31,399	131,795,980	68,573,448	0.0458
56	14,537	109,830,026	57,144,563	0.0254	56	29,370	131,795,980	68,573,448	0.0428
57	1,021	109,830,026	57,144,563	0.0018	57	213,396	131,795,980	68,573,448	0.3112
58	10,340	109,830,026	57,144,563	0.0181	58	139,823	131,795,980	68,573,448	0.2039
59	3,671	109,830,026	57,144,563	0.0064	59	53,455	131,795,980	68,573,448	0.0780
60	3,671	109,830,026	57,144,563	0.0064	60	25,879	131,795,980	68,573,448	0.0377
61	3,319	109,830,026	57,144,563	0.0058	61	867,061	131,795,980	68,573,448	1.2644
62	35,238	109,830,026	57,144,563	0.0617	62	122,375	131,795,980	68,573,448	0.1785
63	32,339	109,830,026	57,144,563	0.0566	63	106,804	131,795,980	68,573,448	0.1558
64	4,679	109,830,026	57,144,563	0.0082	64	0	131,795,980	68,573,448	0.0000
65	3,193	109,830,026	57,144,563	0.0056	65	0	131,795,980	68,573,448	0.0000
66	15,199	109,830,026	57,144,563	0.0266	66	0	131,795,980	68,573,448	0.0000
67	22,400	109,830,026	57,144,563	0.0392	67	0	131,795,980	68,573,448	0.0000
68	51,648	109,830,026	57,144,563	0.0904	68	800,200	131,795,980	68,573,448	1.1669
69	29,879	109,830,026	57,144,563	0.0523	69	67,632	131,795,980	68,573,448	0.0986
70	66,388	109,830,026	57,144,563	0.1162	70	305,726	131,795,980	68,573,448	0.4458
71	3,259	109,830,026	57,144,563	0.0057	71	10,160	131,795,980	68,573,448	0.0148
72	10,534	109,830,026	57,144,563	0.0184	72	230,638	131,795,980	68,573,448	0.3363
73	22,861	109,830,026	57,144,563	0.0400	73	110,674	131,795,980	68,573,448	0.1614
74	6,439	109,830,026	57,144,563	0.0113	74	195,673	131,795,980	68,573,448	0.2853
75	62,204	109,830,026	57,144,563	0.1089	75	38,749	131,795,980	68,573,448	0.0565
76	11,444	109,830,026	57,144,563	0.0200	76	65,920	131,795,980	68,573,448	0.0961
77	758	109,830,026	57,144,563	0.0013	77	368,800	131,795,980	68,573,448	0.5378
78	3,272	109,830,026	57,144,563	0.0057	78	1,002,815	131,795,980	68,573,448	1.4624
79	4,639	109,830,026	57,144,563	0.0081	79	266,602	131,795,980	68,573,448	0.3888
80	19,445	109,830,026	57,144,563	0.0340	80	5,998	131,795,980	68,573,448	0.0087
81	20,656	109,830,026	57,144,563	0.0361	81	193,785	131,795,980	68,573,448	0.2826
82	38,751	109,830,026	57,144,563	0.0678	82	470,417	131,795,980	68,573,448	0.6860
83	15,837	109,830,026	57,144,563	0.0277	83	103,596	131,795,980	68,573,448	0.1511
84	85,984	109,830,026	57,144,563	0.1505	84	346,896	131,795,980	68,573,448	0.5059
85	26,971	109,830,026	57,144,563	0.0472	85	406,739	131,795,980	68,573,448	0.5931
86	19,453	109,830,026	57,144,563	0.0340	86	148,501	131,795,980	68,573,448	0.2166
87	40,471	109,830,026	57,144,563	0.0708	87	19,310	131,795,980	68,573,448	0.0282
88	28,106	109,830,026	57,144,563	0.0492	88	84,836	131,795,980	68,573,448	0.1237
89	126,698	109,830,026	57,144,563	0.2217	89	1,005,807	131,795,980	68,573,448	1.4668
90	4,266	109,830,026	57,144,563	0.0075	90	217,640	131,795,980	68,573,448	0.3174

