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**“TEST FOR ‘UNDERREACTION’ TO STOCK DIVIDEND
ANNOUNCEMENTS AT NSE”**

BY: JAMES MAINA/NJURU

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**MANAGEMENT RESEARCH PAPER SUBMITTED IN PARTIAL
FULLFILMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER
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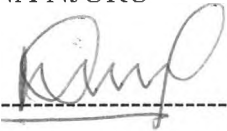


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DECLARATION

THIS MANAGEMENT RESEARCH PAPER IS MY ORIGINAL WORK AND HAS NOT BEEN PRESENTED FOR THE AWARD OF A DEGREE IN ANY OTHER UNIVERSITY.

JAMES MAINA NJURU

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J.L. LISHENGA

SIGNED-----

DATE----- 31/10/07

DEDICATION

I dedicate this paper to my father Mzee Njuru Gikuma and my loving mother Julia Wanjeri. Your faith in me has shaped my character and has made me to have faith in myself. May GOD give us many more years to share.

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Many people have contributed in one way or the other in making this project a success.

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ABSTRACT

The paper sought to test for existence of underreaction anomaly at NSE using a company self-selected event, the stock dividend announcements. Underreaction anomaly refers to the tendency of stock prices to continue reacting to important announcements in the days following the announcement date. A sample of 21 stock dividend announcement events at NSE covering a 7-year period from 1st January 1999 to 31st December 2005 were tested using comparison period return approach (CPRA). A continuation of positive returns in the days following the stock dividends announcement date was observed for the majority of the announcements. A test for stability of the results over time showed that no single year was driving the results. This observation provides evidence consistent with existence of underreaction to stock dividend announcements at NSE.

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1.0 INTRODUCTION

1.1 BACKGROUND

Gaining an understanding of why prices change in stock markets and how those changes take place has very important implications for investors. If a rational investor gets a way of knowing how prices will behave before hand, he would make his investment decisions in such a way as to consistently outperform the other investors. One of the most important theories in finance in explaining price behaviour in stock markets is the Efficient Market Hypothesis (EMH) advanced by Fama(1970). Briefly stated, this theory asserts that current stock prices fully reflect all the available information about the value of the firm and therefore one cannot earn excess returns from using this information. What the theory is saying in short is, ‘trust the market prices!’ The first time the term ‘efficient market’ appeared in finance literature was in Fama (1965). Prior to this time, a lot of academic work existed on random walk theory whose origin can be traced back to Bachelier(1900). In his dissertation titled ‘The Theory of Speculation’, Bachelier came to a conclusion that “the mathematical expectation of the speculator is zero”. Fama (1970) organized and formalized the then existing empirical work on random walk theory and came up with the Efficient Market Hypothesis.

For along time, efficient market hypothesis was held as truism and many models in finance were developed based on the theory. However, starting from mid 1980’s, researchers found empirical evidence against the efficient market hypothesis. These discoveries have caused ripples in the field of finance and have aroused a passionate

debate between proponents and challengers of efficient market hypothesis. Among the notable proponents of EMH is Harvard financial economist, Jensen (1978) who is quoted saying 'There is no other proposition in economics which has more solid empirical evidence supporting it than efficient market hypothesis'. Skeptics of EMH on the other hand argue that there exist a number of investors, like the investment guru Peter Lynch, who have out-performed the market over a long period, in a way, which is difficult to attribute to luck.

In their bid to test whether investors react quickly and in an unbiased manner to new information, researchers have identified several financial phenomenons, which are contrary to efficient market hypothesis. Empirical studies have shown that, contrary to the assertions of efficient market hypothesis, security prices do not always react completely and immediately on arrival of new information. One of the phenomenons that have been revealed by these empirical studies is the 'underreaction' anomaly.

Underreaction anomaly refers to the tendency of stock prices to continue responding to important announcements days after the news events. Prices of companies experiencing positive announcements tend to drift upwards while prices of companies experiencing negative news tend to drift downwards. This price behavior was first noted by Ball and Brown (1968).

Among the reasons given for this anomaly is failure by market participants to immediately appreciate what current announcements imply about the future earnings of the company. Bernard and Thomas (1990) find that the stock returns response to earnings

announcements reflects the use of naïve random-walk earning expectations model by the investors. They observe that, stock prices appear to reflect expectations of quarterly earnings that are anchored too heavily on the earnings of the corresponding quarter of the previous year and under react to more recent news. In Fama (1998) a paper that criticizes evidence of many market anomalies, the author describes post earnings announcement drift (PEAD) as an anomaly ‘above suspicion’. Bernard and Thomas (1989) set out to show that post-earnings announcement drift would disappear once other factors were accounted for; instead they simply provided more evidence for the phenomenon. Most of the empirical studies on stock market anomalies and specifically on ‘underreaction hypothesis’ have been based on the developed stock markets. A gap exists for studies to be done on emerging markets which could go a long way in contributing to the on-going debate on market efficiency. The study is based on NSE which is one such emerging stock market.

1.2 STATEMENT OF THE PROBLEM

In this paper, a study is done to test whether stock prices at Nairobi Stock Exchange (NSE) under react to stock dividend announcements. On a priori basis there is a reason to expect investors at NSE to under react to important announcements. First, the majority of individual investors at NSE lack the financial sophistication required to digest news’ events immediately. Secondly, the role of investment advisors and financial analysts is not very pronounced at NSE unlike other developed and more liquid markets. Therefore, an individual investor at NSE has almost no where to turn to get advice on implication of important corporate announcements.

A few studies carried out to test the informational efficiency of NSE have given conflicting conclusions. In a study by Onyango (2004), the author analyzed annual earning announcements for 16 companies quoted at NSE between the year 1998 and 2003 and concluded that, NSE is efficient at semi-strong form. He found out that annual earnings announcement at NSE contain relevant information to investors which are fully impounded in stock prices. This contradicted the conclusion reached by Ondigo (1995) who after analyzing annual earnings announcement for 18 “blue chip” companies quoted at NSE between 1990 and 1994 found no evidence in support of information content of annual reports at NSE. In an earlier study, Kiweu (1991) found evidence in support of market efficiency of NSE at the weak form.

Studies done to test for market anomalies at NSE have been a bit more consistent.

Kamau(2003) found out that, turn of the month and January effect are not present at NSE.

Mokua (2003) studied 43 companies quoted at NSE between 1st January 1996 and 31st March 2001 and found that the ‘Weekend effect’ is absent at NSE. Cherutoi (2006) analyzed 32 companies quoted at NSE from January 2001 to 31st December 2005, and also came to a conclusion that there is no ‘weekend effect’ at NSE.

In this study, a corporate self-selected event namely, stock dividend announcements, is used to test for existence of underreaction anomaly at NSE. The above two studies carried out at NSE to test the effects of announcement i.e. Ondigo (2005) and Onyango (2004) are similar in the sense that they both used annual earnings announcement as the key event. Annual earnings announcements are externally imposed events, as it is a

regulatory requirement for all companies quoted at NSE to publish their annual financial reports. Whether the annual earnings announcements have an impact or not may depend among other things on how the investors interpret interim reports announcements. ‘Good’ annual earning announcements may not realize the full impact to the market if the information is already discounted for in the interim earning reports. It is also important to point out that neither of the above named authors dealt specifically with the issue of underreaction, which as noted in Fama (1998) is an ‘anomaly above suspicion’. The study used stock dividend announcement, which is a corporate self-selected event to test for existence of ‘underreaction’ at NSE. As opposed to other corporate events that one might think of, stock dividends are straight forward, non-ambiguous and do not affect a firm’s future cash flow or its risk characteristics. The market can therefore be expected to digest stock dividends announcements immediately since it is quite simple signal. It is also well documented in finance literature that stock dividend announcements are used by management to convey positive signals about the future prospects of a company. Foster and Vickrey (1978) report that stock dividend issues generate positive abnormal returns on the declaration date. Other studies which support this conclusion include; Woolridge (1983), Grinblatt et al (1984), Elgers and Murray (1985), Lakonishok and Lev (1987) and McNichols and Dravid (1990). All these authors report significant abnormal returns around announcement of stock dividends

1.3 OBJECTIVE OF THE STUDY

The objective of the study was to examine whether the behaviour of stock prices following stock dividend announcements show evidence of existence of “underreaction”

anomaly at NSE. This anomaly has been reported in studies conducted in more developed markets especially in U.S. stock markets.

1.4 HYPOTHESES

H0 – *There is no underreaction to stock dividend announcements’ at NSE*

H1 - *There is underreaction to stock dividend announcements’ at NSE.*

1.5 IMPORTANCE OF THE STUDY

The study is of great academic and practical importance as outlined below:

- The study is of theoretical importance in that it will make a contribution on the on going debate on the validity of efficient market hypothesis.
- The study is also beneficial to the investors, investment advisors and fund managers who could get an understanding of the behavior of stock prices at NSE after stock dividend announcements. Such knowledge will guide them in making investment decisions.
- Stock market regulators such as CMA and other policy makers can also use the findings of the study in making policy decisions on the security market operations.
- The study will also interest researchers who may want to explore and expand their knowledge on security markets in general and the effects of announcements on stock prices.

2.0 LITERATURE REVIEW

Early foundations of modern finance presumed that the valuation impact of news was transmitted to the market through buyers and sellers revising their expectations about firms' future performance. This transmission mechanism was argued to operate in both rapid and unbiased manner. Efficient market hypothesis of Fama(1970) is founded on this argument. Empirical studies done in various countries at different times to test the validity of efficient market hypothesis have however produced some contrary evidence. Among the anomalous evidence against the efficient market hypothesis documented in finance literature include the tendency of prices to continue reacting to news' events long after the event day. This phenomenon is what is called the underreaction anomaly and was first noted by Ball and Brown (1968). The discovery of this phenomenon has captured the interest of many scholars and has been the subject of several recent empirical studies. In spite of the numerous studies on this area, researchers have not been able to come into agreement on the validity of the underreaction hypothesis.

The literature review section starts with an overview of the efficient market hypothesis of Fama(1970) before narrowing down on the current debate on the theory. Part II highlights some important market anomalies, Part III gives an overview of behavioral finance and in part IV empirical evidence on underreaction hypothesis is discussed. The section ends with a discussion on signaling effect of stock dividend which is the event of importance in this study.

2.1 EFFICIENT MARKET HYPOTHESIS

The efficient market hypothesis is a fundamental theory on security pricing. Fama (1970) advanced this hypothesis. According to the theory, stock market prices reflect all available information. Prices adjust rapidly to the arrival of new information and therefore the current prices of securities reflect all information about the security.

Efficient Market Hypothesis asserts that it is not possible to consistently outperform the market unless by chance. The key reason for existence of efficient markets is the stiff competition among rational investors who try to profit from any new information. As more and more analysts compete with each other to try and take advantage of miss-priced securities, the likelihood of finding such miss-priced securities becomes smaller and the costs incurred in the effort to analyze the information outweigh its benefits. The notion of information driving security prices has however been challenged empirically. Roll (1988) found evidence that price movements for individual stocks cannot be traced to any specific public announcement. Researchers have also challenged another key assumption in EMH that investors are rational. Lakonishok et al (1997) find that stocks returns are predictable. They attribute this to; psychological factors, social movements, noise and fashions or fads of irrational investors in a speculative market. Campbell, Lo and Mackinlay (1997) on the other hand suggest that the debate about perfect efficiency is pointless and that it is more sensible to evaluate the degree of inefficiency than to test for absolute efficiency. In a review of evidence put forward against EMH, Fama (1991) reiterates that any investigation of market efficiency has at least two problems; the first is the information and transaction costs and the other is the joint hypothesis problem. Joint hypothesis in this case means that one can never know whether the market is inefficient

or if the model used to test for market efficiency is the one which is wrong. In Fama (1991), he focused on three areas; test for return predictability, event studies and the test of private information. In Fama(1970), the overall efficient market hypothesis was divided into three sub hypotheses depending on the information involved as outlined below.

2.1.1 WEAK-FORM EFFICIENCY

The '**weak**' form market efficiency asserts that all past market prices and data are fully reflected in securities prices. In other words technical analysis is of no use. Technical analysts believe that all relevant information on a security's future price movements is contained in the security past price movements. They therefore analyze past security's returns to try and find patterns which they use to help predict its future returns. According to one renowned technical analyst Magee (1966) all other information is considered distracting. Tests for weak form efficiency focus on examining the correlation between the current returns on a security and its past returns. If there is zero serial correlation between the two, then the weak form efficiency is confirmed. Fama (1965) found out that serial correlation coefficient for a sample of 30 Dow Jones industrial stocks even though statistically significant was too small to cover transaction costs of trading. Another method of testing for weak form efficiency is by examining the gains from technical analysis. Using this approach, Lakonishok et al (1992) found evidence against weak form efficiency. They observed that simple technical trading rules would have been successful in predicting changes in Dow Jones Industrial average. In a study done on NSE, Kiweu(1991) performed serial correlation and the run test on the return series and found no return patterns in the share prices movements. This showed that NSE is efficient at the

weak form. Fama (1991) expanded the concept of weak form efficiency to include predicting future returns with the use of accounting or macroeconomics variables.

2.1.2 SEMI-STRONG FORM EFFICIENCY

‘Semi-strong’ form of market efficiency asserts that all publicly available information is fully reflected in securities prices. Thus, fundamental analysis is of no use. Public information includes not only past security prices but also data reported in financial statements, dividends announcements, merger plans etc. In fact this information need not be of strictly financial nature, news like that of the death of a company CEO may affect security prices. Semi-strong form of efficiency asserts that one should not benefit from trading with information that everybody else knows. Most researchers have used event studies to test for this form of market efficiency. In one of the earliest event studies, Fama et al (1969) examined the reaction of security prices to stock split announcements. They observed that in the announcement date, there were positive abnormal returns, which did not persist in the days following the announcements. This they concluded was consistent with the semi-strong form efficiency. Jensen (1969) found out that equity funds on average were unable to outperform a passive strategy, thus fundamental analysis did not give one an upper hand.

In spite of the mounting empirical evidence in favor of semi-strong form of efficiency, a lot of contrary evidence exists. The empirical evidences advanced against this form of efficiency are two-fold; Evidence of public information not being completely incorporated in stock prices and evidence of the stock prices adjusting without any relevant public information to warrant the change. In the first case, researchers have

found empirical evidence that the market does not react to important public announcements completely and proportionately. Empirical studies have shown instances where stock markets either over react or under react to public announcements. Among other researchers, De Bondt and Thaler (1985, 1987) present evidence that stock prices over react to announcement of current changes in earnings. Bernard (1993) on the other hand provides evidence that is consistent with the initial reaction to important announcements being too small and being completed over time. The two anomalies are contrary to the semi-strong form efficiency that asserts that public information is immediately incorporated fully in stock prices. In the second scenario, empirical tests have shown that some important stock price changes are not linked to any specific public announcements. In their study of determinants of returns in five countries, Haugen and Baker (1996) conclude that none of the factors related to sensitivities to macroeconomics variables seem to be important determinants of expected stock returns. Poterba and Summers (1989) find that there is little if any correlation between the greatest aggregate market movements and public release of important information. Tests for semi-strong form of market efficiency have generated a lot of controversy and are the ones mostly used as the basis of challenging the efficient market hypothesis.

2.1.3 STRONG-FORM EFFICIENCY

The '**strong**' form of market efficiency asserts that all information whether past or present, public or private is fully reflected in securities' prices. In other words, having insider information cannot help one beat the market. The market anticipates in an unbiased manner future developments concerning a given company and therefore the stock prices have already incorporated the information in much more objective way than

the insiders have. Strong form of efficiency does not seem to be substantiated by evidence. Jaffe (1974), Finnerty (1976) Seyhun (1986), Rozeff and Zaman (1988) among others have found evidence that insider trading is profitable. This is contrary to the assertions of the strong form market efficiency.

2.2 STOCK MARKET ANOMALIES

Researchers have unveiled several anomalies in stock market, which challenge the efficient market hypothesis. Some of the main anomalies identified in empirical studies are as follows:

2.2.1 WEEKEND EFFECT/MONDAY EFFECT

This is anomaly where the daily returns for Monday are observed to be negative while positive in the rest of the days of the week. French (1980) analyzes daily returns of the stocks for the period 1953-1977 and find that there is a tendency for stock returns to be negative on Mondays whereas they are positive in the other days of the week. This he noted was caused only by the weekend effect and not by a general closed market effect. Agrawal and Tandon (1994) find significant negative returns on Monday in 9 countries and on Tuesday in 8 countries yet large and positive Friday returns in 17 out of the 18 countries studied. Gibbon and Hess (1981) and Keim and Stambaugh(1984) observed that average return on Friday is abnormally high while that of Monday is abnormally low. Cherutoi (2006) study found no evidence in favour of the weekend effect existence at NSE.

2.2.2 HOLIDAY AND TURN OF THE MONTH EFFECTS:

Holiday and turn of the month effect anomaly is a situation where returns are significantly higher at the turn of the month defined as the last and first 3 trading days of

the month and the day before a holiday than on other trading days. Turn of the Month effect was first reported by Ariel (1987). He found out that there was concentration of positive returns in the last and the first trading week of each month. Ogden (1990) attributes the Turn of the Month Effect to temporal pattern of cash received by investors. Jacobs and Levy (1988) attribute it to the psychological desire of investors to postpone decisions until the beginning of periods. Hensel and Ziemba (1996) attribute this to positive cash flow to investors at the end of the month from such sources as salaries and interest payments. Lakonishok and Smidt (1988), show that US stock returns are significantly higher at the turn of the month. Cadsby and Ratner (1992) and Ariel (1990) provide evidence to show that returns are on average higher the day before a holiday than on other trading days. Ziemba (1991) find evidence of turn of the month for Japan's stock markets when turn of the month is defined as the last five and first two trading days of the month. Kunkei and Compton (1998) show how abnormal returns can be earned by exploiting this anomaly. Rasugu (2005) study of 44 companies at NSE from 1st January 1998 to 31st December 2002 concluded that holiday effect does not exist at NSE.

2.2.3 JANUARY EFFECT

This is an anomaly where the returns for January are observed to be higher than those of other months. Rozeff and Kinney (1976) first documented this anomaly. They documented evidence of higher mean returns in January as compared to other months. Keim (1983) found out that higher returns on smaller stocks were concentrated in the first few days of January and referred to this anomaly as turn-of-the-year effect. The explanation advanced for higher January returns is the tax-loss selling hypothesis. In Kenya a study done by Kamau (2003) reported that January effect does not exist at NSE.

2.2.4 SMALL FIRM EFFECT

According to small firm effect anomaly, small firm reports a higher risk-adjusted return than large capitalization firms do. Banz (1981) published one of the earliest articles on the 'small-firm' effect. Supporting evidence is provided by Reinganum (1981) who reported that the risk adjusted annual return of small firms was greater than that of large firms.

2.2.5 P/E RATIO EFFECT

This is an anomaly where low P/E ratio portfolio earns higher returns than higher P/E ratio portfolio. Sanjoy Basu (1977) shows that stocks of companies with low P/E ratios earned a premium for investors during the period 1957-1971. Campbell and Shiller(1988) show that price earning ratios have reliable forecast power.

2.2.6 S&P INDEX EFFECT

This is a phenomenon where, when a stock gets included in the stock market index, its share price is seen to increase even though no other characteristic of the firm changes. Harris and Gurel (1986) and Shleifer (1986) find a surprising increase in stock prices on the announcement of its inclusion into S&P 500 index.

2.2.7 VALUE-LINE ENIGMA

The Value-line organization divides firms into 5 groups and ranks them according to their estimated performance based on publicly available information. Firms that are ranked high by value line organization are observed to earn higher returns. Several researchers (e.g. Stickel, 1985) find positive risk adjusted abnormal returns using value line rankings to form trading strategies, thus challenging EMH.

2.2.8 WEATHER

According to this anomaly, stock markets returns are found to change depending on the prevailing weather conditions. NYSE index tends to be negative when it is cloudy according to findings by Saunders (1993). Hirshleifer and Shumway (2001) find the stock market returns to be positively correlated with sunshine.

2.2.9 DISTRESSED SECURITIES' MARKET

Stock pricing has been found to be inefficient during the bankruptcy period. Stocks of companies faced with bankruptcy have been found to maintain their prices. Vulture investors have attracted a substantial amount of risk-oriented money by offering the possibility of high returns by exploiting the apparent pricing inefficiencies in the market for distressed securities. Investors who find themselves owners of distressed securities do not understand or want to participate in the market and frequently sell at prices substantially below the investments' cost.

2.2.10 OVER/UNDERREACTION TO ANNOUNCEMENTS

Overreaction anomaly is where prices overreact to surprise announcements thus moving from their fundamentals. DeBondt and Thaler(1985,1987) present evidence consistent with stock prices overreacting to current changes in earnings. Underreaction anomaly on the other hand is a phenomenon whereby stock prices do not adjust immediately and completely to announcements thus causing a drift. Bernard (1993) provides evidence consistent with initial reaction being too small and being completed over at least six months.

2.3 BEHAVIORAL FINANCE

Most of the finance theories are based on the belief that individuals behave in a rational manner and all existing information is embedded in the investment process. This assumption is the crux of the efficient market hypothesis. Researchers have however uncovered evidence that rational behaviour is not always prevalent as might be believed. Odean (1999) notes that, 'the field of modern financial economics assumes that people behave with extreme rationality but they do not.' Economics Nobel Laureate Daniel Kahneman was an important figure in the development of behavioral finance. Kahneman and Tversky (1979) used cognitive psychological techniques to explain a number of documented anomalies in rational economic decision making. Behavioral finance has two building blocks; cognitive psychology and limits to arbitrage. Cognitive refers to how people think. Documented literature shows that; individuals have limited information processing capabilities, exhibit systematic bias in processing information, are prone to errors and often tend to rely on the opinion of others. Faced with a complex task of assigning probabilities to uncertain outcomes individual tend to use cognitive heuristics. Similarly, individual have been noted to put too much weight on the recent experiences.

Limits to arbitrage refer to predicting in what circumstances arbitrage forces will be effective and when it will not. Efficient market hypothesis assumes that markets are rational and they make unbiased forecast of the future. Behavioral finance on the other hand assumes that in some circumstances financial markets are informationally inefficient. Behavioral finance attempts to understand and explain how emotions

influence investors in their decision making process. According to Shefrin (2002), there are three main themes in behavioral finance.

- **Heuristics:** People often make decisions based on approximate rules of thumb, not on strictly rational analyses.
- **Framing:** The way a decision maker acts will depend on the way a problem is presented to him.
- **Market inefficiencies:** There are explanations for observed market outcomes that are contrary to rational expectations and market efficiency.

Market wide anomalies cannot generally be explained by individual suffering from cognitive biases as these are not large enough to change market prices. Cognitive biases have real anomalous effects only if there is a social contamination with strong emotional content such as fear or greed, leading to widespread herding or group think. However, Fehr and Schmidt (1999) have developed models to show that a small but significant anomalous group can have market –wide effects.

Critics of behavioral finance contend that behavioral finance is more of a collection of anomalies than a true branch of finance and that these anomalies will eventually be priced out of the market or explained by appeal to market microstructure argument.

2.4 UNDERREACTION HYPOTHESIS

One of the most and enduring anomalies documented in finance literature is the empirical observation that stock prices appear to respond to earnings long after the announcement day. Prices of stocks experiencing negative earnings surprises tend to drift downwards

while those experiencing positive surprises drift upwards. Ball and Brown (1968) first noted this post-earnings-announcement drift. An extensive body of empirical literature examines a wide-ranging set of specific news events and finds with rather striking consistency that markets appear to initially under react to news. Bernard and Thomas (1968) note that, attempt to explain the anomaly as being a product of research design flaws including failure to control fully for risk has failed. There are three main explanations for post-earnings announcement drift in the finance literature. The traditional view holds that investors are conservative and underreact initially but later correct their reactions causing a drift. The other two explanations use behavioral models. Barberis, Shleifer and Vishny (1998) propose a model based on psychology literature on decision-making. They argue that underreaction can be explained by investors' 'conservatism' whereby they are slow in adjusting their expectations of future earnings upon receiving new information. They predict an initial investor underreaction and eventual overreaction. Daniel Hirshleifer and Subrahmanyam(1998) on the other hand predict initial over reaction which increases over time. Both of these behavioral models predict that reactions to later announcements in a same –sign sequence should be stronger than reaction to earlier announcements.

A study done by Jegadeesh and Titman(1993) showed that a strategy that 'buy stocks with the highest positive returns in the previous three to twelve months(winners) and sell those with the lowest returns(losers) in the same period', yielded significant abnormal returns during the following three to twelve months. They thus claim that this 'momentum' effect observed in returns would reflect 'underreaction' of investors to

recent information. This they concluded stem from the 'conservatism' heuristic advanced by Edwards (1968). Investors would slowly adapt to arrival of recent news gradually incorporating their expectations in prices. Chan, Jegadeesh and Lakonishok (1996) show that, post-earnings-announcement drift survives even after controlling for momentum, market risk, and size and book-to-market effects. They observe in simultaneous, momentum in returns and continuation in earning surprises around earning announcements dates. Lasfer et al (2003) study 39 international markets and find that on average positive (negative) shocks are followed by subsequent large positive (negative) abnormal returns in both developed and emerging markets. They also note that emerging markets respond much stronger to market shocks than the developed markets.

Several empirical studies have however challenged underreaction argument and proposed alternative hypotheses. The main competing hypothesis is that momentum would also occur as a result of 'overreaction'. Cooper, Gutierrez and Hameed (2003), considering the state of the market as proxy for investor sentiment and for risk aversion found out that the 'momentum' profits occurred only when the market was 'bullish' which could be in favor of the 'overreaction hypothesis'. The rationale is that investors are over overconfident about their private information and overreact to it. The increase in overconfidence would generate momentum first and only later overreaction.

In testing the underreaction hypothesis researchers have focused on both company self selected events and externally imposed events. The conclusion reached from the majority of these studies has been generally in support of the underreaction hypothesis. Since this

study is based on a company self-selected event namely, stock dividend announcements, an outline on the most important studies based on the corporate self-selected events follows. Loughran and Ritter (1995) and Spiess and Affleck-Graves (1995) reported Long abnormal return horizon following seasoned offerings announcements. Lakonishok and Vermaelen (1990) observe long-horizon abnormal returns subsequent to fixed price tender offers. On open market stock repurchases announcements, Ikenberry, Lakonishok and Vermaelen (1995 and 1999) report positive long horizon of excess returns in the US and more recently in Canada as well. In another self-selected event namely, initiations of cash dividends, Michaely, Thaler and Womack (1995) find evidence of positive drift subsequent to dividend initiations. They study dividends initiations and omissions for the period 1964-88 and find that firms that initiate dividends have positive abnormal stock returns for three years after the event. In addition, firms omitting dividends have negative abnormal returns. Miles and Rosenfeld (1983) and Cusatis, Miles and Woolridge (1993) find evidence of positive drifts subsequent to a spin-off. This they attribute to market underreaction to an enhanced probability that after the spin-off both the spin-off and the parent company are likely to become merger targets and the recipients of premiums. Jaffe and Mandelker (1992) report negative long-horizon abnormal returns following mergers. Desai and Jain (1997) and Ikenberry et al (1996) find that for the 17-year 1975-91 period, stock splits are followed by Long-horizon positive returns. Asquith (1983) and Agrawal et al. (1992) find negative abnormal returns for acquiring firms for up to 5 years following merger announcements. This they attribute to the market underreaction to a poor investment decision. Mitchel and Stafford (1997) who uses a comprehensive sample of mergers for the period 1960-93 reach similar conclusions.

Other studies on the hypothesis have focused on market structure to try and find whether market segments could be responsible for the drift. Bartov, Radhakrishnan and Krinsky (2000) find that post earnings announcement drift tends to decrease with institutional ownership. This suggests that non-institutional investors are driving the drift. Hirshleifer et al (2002) look at individual investor's behaviour and find that individuals are net buyers after both positive and negative earnings surprises. Lee (1992) is the first paper to look at trading imbalances around earnings announcements and find that small traders buy after earning surprises whether the surprise is good or bad and that they react later than large traders do. Ke and Gowda (2004) focus on institutional investors and find evidence that institution trade to exploit the drift.

In apparent contrast to the literature that indicates underreaction to earnings, De Bondt and Thaler(1987) describe how investors' 'myopia' could lead to an over emphasis on earnings from the recent past. De Bondt and Thaler(1990) report evidence to suggest that analysts' earnings forecast tracked by Institutional Brokers Estimate System are indeed consistent with overreaction hypothesis.

2.5 STOCK DIVIDEND ANNOUNCEMENT EFFECTS

Stock dividends represent a distribution of firm's dividends in form of common stocks. Other forms of dividend distribution include cash and commodity dividends. According to Committee on Accounting Procedure (CAP) of the American Institute of Certified Public Accountants, stock distributions below 20-25 percents are regarded as stock dividends. Stock distribution of higher percentage than this should be treated as stock

split. According to CAP(1961,p.49) stock dividends gives shareholders some evidence of a part of their respective interests in accumulated corporate earnings without distribution of cash or other property. In a study done at NSE by Mbugua (2004), it was found out that in Kenya most of what companies give, as bonuses are actually stock splits going by the above CAP definition. She observed that almost all stock bonuses declared by companies at the NSE in her period of study were above 25%.

Ever since Modigliani and Miller (1958) wrote their 'Dividend irrelevance theory', the question of dividend relevance has been extensively debated. A lot of debate has however, dealt with cash dividends. In their follow-up paper, Modigliani and Miller (1961) noted that any relationship between dividends announcement and stock prices movement should be attributable to information concerning future earning prospects conveyed in dividends announcement. The notion of dividends information content has been supported by many empirical studies which include, Aharony and Swary(1980), Kwan(1981), Woolridge(1982), Ofer and Siegel(1987), Healy and Palepu(1988).

Compared to cash dividends, stock dividends can be seen as a less noisy signaling device. This is because some investors may interpret cash dividends increase to mean that the firm has no investment opportunity and thus the decision to distribute existing cash. Thus cash dividends increase announcements may send confusing signals.

Some scholars are of the opinion that stock dividends are of no benefits to the shareholders. Baker (1958) noted that issuing bonus shares to shareholders is like cutting the same loaf of bread into smaller slices and therefore adds no value to them. However,

studies done on the impact of stock dividends largely support the signaling power of stock dividends especially when accompanied with increase in cash dividends. Asquith et al (1989) and McNichols and Dravid (1990) find that stock dividends reveal favorable future information and are followed by abnormal increase in dividends or earnings or both. Titman et al (1984) found out that share prices are positively correlated to bonus issue announcements but if the investors' expectations are not realized subsequently, share prices will fall. Foster and Vickrey (1978) study showed that, the mean stock dividends declaration day residuals were greater than zero. These findings were confirmed by Woolridge (2001) who unlike Foster and Vickrey (1978) controlled for cash dividends.

Locally, a few studies have supported the notion that dividends announcements have information content. Kiptoo (2006) analyzed 13 companies trading at NSE between 1998 and 2002 and found out that there is significant reaction by market to cash dividend announcements. Mbugua(2004) analyzes the returns of 24 companies which issued stock dividends and concluded that the stock dividends have impact on stock returns. Iminza (1997) did a study to test whether or not there is a relationship between dividends and share prices and found out that dividends and share prices are highly correlated.

Going by both the theory on signaling effect of stock dividends and the empirical studies, there is a good reason to expect investors at NSE to respond positively to stock dividends announcements. Since the study does not deal with the issue of stock dividends per se, no effort was made to control for the effect of subsequent increase in cash dividends. On the

contrary, the study required that companies do not adversely change their cash dividend policy after the stock dividends announcements. It is therefore expected that cash dividends will increase after the announcements.

3.0 RESEARCH METHODOLOGY

The study is based on an event study design with stock dividend announcements being the event of importance. Since as shown in Mbugua (2004) most stock bonus issues at NSE would be classified as stock splits, in this study all stock bonuses are taken to be stock dividends to avoid getting unreasonably small sample. A comparison of the returns on the event day and the succeeding days is done through analyses of the average cumulative abnormal returns (ACAR). Conrad and Kaul (1993) have criticized the use of cumulative abnormal returns arguing that the method leads to upward bias and have favored the use of average holding period abnormal returns (AHPAR). In a more recent paper however, Fama (1998) has defended the use of cumulative abnormal returns. Briefly stated, Fama (1998) argues that all models for expected returns are incomplete descriptions of the systematic patterns in average returns during any sample period. However, CAR suffers less from bad-model problem on event studies that focus on short return windows since daily-expected returns are close to zero and so have little effect on estimates of abnormal returns. Bad-model problems are most acute with long-term buy-and-hold abnormal returns that compound an expected-returns model's problems in explaining short-term returns.

3.1 POPULATION

The population comprises of all the listed companies at Nairobi Stock Exchange between 1st January 1999 and 31st December 2006. NSE market is divided into 5 market segments; Agricultural, Commercial and Services, Finance and Investment, Industrial & Allied and Alternative investment market. By 31st December 2006, the number of companies listed

and actively trading in each of the 5 segments were 4, 7, 12, 16 and 9 respectively, thus giving a total population of 48 companies.

3.2 SAMPLING PLAN

The study is based on secondary data obtained from NSE database. All the companies that declared stock bonus in the period from 1st January 1999 to 31st December 2006 were initially included in the sample. The sampled companies were then subjected to the criteria below:

- For the companies paying cash dividends previously, the stock dividends should not be in lieu of cash dividends. This requirement is imposed to avoid negative signals being sent alongside stock dividend announcements.
- To be included in the sample it was a requirement that a company should have been listed at NSE and traded continuously for at least 60 days before the stock bonus announcements date. This was to ensure that only companies with sufficient data for the computation of expected/normal returns are included in the sample.

3.3 DATA & DATA SPECIFICATIONS

The study is based on secondary data obtained from NSE database. The following details were to be obtained:

- The names of the companies that made stock bonus announcements in the period from 1st January 1999 to 31st December 2006.
- The stock bonus announcement dates. This is the day when a company notified the NSE secretariat of the impending stock bonus issue.
- The number of shares required to get one bonus share i.e. the bonus rate.

- Where a company declares cash dividends together with stock dividends, details of the amount of dividends and the cum-dividend and ex-dividend dates shall be obtained.
- The daily closing stock prices for; 50 days starting 60 days before the bonus announcements and ending 10 days to the event, the announcement date and 30 days after the announcement.

3.4 DATA ANALYSIS

The analysis is directed towards detecting any continuation in positive returns subsequent to the date of stock dividends (bonus) announcement. The analysis shall proceed as follows:

- The first step is to calculate the normal or expected return for each stock. A comparison-period-return-approach (CPRA) was used in analyzing price movements. Among the notable authors who have used CPRA in stock price movement analysis is Woolridge (2001). As shown by Masulis (1980), CPRA is as powerful as market model in detecting significant price movements for non-clustered events especially when using daily returns. The comparative period taken is the 50 days period starting 60 days before the event and ending 10 days to the event. The 10 trading days prior to the event is used to avoid possible price lead-up preceding announcements that could be occasioned by insider trading. Schnusenberg and Madura (2001) use a 60 day window immediately preceding event day while Lasfer et al (2003) end their window 10 days to the event day. The latter is adopted in this study. Most studies done on return comparison at NSE have used market model with the NSE 20 share index return being used as

proxy for market return. Odera (2000) however, points out that the NSE index has been found to fluctuate according to trading by a few companies and may thus be a wrong proxy for the stock market activities. In calculating abnormal returns the assumption made is that earnings expectations are based on a random walk model. The security returns are assumed to be stationary over time and thus the effect of new information will automatically affect the prices as per the expectational naïve model below:

$$R_{i,t} = \mu_{i,t} + \epsilon_{i,t}$$

Where,

$R_{i,t}$ is the actual return on security i at time t .

$\mu_{i,t}$ is the expected return on security i at time t which is determined by the market pricing process and,

$\epsilon_{i,t}$ is stochastic error term unique to a particular company, has an expected value of zero and is unrelated overtime. Bernard and Thomas (1990) show that stock return patterns around earnings announcement correspond to this naïve earnings expectations model.

The daily stock returns ($R_{i,t}$) is derived as follows:

$$R_{i,t} = (P_{i,t} - P_{i,t-1} + D_{i,t}) / (P_{i,t-1})$$

Where,

$P_{i,t}$ is the daily closing price for stock i at time t and

$D_{i,t}$ is the dividend payable for stock i at time t . Theoretically, once the dividends are declared and the shares are trading cum-dividend the price of the shares should go

up by the amount of expected cash dividends ($D_{i,t}$). When the company closes its register the share start to sell ex-dividend and therefore $D_{i,t}$ shall be dropped from the above model. When a bonus is declared and a share is selling cum-bonus, its price theoretically should drop. For the purpose of calculating stock returns, the share prices for the period preceding ex-dividend date is adjusted as follows,

$$P_{i,t} \text{ (adjusted price)} = \frac{\text{Old shares} \times \text{daily closing share price}}{\text{New shares}}$$

- Next, daily abnormal returns ($AR_{i,t}$) for each stock is computed from day $t=0$ to $t=30$ as the difference between its actual return and the expected return as follows.

$$AR_{i,t} = R_{i,t} - \mu_{i,t} \quad \text{Where,}$$

$R_{i,t}$ = The actual return on security i at time t and,

$\mu_{i,t}$ is the expected return for the stock generated using the comparative period approach (CPRA). The comparison period is the 50 days starting 60 days to the event and ending 10 days to the event day as shown below,

$$\mu_{i,t} = \frac{1}{50} \sum_{t=-60}^{-10} \frac{(P_{i,t} - P_{i,t-1} + D_{i,t})}{(P_{i,t-1})}$$

- For each stock, the daily abnormal returns from day $t=1$ to $t=30$ are added to get the cumulative abnormal return (CAR). From this, average cumulative abnormal return (ACAR) is computed by dividing the cumulative abnormal return (CAR) by the total number of days over which the CAR is derived i.e. 30.
- Using the results above, a graphical presentation of cumulative abnormal return from $t=1$ to $t=30$ is done for each stock. If the CAR graph is upward sloping, it

means that the impact of dividend announcements was not incorporated in stock prices immediately and thus evidence in support of underreaction. For each stock, a test is then done for statistical significance of the average cumulative abnormal return using student t distribution.

- The foregoing test was done for each stock separately. In order to get an overall picture, cumulated abnormal returns were computed for each day from $t=1$ to $t=30$. This is done by combining the abnormal returns of all stocks by day from day 1 to day 30 and dividing the resultant sum of daily abnormal return by the number of stocks(N).The average abnormal return obtained above are then added from $t=1$ to $t=30$ to get the cumulative abnormal return of all the stocks combined. The average cumulative abnormal return is then obtained by dividing the cumulative abnormal return calculated above by the total normal of post-event days, which in this case is equal to 30.
- As done for each stock individually, we graph the abnormal cumulative return for all stocks combined over the thirty-day window. As noted above an upward sloping graph gives preliminary evidence in support of underreaction hypothesis. We then test for statistical significance of the average cumulative abnormal return (ACAR) for the stocks combined. The test for statistical significance shall seek to establish whether the ACAR is statistically different from zero. A students t-test shall be used as follows:

$$t = \frac{ACAR}{\hat{\sigma} / \sqrt{n}}$$

Where $\hat{\sigma}$ is the standard deviations of cumulative abnormal returns and n is the number CARs from which the ACAR is calculated. The calculated t shall then be

compared with the critical t values. This test for significance shall be done using appropriate statistical software and it will be a one tail test since the intention is to gauge whether the ACAR is significantly larger than the expected/normal returns. If the difference is found to be statistically significant at this level, this will support the evidence reached previously.

To test for robustness of the results, the last procedure above shall be applied for each of the 8 years separately. This will be done to ensure that the results are not driven by circumstances unique to any one particular year.

4.0 DATA ANALYSIS & FINDINGS

4.1 DATA ANALYSIS

Data analysis was directed towards detecting any continuation in positive returns after the stock dividends announcement day. According to efficient market hypothesis of Fama (1970) all publicly available information effect is immediately incorporated in stock prices such that no person can make abnormal returns by trading on this information.

Underreaction hypothesis on the other hand predicts a continuation in positive (negative) returns following positive (negative) news event. If underreaction anomaly is present in a given stock market, rational investors can exploit this anomaly by employing 'momentum strategies' to realize contrarian profits.

To test for existence of underreaction phenomenon at the NSE a comparison-period return approach (CPRA) was used. CPRA was first modeled by Foster and Vickrey (1978) and modified by Woolridge (1983). CPRA produce firm-specific expected returns estimate i.e. a stock return is estimated without constraining the cross-section of average returns. The comparison period used for this study was 50 days period starting 60 days and ending 10 days to the event. Unexpected (abnormal) returns were then calculated by deducting the expected returns from the daily returns for each day of the 31 days event window. To check for the behaviour of returns after the announcement day, cumulative abnormal returns were calculated by summing daily abnormal returns from day 1 to day 30. A graph of CARs was then charted to show the trend of abnormal returns over the event window.

The initial plan was to analyze all the dividend announcements for the 8 years period from 1st January 1999 to 31st December 2006. However due to the recent changes at NSE regarding the release of information it was not possible to get sufficient data for year 2006 to support the planned analysis. The data for 7 year period from 1st January 1999 to 31st December, 2005 was therefore used for the study. In the period under study there were 23 incidences of dividend announcements. This represented 18 companies since 5 companies announced stock dividends twice in the period under review. A list of the companies that announced stock dividends and the corresponding rates and dates of announcements is attached in appendix II. From this initial sample, two companies viz. Limuru Tea and EAAGADS were dropped due to lack of sufficient data to allow the calculation of the expected returns and the returns over the event window. The rest of the stock dividends events were analyzed and the results are as outlined below.

4.2 PRESENTATION OF FINDINGS

The results of analysis are given in three levels; first, the summary statistics are given for the full sample and their interpretation. In part II, result by year for the seven year period and their interpretation are discussed while part III reports the results by individual announcement i.e. result by company for each year.