N.B tradable shares are 52.59% of shares in issue

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day	Volume traded before the split	shares in Issued before the split	tradable shares before the split	TAR before the split (%)	Day	Volume after the split	Tradable shares after the split	Share in issue after the split	TAR after the split (%)
1	9,983	10,079,612	1,548,228	0.6448	1	0	5,402,672	100,796,120	0.0000
2	400	10,079,612	1,548,228	0.0258	2	38,174	5,402,672	100,796,120	0.7066
3	0	10,079,612	1,548,228	0.0000	3	30,732	5,402,672	100,796,120	0.5688
4	0	10,079,612	1,548,228	0.0000	4	7,260	5,402,672	100,796,120	0.1344
5	0	10,079,612	1,548,228	0.0000	5	11,323	5,402,672	100,796,120	0.2096
6	0	10,079,612	1,548,228	0.0000	6	17,832	5,402,672	100,796,120	0.3301
7	1,390	10,079,612	1,548,228	0.0898	7	12,500	5,402,672	100,796,120	0.2314
8	2,846	10,079,612	1,548,228	0.1838	8	18,950	5,402,672	100,796,120	0.3508
9	0	10,079,612	1,548,228	0.0000	9	5,300	5,402,672	100,796,120	0.0981
10	280	10,079,612	1,548,228	0.0181	10	1,300	5,402,672	100,796,120	0.0241
11	800	10,079,612	1,548,228	0.0517	11	30,187	5,402,672	100,796,120	0.5587
12	9,362	10,079,612	1,548,228	0.6047	12	2,800	5,402,672	100,796,120	0.0518
13	1,900	10,079,612	1,548,228	0.1227	13	0	5,402,672	100,796,120	0.0000
14	0	10,079,612	1,548,228	0.0000	14	3,650	5,402,672	100,796,120	0.0676
15	0	10,079,612	1,548,228	0.0000	15	12,800	5,402,672	100,796,120	0.2369
16	700	10,079,612	1,548,228	0.0452	16	30,187	5,402,672	100,796,120	0.5587
17	0	10,079,612	1,548,228	0.0000	17	2,100	5,402,672	100,796,120	0.0389
18	0	10,079,612	1,548,228	0.0000	18	600	5,402,672	100,796,120	0.0111
19	4,591	10,079,612	1,548,228	0.2965	19	4,000	5,402,672	100,796,120	0.0740
20	0	10,079,612	1,548,228	0.0000	20	12,920	5,402,672	100,796,120	0.2391
21	3,000	10,079,612	1,548,228	0.1938	21	15,800	5,402,672	100,796,120	0.2924
22	0	10,079,612	1,548,228	0.0000	22	2,700	5,402,672	100,796,120	0.0500
23	0	10,079,612	1,548,228	0.0000	23	1,100	5,402,672	100,796,120	0.0204
24	0	10,079,612	1,548,228	0.0000	24	8,230	5,402,672	100,796,120	0.1523
25	0	10,079,612	1,548,228	0.0000	25	900	5,402,672	100,796,120	0.0167
26	0	10,079,612	1,548,228	0.0000	26	5,200	5,402,672	100,796,120	0.0962
27	0	10,079,612	1,548,228	0.0000	27	100	5,402,672	100,796,120	0.0019
28	909	10,079,612	1,548,228	0.0587	28	5,785	5,402,672	100,796,120	0.1071
29	0	10,079,612	1,548,228	0.0000	29	2,300	5,402,672	100,796,120	0.0426
30	0	10,079,612	1,548,228	0.0000	30	200	5,402,672	100,796,120	0.0037
31	0	10,079,612	1,548,228	0.0000	31	500	5,402,672	100,796,120	0.0093
32	0	10,079,612	1,548,228	0.0000	32	1,735	5,402,672	100,796,120	0.0321
33	0	10,079,612	1,548,228	0.0000	33	18,200	5,402,672	100,796,120	0.3369
34	0	10,079,612	1,548,228	0.0000	34	6,200	5,402,672	100,796,120	0.1148
35	5,206	10,079,612	1,548,228	0.3363	35	3,920	5,402,672	100,796,120	0.0726
36	0	10,079,612	1,548,228	0.0000	36	4,000	5,402,672	100,796,120	0.0740
37	0	10,079,612	1,548,228	0.0000	37	1,500	5,402,672	100,796,120	0.0278
38	0	10,079,612	1,548,228	0.0000	38	8,500	5,402,672	100,796,120	0.1573
39	0	10,079,612	1,548,228	0.0000	39	3,000	5,402,672	100,796,120	0.0555
40	150	10,079,612	1,548,228	0.0097	40	4,000	5,402,672	100,796,120	0.0740
41	0	10,079,612	1,548,228	0.0000	41	2,000	5,402,672	100,796,120	0.0370
42	0	10,079,612	1,548,228	0.0000	42	0	5,402,672	100,796,120	0.0000
43	100	10,079,612	1,548,228	0.0065	43	5,000	5,402,672	100,796,120	0.0925
44	0	10,079,612	1,548,228	0.0000	44	47,030	5,402,672	100,796,120	0.8705

45	0	10,079,612	1,548,228	0.0000	45	0	5,402,672	100,796,120	0.0000
46	1,791	10,079,612	1,548,228	0.1157	46	0	5,402,672	100,796,120	0.0000
47	0	10,079,612	1,548,228	0.0000	47	11,000	5,402,672	100,796,120	0.2036
48	0	10,079,612	1,548,228	0.0000	48	52,000	5,402,672	100,796,120	0.9625
49	100	10,079,612	1,548,228	0.0065	49	105,500	5,402,672	100,796,120	1.9527
50	100	10,079,612	1,548,228	0.0065	50	400	5,402,672	100,796,120	0.0074
51	2,000	10,079,612	1,548,228	0.1292	51	1,300	5,402,672	100,796,120	0.0241
52	100	10,079,612	1,548,228	0.0065	52	373,697	5,402,672	100,796,120	6.9169
53	100	10,079,612	1,548,228	0.0065	53	109,260	5,402,672	100,796,120	2.0223
54	0	10,079,612	1,548,228	0.0000	54	9,561	5,402,672	100,796,120	0.1770
55	100	10,079,612	1,548,228	0.0065	55	49,947	5,402,672	100,796,120	0.9245
56	1,000	10,079,612	1,548,228	0.0646	56	3,300	5,402,672	100,796,120	0.0611
57	100	10,079,612	1,548,228	0.0065	57	0	5,402,672	100,796,120	0.0000
58	100	10,079,612	1,548,228	0.0065	58	4,600	5,402,672	100,796,120	0.0851
59	0	10,079,612	1,548,228	0.0000	59	137,350	5,402,672	100,796,120	2.5423
60	2,000	10,079,612	1,548,228	0.1292	60	38,295	5,402,672	100,796,120	0.7088
61	0	10,079,612	1,548,228	0.0000	61	3,000	5,402,672	100,796,120	0.0555
62	0	10,079,612	1,548,228	0.0000	62	5,950	5,402,672	100,796,120	0.1101
63	4,000	10,079,612	1,548,228	0.2584	63	200	5,402,672	100,796,120	0.0037
64	100	10,079,612	1,548,228	0.0065	64	1,200	5,402,672	100,796,120	0.0222
65	364	10,079,612	1,548,228	0.0235	65	15,191	5,402,672	100,796,120	0.2812
66	2,400	10,079,612	1,548,228	0.1550	66	4,836	5,402,672	100,796,120	0.0895
67	2,000	10,079,612	1,548,228	0.1292	67	800	5,402,672	100,796,120	0.0148
68	790	10,079,612	1,548,228	0.0510	68	0	5,402,672	100,796,120	0.0000
69	420	10,079,612	1,548,228	0.0271	69	10,760	5,402,672	100,796,120	0.1992
70	0	10,079,612	1,548,228	0.0000	70	19,000	5,402,672	100,796,120	0.3517
71	0	10,079,612	1,548,228	0.0000	71	23,000	5,402,672	100,796,120	0.4257
72	0	10,079,612	1,548,228	0.0000	72	60,639	5,402,672	100,796,120	1.1224
73	100	10,079,612	1,548,228	0.0065	73	0	5,402,672	100,796,120	0.0000
74	100	10,079,612	1,548,228	0.0065	74	70,000	5,402,672	100,796,120	1.2957
75	0	10,079,612	1,548,228	0.0000	75	13,200	5,402,672	100,796,120	0.2443
76	200	10,079,612	1,548,228	0.0129	76	17,300	5,402,672	100,796,120	0.3202
77	100	10,079,612	1,548,228	0.0065	77	3,000	5,402,672	100,796,120	0.0555
78	0	10,079,612	1,548,228	0.0000	78	46,200	5,402,672	100,796,120	0.8551
79	0	10,079,612	1,548,228	0.0000	79	233,330	5,402,672	100,796,120	4.3188
80	401	10,079,612	1,548,228	0.0259	80	28,200	5,402,672	100,796,120	0.5220
81	916	10,079,612	1,548,228	0.0592	81	80,000	5,402,672	100,796,120	1.4807
82	2,346	10,079,612	1,548,228	0.1515	82	28,295	5,402,672	100,796,120	0.5237
83	1,535	10,079,612	1,548,228	0.0991	83	136,550	5,402,672	100,796,120	2.5275
84	4,769	10,079,612	1,548,228	0.3080	84	28,000	5,402,672	100,796,120	0.5183
85	1,280	10,079,612	1,548,228	0.0827	85	192,055	5,402,672	100,796,120	3.5548
86	500	10,079,612	1,548,228	0.0323	86	27,950	5,402,672	100,796,120	0.5173
87	800	10,079,612	1,548,228	0.0517	87	2,000	5,402,672	100,796,120	0.0370
88	1,200	10,079,612	1,548,228	0.0775	88	150	5,402,672	100,796,120	0.0028
89	0	10,079,612	1,548,228	0.0000	89	0	5,402,672	100,796,120	0.0000
90	210	10,079,612	1,548,228	0.0136	90	1,800	5,402,672	100,796,120	0.0333

N.B tradable shares are 15.36% of shares in issue

CMC Holdings

Day	Volume traded before the bonus	Shares in Issued before the bonus	Tradable shares before the bonus	TAR before the bonus (%)	Day	Volume after the bonus	Tradable shares after the bonus	Share in issue after the bonus	TAR after the bonus (%)
1	0	24,279,560	17,119,518	0.0000	1	4,000	48,559,120	34,239,036	0.0117
2	2,201	24,279,560	17,119,518	0.0129	2	500	48,559,120	34,239,036	0.0015
3	2,007	24,279,560	17,119,518	0.0117	3	0	48,559,120	34,239,036	0.0000
4	5,150	24,279,560	17,119,518	0.0301	4	0	48,559,120	34,239,036	0.0000
5	5,174	24,279,560	17,119,518	0.0302	5	0	48,559,120	34,239,036	0.0000
6	0	24,279,560	17,119,518	0.0000	6	4,064	48,559,120	34,239,036	0.0119
7	0	24,279,560	17,119,518	0.0000	7	3,000	48,559,120	34,239,036	0.0088
8	600	24,279,560	17,119,518	0.0035	8	2,990	48,559,120	34,239,036	0.0087
9	30,820	24,279,560	17,119,518	0.1800	9	30,679	48,559,120	34,239,036	0.0896
10	9,744	24,279,560	17,119,518	0.0569	10	2,860	48,559,120	34,239,036	0.0084
11	12,746	24,279,560	17,119,518	0.0745	11	78,408	48,559,120	34,239,036	0.2290
12	8,348	24,279,560	17,119,518	0.0488	12	10,464	48,559,120	34,239,036	0.0306
13	2,486	24,279,560	17,119,518	0.0145	13	4,101	48,559,120	34,239,036	0.0120
14	1,150	24,279,560	17,119,518	0.0067	14	44,035	48,559,120	34,239,036	0.1286
15	600	24,279,560	17,119,518	0.0035	15	31,738	48,559,120	34,239,036	0.0927
16	300	24,279,560	17,119,518	0.0018	16	7,000	48,559,120	34,239,036	0.0204
17	275	24,279,560	17,119,518	0.0016	17	30,131	48,559,120	34,239,036	0.0880
18	9,849	24,279,560	17,119,518	0.0575	18	23,518	48,559,120	34,239,036	0.0687
19	0	24,279,560	17,119,518	0.0000	19	19,184	48,559,120	34,239,036	0.0560
20	0	24,279,560	17,119,518	0.0000	20	12,752	48,559,120	34,239,036	0.0372
21	1,000	24,279,560	17,119,518	0.0058	21	9,163	48,559,120	34,239,036	0.0268
22	2,388	24,279,560	17,119,518	0.0139	22	1,616	48,559,120	34,239,036	0.0047
23	500	24,279,560	17,119,518	0.0029	23	11,037	48,559,120	34,239,036	0.0322
24	0	24,279,560	17,119,518	0.0000	24	24,326	48,559,120	34,239,036	0.0710
25	0	24,279,560	17,119,518	0.0000	25	66,391	48,559,120	34,239,036	0.1939
26	0	24,279,560	17,119,518	0.0000	26	16,850	48,559,120	34,239,036	0.0492
27	0	24,279,560	17,119,518	0.0000	27	11,000	48,559,120	34,239,036	0.0321
28	468	24,279,560	17,119,518	0.0027	28	1,029	48,559,120	34,239,036	0.0030
29	0	24,279,560	17,119,518	0.0000	29	38,300	48,559,120	34,239,036	0.1119
30	600	24,279,560	17,119,518	0.0035	30	200	48,559,120	34,239,036	0.0006
31	2,046	24,279,560	17,119,518	0.0120	31	0	48,559,120	34,239,036	0.0000
32	340	24,279,560	17,119,518	0.0020	32	5,159	48,559,120	34,239,036	0.0151
33	0	24,279,560	17,119,518	0.0000	33	2,703	48,559,120	34,239,036	0.0079
34	8,752	24,279,560	17,119,518	0.0511	34	2,250	48,559,120	34,239,036	0.0066
35	14,820	24,279,560	17,119,518	0.0866	35	2,000	48,559,120	34,239,036	0.0058
36	3,294	24,279,560	17,119,518	0.0192	36	500	48,559,120	34,239,036	0.0015
37	29,016	24,279,560	17,119,518	0.1695	37	4,538	48,559,120	34,239,036	0.0133
38	19,786	24,279,560	17,119,518	0.1156	38	0	48,559,120	34,239,036	0.0000
39	6,664	24,279,560	17,119,518	0.0389	39	0	48,559,120	34,239,036	0.0000
40	43,553	24,279,560	17,119,518	0.2544	40	0	48,559,120	34,239,036	0.0000
41	27,070	24,279,560	17,119,518	0.1581	41	0	48,559,120	34,239,036	0.0000
42	11,350	24,279,560	17,119,518	0.0663	42	9,740	48,559,120	34,239,036	0.0284
43	62,718	24,279,560	17,119,518	0.3664	43	2,564	48,559,120	34,239,036	0.0075
44	16,662	24,279,560	17,119,518	0.0973	44	12,452	48,559,120	34,239,036	0.0364