4.2.1 FULL SAMPLE RESULTS

Table 1 gives the abnormal returns and the cumulative abnormal returns for the full sample over the event window. As shown in Table 1, all the daily abnormal returns are positive. The corresponding graph of cumulative abnormal returns figure 1, is upward sloping from day 1 to day 30. This shows that there is continuation in positive returns

after the stock dividend announcements meaning that the effect of stock dividends announcement at NSE is not fully incorporated in stock prices in the event day. This provides preliminary evidence in support of existence of underreaction anomaly in at the NSE.

Table 1: Daily Abnormal Returns and Cumulative Abnormal Returns for the Full sample

| Day | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | TOTAL | AAR | CAAR |
|-----|--------|--------|---------|---------|---------|---------|---------|--------|--------|--------|
| 1 | 0.6603 | 0.3369 | 0.1083 | 0.2983 | 0.0694 | 0.1216 | 0.0528 | 1.6477 | 0.2354 | 0.2354 |
| 2 | 0.5487 | 0.2770 | 0.0418 | 0.0519 | 0.0951 | -0.0050 | 0.0406 | 1.0502 | 0.1500 | 0.3854 |
| 3 | 0.5893 | 0.2618 | 0.0503 | 0.0553 | 0.0778 | 0.0027 | 0.0383 | 1.0756 | 0.1537 | 0.5391 |
| 4 | 0.5657 | 0.2838 | 0.0275 | 0.0604 | 0.0866 | -0.0121 | 0.0845 | 1.0965 | 0.1566 | 0.6957 |
| 5 | 0.5575 | 0.2714 | 0.0172 | 0.0360 | 0.0562 | 0.0081 | 0.0751 | 1.0214 | 0.1459 | 0.8416 |
| 6 | 0.5198 | 0.2212 | 0.0335 | 0.0168 | 0.1263 | 0.0169 | 0.0192 | 0.9537 | 0.1362 | 0.9779 |
| 7 | 0.3858 | 0.2954 | 0.0337 | -0.0007 | 0.0491 | 0.0067 | -0.0032 | 0.7668 | 0.1095 | 1.0874 |
| 8 | 0.5864 | 0.2822 | 0.0380 | 0.0506 | 0.0969 | 0.0170 | 0.0162 | 1.0873 | 0.1553 | 1.2427 |
| 9 | 0.5771 | 0.2694 | 0.0247 | 0.0450 | 0.0689 | 0.0375 | -0.0073 | 1.0153 | 0.1450 | 1.3878 |
| 10 | 0.6509 | 0.2974 | 0.0397 | 0.0428 | 0.0640 | 0.0254 | 0.0293 | 1.1495 | 0.1642 | 1.5520 |
| 11 | 0.5633 | 0.2414 | 0.0174 | 0.0175 | 0.0784 | 0.0273 | 0.0110 | 0.9563 | 0.1366 | 1.6886 |
| 12 | 0.5667 | 0.2834 | 0.0267 | 0.0385 | 0.0688 | 0.0328 | 0.0271 | 1.0439 | 0.1491 | 1.8377 |
| 13 | 0.6024 | 0.3023 | 0.0149 | 0.0723 | 0.0873 | 0.0253 | 0.0246 | 1.1291 | 0.1613 | 1.9991 |
| 14 | 0.5800 | 0.2763 | 0.0165 | 0.0407 | 0.0411 | 0.0226 | 0.0305 | 1.0077 | 0.1440 | 2.1430 |
| 15 | 0.5928 | 0.2131 | 0.0158 | 0.0313 | 0.0693 | 0.0323 | 0.0118 | 0.9665 | 0.1381 | 2.2811 |
| 16 | 0.5736 | 0.2868 | 0.0311 | 0.0558 | 0.0863 | 0.0139 | 0.0156 | 1.0630 | 0.1519 | 2.4329 |
| 17 | 0.5962 | 0.2809 | 0.0086 | 0.0311 | 0.0492 | 0.0072 | 0.0431 | 1.0163 | 0.1452 | 2.5781 |
| 18 | 0.5611 | 0.2790 | 0.0357 | 0.0433 | 0.0728 | -0.0740 | 0.0232 | 0.9410 | 0.1344 | 2.7125 |
| 19 | 0.5828 | 0.3145 | 0.0259 | 0.0432 | 0.0762 | 0.0114 | 0.0363 | 1.0904 | 0.1558 | 2.8683 |
| 20 | 0.6293 | 0.3048 | 0.0327 | 0.0417 | 0.0993 | 0.0129 | 0.0243 | 1.1450 | 0.1636 | 3.0319 |
| 21 | 0.6002 | 0.3011 | -0.0671 | 0.0383 | -0.0098 | 0.0189 | 0.0201 | 0.9016 | 0.1288 | 3.1607 |
| 22 | 0.6095 | 0.2729 | 0.0320 | 0.0409 | 0.0963 | 0.0134 | 0.0227 | 1.0878 | 0.1554 | 3.3161 |
| 23 | 0.6084 | 0.3111 | 0.0478 | 0.0428 | 0.0533 | 0.0188 | 0.0256 | 1.1079 | 0.1583 | 3.4744 |
| 24 | 0.5688 | 0.3182 | 0.0240 | 0.0387 | 0.0607 | 0.0290 | 0.0322 | 1.0716 | 0.1531 | 3.6275 |
| 25 | 0.5958 | 0.3110 | -0.0171 | 0.0387 | 0.0798 | 0.0081 | 0.0255 | 1.0416 | 0.1488 | 3.7763 |
| 26 | 0.5648 | 0.3017 | 0.0252 | 0.0308 | 0.0654 | 0.0150 | 0.0160 | 1.0189 | 0.1456 | 3.9218 |
| 27 | 0.6193 | 0.3065 | 0.0176 | 0.0192 | 0.0726 | 0.0164 | 0.0180 | 1.0696 | 0.1528 | 4.0746 |
| 28 | 0.5853 | 0.2979 | 0.0617 | 0.0600 | 0.1052 | 0.0020 | 0.0165 | 1.1286 | 0.1612 | 4.2359 |
| 29 | 0.5039 | 0.3096 | 0.0430 | 0.0390 | 0.0971 | -0.0140 | 0.0240 | 1.0025 | 0.1432 | 4.3791 |
| 30 | 0.6214 | 0.2937 | 0.0280 | 0.0295 | 0.0678 | 0.0518 | 0.0194 | 1.1118 | 0.1588 | 4.5379 |

Figure 1: Trend of Average Cumulative Abnormal Return (full sample)

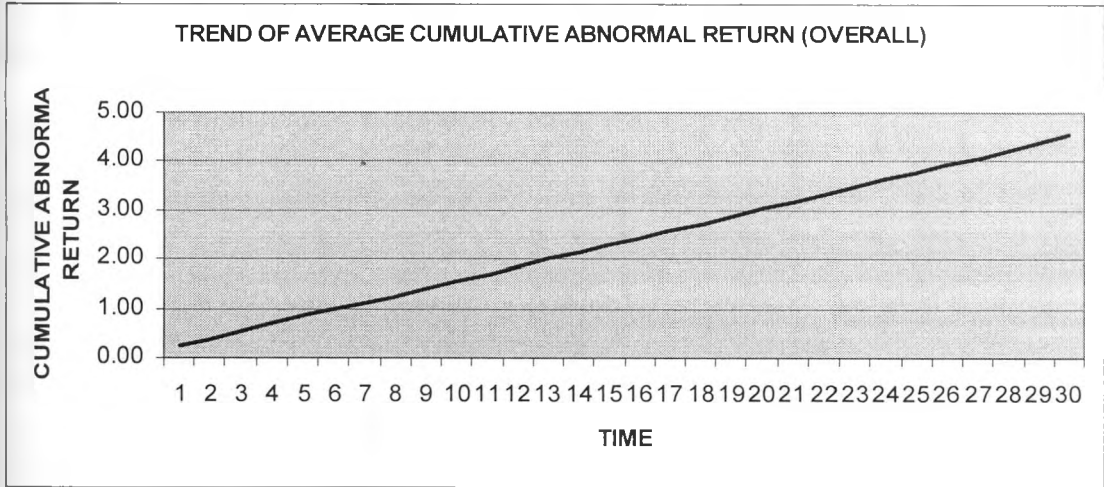


Table 1 shows that the daily abnormal returns for the full sample are all positive, the corresponding graph for the CAR, figure 1, is upward sloping. This indicates a continuation of positive returns in the days following stock dividend announcements.

4.2.2 RESULTS BY YEAR

To test for stability of the above results over time, further analyzes was done for each year separately. This was to help reveal any year with special characteristics, which may be driving the full sample results. Table 2-8 and the corresponding graphs; figure 2-8 gives the summary of results by year for the seven-year period. A review of these results shows that except for year 2004 all the other years have generally upward sloping cumulative abnormal returns graphs. The graph for 2001 though showing an upward trend is unique in that it has a few outliers. The graph of 2004 on the other hand is a bit more irregular. The daily abnormal returns for 2004 fluctuate between negative and positive in the first few days. After day 7, the abnormal returns increase up to day 18 where we have negative abnormal returns. Thereafter the daily abnormal returns are observed to be positive apart from day 29. From the foregoing it is safe to conclude that the results are stable over time since even 2001&2004 which seem unique have a general

upward sloping graph. Thus the conclusion reached in the full sample results are generally supported when analysis is done for each year separately. It would however be interesting to do further analysis on the two years, 2001&2004 to get a better understanding of the cause of the observed unique trend. However, this will be taken care of when individual companies are analyzed separately.

Table 2 : Daily Abnormal returns and Cumulative Abnormal Returns (1999)

| Day | NIC | PANAFRIC | TOTAL | AAR | CAAR |
|-----|---------|----------|--------|--------|---------|
| 1 | 0.1877 | 1.1330 | 1.3207 | 0.6603 | 0.6603 |
| 2 | 0.0008 | 1.0966 | 1.0974 | 0.5487 | 1.2090 |
| 3 | 0.0448 | 1.1337 | 1.1786 | 0.5893 | 1.7983 |
| 4 | 0.0165 | 1.1149 | 1.1314 | 0.5657 | 2.3640 |
| 5 | 0.0193 | 1.0957 | 1.1150 | 0.5575 | 2.9215 |
| 6 | -0.0471 | 1.0867 | 1.0396 | 0.5198 | 3.4413 |
| 7 | 0.0049 | 0.7666 | 0.7716 | 0.3858 | 3.8271 |
| 8 | 0.0644 | 1.1084 | 1.1727 | 0.5864 | 4.4135 |
| 9 | 0.0199 | 1.1343 | 1.1541 | 0.5771 | 4.9905 |
| 10 | 0.0875 | 1.2143 | 1.3018 | 0.6509 | 5.6414 |
| 11 | 0.0350 | 1.0917 | 1.1267 | 0.5633 | 6.2048 |
| 12 | 0.0252 | 1.1081 | 1.1333 | 0.5667 | 6.7714 |
| 13 | 0.0506 | 1.1542 | 1.2048 | 0.6024 | 7.3738 |
| 14 | 0.0244 | 1.1357 | 1.1601 | 0.5800 | 7.9538 |
| 15 | 0.0117 | 1.1738 | 1.1855 | 0.5928 | 8.5466 |
| 16 | -0.0071 | 1.1542 | 1.1471 | 0.5736 | 9.1202 |
| 17 | 0.0381 | 1.1542 | 1.1923 | 0.5962 | 9.7163 |
| 18 | 0.0421 | 1.0801 | 1.1223 | 0.5611 | 10.2775 |
| 19 | 0.0082 | 1.1575 | 1.1657 | 0.5828 | 10.8603 |
| 20 | 0.0411 | 1.2175 | 1.2586 | 0.6293 | 11.4896 |
| 21 | 0.0360 | 1.1644 | 1.2004 | 0.6002 | 12.0898 |
| 22 | 0.0551 | 1.1639 | 1.2190 | 0.6095 | 12.6993 |
| 23 | 0.0627 | 1.1542 | 1.2169 | 0.6084 | 13.3078 |
| 24 | 0.0204 | 1.1171 | 1.1375 | 0.5688 | 13.8765 |
| 25 | 0.0165 | 1.1750 | 1.1915 | 0.5958 | 14.4723 |
| 26 | 0.0689 | 1.0606 | 1.1296 | 0.5648 | 15.0371 |
| 27 | 0.0220 | 1.2167 | 1.2387 | 0.6193 | 15.6564 |
| 28 | 0.0089 | 1.1618 | 1.1707 | 0.5853 | 16.2418 |
| 29 | 0.0276 | 0.9802 | 1.0078 | 0.5039 | 16.7456 |
| 30 | 0.0767 | 1.1661 | 1.2428 | 0.6214 | 17.3670 |

Figure 2: Trend of Cumulative Abnormal Return (1999)

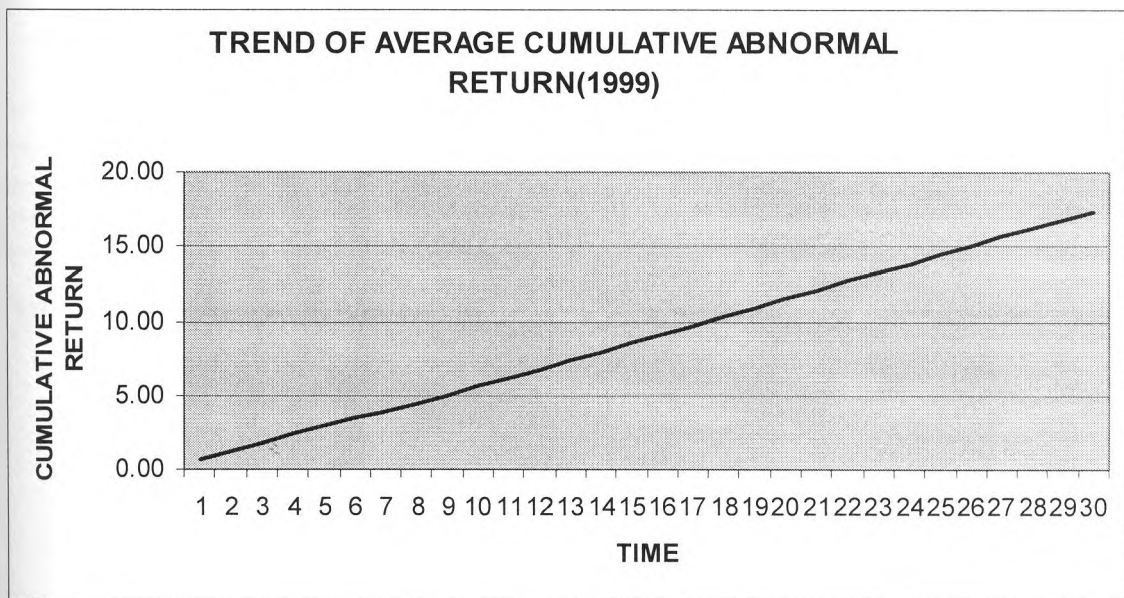


Table 2 shows that the daily abnormal returns for the 30 days following the stock dividend announcements are all positive. The CAR graph for 1999 figure 2, slopes upward from day 1-30. This indicates a continuation in positive returns after the announcement date.

Table 3 : Daily Abnormal Returns and Cumulative Abnormal Return (2000)

| Day | BBK | SCBK | BAT | CFC | CARBACID | TOTAL | AAR | CAAR |
|-----|--------|---------|---------|---------|----------|--------|--------|--------|
| 1 | 1.2011 | 0.2868 | 0.1825 | 0.0582 | -0.0439 | 1.6847 | 0.3369 | 0.3369 |
| 2 | 1.1026 | 0.0938 | 0.0884 | 0.0635 | 0.0369 | 1.3852 | 0.2770 | 0.6140 |
| 3 | 1.0925 | 0.0315 | 0.1130 | 0.0520 | 0.0199 | 1.3090 | 0.2618 | 0.8758 |
| 4 | 1.0864 | 0.1185 | 0.1073 | 0.0609 | 0.0461 | 1.4191 | 0.2838 | 1.1596 |
| 5 | 1.0688 | 0.0918 | 0.0973 | 0.0703 | 0.0286 | 1.3568 | 0.2714 | 1.4309 |
| 6 | 1.1194 | 0.1034 | -0.2313 | 0.0773 | 0.0374 | 1.1062 | 0.2212 | 1.6522 |
| 7 | 1.0995 | 0.1076 | 0.1555 | 0.0598 | 0.0547 | 1.4770 | 0.2954 | 1.9476 |
| 8 | 1.0904 | 0.0998 | 0.1494 | 0.0515 | 0.0199 | 1.4110 | 0.2822 | 2.2298 |
| 9 | 1.0791 | 0.1096 | 0.1596 | -0.0735 | 0.0719 | 1.3468 | 0.2694 | 2.4991 |
| 10 | 1.0808 | 0.0989 | 0.2271 | 0.0587 | 0.0217 | 1.4872 | 0.2974 | 2.7966 |
| 11 | 1.0553 | 0.1034 | 0.1444 | 0.0551 | -0.1514 | 1.2068 | 0.2414 | 3.0379 |
| 12 | 1.0669 | 0.1043 | 0.1698 | 0.0625 | 0.0133 | 1.4168 | 0.2834 | 3.3213 |
| 13 | 1.0895 | 0.0898 | 0.1778 | 0.0765 | 0.0781 | 1.5117 | 0.3023 | 3.6236 |
| 14 | 1.0818 | 0.1152 | 0.1606 | 0.0155 | 0.0081 | 1.3813 | 0.2763 | 3.8999 |
| 15 | 1.0900 | -0.3123 | 0.1857 | 0.0858 | 0.0164 | 1.0656 | 0.2131 | 4.1130 |
| 16 | 1.0922 | 0.1727 | 0.1613 | 0.0551 | -0.0473 | 1.4340 | 0.2868 | 4.3998 |
| 17 | 1.0049 | 0.1574 | 0.1623 | 0.0433 | 0.0367 | 1.4046 | 0.2809 | 4.6807 |
| 18 | 0.9742 | 0.1887 | 0.1747 | 0.0046 | 0.0528 | 1.3950 | 0.2790 | 4.9597 |
| 19 | 1.0744 | 0.1888 | 0.1667 | 0.0651 | 0.0778 | 1.5727 | 0.3145 | 5.2743 |
| 20 | 1.0920 | 0.1902 | 0.1741 | -0.0081 | 0.0760 | 1.5242 | 0.3048 | 5.5791 |
| 21 | 1.0845 | 0.1568 | 0.1680 | -0.0378 | 0.1338 | 1.5053 | 0.3011 | 5.8802 |
| 22 | 1.0908 | 0.1675 | 0.1712 | -0.0127 | -0.0521 | 1.3647 | 0.2729 | 6.1531 |
| 23 | 1.1091 | 0.1455 | 0.1688 | 0.0833 | 0.0485 | 1.5553 | 0.3111 | 6.4642 |

| Day | BBK | SCBK | BAT | CFC | CARBACID | TOTAL | AAR | CAAR |
|-----|--------|--------|--------|--------|----------|--------|--------|--------|
| 24 | 1.1173 | 0.1539 | 0.1642 | 0.1252 | 0.0303 | 1.5909 | 0.3182 | 6.7823 |
| 25 | 1.1019 | 0.1444 | 0.1576 | 0.0857 | 0.0653 | 1.5548 | 0.3110 | 7.0933 |
| 26 | 1.0966 | 0.1486 | 0.1732 | 0.0810 | 0.0090 | 1.5084 | 0.3017 | 7.3950 |
| 27 | 1.1052 | 0.1437 | 0.1740 | 0.0940 | 0.0157 | 1.5325 | 0.3065 | 7.7015 |
| 28 | 1.0949 | 0.1473 | 0.1068 | 0.0772 | 0.0632 | 1.4893 | 0.2979 | 7.9994 |
| 29 | 1.1022 | 0.1479 | 0.1972 | 0.0778 | 0.0228 | 1.5479 | 0.3096 | 8.3089 |
| 30 | 1.1019 | 0.1389 | 0.1267 | 0.0778 | 0.0234 | 1.4687 | 0.2937 | 8.6027 |

Figure 3 Trend of Cumulative Abnormal Return (2000)

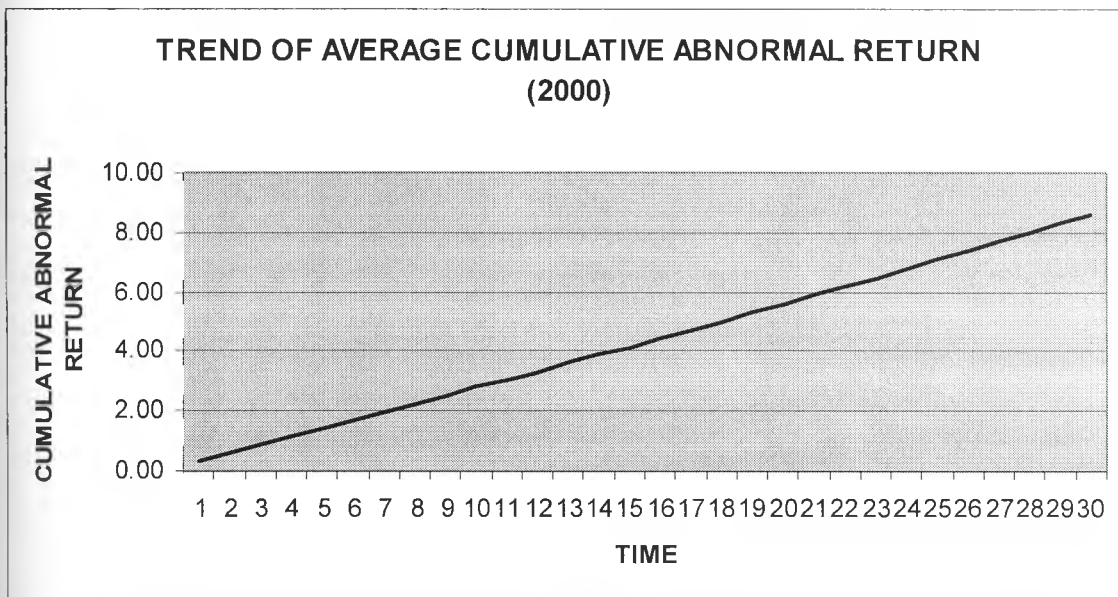


Table 3 shows that the daily abnormal returns for the 30 days period are all positive except for day 21. The CAR graph, figure 3 is upward sloping. This suggests that the impact of stock dividend announcement was incorporated into stock prices gradually.