45	31,289	24,279,560	17,119,518	0.1828	45	10,550	48,559,120	34,239,036	0.0308
46	138,906	24,279,560	17,119,518	0.8114	46	8,800	48,559,120	34,239,036	0.0257
47	29,113	24,279,560	17,119,518	0.1701	47	22,272	48,559,120	34,239,036	0.0650
48	42,242	24,279,560	17,119,518	0.2467	48	1,000	48,559,120	34,239,036	0.0029
49	21,539	24,279,560	17,119,518	0.1258	49	14,850	48,559,120	34,239,036	0.0434
50	81,203	24,279,560	17,119,518	0.4743	50	32,517	48,559,120	34,239,036	0.0950
51	0	24,279,560	17,119,518	0.0000	51	5,846	48,559,120	34,239,036	0.0171
52	0	24,279,560	17,119,518	0.0000	52	17,400	48,559,120	34,239,036	0.0508
53	31,654	24,279,560	17,119,518	0.1849	53	2,737	48,559,120	34,239,036	0.0080
54	3,318	24,279,560	17,119,518	0.0194	54	9,380	48,559,120	34,239,036	0.0274
55	33,907	24,279,560	17,119,518	0.1981	55	1,500	48,559,120	34,239,036	0.0044
56	4,300	24,279,560	17,119,518	0.0251	56	16,000	48,559,120	34,239,036	0.0467
57	11,404	24,279,560	17,119,518	0.0666	57	30,100	48,559,120	34,239,036	0.0879
58	20,500	24,279,560	17,119,518	0.1197	58	8,005	48,559,120	34,239,036	0.0234
59	55,235	24,279,560	17,119,518	0.3226	59	16,754	48,559,120	34,239,036	0.0489
60	62,017	24,279,560	17,119,518	0.3623	60	1,720	48,559,120	34,239,036	0.0050
61	0	24,279,560	17,119,518	0.0000	61	2,598	48,559,120	34,239,036	0.0076
62	17,945	24,279,560	17,119,518	0.1048	62	3,362	48,559,120	34,239,036	0.0098
63	17,313	24,279,560	17,119,518	0.1011	63	6,257	48,559,120	34,239,036	0.0183
64	27,873	24,279,560	17,119,518	0.1628	64	5,800	48,559,120	34,239,036	0.0169
65	20,327	24,279,560	17,119,518	0.1187	65	1,720	48,559,120	34,239,036	0.0050
66	25,636	24,279,560	17,119,518	0.1497	66	34,767	48,559,120	34,239,036	0.1015
67	11,679	24,279,560	17,119,518	0.0682	67	5,000	48,559,120	34,239,036	0.0146
68	24,521	24,279,560	17,119,518	0.1432	68	1,401	48,559,120	34,239,036	0.0041
69	55,483	24,279,560	17,119,518	0.3241	69	0	48,559,120	34,239,036	0.0000
70	14,368	24,279,560	17,119,518	0.0839	70	1,000	48,559,120	34,239,036	0.0029
71	15,128	24,279,560	17,119,518	0.0884	71	0	48,559,120	34,239,036	0.0000
72	1,944	24,279,560	17,119,518	0.0114	72	2,160	48,559,120	34,239,036	0.0063
73	11,609	24,279,560	17,119,518	0.0678	73	600	48,559,120	34,239,036	0.0018
74	13,140	24,279,560	17,119,518	0.0768	74	8,573	48,559,120	34,239,036	0.0250
75	13,000	24,279,560	17,119,518	0.0759	75	14,332	48,559,120	34,239,036	0.0419
76	1,056	24,279,560	17,119,518	0.0062	76	23,167	48,559,120	34,239,036	0.0677
77	26,116	24,279,560	17,119,518	0.1526	77	6,774	48,559,120	34,239,036	0.0198
78	9,698	24,279,560	17,119,518	0.0566	78	0	48,559,120	34,239,036	0.0000
79	5,800	24,279,560	17,119,518	0.0339	79	0	48,559,120	34,239,036	0.0000
80	5,600	24,279,560	17,119,518	0.0327	80	25,726	48,559,120	34,239,036	0.0751
81	15,650	24,279,560	17,119,518	0.0914	81	3,800	48,559,120	34,239,036	0.0111
82	1,558	24,279,560	17,119,518	0.0091	82	8,990	48,559,120	34,239,036	0.0263
83	15,065	24,279,560	17,119,518	0.0880	83	2,800	48,559,120	34,239,036	0.0082
84	3,042	24,279,560	17,119,518	0.0178	84	3,093	48,559,120	34,239,036	0.0090
85	22,200	24,279,560	17,119,518	0.1297	85	29,438	48,559,120	34,239,036	0.0860
86	9,177	24,279,560	17,119,518	0.0536	86	901	48,559,120	34,239,036	0.0026
87	995	24,279,560	17,119,518	0.0058	87	0	48,559,120	34,239,036	0.0000
88	2,000	24,279,560	17,119,518	0.0117	88	7,834	48,559,120	34,239,036	0.0229
89	5,851	24,279,560	17,119,518	0.0342	89	4,480	48,559,120	34,239,036	0.0131
90	4,150	24,279,560	17,119,518	0.0242	90	8,500	48,559,120	34,239,036	0.0248

N.B tradable shares are 70.57% of shares in issue

Diamond Trust

Day	Volume traded before the bonus	Shares in Issued before the bonus	Tradable shares before the bonus	TAR before the bonus (%)	Day	Volume after the bonus	Tradable shares after the bonus	Share in issue after the bonus	TAR after the bonus (%)
1	32,839	79,500,000	61,429,650	0.0535	1	0	99,375,000	76,787,063	0.0000
2	52,390	79,500,000	61,429,650	0.0853	2	5,293	99,375,000	76,787,063	0.0069
3	20,000	79,500,000	61,429,650	0.0326	3	36,944	99,375,000	76,787,063	0.0481
4	0	79,500,000	61,429,650	0.0000	4	0	99,375,000	76,787,063	0.0000
5	500	79,500,000	61,429,650	0.0008	5	0	99,375,000	76,787,063	0.0000
6	769	79,500,000	61,429,650	0.0013	6	0	99,375,000	76,787,063	0.0000
7	7,008	79,500,000	61,429,650	0.0114	7	0	99,375,000	76,787,063	0.0000
8	31,000	79,500,000	61,429,650	0.0505	8	15,875	99,375,000	76,787,063	0.0207
9	0	79,500,000	61,429,650	0.0000	9	1,600	99,375,000	76,787,063	0.0021
10	0	79,500,000	61,429,650	0.0000	10	4,375	99,375,000	76,787,063	0.0057
11	0	79,500,000	61,429,650	0.0000	11	83,758	99,375,000	76,787,063	0.1091
12	50,100	79,500,000	61,429,650	0.0816	12	0	99,375,000	76,787,063	0.0000
13	12,488	79,500,000	61,429,650	0.0203	13	750	99,375,000	76,787,063	0.0010
14	0	79,500,000	61,429,650	0.0000	14	4,108	99,375,000	76,787,063	0.0053
15	0	79,500,000	61,429,650	0.0000	15	0	99,375,000	76,787,063	0.0000
16	0	79,500,000	61,429,650	0.0000	16	3,313	99,375,000	76,787,063	0.0043
17	0	79,500,000	61,429,650	0.0000	17	0	99,375,000	76,787,063	0.0000
18	0	79,500,000	61,429,650	0.0000	18	4,674	99,375,000	76,787,063	0.0061
19	151,287	79,500,000	61,429,650	0.2463	19	10,000	99,375,000	76,787,063	0.0130
20	10,000	79,500,000	61,429,650	0.0163	20	0	99,375,000	76,787,063	0.0000
21	11,000	79,500,000	61,429,650	0.0179	21	365,175	99,375,000	76,787,063	0.4756
22	32,000	79,500,000	61,429,650	0.0521	22	0	99,375,000	76,787,063	0.0000
23	7,500	79,500,000	61,429,650	0.0122	23	10,951	99,375,000	76,787,063	0.0143
24	34,549	79,500,000	61,429,650	0.0562	24	0	99,375,000	76,787,063	0.0000
25	20,000	79,500,000	61,429,650	0.0326	25	1,250	99,375,000	76,787,063	0.0016
26	4,546	79,500,000	61,429,650	0.0074	26	0	99,375,000	76,787,063	0.0000
27	56,774	79,500,000	61,429,650	0.0924	27	0	99,375,000	76,787,063	0.0000
28	49,207	79,500,000	61,429,650	0.0801	28	300	99,375,000	76,787,063	0.0004
29	75,700	79,500,000	61,429,650	0.1232	29	17,000	99,375,000	76,787,063	0.0221
30	271,927	79,500,000	61,429,650	0.4427	30	34,277	99,375,000	76,787,063	0.0446
31	25,000	79,500,000	61,429,650	0.0407	31	0	99,375,000	76,787,063	0.0000
32	0	79,500,000	61,429,650	0.0000	32	22,222	99,375,000	76,787,063	0.0289
33	0	79,500,000	61,429,650	0.0000	33	3,281	99,375,000	76,787,063	0.0043
34	5,000	79,500,000	61,429,650	0.0081	34	19,787	99,375,000	76,787,063	0.0258
35	14,350	79,500,000	61,429,650	0.0234	35	20,750	99,375,000	76,787,063	0.0270
36	15,500	79,500,000	61,429,650	0.0252	36	2,100	99,375,000	76,787,063	0.0027
37	52,000	79,500,000	61,429,650	0.0846	37	10,000	99,375,000	76,787,063	0.0130
38	124,000	79,500,000	61,429,650	0.2019	38	116,293	99,375,000	76,787,063	0.1514
39	67,785	79,500,000	61,429,650	0.1103	39	18,126	99,375,000	76,787,063	0.0236
40	80,351	79,500,000	61,429,650	0.1308	40	73,770	99,375,000	76,787,063	0.0961
41	53,400	79,500,000	61,429,650	0.0869	41	81,587	99,375,000	76,787,063	0.1063
42	6,183	79,500,000	61,429,650	0.0101	42	5,201	99,375,000	76,787,063	0.0068
43	14,216	79,500,000	61,429,650	0.0231	43	500	99,375,000	76,787,063	0.0007
44	10,700	79,500,000	61,429,650	0.0174	44	78,846	99,375,000	76,787,063	0.1027