Table 4: Daily Abnormal Return and Cumulative Abnormal Return (2001)

| Day | ICDC | KENOL | KCB | TOTAL | SUM | AAR | CAAR |
|-----|---------|--------|---------|---------|--------|--------|--------|
| 1 | 0.0124 | 0.1322 | 0.1944 | 0.0940 | 0.4330 | 0.1083 | 0.1083 |
| 2 | 0.0074 | 0.1155 | 0.0071 | 0.0374 | 0.1673 | 0.0418 | 0.1501 |
| 3 | 0.0464 | 0.0894 | 0.0631 | 0.0023 | 0.2012 | 0.0503 | 0.2004 |
| 4 | -0.0257 | 0.0894 | 0.0096 | 0.0369 | 0.1102 | 0.0275 | 0.2279 |
| 5 | -0.0349 | 0.1011 | 0.0157 | -0.0132 | 0.0688 | 0.0172 | 0.2451 |
| 6 | 0.0264 | 0.0826 | 0.0061 | 0.0188 | 0.1339 | 0.0335 | 0.2786 |
| 7 | -0.0120 | 0.0889 | 0.0507 | 0.0070 | 0.1347 | 0.0337 | 0.3123 |
| 8 | 0.0025 | 0.1064 | 0.0217 | 0.0215 | 0.1520 | 0.0380 | 0.3503 |
| 9 | 0.0098 | 0.0874 | 0.0145 | -0.0129 | 0.0988 | 0.0247 | 0.3750 |
| 10 | 0.0097 | 0.1162 | 0.0152 | 0.0176 | 0.1587 | 0.0397 | 0.4146 |
| 11 | -0.0349 | 0.0929 | 0.0014 | 0.0102 | 0.0697 | 0.0174 | 0.4320 |
| 12 | 0.0376 | 0.0823 | -0.0148 | 0.0018 | 0.1069 | 0.0267 | 0.4588 |
| 13 | -0.0045 | 0.0847 | -0.0190 | -0.0016 | 0.0596 | 0.0149 | 0.4737 |
| 14 | -0.0077 | 0.0847 | -0.0152 | 0.0041 | 0.0659 | 0.0165 | 0.4901 |
| 15 | 0.0168 | 0.0513 | -0.0320 | 0.0270 | 0.0631 | 0.0158 | 0.5059 |

| Day | ICDC | KENOL | KCB | TOTAL | SUM | AAR | CAAR |
|-----|---------|---------|---------|---------|---------|---------|--------|
| 16 | -0.0025 | 0.1219 | -0.0048 | 0.0097 | 0.1243 | 0.0311 | 0.5370 |
| 17 | -0.0126 | 0.0569 | -0.0160 | 0.0060 | 0.0342 | 0.0086 | 0.5456 |
| 18 | 0.0169 | 0.1155 | 0.0025 | 0.0078 | 0.1427 | 0.0357 | 0.5812 |
| 19 | -0.0070 | 0.0847 | 0.0109 | 0.0152 | 0.1036 | 0.0259 | 0.6071 |
| 20 | 0.0096 | 0.0958 | 0.0160 | 0.0096 | 0.1310 | 0.0327 | 0.6399 |
| 21 | 0.0001 | -0.2294 | 0.0077 | -0.0468 | -0.2684 | -0.0671 | 0.5728 |
| 22 | -0.0094 | 0.1279 | 0.0205 | -0.0110 | 0.1281 | 0.0320 | 0.6048 |
| 23 | 0.0334 | 0.1507 | 0.0031 | 0.0041 | 0.1913 | 0.0478 | 0.6526 |
| 24 | 0.0139 | 0.0385 | 0.0162 | 0.0274 | 0.0959 | 0.0240 | 0.6766 |
| 25 | 0.0001 | 0.1747 | 0.0311 | -0.2743 | -0.0685 | -0.0171 | 0.6595 |
| 26 | 0.0110 | 0.1348 | -0.0174 | -0.0274 | 0.1010 | 0.0252 | 0.6847 |
| 27 | -0.0467 | 0.1172 | 0.0204 | -0.0203 | 0.0705 | 0.0176 | 0.7023 |
| 28 | 0.0755 | 0.1328 | 0.0009 | 0.0374 | 0.2467 | 0.0617 | 0.7640 |
| 29 | 0.0483 | 0.1539 | -0.0021 | -0.0281 | 0.1719 | 0.0430 | 0.8070 |
| 30 | -0.0029 | 0.0965 | 0.0143 | 0.0041 | 0.1120 | 0.0280 | 0.8350 |

Figure 4 Trend of Cumulative Abnormal Return (2001)

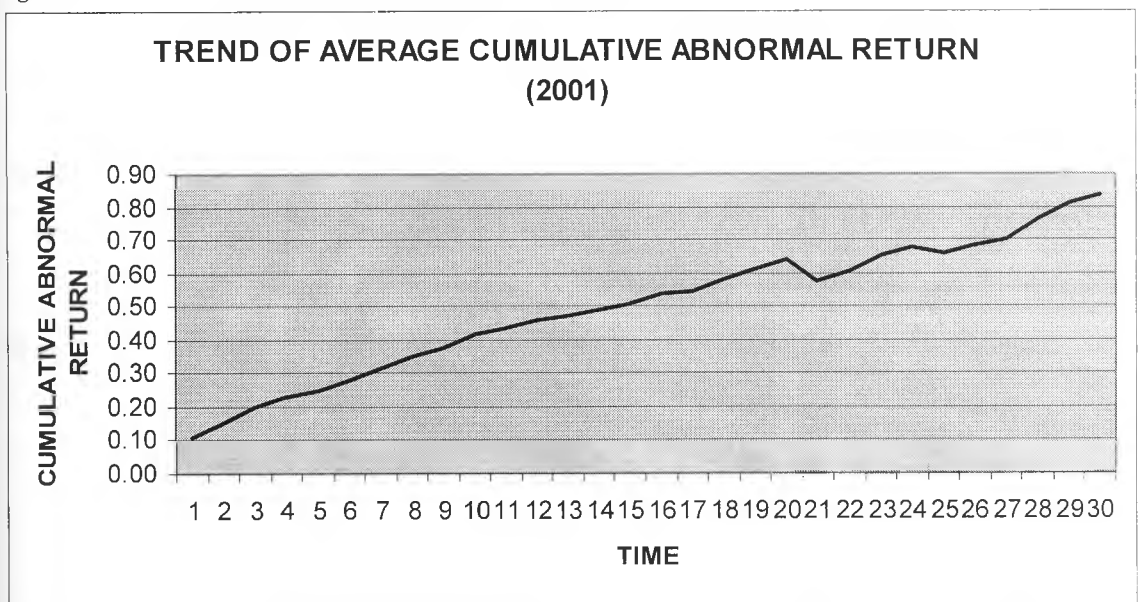


Table 4 shows that the daily abnormal returns for the 30 days following stock dividend announcement were positive except for day 21 and 25. The CAR graph for 2001, fig. 4 is upward sloping though it becomes irregular from day 21. Thus, there is continuation in positive returns subsequent to the stock dividend announcement date though there seems to be some noisy factors from day 21.

Table 5: Daily abnormal Returns and Cumulative Abnormal Return (2002)

| Day | NMG | AAR | CAAR |
|-----|-----|--------|--------|
| 1 | | 0.2983 | 0.2983 |
| 2 | | 0.0519 | 0.3503 |
| 3 | | 0.0553 | 0.4056 |
| 4 | | 0.0604 | 0.4660 |
| 5 | | 0.0360 | 0.5020 |

| Day | NMG | AAR | CAAR |
|-----|---------|---------|--------|
| 6 | 0.0168 | 0.0168 | 0.5187 |
| 7 | -0.0007 | -0.0007 | 0.5181 |
| 8 | 0.0506 | 0.0506 | 0.5687 |
| 9 | 0.0450 | 0.0450 | 0.6137 |
| 10 | 0.0428 | 0.0428 | 0.6565 |
| 11 | 0.0175 | 0.0175 | 0.6740 |
| 12 | 0.0385 | 0.0385 | 0.7124 |
| 13 | 0.0723 | 0.0723 | 0.7847 |
| 14 | 0.0407 | 0.0407 | 0.8254 |
| 15 | 0.0313 | 0.0313 | 0.8567 |
| 16 | 0.0558 | 0.0558 | 0.9125 |
| 17 | 0.0311 | 0.0311 | 0.9436 |
| 18 | 0.0433 | 0.0433 | 0.9869 |
| 19 | 0.0432 | 0.0432 | 1.0300 |
| 20 | 0.0417 | 0.0417 | 1.0717 |
| 21 | 0.0383 | 0.0383 | 1.1100 |
| 22 | 0.0409 | 0.0409 | 1.1509 |
| 23 | 0.0428 | 0.0428 | 1.1937 |
| 24 | 0.0387 | 0.0387 | 1.2324 |
| 25 | 0.0387 | 0.0387 | 1.2712 |
| 26 | 0.0308 | 0.0308 | 1.3020 |
| 27 | 0.0192 | 0.0192 | 1.3212 |
| 28 | 0.0600 | 0.0600 | 1.3812 |
| 29 | 0.0390 | 0.0390 | 1.4202 |
| 30 | 0.0295 | 0.0295 | 1.4497 |

Figure 5 Trend of Cumulative Abnormal Return (2002)

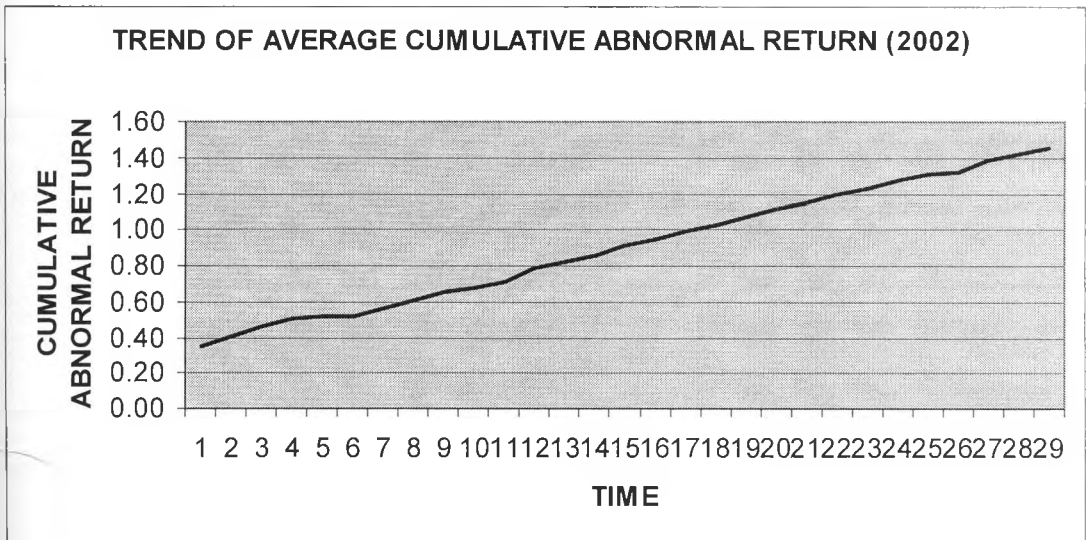


Table 5 shows that the abnormal returns for 30 days period following the announcements in 2002 are positive except for day 7 returns. The CAR graph for 2002 fig.5 is upward sloping over the period of study. This shows evidence of positive returns continuation after the announcement date.

Table 6: Daily Abnormal Returns and Cumulative Abnormal Return (2003)

| Day | BBK | DTK | TOTAL | AAR | CAAR |
|-----|---------|--------|---------|---------|--------|
| 1 | 0.0599 | 0.0442 | 0.1042 | 0.0694 | 0.0694 |
| 2 | 0.0984 | 0.0442 | 0.1426 | 0.0951 | 0.1645 |
| 3 | 0.0725 | 0.0442 | 0.1167 | 0.0778 | 0.2423 |
| 4 | 0.0674 | 0.0626 | 0.1300 | 0.0866 | 0.3289 |
| 5 | 0.0590 | 0.0252 | 0.0843 | 0.0562 | 0.3851 |
| 6 | 0.0763 | 0.1132 | 0.1895 | 0.1263 | 0.5114 |
| 7 | 0.0522 | 0.0215 | 0.0737 | 0.0491 | 0.5606 |
| 8 | 0.0508 | 0.0945 | 0.1453 | 0.0969 | 0.6574 |
| 9 | 0.0640 | 0.0394 | 0.1034 | 0.0689 | 0.7264 |
| 10 | 0.0567 | 0.0394 | 0.0960 | 0.0640 | 0.7904 |
| 11 | 0.0782 | 0.0394 | 0.1176 | 0.0784 | 0.8688 |
| 12 | 0.0639 | 0.0394 | 0.1033 | 0.0688 | 0.9376 |
| 13 | 0.0916 | 0.0394 | 0.1310 | 0.0873 | 1.0249 |
| 14 | 0.0224 | 0.0394 | 0.0617 | 0.0411 | 1.0661 |
| 15 | 0.0496 | 0.0544 | 0.1040 | 0.0693 | 1.1354 |
| 16 | 0.0650 | 0.0645 | 0.1295 | 0.0863 | 1.2217 |
| 17 | 0.0519 | 0.0219 | 0.0738 | 0.0492 | 1.2709 |
| 18 | 0.0557 | 0.0535 | 0.1092 | 0.0728 | 1.3437 |
| 19 | 0.0558 | 0.0586 | 0.1144 | 0.0762 | 1.4200 |
| 20 | 0.0535 | 0.0954 | 0.1489 | 0.0993 | 1.5192 |
| 21 | -0.0655 | 0.0508 | -0.0147 | -0.0098 | 1.5095 |
| 22 | 0.1001 | 0.0444 | 0.1445 | 0.0963 | 1.6058 |
| 23 | 0.0469 | 0.0330 | 0.0800 | 0.0533 | 1.6591 |
| 24 | 0.0581 | 0.0330 | 0.0911 | 0.0607 | 1.7198 |
| 25 | 0.0651 | 0.0546 | 0.1197 | 0.0798 | 1.7996 |
| 26 | 0.0540 | 0.0441 | 0.0981 | 0.0654 | 1.8650 |
| 27 | 0.0576 | 0.0513 | 0.1089 | 0.0726 | 1.9376 |
| 28 | 0.0499 | 0.1079 | 0.1578 | 0.1052 | 2.0428 |
| 29 | 0.0727 | 0.0728 | 0.1456 | 0.0971 | 2.1398 |
| 30 | 0.0677 | 0.0341 | 0.1018 | 0.0678 | 2.2077 |

Figure 6 Trend of Cumulative Abnormal Return (2003)

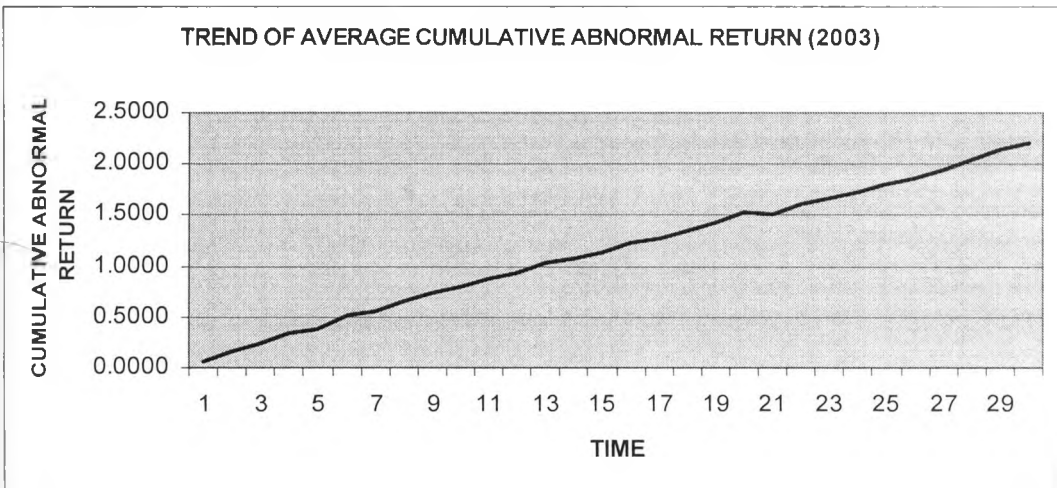


Table 6 shows that except for day 21, all the abnormal returns for the 30 days period following the stock dividend announcements in 2004 are positive. Fig.6 show the CAR graph is upward sloping and hence there is evidence in support of continuation of positive returns subsequent to the announcement date.

Table 7: Daily Abnormal Returns and Cumulative Abnormal Return (2004)

| Day | CMC | CFC | SCBK | CBERG | EABL | TOTAL | AAR | CAAR |
|-----|---------|---------|---------|---------|---------|---------|---------|--------|
| 1 | 0.1025 | 0.1118 | 0.0950 | 0.2942 | 0.0047 | 0.6081 | 0.1216 | 0.1216 |
| 2 | 0.0587 | -0.0253 | -0.0604 | -0.0244 | 0.0265 | -0.0249 | -0.0050 | 0.1166 |
| 3 | -0.0334 | 0.0107 | 0.0020 | 0.0096 | 0.0248 | 0.0137 | 0.0027 | 0.1194 |
| 4 | -0.0434 | -0.0215 | -0.0244 | -0.0018 | 0.0308 | -0.0604 | -0.0121 | 0.1073 |
| 5 | 0.0129 | 0.0050 | -0.0061 | -0.0034 | 0.0321 | 0.0404 | 0.0081 | 0.1154 |
| 6 | 0.0129 | 0.0049 | -0.0044 | 0.0373 | 0.0338 | 0.0846 | 0.0169 | 0.1323 |
| 7 | 0.0181 | -0.0051 | -0.0024 | -0.0081 | 0.0310 | 0.0335 | 0.0067 | 0.1390 |
| 8 | 0.0296 | 0.0068 | 0.0163 | 0.0031 | 0.0294 | 0.0852 | 0.0170 | 0.1560 |
| 9 | 0.1087 | 0.0014 | 0.0226 | 0.0243 | 0.0305 | 0.1875 | 0.0375 | 0.1935 |
| 10 | 0.0130 | -0.0026 | 0.0293 | 0.0595 | 0.0276 | 0.1268 | 0.0254 | 0.2189 |
| 11 | 0.0146 | -0.0053 | 0.0360 | 0.0596 | 0.0316 | 0.1366 | 0.0273 | 0.2462 |
| 12 | 0.0774 | -0.0045 | 0.0148 | 0.0466 | 0.0295 | 0.1638 | 0.0328 | 0.2790 |
| 13 | 0.0704 | -0.0068 | -0.0112 | 0.0446 | 0.0297 | 0.1267 | 0.0253 | 0.3043 |
| 14 | 0.0438 | -0.0170 | 0.0089 | 0.0465 | 0.0307 | 0.1128 | 0.0226 | 0.3269 |
| 15 | -0.0009 | 0.0162 | 0.0184 | 0.0941 | 0.0338 | 0.1617 | 0.0323 | 0.3592 |
| 16 | -0.0100 | -0.0083 | 0.0124 | 0.0492 | 0.0262 | 0.0695 | 0.0139 | 0.3731 |
| 17 | -0.0106 | -0.0324 | 0.0036 | 0.0432 | 0.0324 | 0.0362 | 0.0072 | 0.3803 |
| 18 | -0.3961 | -0.0288 | -0.0023 | 0.0267 | 0.0304 | -0.3702 | -0.0740 | 0.3063 |
| 19 | -0.0390 | 0.0084 | 0.0280 | 0.0285 | 0.0309 | 0.0568 | 0.0114 | 0.3177 |
| 20 | -0.0318 | 0.0117 | 0.0101 | 0.0432 | 0.0311 | 0.0644 | 0.0129 | 0.3306 |
| 21 | 0.0183 | -0.0163 | 0.0209 | 0.0515 | 0.0203 | 0.0946 | 0.0189 | 0.3495 |
| 22 | -0.0060 | -0.0306 | 0.0209 | 0.0399 | 0.0428 | 0.0670 | 0.0134 | 0.3629 |
| 23 | 0.0184 | -0.0119 | 0.0138 | 0.0355 | 0.0381 | 0.0939 | 0.0188 | 0.3817 |
| 24 | 0.0209 | 0.0420 | 0.0045 | 0.0224 | 0.0552 | 0.1450 | 0.0290 | 0.4107 |
| 25 | 0.0455 | 0.0009 | -0.1070 | 0.0691 | 0.0316 | 0.0403 | 0.0081 | 0.4187 |
| 26 | 0.0300 | -0.0077 | -0.0374 | 0.0313 | 0.0587 | 0.0749 | 0.0150 | 0.4337 |
| 27 | 0.0202 | -0.0054 | -0.0286 | 0.0456 | 0.0502 | 0.0820 | 0.0164 | 0.4501 |
| 28 | 0.0233 | 0.0078 | -0.0858 | 0.0456 | 0.0192 | 0.0101 | 0.0020 | 0.4521 |
| 29 | 0.0666 | -0.0076 | -0.0112 | 0.0427 | -0.1607 | -0.0702 | -0.0140 | 0.4381 |
| 30 | 0.0141 | 0.0038 | 0.1344 | 0.0486 | 0.0583 | 0.2592 | 0.0518 | 0.4899 |