45	15,500	79,500,000	61,429,650	0.0252	45	29,106	99,375,000	76,787,063	0.0379
46	28,350	79,500,000	61,429,650	0.0462	46	27,669	99,375,000	76,787,063	0.0360
47	53,594	79,500,000	61,429,650	0.0872	47	18,578	99,375,000	76,787,063	0.0242
48	133,543	79,500,000	61,429,650	0.2174	48	52,559	99,375,000	76,787,063	0.0684
49	86,009	79,500,000	61,429,650	0.1400	49	55,884	99,375,000	76,787,063	0.0728
50	110,498	79,500,000	61,429,650	0.1799	50	12,215	99,375,000	76,787,063	0.0159
51	199,274	79,500,000	61,429,650	0.3244	51	23,731	99,375,000	76,787,063	0.0309
52	5,879	79,500,000	61,429,650	0.0096	52	23,483	99,375,000	76,787,063	0.0306
53	1,517	79,500,000	61,429,650	0.0025	53	1,000	99,375,000	76,787,063	0.0013
54	0	79,500,000	61,429,650	0.0000	54	4,532	99,375,000	76,787,063	0.0059
55	0	79,500,000	61,429,650	0.0000	55	26,391	99,375,000	76,787,063	0.0344
56	0	79,500,000	61,429,650	0.0000	56	2,350	99,375,000	76,787,063	0.0031
57	0	79,500,000	61,429,650	0.0000	57	13,236	99,375,000	76,787,063	0.0172
58	0	79,500,000	61,429,650	0.0000	58	10,729	99,375,000	76,787,063	0.0140
59	5,000	79,500,000	61,429,650	0.0081	59	64,570	99,375,000	76,787,063	0.0841
60	750	79,500,000	61,429,650	0.0012	60	38,875	99,375,000	76,787,063	0.0506
61	8,500	79,500,000	61,429,650	0.0138	61	1,000	99,375,000	76,787,063	0.0013
62	80,000	79,500,000	61,429,650	0.1302	62	2,541	99,375,000	76,787,063	0.0033
63	5,600	79,500,000	61,429,650	0.0091	63	0	99,375,000	76,787,063	0.0000
64	0	79,500,000	61,429,650	0.0000	64	0	99,375,000	76,787,063	0.0000
65	300	79,500,000	61,429,650	0.0005	65	0	99,375,000	76,787,063	0.0000
66	4,425	79,500,000	61,429,650	0.0072	66	3,498	99,375,000	76,787,063	0.0046
67	14,644	79,500,000	61,429,650	0.0238	67	1,373	99,375,000	76,787,063	0.0018
68	4,414	79,500,000	61,429,650	0.0072	68	231	99,375,000	76,787,063	0.0003
69	1,772	79,500,000	61,429,650	0.0029	69	3,881	99,375,000	76,787,063	0.0051
70	0	79,500,000	61,429,650	0.0000	70	29,912	99,375,000	76,787,063	0.0390
71	35,195	79,500,000	61,429,650	0.0573	71	13,241	99,375,000	76,787,063	0.0172
72	4,000	79,500,000	61,429,650	0.0065	72	4,175	99,375,000	76,787,063	0.0054
73	0	79,500,000	61,429,650	0.0000	73	28,669	99,375,000	76,787,063	0.0373
74	1,583	79,500,000	61,429,650	0.0026	74	24,967	99,375,000	76,787,063	0.0325
75	3,000	79,500,000	61,429,650	0.0049	75	0	99,375,000	76,787,063	0.0000
76	3,000	79,500,000	61,429,650	0.0049	76	3,735	99,375,000	76,787,063	0.0049
77	0	79,500,000	61,429,650	0.0000	77	51,200	99,375,000	76,787,063	0.0667
78	0	79,500,000	61,429,650	0.0000	78	5,735	99,375,000	76,787,063	0.0075
79	0	79,500,000	61,429,650	0.0000	79	1,550	99,375,000	76,787,063	0.0020
80	1,000	79,500,000	61,429,650	0.0016	80	0	99,375,000	76,787,063	0.0000
81	0	79,500,000	61,429,650	0.0000	81	0	99,375,000	76,787,063	0.0000
82	5,250	79,500,000	61,429,650	0.0085	82		99,375,000	76,787,063	0.0000
83	0	79,500,000	61,429,650	0.0000	83	2,500	99,375,000	76,787,063	0.0033
84	3,450	79,500,000	61,429,650	0.0056	84	52,523	99,375,000	76,787,063	0.0684
85	6,150	79,500,000	61,429,650	0.0100	85	5,793	99,375,000	76,787,063	0.0075
86	75,497	79,500,000	61,429,650	0.1229	86	1,403	99,375,000	76,787,063	0.0018
87	0	79,500,000	61,429,650	0.0000	87	3,000	99,375,000	76,787,063	0.0039
88	428	79,500,000	61,429,650	0.0007	88	148,947	99,375,000	76,787,063	0.1940
89	31,750	79,500,000	61,429,650	0.0517	89	775	99,375,000	76,787,063	0.0010
90	15,220	79,500,000	61,429,650	0.0248	90	86,069	99,375,000	76,787,063	0.1121