Figure 7: Trend of Cumulative Abnormal Return (2004)

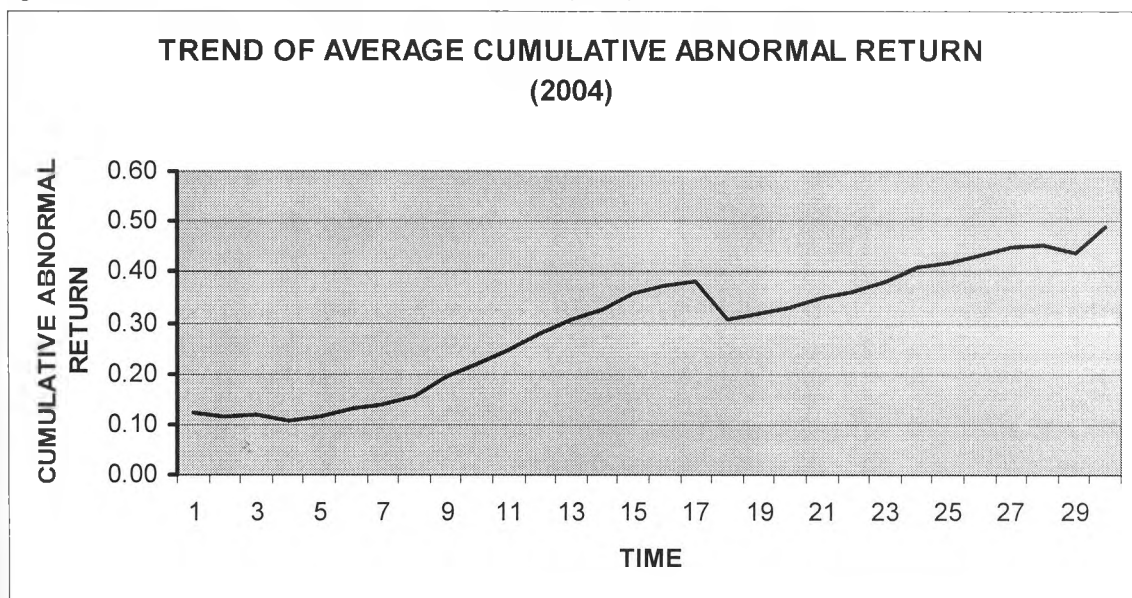


Table 7 shows that majority of daily abnormal returns for the 30 days period after stock dividend announcement are positive. However, the ARs for 4 days viz. days 2,4,18 and 29 have negative ARs. Fig.7 shows the CAR graph for 2004, which is generally upward sloping but irregular. Continuation of positive returns after stock dividends announcements is generally supported though some other factors seem to be affecting the returns.

Table 8: Daily Abnormal Returns and Cumulative Abnormal Return (2005)

| Day | DTK | NMG | TOTAL | AAR | CAAR |
|-----|---------|---------|---------|---------|--------|
| 1 | 0.0759 | 0.0297 | 0.1056 | 0.0528 | 0.0528 |
| 2 | 0.0457 | 0.0356 | 0.0812 | 0.0406 | 0.0934 |
| 3 | 0.0239 | 0.0528 | 0.0767 | 0.0383 | 0.1317 |
| 4 | 0.0584 | 0.1106 | 0.1690 | 0.0845 | 0.2162 |
| 5 | 0.0114 | 0.1388 | 0.1502 | 0.0751 | 0.2913 |
| 6 | 0.0143 | 0.0241 | 0.0384 | 0.0192 | 0.3105 |
| 7 | 0.0124 | -0.0189 | -0.0065 | -0.0032 | 0.3073 |
| 8 | 0.0160 | 0.0164 | 0.0324 | 0.0162 | 0.3235 |
| 9 | -0.0261 | 0.0115 | -0.0145 | -0.0073 | 0.3162 |
| 10 | 0.0344 | 0.0243 | 0.0587 | 0.0293 | 0.3456 |
| 11 | -0.0061 | 0.0282 | 0.0221 | 0.0110 | 0.3566 |
| 12 | 0.0237 | 0.0305 | 0.0542 | 0.0271 | 0.3837 |
| 13 | 0.0188 | 0.0304 | 0.0492 | 0.0246 | 0.4083 |
| 14 | 0.0284 | 0.0326 | 0.0610 | 0.0305 | 0.4388 |
| 15 | -0.0064 | 0.0300 | 0.0237 | 0.0118 | 0.4507 |
| 16 | -0.0095 | 0.0407 | 0.0312 | 0.0156 | 0.4663 |
| 17 | 0.0507 | 0.0355 | 0.0862 | 0.0431 | 0.5094 |
| 18 | 0.0233 | 0.0230 | 0.0464 | 0.0232 | 0.5325 |
| 19 | 0.0433 | 0.0294 | 0.0727 | 0.0363 | 0.5689 |
| 20 | 0.0218 | 0.0267 | 0.0486 | 0.0243 | 0.5932 |
| 21 | 0.0176 | 0.0227 | 0.0402 | 0.0201 | 0.6133 |

| Day | DTK | NMG | TOTAL | AAR | CAAR |
|-----|--------|--------|--------|--------|--------|
| 22 | 0.0218 | 0.0236 | 0.0454 | 0.0227 | 0.6360 |
| 23 | 0.0270 | 0.0242 | 0.0512 | 0.0256 | 0.6616 |
| 24 | 0.0414 | 0.0230 | 0.0644 | 0.0322 | 0.6938 |
| 25 | 0.0244 | 0.0266 | 0.0509 | 0.0255 | 0.7193 |
| 26 | 0.0062 | 0.0259 | 0.0320 | 0.0160 | 0.7353 |
| 27 | 0.0119 | 0.0240 | 0.0359 | 0.0180 | 0.7532 |
| 28 | 0.0084 | 0.0246 | 0.0330 | 0.0165 | 0.7697 |
| 29 | 0.0200 | 0.0281 | 0.0481 | 0.0240 | 0.7938 |
| 30 | 0.0172 | 0.0217 | 0.0389 | 0.0194 | 0.8132 |

Figure 8: Trend of Cumulative Abnormal Return (2005)

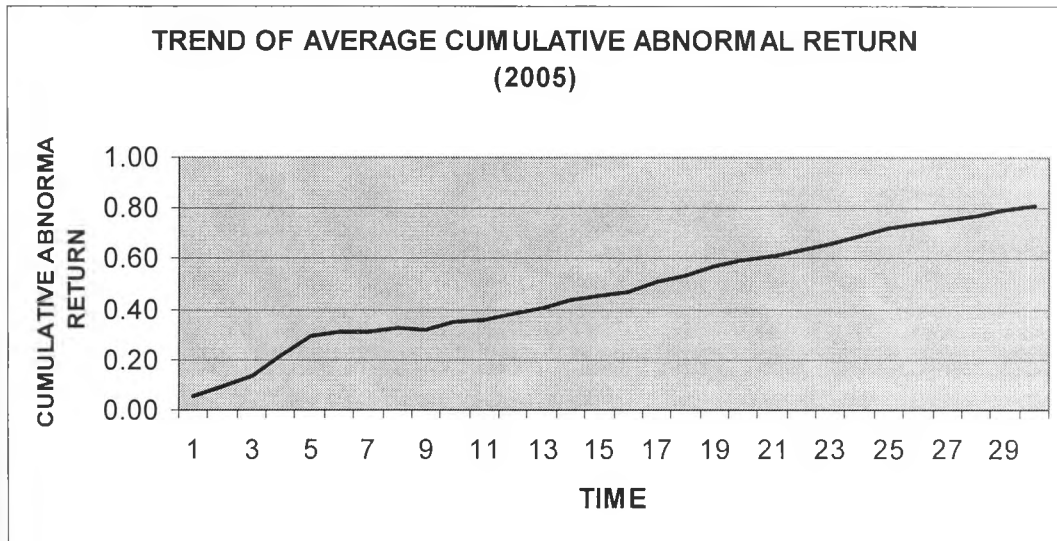


Table 8 shows that the daily abnormal returns for the period following stock dividends announcements in 2005 are positive except for day 7 and 9. The CAR graph is generally upward sloping from day 1-30. Thus, there is evidence of continuation of positive returns after the stock dividend announcements.

4.2.3 INDIVIDUAL ANNOUNCEMENTS RESULT

Table 9-29 and the corresponding graphs figures 9-29 show the results by company and by year. The interpretation and explanation for the results of each company analysis is given below the corresponding graph. Table 30 reports on the statistical significance of average cumulative abnormal returns (ACAR) for each company while table 31 shows the test of statistical significance of the difference between the average return of the event window and the expected returns. All the daily abnormal returns are shown to be

significantly different from zero; however, a paired test of the difference between the comparison period mean and the event window mean show that out of the 21 events tested, the difference of the means for 6 announcements was not significant at 5% level of significance. These unique events were all observed to be for year 2001 and 2004 as follows; ICDC(2001), KCB(2001), TOTAL(2001),CFC(2004), Standard chartered bank(2004), and CMC(2004). We now make a closer look at these two years to see whether an explanation can be obtained .In year 2001, four companies made stock dividends i.e. ICDC, KENOL, TOTAL and KCB. As seen earlier almost all the average daily abnormal returns for 2001 were positive and therefore the CAR graph was upward sloping which gives some evidence of underreaction anomaly. A closer look at the abnormal returns for the four companies shows that except for KENOL which had generally positive abnormal returns, the rest of the companies portrayed uneven pattern of ARs which fluctuated between positive and negative. It therefore seems like there could be some pervasive external factors affecting the returns of the companies in the year 2001. It also important to point out that all the stock dividend announcements for 2001 took place within a period of 3 months i.e. between January and March.. It is therefore possible that within this period, some other factors were affecting stock returns at NSE, which were not captured in the study. The rest of the companies that had unique results were all in 2004. In the year 2004, five companies made stock dividend announcements. These are, CMC, CFC, SCBK, CROWN BERGER and EABL. Out of these only two companies had results that were comparable to the general observation of long return horizon. Out of the three companies that had unique returns behaviour i.e. SCBK, CFC and CMC, two companies had announced a stock bonus previously within

the period of analysis. These are SCBK and CFC. The lack of statistical significance between the expected and the event window returns for the two companies may partly be explained by the fact that the bonus issue may have been expected and thus was no news to the market. The behaviour of CMC however is puzzling, as it had not declared any other bonus in the period under study. One can only speculate that the company may have made other announcements around the time of dividend that sent negative signals to the market thereby eroding the effect of stock dividends announcement. Another possible explanation is that like 2001, the returns for 2004 may have been subject to the effect of other market wide factors not captured in the study. Like many other stock markets, NSE has been observed in the past to be affected by 'market moods' which can be responsible for this behavior. It is however important to point out that the model used in the study was deemed appropriate to deal with this as it made comparison of the results over a relatively short time period. However, in stock markets even one day can make a difference.

Table 9: Summary Statistics for NIC Bank (1999)

| Price | AdjPrice | Actual | ExpReturn | AbReturn | CAR | ACAR |
|--------|----------|----------|-----------|----------|-------|----------|
| 33.000 | 26.40 | | | | | |
| 32.969 | 26.38 | 0.036932 | 0.005 | 0.032 | | |
| 38.083 | 30.47 | 0.193049 | 0.005 | 0.188 | 0.188 | 0.187712 |
| 37.067 | 29.65 | 0.006127 | 0.005 | 0.001 | 0.189 | 0.094251 |
| 37.676 | 30.14 | 0.050175 | 0.005 | 0.045 | 0.233 | 0.07778 |
| 37.250 | 29.80 | 0.021858 | 0.005 | 0.017 | 0.250 | 0.062466 |
| 36.917 | 29.53 | 0.024609 | 0.005 | 0.019 | 0.269 | 0.053827 |
| 34.125 | 27.30 | -0.04176 | 0.005 | -0.047 | 0.222 | 0.037006 |
| 33.225 | 26.58 | 0.010256 | 0.005 | 0.005 | 0.227 | 0.032422 |
| 34.292 | 27.43 | 0.069727 | 0.005 | 0.064 | 0.291 | 0.036418 |
| 33.906 | 27.13 | 0.025213 | 0.005 | 0.020 | 0.311 | 0.03458 |
| 35.806 | 28.64 | 0.092883 | 0.005 | 0.088 | 0.399 | 0.039877 |
| 36.000 | 28.80 | 0.040341 | 0.005 | 0.035 | 0.434 | 0.039434 |
| 35.850 | 28.68 | 0.030556 | 0.005 | 0.025 | 0.459 | 0.038249 |
| 36.604 | 29.28 | 0.055904 | 0.005 | 0.051 | 0.510 | 0.039197 |
| 36.442 | 29.15 | 0.029727 | 0.005 | 0.024 | 0.534 | 0.038139 |
| 35.813 | 28.65 | 0.017018 | 0.005 | 0.012 | 0.546 | 0.036376 |
| 34.500 | 27.60 | -0.00175 | 0.005 | -0.007 | 0.539 | 0.033659 |
| 34.750 | 27.80 | 0.043478 | 0.005 | 0.038 | 0.577 | 0.033923 |
| 35.150 | 28.12 | 0.047482 | 0.005 | 0.042 | 0.619 | 0.03438 |
| 34.375 | 27.50 | 0.013514 | 0.005 | 0.008 | 0.627 | 0.033001 |
| 34.722 | 27.78 | 0.046465 | 0.005 | 0.041 | 0.668 | 0.033407 |
| 34.906 | 27.93 | 0.0413 | 0.005 | 0.036 | 0.704 | 0.033529 |
| 35.767 | 28.61 | 0.06046 | 0.005 | 0.055 | 0.759 | 0.03451 |
| 36.950 | 29.56 | 0.068034 | 0.005 | 0.063 | 0.822 | 0.035736 |
| 36.650 | 29.32 | 0.02571 | 0.005 | 0.020 | 0.842 | 0.035096 |
| 36.200 | 28.96 | 0.021828 | 0.005 | 0.016 | 0.859 | 0.034352 |
| 37.639 | 30.11 | 0.074279 | 0.005 | 0.069 | 0.928 | 0.035682 |
| 37.417 | 29.93 | 0.027306 | 0.005 | 0.022 | 0.950 | 0.035174 |
| 36.700 | 29.36 | 0.014254 | 0.005 | 0.009 | 0.959 | 0.034236 |
| 36.659 | 29.33 | 0.032945 | 0.005 | 0.028 | 0.986 | 0.034008 |
| 38.417 | 30.73 | 0.082042 | 0.005 | 0.077 | 1.063 | 0.035431 |

Figure 9: Trend of cumulative Abnormal Returns for NIC Bank (1999)

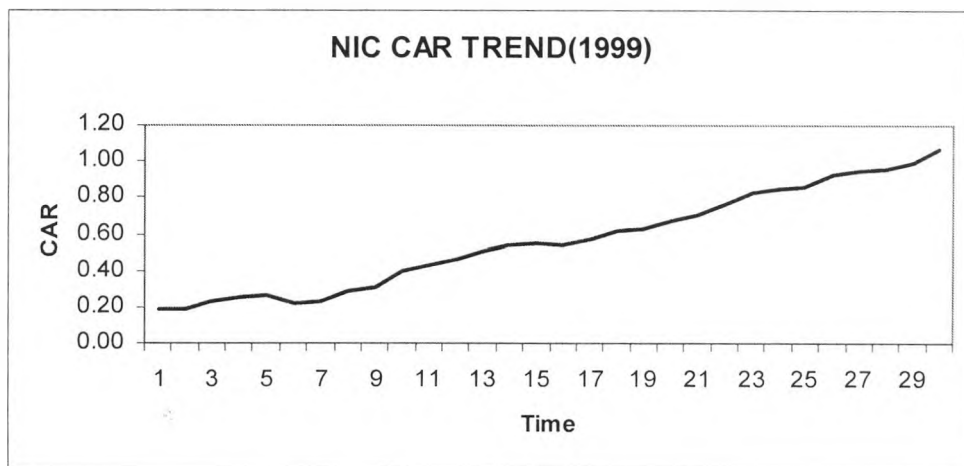


Table 9 shows that the ARs for NIC are positive for the 30 days after the announcements except for days 6 and 16. Fig.9 shows that the CAR graph is generally upward sloping. This shows evidence of continuation in positive returns subsequent to stock dividend announcement.

Table 10: Summary Statistics for PanAfric Insurance (1999)

| Prices | AdjPrice | Actual | ExpReturn | ARs | CAR | ACAR |
|--------|----------|---------|-----------|--------|---------|--------|
| 36.00 | 24.00 | | | | | |
| 55.00 | 36.67 | 0.5590 | -1.112519 | 1.6715 | | |
| 55.00 | 36.67 | 0.0205 | -1.112519 | 1.1330 | 1.1330 | 1.1330 |
| 53.00 | 35.33 | -0.0159 | -1.112519 | 1.0966 | 2.2296 | 1.1148 |
| 53.00 | 35.33 | 0.0212 | -1.112519 | 1.1337 | 3.3633 | 1.1211 |
| 52.00 | 34.67 | 0.0024 | -1.112519 | 1.1149 | 4.4782 | 1.1196 |
| 50.00 | 33.33 | -0.0168 | -1.112519 | 1.0957 | 5.5739 | 1.1148 |
| 47.58 | 31.72 | -0.0258 | -1.112519 | 1.0867 | 6.6606 | 1.1101 |
| 30.00 | 20.00 | -0.3459 | -1.112519 | 0.7666 | 7.4272 | 1.0610 |
| 28.75 | 19.17 | -0.0042 | -1.112519 | 1.1084 | 8.5356 | 1.0669 |
| 28.25 | 18.83 | 0.0217 | -1.112519 | 1.1343 | 9.6698 | 1.0744 |
| 30.00 | 20.00 | 0.1018 | -1.112519 | 1.2143 | 10.8841 | 1.0884 |
| 28.25 | 18.83 | -0.0208 | -1.112519 | 1.0917 | 11.9758 | 1.0887 |
| 27.00 | 18.00 | -0.0044 | -1.112519 | 1.1081 | 13.0839 | 1.0903 |
| 27.00 | 18.00 | 0.0417 | -1.112519 | 1.1542 | 14.2381 | 1.0952 |
| 26.50 | 17.67 | 0.0231 | -1.112519 | 1.1357 | 15.3737 | 1.0981 |
| 27.00 | 18.00 | 0.0613 | -1.112519 | 1.1738 | 16.5476 | 1.1032 |
| 27.00 | 18.00 | 0.0417 | -1.112519 | 1.1542 | 17.7018 | 1.1064 |
| 27.00 | 18.00 | 0.0417 | -1.112519 | 1.1542 | 18.8560 | 1.1092 |
| 25.00 | 16.67 | -0.0324 | -1.112519 | 1.0801 | 19.9361 | 1.1076 |
| 25.00 | 16.67 | 0.0450 | -1.112519 | 1.1575 | 21.0936 | 1.1102 |
| 26.50 | 17.67 | 0.1050 | -1.112519 | 1.2175 | 22.3111 | 1.1156 |
| 26.75 | 17.83 | 0.0519 | -1.112519 | 1.1644 | 23.4755 | 1.1179 |
| 27.00 | 18.00 | 0.0514 | -1.112519 | 1.1639 | 24.6394 | 1.1200 |
| 27.00 | 18.00 | 0.0417 | -1.112519 | 1.1542 | 25.7936 | 1.1215 |
| 26.00 | 17.33 | 0.0046 | -1.112519 | 1.1171 | 26.9108 | 1.1213 |
| 26.50 | 17.67 | 0.0625 | -1.112519 | 1.1750 | 28.0858 | 1.1234 |

| | | | | | | |
|-------|-------|---------|-----------|--------|---------|--------|
| 24.00 | 16.00 | -0.0519 | -1.112519 | 1.0606 | 29.1464 | 1.1210 |
| 25.38 | 16.92 | 0.1042 | -1.112519 | 1.2167 | 30.3631 | 1.1246 |
| 25.50 | 17.00 | 0.0493 | -1.112519 | 1.1618 | 31.5249 | 1.1259 |
| 21.00 | 14.00 | -0.1324 | -1.112519 | 0.9802 | 32.5050 | 1.1209 |
| 21.00 | 14.00 | 0.0536 | -1.112519 | 1.1661 | 33.6711 | 1.1611 |

Figure 10: Trend of Cumulative Abnormal Returns for PanAfric Insurance (1999)

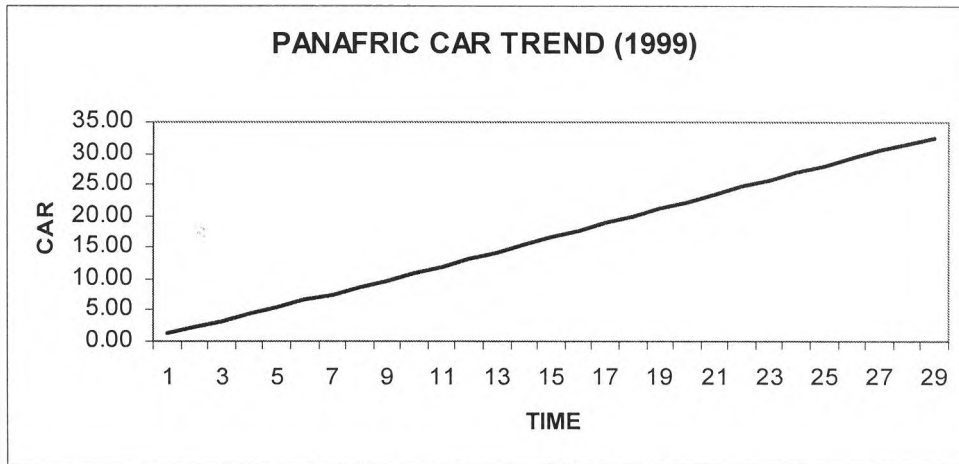


Table 10 shows that all the abnormal returns for PanAfric(1999) are positive for the 30 days period following the announcements. The CAR graph is upward sloping over the period. This gives evidence consistent with the effect of stock dividend announcement continued incorporation in stock prices in the days following the event.