N.B tradable shares are 77.27% of shares in issue

KCB

Day	Shares in issued before the bonus	Tradable shares before the bonus	Volume traded before the bonus issue	TAR before the bonus issue	Day	Issued Shares after the bonus issue	tradable shares after the bonus issue	Volume after the bonus issue	TAR before the bonus issue
1	112,200,000	82,769,940	41,270	0.0499	1	149,600,000	110,359,920	1,019,675	0.9240
2	112,200,000	82,769,940	27,494	0.0332	2	149,600,000	110,359,920	3,664	0.0033
3	112,200,000	82,769,940	6,570	0.0079	3	149,600,000	110,359,920	254,196	0.2303
4	112,200,000	82,769,940	2,712	0.0033	4	149,600,000	110,359,920	5,098	0.0046
5	112,200,000	82,769,940	23,610	0.0285	5	149,600,000	110,359,920	4,083	0.0037
6	112,200,000	82,769,940	12,890	0.0156	6	149,600,000	110,359,920	31,953	0.0290
7	112,200,000	82,769,940	34,925	0.0422	7	149,600,000	110,359,920	15,100	0.0137
8	112,200,000	82,769,940	10,807	0.0131	8	149,600,000	110,359,920	20,215	0.0183
9	112,200,000	82,769,940	5,255	0.0063	9	149,600,000	110,359,920	14,782	0.0134
10	112,200,000	82,769,940	6,000	0.0072	10	149,600,000	110,359,920	7,770	0.0070
11	112,200,000	82,769,940	850	0.0010	11	149,600,000	110,359,920	406,481	0.3683
12	112,200,000	82,769,940	30,982	0.0374	12	149,600,000	110,359,920	8,692	0.0079
13	112,200,000	82,769,940	3,660	0.0044	13	149,600,000	110,359,920	7,795	0.0071
14	112,200,000	82,769,940	7,350	0.0089	14	149,600,000	110,359,920	600,717	0.5443
15	112,200,000	82,769,940	70,556	0.0852	15	149,600,000	110,359,920	1,875	0.0017
16	112,200,000	82,769,940	14,945	0.0181	16	149,600,000	110,359,920	2,199	0.0020
17	112,200,000	82,769,940	2,800	0.0034	17	149,600,000	110,359,920	8,326	0.0075
18	112,200,000	82,769,940	7,650	0.0092	18	149,600,000	110,359,920	4,270	0.0039
19	112,200,000	82,769,940	36,325	0.0439	19	149,600,000	110,359,920	6,299	0.0057
20	112,200,000	82,769,940	198,800	0.2402	20	149,600,000	110,359,920	3,031	0.0027
21	112,200,000	82,769,940	21,753	0.0263	21	149,600,000	110,359,920	8,289	0.0075
22	112,200,000	82,769,940	12,218	0.0148	22	149,600,000	110,359,920	7,455	0.0068
23	112,200,000	82,769,940	500	0.0006	23	149,600,000	110,359,920	40,771	0.0369
24	112,200,000	82,769,940	2,350	0.0028	24	149,600,000	110,359,920	1,287	0.0012
25	112,200,000	82,769,940	1,550	0.0019	25	149,600,000	110,359,920	1,000	0.0009
26	112,200,000	82,769,940	14,616	0.0177	26	149,600,000	110,359,920	6,410	0.0058
27	112,200,000	82,769,940	14,549	0.0176	27	149,600,000	110,359,920	143,010	0.1296
28	112,200,000	82,769,940	15,125	0.0183	28	149,600,000	110,359,920	6,249	0.0057
29	112,200,000	82,769,940	208,765	0.2522	29	149,600,000	110,359,920	4,828	0.0044
30	112,200,000	82,769,940	25,316	0.0306	30	149,600,000	110,359,920	17,587	0.0159
31	112,200,000	82,769,940	7,050	0.0085	31	149,600,000	110,359,920	14,108	0.0128
32	112,200,000	82,769,940	29,487	0.0356	32	149,600,000	110,359,920	11,096	0.0101
33	112,200,000	82,769,940	253,115	0.3058	33	149,600,000	110,359,920	2,363	0.0021
34	112,200,000	82,769,940	60,280	0.0728	34	149,600,000	110,359,920	372	0.0003
35	112,200,000	82,769,940	102,635	0.1240	35	149,600,000	110,359,920	4,776	0.0043
36	112,200,000	82,769,940	4,500	0.0054	36	149,600,000	110,359,920	8,163	0.0074
37	112,200,000	82,769,940	5,425	0.0066	37	149,600,000	110,359,920	982	0.0009
38	112,200,000	82,769,940	135,579	0.1638	38	149,600,000	110,359,920	2,815	0.0026
39	112,200,000	82,769,940	17,935	0.0217	39	149,600,000	110,359,920	2,666	0.0024
40	112,200,000	82,769,940	20,831	0.0252	40	149,600,000	110,359,920	3,223	0.0029
41	112,200,000	82,769,940	100	0.0001	41	149,600,000	110,359,920	3,027	0.0027
42	112,200,000	82,769,940	16,474	0.0199	42	149,600,000	110,359,920	54,114	0.0490
43	112,200,000	82,769,940	33,030	0.0399	43	149,600,000	110,359,920	4,509	0.0041

44	112,200,000	82,769,940	46,975	0.0568	44	149,600,000	110,359,920	9,165	0.0083
45	112,200,000	82,769,940	45,700	0.0552	45	149,600,000	110,359,920	9,600	0.0087
46	112,200,000	82,769,940	48,500	0.0586	46	149,600,000	110,359,920	0	0.0000
47	112,200,000	82,769,940	6,350	0.0077	47	149,600,000	110,359,920	3,666	0.0033
48	112,200,000	82,769,940	5,552	0.0067	48	149,600,000	110,359,920	13,180	0.0119
49	112,200,000	82,769,940	3,949	0.0048	49	149,600,000	110,359,920	3,298	0.0030
50	112,200,000	82,769,940	9,762	0.0118	50	149,600,000	110,359,920	102,754	0.0931
51	112,200,000	82,769,940	37,107	0.0448	51	149,600,000	110,359,920	3,766	0.0034
52	112,200,000	82,769,940	3,150	0.0038	52	149,600,000	110,359,920	10,547	0.0096
53	112,200,000	82,769,940	2,700	0.0033	53	149,600,000	110,359,920	5,075	0.0046
54	112,200,000	82,769,940	78,502	0.0948	54	149,600,000	110,359,920	2,376	0.0022
55	112,200,000	82,769,940	10,450	0.0126	55	149,600,000	110,359,920	150	0.0001
56	112,200,000	82,769,940	4,966	0.0060	56	149,600,000	110,359,920	7,040	0.0064
57	112,200,000	82,769,940	64,848	0.0783	57	149,600,000	110,359,920	11,215	0.0102
58	112,200,000	82,769,940	20,950	0.0253	58	149,600,000	110,359,920	15,509	0.0141
59	112,200,000	82,769,940	7,630	0.0092	59	149,600,000	110,359,920	466	0.0004
60	112,200,000	82,769,940	3,100	0.0037	60	149,600,000	110,359,920	12,741	0.0115
61	112,200,000	82,769,940	68,250	0.0825	61	149,600,000	110,359,920	17,549	0.0159
62	112,200,000	82,769,940	16,329	0.0197	62	149,600,000	110,359,920	23,942	0.0217
63	112,200,000	82,769,940	1,450	0.0018	63	149,600,000	110,359,920	140,900	0.1277
64	112,200,000	82,769,940	4,866	0.0059	64	149,600,000	110,359,920	1,112	0.0010
65	112,200,000	82,769,940	2,131	0.0026	65	149,600,000	110,359,920	3,282	0.0030
66	112,200,000	82,769,940	7,153	0.0086	66	149,600,000	110,359,920	3,123	0.0028
67	112,200,000	82,769,940	27,059	0.0327	67	149,600,000	110,359,920	38,073	0.0345
68	112,200,000	82,769,940	2,620	0.0032	68	149,600,000	110,359,920	18,862	0.0171
69	112,200,000	82,769,940	21,300	0.0257	69	149,600,000	110,359,920	6,446	0.0058
70	112,200,000	82,769,940	1,150	0.0014	70	149,600,000	110,359,920	9,047	0.0082
71	112,200,000	82,769,940	4,400	0.0053	71	149,600,000	110,359,920	2,133	0.0019
72	112,200,000	82,769,940	11,383	0.0138	72	149,600,000	110,359,920	8,368	0.0076
73	112,200,000	82,769,940	6,731	0.0081	73	149,600,000	110,359,920	3,790	0.0034
74	112,200,000	82,769,940	83,393	0.1008	74	149,600,000	110,359,920	17,637	0.0160
75	112,200,000	82,769,940	14,025	0.0169	75	149,600,000	110,359,920	2,587	0.0023
76	112,200,000	82,769,940	7,250	0.0088	76	149,600,000	110,359,920	5,541	0.0050
77	112,200,000	82,769,940	7,749	0.0094	77	149,600,000	110,359,920	2,715	0.0025
78	112,200,000	82,769,940	2,866	0.0035	78	149,600,000	110,359,920	9,385	0.0085
79	112,200,000	82,769,940	11,586	0.0140	79	149,600,000	110,359,920	13,601	0.0123
80	112,200,000	82,769,940	19,100	0.0231	80	149,600,000	110,359,920	399	0.0004
81	112,200,000	82,769,940	2,233	0.0027	81	149,600,000	110,359,920	6,900	0.0063
82	112,200,000	82,769,940	6,185	0.0075	82	149,600,000	110,359,920	6,433	0.0058
83	112,200,000	82,769,940	5,526	0.0067	83	149,600,000	110,359,920	7,378	0.0067
84	112,200,000	82,769,940	4,100	0.0050	84	149,600,000	110,359,920	2,119	0.0019
85	112,200,000	82,769,940	4,892	0.0059	85	149,600,000	110,359,920	4,013	0.0036
86	112,200,000	82,769,940	2,722	0.0033	86	149,600,000	110,359,920	4,325	0.0039
87	112,200,000	82,769,940	40,868	0.0494	87	149,600,000	110,359,920	55,447	0.0502
88	112,200,000	82,769,940	28,241	0.0341	88	149,600,000	110,359,920	433	0.0004
89	112,200,000	82,769,940	215,431	0.2603	89	149,600,000	110,359,920	17,725	0.0161
90	112,200,000	82,769,940	61,552	0.0744	90	149,600,000	110,359,920	27,599	0.0250

N.B tradable shares are 73.77% of shares in issue