Table 11: Summary Statistics for Barclays Bank of Kenya (2000)

| Price | Div | AdjPrice | Actual | Exp Return | ARs | CAR | ACAR |
|--------|-----|----------|------------|------------|----------|----------|----------|
| 95.68 | | 79.73485 | | | | | |
| 95.66 | 7.5 | 79.71354 | 0.09379454 | -1.00041 | 1.094206 | | |
| 105.85 | 7.5 | 88.20833 | 0.20065338 | -1.00041 | 1.201065 | 1.201065 | 1.201065 |
| 107.67 | 7.5 | 89.72222 | 0.10218863 | -1.00041 | 1.1026 | 2.303665 | 1.151833 |
| 108.58 | 7.5 | 90.48611 | 0.09210526 | -1.00041 | 1.092517 | 3.396182 | 1.132061 |
| 108.92 | 7.5 | 90.76389 | 0.08595549 | -1.00041 | 1.086367 | 4.482549 | 1.120637 |
| 107.36 | 7.5 | 89.4697 | 0.0683731 | -1.00041 | 1.068785 | 5.551334 | 1.110267 |
| 111.14 | 7.5 | 92.61364 | 0.11896698 | -1.00041 | 1.119379 | 6.670713 | 1.111785 |
| 113.15 | 7.5 | 94.29012 | 0.09908354 | -1.00041 | 1.099495 | 7.770208 | 1.11003 |
| 114.33 | 7.5 | 95.27778 | 0.09001637 | -1.00041 | 1.090428 | 8.860636 | 1.107579 |
| 114.33 | 7.5 | 95.27778 | 0.0787172 | -1.00041 | 1.079129 | 9.939765 | 1.104418 |
| 114.53 | 7.5 | 95.44118 | 0.08043217 | -1.00041 | 1.080844 | 11.02061 | 1.102061 |
| 111.81 | 7.5 | 93.17708 | 0.05486004 | -1.00041 | 1.055272 | 12.07588 | 1.097807 |
| 110.25 | 7.5 | 91.875 | 0.06651761 | -1.00041 | 1.066929 | 13.14281 | 1.095234 |
| 111.07 | 7.5 | 92.55556 | 0.08904006 | -1.00041 | 1.089452 | 14.23226 | 1.094789 |
| 111.11 | 7.5 | 92.59259 | 0.08143257 | -1.00041 | 1.081844 | 15.31411 | 1.093865 |
| 112.07 | 7.5 | 93.38889 | 0.0896 | -1.00041 | 1.090012 | 16.40412 | 1.093608 |
| 113.35 | 7.5 | 94.46078 | 0.0917871 | -1.00041 | 1.092199 | 17.49632 | 1.09352 |
| 104.86 | 7.5 | 87.38095 | 0.00444807 | -1.00041 | 1.00486 | 18.50118 | 1.088304 |
| 93.11 | 7.5 | 77.59259 | -0.0261883 | -1.00041 | 0.974223 | 19.4754 | 1.081967 |
| 91.00 | 7.5 | 75.83333 | 0.07398568 | -1.00041 | 1.074397 | 20.5498 | 1.081568 |
| 90.33 | 7.5 | 75.27778 | 0.09157509 | -1.00041 | 1.091987 | 21.64178 | 1.082089 |
| 88.93 | 7.5 | 74.10417 | 0.08404059 | -1.00041 | 1.084452 | 22.72624 | 1.082202 |
| 87.97 | 7.5 | 73.30556 | 0.09043201 | -1.00041 | 1.090844 | 23.81708 | 1.082595 |
| 88.53 | 7.5 | 73.77604 | 0.10872963 | -1.00041 | 1.109141 | 24.92622 | 1.083749 |
| 89.88 | 7.5 | 74.90196 | 0.11692033 | -1.00041 | 1.117332 | 26.04355 | 1.085148 |
| 90.00 | 7.5 | 75 | 0.10143979 | -1.00041 | 1.101851 | 27.1454 | 1.085816 |
| 89.65 | 7.5 | 74.71154 | 0.09615385 | -1.00041 | 1.096565 | 28.24197 | 1.08623 |
| 90.05 | 7.5 | 75.03788 | 0.1047541 | -1.00041 | 1.105166 | 29.34713 | 1.086931 |
| 89.55 | 7.5 | 74.625 | 0.09444725 | -1.00041 | 1.094859 | 30.44199 | 1.087214 |
| 89.67 | 7.5 | 74.72222 | 0.10180532 | -1.00041 | 1.102217 | 31.54421 | 1.087731 |
| 89.77 | 7.5 | 74.80556 | 0.10148699 | -1.00041 | 1.101899 | 32.64611 | 1.088204 |

Figure 11: Trend of Cumulative Abnormal Returns for Barclays Bank of Kenya(2000)

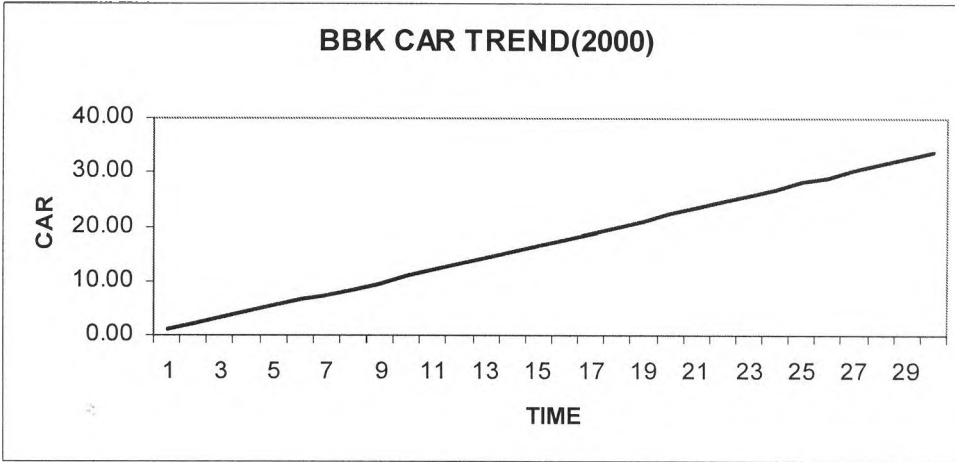


Table 11 shows that all the ARs for BBK(2000) are positive over the event window. The CAR graph is also upward sloping. This indicates a continuation of positive returns subsequent to the stock dividends announcement.

Table 12: Summary Statistics for Standard Chartered Bank (2000)

| Price | Div | AdjPrice | Actual | Exp Return | Abreturn | CAR | ACAR |
|-------|------|----------|----------|------------|----------|--------|----------|
| 65.33 | | 43.55556 | | | | | |
| 67.68 | 5.00 | 45.11905 | 0.150692 | -0.0008 | 0.1515 | | |
| 79.54 | 5.00 | 53.02381 | 0.286016 | -0.0008 | 0.2868 | 0.2868 | 0.286829 |
| 79.43 | 5.00 | 52.95238 | 0.09295 | -0.0008 | 0.0938 | 0.3806 | 0.190296 |
| 74.37 | 5.00 | 49.57778 | 0.030695 | -0.0008 | 0.0315 | 0.4121 | 0.137367 |
| 75.62 | 5.00 | 50.41111 | 0.11766 | -0.0008 | 0.1185 | 0.5306 | 0.132644 |
| 75.00 | 5.00 | 50 | 0.091029 | -0.0008 | 0.0918 | 0.6224 | 0.124484 |
| 75.19 | 5.00 | 50.12821 | 0.102564 | -0.0008 | 0.1034 | 0.7258 | 0.120966 |
| 75.73 | 5.00 | 50.48333 | 0.106829 | -0.0008 | 0.1076 | 0.8334 | 0.119063 |
| 75.72 | 5.00 | 50.47917 | 0.09896 | -0.0008 | 0.0998 | 0.9332 | 0.116651 |
| 76.45 | 5.00 | 50.9697 | 0.108768 | -0.0008 | 0.1096 | 1.0428 | 0.115866 |
| 76.45 | 5.00 | 50.9697 | 0.098098 | -0.0008 | 0.0989 | 1.1417 | 0.11417 |
| 76.80 | 5.00 | 51.2 | 0.102616 | -0.0008 | 0.1034 | 1.2451 | 0.113194 |
| 77.25 | 5.00 | 51.5 | 0.103516 | -0.0008 | 0.1043 | 1.3495 | 0.112455 |
| 76.63 | 5.00 | 51.08333 | 0.088997 | -0.0008 | 0.0898 | 1.4393 | 0.110713 |
| 77.89 | 5.00 | 51.92473 | 0.11435 | -0.0008 | 0.1152 | 1.5544 | 0.111031 |
| 46.00 | 5.00 | 30.66667 | -0.31311 | -0.0008 | -0.3123 | 1.2421 | 0.082809 |
| 46.41 | 5.00 | 30.9375 | 0.171875 | -0.0008 | 0.1727 | 1.4148 | 0.088427 |
| 46.18 | 5.00 | 30.78333 | 0.156633 | -0.0008 | 0.1574 | 1.5723 | 0.092487 |
| 47.35 | 5.00 | 31.56667 | 0.187872 | -0.0008 | 0.1887 | 1.7610 | 0.097831 |
| 48.75 | 5.00 | 32.5 | 0.187962 | -0.0008 | 0.1888 | 1.9497 | 0.102618 |
| 50.48 | 5.00 | 33.65556 | 0.189402 | -0.0008 | 0.1902 | 2.1400 | 0.106998 |
| 50.86 | 5.00 | 33.90476 | 0.155968 | -0.0008 | 0.1568 | 2.2967 | 0.109368 |
| 51.83 | 5.00 | 34.55556 | 0.166667 | -0.0008 | 0.1675 | 2.4642 | 0.11201 |
| 51.83 | 5.00 | 34.55556 | 0.144695 | -0.0008 | 0.1455 | 2.6097 | 0.113466 |
| 52.27 | 5.00 | 34.84444 | 0.153055 | -0.0008 | 0.1539 | 2.7636 | 0.11515 |
| 52.27 | 5.00 | 34.84848 | 0.143611 | -0.0008 | 0.1444 | 2.9080 | 0.116321 |
| 52.50 | 5.00 | 35 | 0.147826 | -0.0008 | 0.1486 | 3.0567 | 0.117564 |

| | | | | | | | |
|-------|------|----------|----------|---------|--------|--------|----------|
| 52.50 | 5.00 | 35 | 0.142857 | -0.0008 | 0.1437 | 3.2003 | 0.118531 |
| 52.69 | 5.00 | 35.12821 | 0.14652 | -0.0008 | 0.1473 | 3.3477 | 0.119559 |
| 52.94 | 5.00 | 35.29412 | 0.147059 | -0.0008 | 0.1479 | 3.4955 | 0.120536 |
| 52.75 | 5.00 | 35.16667 | 0.138056 | -0.0008 | 0.1389 | 3.6344 | 0.121147 |

Figure 12: Trend of Cumulative Abnormal Returns for Standard Chartered Bank(2000)

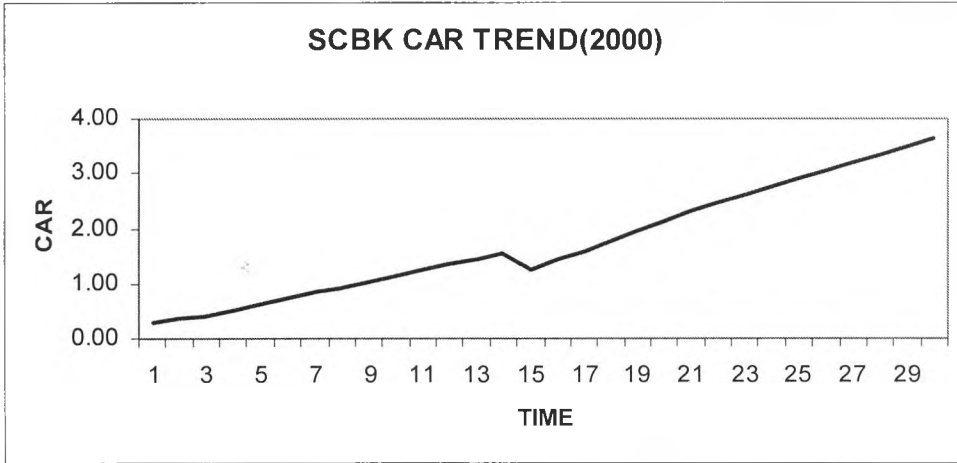


Table 12 shows that except for day 15 the abnormal returns for SCBK(2000) are all positive. Fig.12 shows the CAR graph for the period which is generally upward sloping. This indicates that there is continuation of positive returns after the event day.

Table 13: Summary Statistics for BAT(2000)

| Price | Div | Adjprice | Actual | Exp Return | Abreturn | CAR | |
|--------|------|----------|---------|------------|----------|--------|----------|
| 90.00 | | 67.50 | | | | | |
| 93.63 | 8.00 | 70.22 | 0.1588 | -0.0005 | 0.1593 | | |
| 100.00 | 8.00 | 75.00 | 0.1820 | -0.0005 | 0.1825 | 0.1825 | 0.18253 |
| 98.13 | 8.00 | 73.59 | 0.0879 | -0.0005 | 0.0884 | 0.2710 | 0.135478 |
| 98.50 | 8.00 | 73.88 | 0.1125 | -0.0005 | 0.1130 | 0.3840 | 0.127997 |
| 98.35 | 8.00 | 73.76 | 0.1068 | -0.0005 | 0.1073 | 0.4913 | 0.122818 |
| 97.20 | 8.00 | 72.90 | 0.0968 | -0.0005 | 0.0973 | 0.5885 | 0.117709 |
| 64.00 | 8.00 | 48.00 | -0.2318 | -0.0005 | -0.2313 | 0.3572 | 0.059538 |
| 63.25 | 8.00 | 47.44 | 0.1549 | -0.0005 | 0.1555 | 0.5127 | 0.073241 |
| 62.00 | 8.00 | 46.50 | 0.1489 | -0.0005 | 0.1494 | 0.6621 | 0.082759 |
| 61.20 | 8.00 | 45.90 | 0.1591 | -0.0005 | 0.1596 | 0.8217 | 0.091303 |
| 64.40 | 8.00 | 48.30 | 0.2266 | -0.0005 | 0.2271 | 1.0488 | 0.104881 |
| 63.00 | 8.00 | 47.25 | 0.1439 | -0.0005 | 0.1444 | 1.1932 | 0.108474 |
| 63.00 | 8.00 | 47.25 | 0.1693 | -0.0005 | 0.1698 | 1.3630 | 0.113586 |
| 63.50 | 8.00 | 47.63 | 0.1772 | -0.0005 | 0.1778 | 1.5408 | 0.118523 |
| 63.00 | 8.00 | 47.25 | 0.1601 | -0.0005 | 0.1606 | 1.7014 | 0.121529 |
| 64.00 | 8.00 | 48.00 | 0.1852 | -0.0005 | 0.1857 | 1.8871 | 0.125807 |
| 63.63 | 8.00 | 47.72 | 0.1608 | -0.0005 | 0.1613 | 2.0484 | 0.128026 |
| 63.25 | 8.00 | 47.44 | 0.1618 | -0.0005 | 0.1623 | 2.2107 | 0.13004 |
| 63.60 | 8.00 | 47.70 | 0.1742 | -0.0005 | 0.1747 | 2.3854 | 0.132521 |
| 63.50 | 8.00 | 47.63 | 0.1661 | -0.0005 | 0.1667 | 2.5520 | 0.134317 |
| 63.86 | 8.00 | 47.89 | 0.1736 | -0.0005 | 0.1741 | 2.7261 | 0.136307 |
| 63.89 | 8.00 | 47.92 | 0.1675 | -0.0005 | 0.1680 | 2.8942 | 0.137818 |
| 64.13 | 8.00 | 48.09 | 0.1707 | -0.0005 | 0.1712 | 3.0653 | 0.139334 |

| | | | | | | | |
|-------|------|-------|--------|---------|--------|--------|----------|
| 64.25 | 8.00 | 48.19 | 0.1683 | -0.0005 | 0.1688 | 3.2341 | 0.140615 |
| 64.10 | 8.00 | 48.08 | 0.1637 | -0.0005 | 0.1642 | 3.3983 | 0.141597 |
| 63.50 | 8.00 | 47.63 | 0.1570 | -0.0005 | 0.1576 | 3.5559 | 0.142236 |
| 63.80 | 8.00 | 47.85 | 0.1727 | -0.0005 | 0.1732 | 3.7291 | 0.143427 |
| 64.20 | 8.00 | 48.15 | 0.1735 | -0.0005 | 0.1740 | 3.9031 | 0.144558 |
| 60.36 | 8.00 | 45.27 | 0.1063 | -0.0005 | 0.1068 | 4.0099 | 0.14321 |
| 61.56 | 8.00 | 46.17 | 0.1967 | -0.0005 | 0.1972 | 4.2071 | 0.145072 |
| 58.67 | 8.00 | 44.00 | 0.1262 | -0.0005 | 0.1267 | 4.3338 | 0.144461 |

Figure 13: Trend of Cumulative Abnormal Returns for BAT (2000)

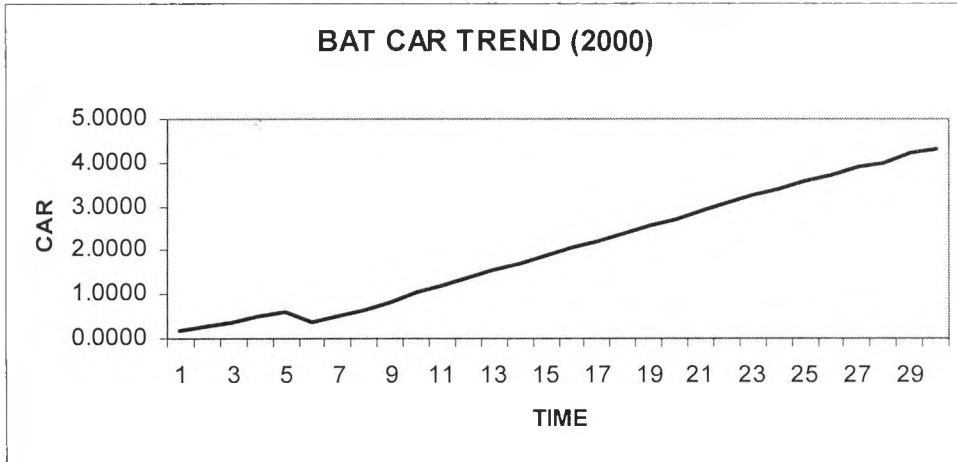


Table 13 shows that the abnormal returns for BAT(2000) are positive except for day 6. Fig.13 shows that the CAR graph is upward sloping. This indicates a continuation of positive returns after the event day.

Table 14: Summary Statistics for CFC Bank (2000)

| Prices | Div | AdjPrice | Actual | Exp Return | Abreturn | CAR | | |
|--------|------|----------|----------|------------|----------|----------|----------|--|
| 14.57 | | 12.13889 | | | | | | |
| 15.00 | 0.67 | 12.5 | 0.084943 | -0.00123 | 0.086176 | | | |
| 15.05 | 0.67 | 12.54167 | 0.056933 | -0.00123 | 0.058167 | 0.058167 | 0.058167 | |
| 15.18 | 0.67 | 12.65278 | 0.062281 | -0.00123 | 0.063515 | 0.121682 | 0.060841 | |
| 15.15 | 0.67 | 12.625 | 0.050757 | -0.00123 | 0.051991 | 0.173673 | 0.057891 | |
| 15.25 | 0.67 | 12.70833 | 0.05967 | -0.00123 | 0.060904 | 0.234577 | 0.058644 | |
| 15.50 | 0.67 | 12.91667 | 0.069115 | -0.00123 | 0.070348 | 0.304925 | 0.060985 | |
| 15.88 | 0.67 | 13.22917 | 0.076065 | -0.00123 | 0.077298 | 0.382223 | 0.063704 | |
| 16.00 | 0.67 | 13.33333 | 0.05852 | -0.00123 | 0.059753 | 0.441977 | 0.06314 | |
| 16.00 | 0.67 | 13.33333 | 0.05025 | -0.00123 | 0.051484 | 0.49346 | 0.061683 | |
| 14.00 | 0.67 | 11.66667 | -0.07475 | -0.00123 | -0.07352 | 0.419944 | 0.04666 | |
| 14.00 | 0.67 | 11.66667 | 0.057429 | -0.00123 | 0.058662 | 0.478606 | 0.047861 | |
| 13.95 | 0.67 | 11.625 | 0.053857 | -0.00123 | 0.055091 | 0.533697 | 0.048518 | |
| 14.00 | 0.67 | 11.66667 | 0.061219 | -0.00123 | 0.062452 | 0.596149 | 0.049679 | |
| 14.25 | 0.67 | 11.875 | 0.075286 | -0.00123 | 0.076519 | 0.672669 | 0.051744 | |
| 13.65 | 0.67 | 11.375 | 0.014316 | -0.00123 | 0.015549 | 0.688218 | 0.049158 | |
| 14.00 | 0.67 | 11.66667 | 0.084542 | -0.00123 | 0.085776 | 0.773994 | 0.0516 | |
| 13.95 | 0.67 | 11.625 | 0.053857 | -0.00123 | 0.055091 | 0.829085 | 0.051818 | |
| 13.73 | 0.67 | 11.44444 | 0.042103 | -0.00123 | 0.043336 | 0.872421 | 0.051319 | |

| | | | | | | | |
|-------|------|----------|----------|----------|----------|----------|----------|
| 12.98 | 0.67 | 10.8125 | 0.003325 | -0.00123 | 0.004559 | 0.87698 | 0.048721 |
| 13.00 | 0.67 | 10.83333 | 0.063892 | -0.00123 | 0.065126 | 0.942106 | 0.049585 |
| 12.08 | 0.67 | 10.0625 | -0.00931 | -0.00123 | -0.00807 | 0.934032 | 0.046702 |
| 10.80 | 0.67 | 9 | -0.03901 | -0.00123 | -0.03777 | 0.896259 | 0.042679 |
| 9.85 | 0.67 | 8.204861 | -0.0139 | -0.00123 | -0.01267 | 0.883589 | 0.040163 |
| 9.85 | 0.67 | 8.208333 | 0.082082 | -0.00123 | 0.083316 | 0.966905 | 0.042039 |
| 10.27 | 0.67 | 8.555556 | 0.123926 | -0.00123 | 0.125159 | 1.092064 | 0.045503 |
| 10.33 | 0.67 | 8.608333 | 0.084481 | -0.00123 | 0.085714 | 1.177778 | 0.047111 |
| 10.35 | 0.67 | 8.625 | 0.079768 | -0.00123 | 0.081001 | 1.258779 | 0.048415 |
| 10.51 | 0.67 | 8.755208 | 0.092778 | -0.00123 | 0.094011 | 1.352791 | 0.050103 |
| 10.50 | 0.67 | 8.75 | 0.075931 | -0.00123 | 0.077165 | 1.429955 | 0.05107 |
| 10.50 | 0.67 | 8.75 | 0.076571 | -0.00123 | 0.077805 | 1.507761 | 0.051992 |
| 10.50 | 0.67 | 8.75 | 0.076571 | -0.00123 | 0.077805 | 1.585566 | 0.052852 |

Figure 14: Trend of Cumulative Abnormal Return for CFC Bank (2000)

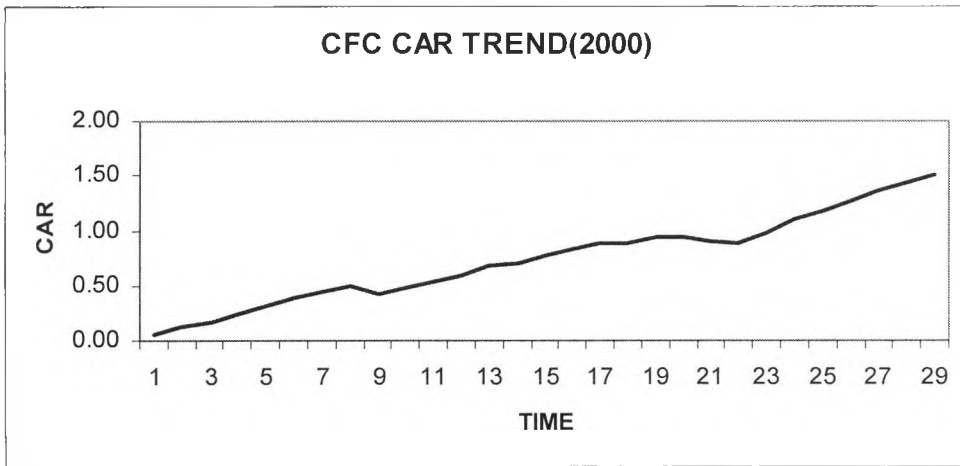


Table 14 shows that the daily abnormal returns for CFC (2000) are positive except for days 9,20, 21&22. Fig.14 shows that the CAR graph is upward sloping though a little bit bumpy. The impact of stock dividend announcement seems to continue days following the event.

Table 15: Summary Statistics for ICDC (2001)

| Prices | Div | AdjPrice | Actual | Exp Return | Abreturn | CAR | ACAR |
|--------|------|----------|---------|------------|----------|---------|----------|
| 48.65 | | 40.54 | | | | | |
| 64.00 | 1.65 | 53.33 | 0.3562 | -0.0032971 | 0.3595 | | |
| 59.00 | 1.65 | 49.17 | -0.0472 | -0.0032971 | -0.0439 | -0.0439 | -0.04389 |
| 59.00 | 1.65 | 49.17 | 0.0336 | -0.0032971 | 0.0369 | -0.0070 | -0.00352 |
| 58.00 | 1.65 | 48.33 | 0.0166 | -0.0032971 | 0.0199 | 0.0129 | 0.004291 |
| 58.50 | 1.65 | 48.75 | 0.0428 | -0.0032971 | 0.0461 | 0.0589 | 0.014732 |
| 58.00 | 1.65 | 48.33 | 0.0253 | -0.0032971 | 0.0286 | 0.0875 | 0.017505 |
| 58.00 | 1.65 | 48.33 | 0.0341 | -0.0032971 | 0.0374 | 0.1250 | 0.020827 |
| 59.00 | 1.65 | 49.17 | 0.0514 | -0.0032971 | 0.0547 | 0.1796 | 0.025662 |
| 58.00 | 1.65 | 48.33 | 0.0166 | -0.0032971 | 0.0199 | 0.1995 | 0.024943 |
| 60.00 | 1.65 | 50.00 | 0.0686 | -0.0032971 | 0.0719 | 0.2715 | 0.030162 |
| 59.13 | 1.65 | 49.27 | 0.0184 | -0.0032971 | 0.0217 | 0.2932 | 0.029318 |
| 48.00 | 1.65 | 40.00 | -0.1547 | -0.0032971 | -0.1514 | 0.1418 | 0.012891 |
| 46.50 | 1.65 | 38.75 | 0.0100 | -0.0032971 | 0.0133 | 0.1551 | 0.012925 |

| | | | | | | | |
|-------|------|-------|---------|------------|---------|--------|----------|
| 48.00 | 1.65 | 40.00 | 0.0748 | -0.0032971 | 0.0781 | 0.2332 | 0.017941 |
| 46.25 | 1.65 | 38.54 | 0.0048 | -0.0032971 | 0.0081 | 0.2413 | 0.017237 |
| 44.88 | 1.65 | 37.40 | 0.0131 | -0.0032971 | 0.0164 | 0.2577 | 0.01718 |
| 40.63 | 1.65 | 33.85 | -0.0506 | -0.0032971 | -0.0473 | 0.2104 | 0.013151 |
| 40.00 | 1.65 | 33.33 | 0.0334 | -0.0032971 | 0.0367 | 0.2471 | 0.014533 |
| 40.00 | 1.65 | 33.33 | 0.0495 | -0.0032971 | 0.0528 | 0.2999 | 0.016659 |
| 41.00 | 1.65 | 34.17 | 0.0745 | -0.0032971 | 0.0778 | 0.3777 | 0.019877 |
| 42.00 | 1.65 | 35.00 | 0.0727 | -0.0032971 | 0.0760 | 0.4536 | 0.022682 |
| 45.50 | 1.65 | 37.92 | 0.1305 | -0.0032971 | 0.1338 | 0.5874 | 0.027972 |
| 41.00 | 1.65 | 34.17 | -0.0554 | -0.0032971 | -0.0521 | 0.5353 | 0.024333 |
| 40.88 | 1.65 | 34.06 | 0.0452 | -0.0032971 | 0.0485 | 0.5839 | 0.025385 |
| 40.00 | 1.65 | 33.33 | 0.0270 | -0.0032971 | 0.0303 | 0.6142 | 0.025591 |
| 40.50 | 1.65 | 33.75 | 0.0620 | -0.0032971 | 0.0653 | 0.6795 | 0.02718 |
| 38.75 | 1.65 | 32.29 | 0.0057 | -0.0032971 | 0.0090 | 0.6885 | 0.02648 |
| 37.25 | 1.65 | 31.04 | 0.0124 | -0.0032971 | 0.0157 | 0.7042 | 0.02608 |
| 37.50 | 1.65 | 31.25 | 0.0599 | -0.0032971 | 0.0632 | 0.7673 | 0.027404 |
| 36.25 | 1.65 | 30.21 | 0.0195 | -0.0032971 | 0.0228 | 0.7901 | 0.027244 |
| 35.00 | 1.65 | 29.17 | 0.0201 | -0.0032971 | 0.0234 | 0.8135 | 0.027117 |

Figure 15: Trend of Cumulative Abnormal Return for ICDC (2000)

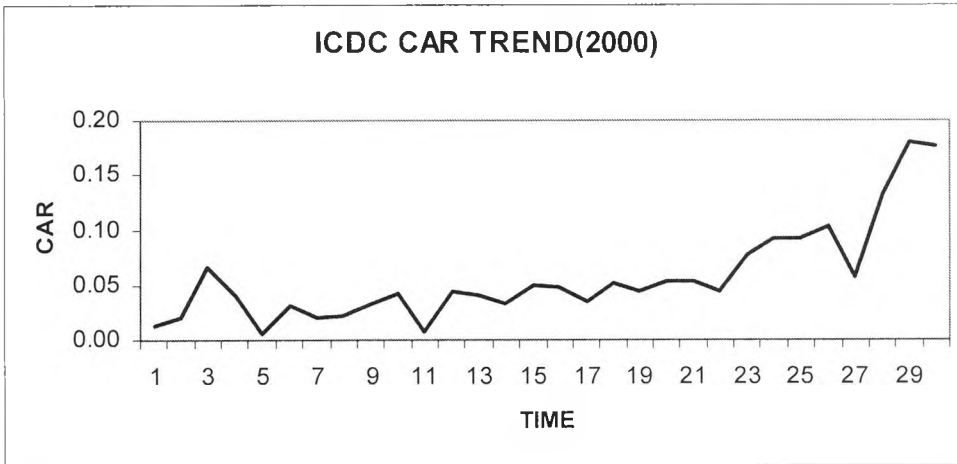


Table 15 shows there are positive abnormal returns over the event window for ICDC(2001) except for days 1,11,16 &22. Fig.15 shows the CAR graph is irregular and horizontally sloping except for the last days of the event window where it seems to be rising though irregular. This does not give evidence in support of return continuation after the event day.

Table 16: Summary Statistics for CARBACID (2000)

| Price | Div | AdjPrice | Actual | Exp Return | Abreturn | CAR | ACAR |
|-------|-----|----------|---------|------------|----------|--------|----------|
| 51.25 | | 42.70833 | | | | | |
| 50.50 | 0 | 42.08333 | -0.0146 | -0.0001 | -0.0146 | | |
| 51.13 | 0 | 42.60417 | 0.0124 | -0.0001 | 0.0124 | 0.0124 | 0.01243 |
| 51.50 | 0 | 42.91667 | 0.0073 | -0.0001 | 0.0074 | 0.0198 | 0.009909 |
| 53.89 | 0 | 44.90741 | 0.0464 | -0.0001 | 0.0464 | 0.0663 | 0.022086 |
| 52.50 | 0 | 43.75 | -0.0258 | -0.0001 | -0.0257 | 0.0405 | 0.010135 |
| 50.67 | 0 | 42.22222 | -0.0349 | -0.0001 | -0.0349 | 0.0057 | 0.001134 |
| 52.00 | 0 | 43.33333 | 0.0263 | -0.0001 | 0.0264 | 0.0320 | 0.00534 |

| | | | | | | | |
|-------|---|----------|---------|---------|---------|--------|----------|
| 51.38 | 0 | 42.8125 | -0.0120 | -0.0001 | -0.0120 | 0.0201 | 0.002868 |
| 51.50 | 0 | 42.91667 | 0.0024 | -0.0001 | 0.0025 | 0.0226 | 0.00282 |
| 52.00 | 0 | 43.33333 | 0.0097 | -0.0001 | 0.0098 | 0.0323 | 0.003591 |
| 52.50 | 0 | 43.75 | 0.0096 | -0.0001 | 0.0097 | 0.0420 | 0.004199 |
| 50.67 | 0 | 42.22222 | -0.0349 | -0.0001 | -0.0349 | 0.0071 | 0.000648 |
| 52.57 | 0 | 43.80952 | 0.0376 | -0.0001 | 0.0376 | 0.0448 | 0.003731 |
| 52.33 | 0 | 43.61111 | -0.0045 | -0.0001 | -0.0045 | 0.0403 | 0.0031 |
| 51.93 | 0 | 43.27381 | -0.0077 | -0.0001 | -0.0077 | 0.0326 | 0.00233 |
| 52.80 | 0 | 44 | 0.0168 | -0.0001 | 0.0168 | 0.0495 | 0.003297 |
| 52.67 | 0 | 43.88889 | -0.0025 | -0.0001 | -0.0025 | 0.0470 | 0.002936 |
| 52.00 | 0 | 43.33333 | -0.0127 | -0.0001 | -0.0126 | 0.0344 | 0.002022 |
| 52.88 | 0 | 44.0625 | 0.0168 | -0.0001 | 0.0169 | 0.0513 | 0.002847 |
| 52.50 | 0 | 43.75 | -0.0071 | -0.0001 | -0.0070 | 0.0442 | 0.002327 |
| 53.00 | 0 | 44.16667 | 0.0095 | -0.0001 | 0.0096 | 0.0538 | 0.00269 |
| 53.00 | 0 | 44.16667 | 0.0000 | -0.0001 | 0.0001 | 0.0538 | 0.002564 |
| 52.50 | 0 | 43.75 | -0.0094 | -0.0001 | -0.0094 | 0.0445 | 0.002021 |
| 54.25 | 0 | 45.20833 | 0.0333 | -0.0001 | 0.0334 | 0.0779 | 0.003385 |
| 55.00 | 0 | 45.83333 | 0.0138 | -0.0001 | 0.0139 | 0.0917 | 0.003822 |
| 55.00 | 0 | 45.83333 | 0.0000 | -0.0001 | 0.0001 | 0.0918 | 0.003671 |
| 55.60 | 0 | 46.33333 | 0.0109 | -0.0001 | 0.0110 | 0.1027 | 0.003952 |
| 53.00 | 0 | 44.16667 | -0.0468 | -0.0001 | -0.0467 | 0.0560 | 0.002075 |
| 57.00 | 0 | 47.5 | 0.0755 | -0.0001 | 0.0755 | 0.1316 | 0.004699 |
| 59.75 | 0 | 49.79167 | 0.0482 | -0.0001 | 0.0483 | 0.1799 | 0.006202 |
| 59.57 | 0 | 49.64286 | -0.0030 | -0.0001 | -0.0029 | 0.1769 | 0.005898 |

Figure 16: Trend of Cumulative Abnormal Return for CARBACID (2000)

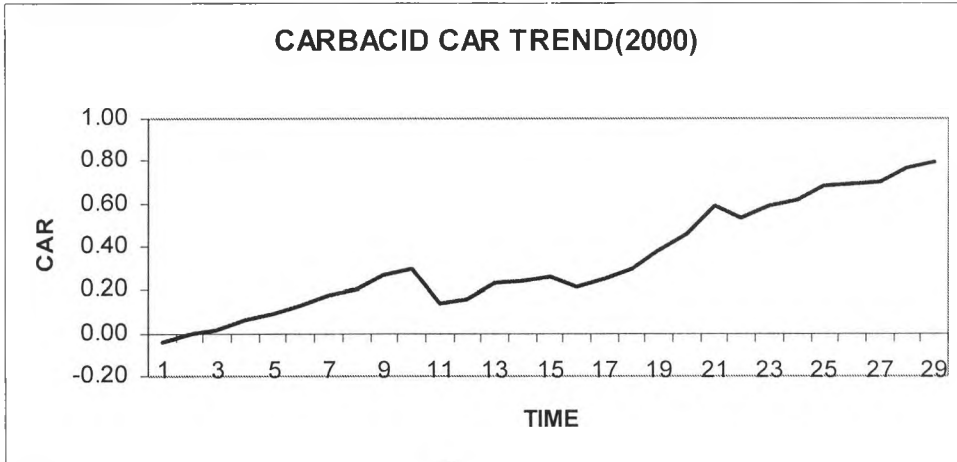


Table 16 shows that there are almost as many negative ARs as there are positive ARs. Even the AR for the event day is negative. Fig.16 shows the CAR graph over the event window. The graph shows an irregular trend but it is observed to take an upward trend from day 16. The result seems to suggest that in this case the market may not have received the dividend announcement as news. Maybe some other information was making the market to discount the stock dividend announcements.

Table 17: Summary Statistics for KENOL(2001)

| Price | Div | AdjPrice | Actual | Exp Return | Abreturn | CAR | ACAR |
|-------|------|----------|---------|------------|----------|--------|----------|
| 74.17 | 6.00 | 61.8056 | | | | | |
| 80.00 | 6.00 | 66.6667 | 0.1757 | -0.0047 | 0.1804 | | |
| 83.00 | 6.00 | 69.1667 | 0.1275 | -0.0047 | 0.1322 | 0.1322 | 0.132168 |
| 85.00 | 6.00 | 70.8333 | 0.1108 | -0.0047 | 0.1155 | 0.2477 | 0.12384 |
| 85.00 | 6.00 | 70.8333 | 0.0847 | -0.0047 | 0.0894 | 0.3371 | 0.112351 |
| 85.00 | 6.00 | 70.8333 | 0.0847 | -0.0047 | 0.0894 | 0.4264 | 0.106607 |
| 86.00 | 6.00 | 71.6667 | 0.0965 | -0.0047 | 0.1011 | 0.5276 | 0.105513 |
| 85.50 | 6.00 | 71.2500 | 0.0779 | -0.0047 | 0.0826 | 0.6101 | 0.10169 |
| 85.50 | 6.00 | 71.2500 | 0.0842 | -0.0047 | 0.0889 | 0.6990 | 0.09986 |
| 87.00 | 6.00 | 72.5000 | 0.1018 | -0.0047 | 0.1064 | 0.8054 | 0.10068 |
| 87.00 | 6.00 | 72.5000 | 0.0828 | -0.0047 | 0.0874 | 0.8929 | 0.099208 |
| 89.50 | 6.00 | 74.5833 | 0.1115 | -0.0047 | 0.1162 | 1.0090 | 0.100903 |
| 90.20 | 6.00 | 75.1667 | 0.0883 | -0.0047 | 0.0929 | 1.1020 | 0.100179 |
| 90.00 | 6.00 | 75.0000 | 0.0776 | -0.0047 | 0.0823 | 1.1842 | 0.098687 |
| 90.00 | 6.00 | 75.0000 | 0.0800 | -0.0047 | 0.0847 | 1.2689 | 0.097608 |
| 90.00 | 6.00 | 75.0000 | 0.0800 | -0.0047 | 0.0847 | 1.3536 | 0.096684 |
| 87.00 | 6.00 | 72.5000 | 0.0467 | -0.0047 | 0.0513 | 1.4049 | 0.093661 |
| 90.00 | 6.00 | 75.0000 | 0.1172 | -0.0047 | 0.1219 | 1.5268 | 0.095426 |
| 87.50 | 6.00 | 72.9167 | 0.0522 | -0.0047 | 0.0569 | 1.5837 | 0.093159 |
| 90.00 | 6.00 | 75.0000 | 0.1109 | -0.0047 | 0.1155 | 1.6992 | 0.094402 |
| 90.00 | 6.00 | 75.0000 | 0.0800 | -0.0047 | 0.0847 | 1.7839 | 0.09389 |
| 91.00 | 6.00 | 75.8333 | 0.0911 | -0.0047 | 0.0958 | 1.8797 | 0.093984 |
| 62.50 | 6.00 | 52.0833 | -0.2341 | -0.0047 | -0.2294 | 1.6503 | 0.078585 |
| 63.00 | 6.00 | 52.5000 | 0.1232 | -0.0047 | 0.1279 | 1.7782 | 0.080825 |
| 65.00 | 6.00 | 54.1667 | 0.1460 | -0.0047 | 0.1507 | 1.9289 | 0.083863 |
| 60.00 | 6.00 | 50.0000 | 0.0338 | -0.0047 | 0.0385 | 1.9674 | 0.081974 |
| 63.00 | 6.00 | 52.5000 | 0.1700 | -0.0047 | 0.1747 | 2.1420 | 0.085681 |
| 64.00 | 6.00 | 53.3333 | 0.1302 | -0.0047 | 0.1348 | 2.2769 | 0.087572 |
| 64.00 | 6.00 | 53.3333 | 0.1125 | -0.0047 | 0.1172 | 2.3940 | 0.088668 |
| 65.00 | 6.00 | 54.1667 | 0.1281 | -0.0047 | 0.1328 | 2.5268 | 0.090244 |
| 67.50 | 6.00 | 56.2500 | 0.1492 | -0.0047 | 0.1539 | 2.6807 | 0.092439 |
| 66.50 | 6.00 | 55.4167 | 0.0919 | -0.0047 | 0.0965 | 2.7772 | 0.092575 |

Figure 17: Trend of Cumulative Abnormal Return for KENOL(2001)

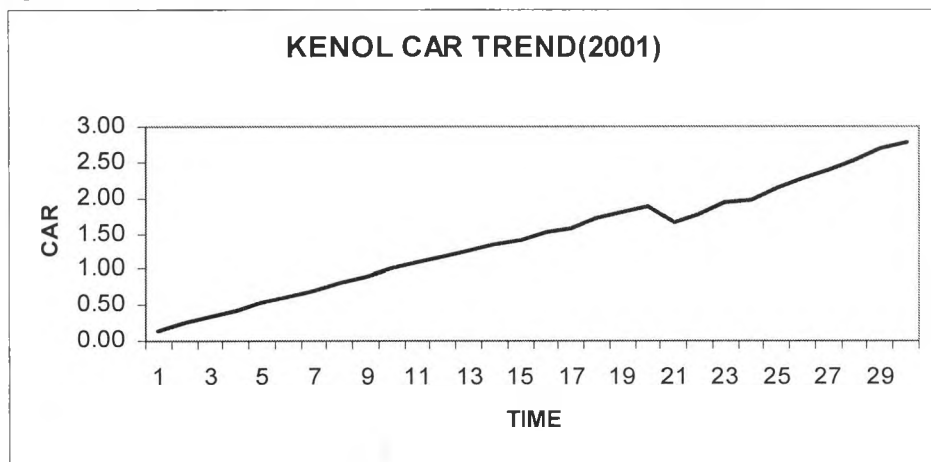


Table 17 shows that the ARs for KENOL(2001) are positive except day 21. Fig.17 shows that the CAR graph is upward sloping. This provides evidence consistent with continuation of positive returns after the announcement date.

Table 18: Summary statistics for KCB Bank (2001)

| Price | Div | Adjprice | Actual | Exp Return | Abreturn | CAR | | |
|-------|-----|----------|---------|------------|----------|--------|----------|--|
| 20.10 | | 15.08 | | | | | | |
| 19.86 | 0 | 14.90 | -0.0119 | -0.0057 | -0.0062 | | | |
| 23.61 | 0 | 17.71 | 0.1887 | -0.0057 | 0.1944 | 0.1944 | 0.194385 | |
| 23.64 | 0 | 17.73 | 0.0014 | -0.0057 | 0.0071 | 0.2015 | 0.100733 | |
| 25.00 | 0 | 18.75 | 0.0574 | -0.0057 | 0.0631 | 0.2645 | 0.088176 | |
| 25.10 | 0 | 18.82 | 0.0039 | -0.0057 | 0.0096 | 0.2741 | 0.06852 | |
| 25.35 | 0 | 19.01 | 0.0101 | -0.0057 | 0.0157 | 0.2898 | 0.057963 | |
| 25.36 | 0 | 19.02 | 0.0004 | -0.0057 | 0.0061 | 0.2959 | 0.049319 | |
| 26.50 | 0 | 19.88 | 0.0451 | -0.0057 | 0.0507 | 0.3467 | 0.049523 | |
| 26.93 | 0 | 20.20 | 0.0160 | -0.0057 | 0.0217 | 0.3683 | 0.04604 | |
| 27.17 | 0 | 20.38 | 0.0088 | -0.0057 | 0.0145 | 0.3828 | 0.042536 | |
| 27.43 | 0 | 20.57 | 0.0096 | -0.0057 | 0.0152 | 0.3980 | 0.039805 | |
| 27.31 | 0 | 20.48 | -0.0042 | -0.0057 | 0.0014 | 0.3995 | 0.036315 | |
| 26.75 | 0 | 20.06 | -0.0205 | -0.0057 | -0.0148 | 0.3846 | 0.032052 | |
| 26.09 | 0 | 19.57 | -0.0247 | -0.0057 | -0.0190 | 0.3656 | 0.028122 | |
| 25.55 | 0 | 19.16 | -0.0208 | -0.0057 | -0.0152 | 0.3504 | 0.025029 | |
| 24.58 | 0 | 18.44 | -0.0377 | -0.0057 | -0.0320 | 0.3184 | 0.021227 | |
| 24.33 | 0 | 18.24 | -0.0105 | -0.0057 | -0.0048 | 0.3136 | 0.019597 | |
| 23.80 | 0 | 17.85 | -0.0217 | -0.0057 | -0.0160 | 0.2975 | 0.0175 | |
| 23.72 | 0 | 17.79 | -0.0032 | -0.0057 | 0.0025 | 0.3000 | 0.016664 | |
| 23.84 | 0 | 17.88 | 0.0052 | -0.0057 | 0.0109 | 0.3108 | 0.016359 | |
| 24.09 | 0 | 18.07 | 0.0104 | -0.0057 | 0.0160 | 0.3268 | 0.016342 | |
| 24.14 | 0 | 18.11 | 0.0021 | -0.0057 | 0.0077 | 0.3346 | 0.015932 | |
| 24.50 | 0 | 18.38 | 0.0149 | -0.0057 | 0.0205 | 0.3551 | 0.016142 | |
| 24.44 | 0 | 18.33 | -0.0026 | -0.0057 | 0.0031 | 0.3582 | 0.015575 | |
| 24.69 | 0 | 18.52 | 0.0105 | -0.0057 | 0.0162 | 0.3744 | 0.0156 | |
| 25.32 | 0 | 18.99 | 0.0254 | -0.0057 | 0.0311 | 0.4055 | 0.016218 | |
| 24.74 | 0 | 18.55 | -0.0231 | -0.0057 | -0.0174 | 0.3880 | 0.014923 | |

| | | | | | | | |
|-------|---|-------|---------|---------|---------|--------|----------|
| 25.10 | 0 | 18.83 | 0.0147 | -0.0057 | 0.0204 | 0.4084 | 0.015125 |
| 24.98 | 0 | 18.74 | -0.0048 | -0.0057 | 0.0009 | 0.4093 | 0.014617 |
| 24.79 | 0 | 18.59 | -0.0078 | -0.0057 | -0.0021 | 0.4071 | 0.014039 |
| 25.00 | 0 | 18.75 | 0.0086 | -0.0057 | 0.0143 | 0.4214 | 0.014048 |

Figure 18: Trend of Cumulative Abnormal Return for KCB Bank (2001)

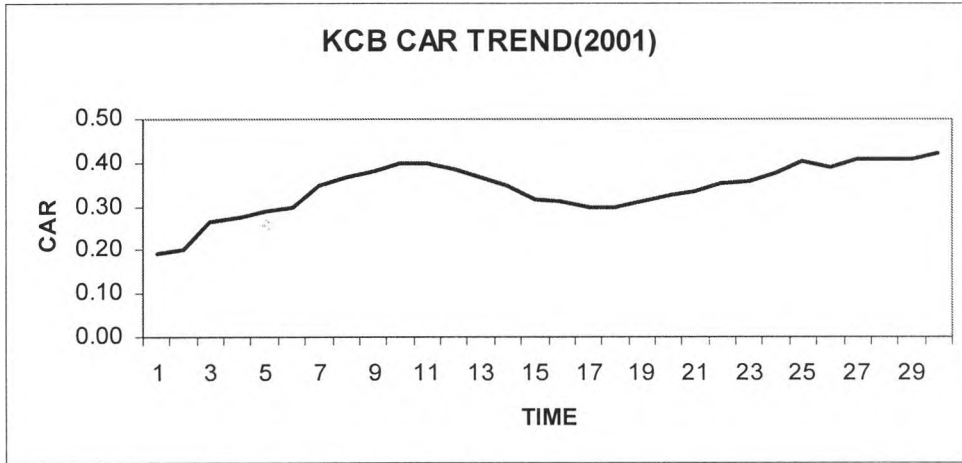


Table 18 shows that the abnormal return of the event day is negative, this changes to positive up to 11 day when it becomes negative up to 17 day. The abnormal returns are positive thereafter except in the 26 and 29 day. The CAR graph shown in Fig.18 is irregular and bumpy. The market seems not to have received stock dividend announcements as news the reason for this unique behavior and the fact that the abnormal returns are negative on the event day.

Table 99: Summary Statistics for TOTAL (2001)

| Price | Div | AdjPrice | Actual | Exp Return | Abreturn | CAR | ACAR |
|-------|-----|----------|---------|------------|----------|--------|----------|
| 37.75 | | 25.16667 | | | | | |
| 37.25 | 0 | 24.83333 | -0.0132 | -0.00411 | -0.0091 | | |
| 40.60 | 0 | 27.06667 | 0.0899 | -0.00411 | 0.0940 | 0.0940 | 0.094046 |
| 41.95 | 0 | 27.96667 | 0.0333 | -0.00411 | 0.0374 | 0.1314 | 0.065705 |
| 41.88 | 0 | 27.91667 | -0.0018 | -0.00411 | 0.0023 | 0.1337 | 0.044578 |
| 43.25 | 0 | 28.83333 | 0.0328 | -0.00411 | 0.0369 | 0.1707 | 0.042671 |
| 42.50 | 0 | 28.33333 | -0.0173 | -0.00411 | -0.0132 | 0.1575 | 0.031491 |
| 43.13 | 0 | 28.75 | 0.0147 | -0.00411 | 0.0188 | 0.1763 | 0.029379 |
| 43.25 | 0 | 28.83333 | 0.0029 | -0.00411 | 0.0070 | 0.1833 | 0.026183 |
| 44.00 | 0 | 29.33333 | 0.0173 | -0.00411 | 0.0215 | 0.2047 | 0.025592 |
| 43.25 | 0 | 28.83333 | -0.0170 | -0.00411 | -0.0129 | 0.1918 | 0.021312 |
| 43.83 | 0 | 29.22222 | 0.0135 | -0.00411 | 0.0176 | 0.2094 | 0.020941 |
| 44.10 | 0 | 29.4 | 0.0061 | -0.00411 | 0.0102 | 0.2196 | 0.019964 |
| 44.00 | 0 | 29.33333 | -0.0023 | -0.00411 | 0.0018 | 0.2214 | 0.018454 |
| 43.75 | 0 | 29.16667 | -0.0057 | -0.00411 | -0.0016 | 0.2199 | 0.016914 |
| 43.75 | 0 | 29.16667 | 0.0000 | -0.00411 | 0.0041 | 0.2240 | 0.015999 |
| 44.75 | 0 | 29.83333 | 0.0229 | -0.00411 | 0.0270 | 0.2510 | 0.016731 |
| 45.00 | 0 | 30 | 0.0056 | -0.00411 | 0.0097 | 0.2607 | 0.016291 |
| 45.08 | 0 | 30.05556 | 0.0019 | -0.00411 | 0.0060 | 0.2666 | 0.015684 |
| 45.25 | 0 | 30.16667 | 0.0037 | -0.00411 | 0.0078 | 0.2744 | 0.015246 |

| | | | | | | | |
|-------|---|----------|---------|----------|---------|---------|----------|
| 45.75 | 0 | 30.5 | 0.0110 | -0.00411 | 0.0152 | 0.2896 | 0.015242 |
| 46.00 | 0 | 30.66667 | 0.0055 | -0.00411 | 0.0096 | 0.2992 | 0.014959 |
| 43.66 | 0 | 29.10606 | -0.0509 | -0.00411 | -0.0468 | 0.2524 | 0.012019 |
| 43.00 | 0 | 28.66667 | -0.0151 | -0.00411 | -0.0110 | 0.2414 | 0.010973 |
| 43.00 | 0 | 28.66667 | 0.0000 | -0.00411 | 0.0041 | 0.2455 | 0.010675 |
| 44.00 | 0 | 29.33333 | 0.0233 | -0.00411 | 0.0274 | 0.2729 | 0.011371 |
| 31.75 | 0 | 21.16667 | -0.2784 | -0.00411 | -0.2743 | -0.0014 | -5.6E-05 |
| 30.75 | 0 | 20.5 | -0.0315 | -0.00411 | -0.0274 | -0.0288 | -0.00111 |
| 30.00 | 0 | 20 | -0.0244 | -0.00411 | -0.0203 | -0.0491 | -0.00182 |
| 31.00 | 0 | 20.66667 | 0.0333 | -0.00411 | 0.0374 | -0.0116 | -0.00041 |
| 30.00 | 0 | 20 | -0.0323 | -0.00411 | -0.0281 | -0.0398 | -0.00137 |
| 30.00 | 0 | 20 | 0.0000 | -0.00411 | 0.0041 | -0.0356 | -0.00119 |

Figure 19: Trend of Cumulative Abnormal Return for TOTAL (2001)

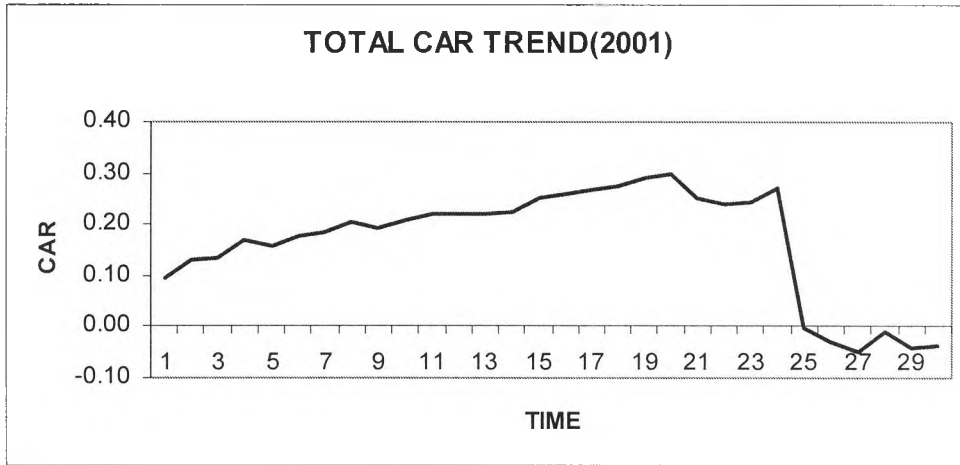


Table 19 shows that there were no positive abnormal returns in the event day and in 9 out of the 30 days following the news event. Fig. 19 shows that the CAR graph is irregular and almost horizontal up to day 25 when it starts to fall. The fact that there were no positive abnormal returns on the event date may indicate that the stock dividend announcements were not received as news by the market.

Table 20: Summary Statistics for NATION MEDIA GROUP (2002)

| Price | Div | AdjPrice | Actual | Exp Return | Abreturn | CAR | ACAR |
|-------|-----|----------|---------|------------|----------|--------|----------|
| 48.25 | | 32.17 | | | | | |
| 49.44 | 1.6 | 32.96 | 0.0745 | -0.00092 | 0.0754 | | |
| 61.75 | 1.6 | 41.17 | 0.2974 | -0.00092 | 0.2983 | 0.2983 | 0.29834 |
| 62.50 | 1.6 | 41.67 | 0.0510 | -0.00092 | 0.0519 | 0.3503 | 0.175138 |
| 63.50 | 1.6 | 42.33 | 0.0544 | -0.00092 | 0.0553 | 0.4056 | 0.1352 |
| 64.88 | 1.6 | 43.25 | 0.0594 | -0.00092 | 0.0604 | 0.4660 | 0.116494 |
| 64.75 | 1.6 | 43.17 | 0.0351 | -0.00092 | 0.0360 | 0.5020 | 0.100393 |
| 63.38 | 1.6 | 42.25 | 0.0158 | -0.00092 | 0.0168 | 0.5187 | 0.086454 |
| 60.88 | 1.6 | 40.58 | -0.0016 | -0.00092 | -0.0007 | 0.5181 | 0.07401 |
| 61.50 | 1.6 | 41.00 | 0.0497 | -0.00092 | 0.0506 | 0.5687 | 0.071086 |
| 61.81 | 1.6 | 41.21 | 0.0441 | -0.00092 | 0.0450 | 0.6137 | 0.068191 |
| 62.00 | 1.6 | 41.33 | 0.0419 | -0.00092 | 0.0428 | 0.6565 | 0.06565 |
| 60.63 | 1.6 | 40.42 | 0.0165 | -0.00092 | 0.0175 | 0.6740 | 0.061269 |

| | | | | | | | |
|-------|-----|-------|--------|----------|--------|--------|----------|
| 60.50 | 1.6 | 40.33 | 0.0375 | -0.00092 | 0.0385 | 0.7124 | 0.059367 |
| 62.42 | 1.6 | 41.61 | 0.0713 | -0.00092 | 0.0723 | 0.7847 | 0.06036 |
| 62.50 | 1.6 | 41.67 | 0.0398 | -0.00092 | 0.0407 | 0.8254 | 0.058957 |
| 62.00 | 1.6 | 41.33 | 0.0304 | -0.00092 | 0.0313 | 0.8567 | 0.057114 |
| 63.00 | 1.6 | 42.00 | 0.0548 | -0.00092 | 0.0558 | 0.9125 | 0.05703 |
| 62.50 | 1.6 | 41.67 | 0.0302 | -0.00092 | 0.0311 | 0.9436 | 0.055504 |
| 62.75 | 1.6 | 41.83 | 0.0424 | -0.00092 | 0.0433 | 0.9869 | 0.054827 |
| 63.00 | 1.6 | 42.00 | 0.0422 | -0.00092 | 0.0432 | 1.0300 | 0.054213 |
| 63.17 | 1.6 | 42.11 | 0.0407 | -0.00092 | 0.0417 | 1.0717 | 0.053585 |
| 63.13 | 1.6 | 42.08 | 0.0373 | -0.00092 | 0.0383 | 1.1100 | 0.052856 |
| 63.25 | 1.6 | 42.17 | 0.0400 | -0.00092 | 0.0409 | 1.1509 | 0.052313 |
| 63.50 | 1.6 | 42.33 | 0.0419 | -0.00092 | 0.0428 | 1.1937 | 0.051901 |
| 63.50 | 1.6 | 42.33 | 0.0378 | -0.00092 | 0.0387 | 1.2324 | 0.051351 |
| 63.50 | 1.6 | 42.33 | 0.0378 | -0.00092 | 0.0387 | 1.2712 | 0.050846 |
| 63.00 | 1.6 | 42.00 | 0.0299 | -0.00092 | 0.0308 | 1.3020 | 0.050077 |
| 61.75 | 1.6 | 41.17 | 0.0183 | -0.00092 | 0.0192 | 1.3212 | 0.048933 |
| 63.00 | 1.6 | 42.00 | 0.0591 | -0.00092 | 0.0600 | 1.3812 | 0.049329 |
| 63.00 | 1.6 | 42.00 | 0.0381 | -0.00092 | 0.0390 | 1.4202 | 0.048974 |
| 62.40 | 1.6 | 41.60 | 0.0286 | -0.00092 | 0.0295 | 1.4497 | 0.048324 |

Figure 20: Trend of Cumulative Abnormal Return for NATION MEDIA GROUP (2002)

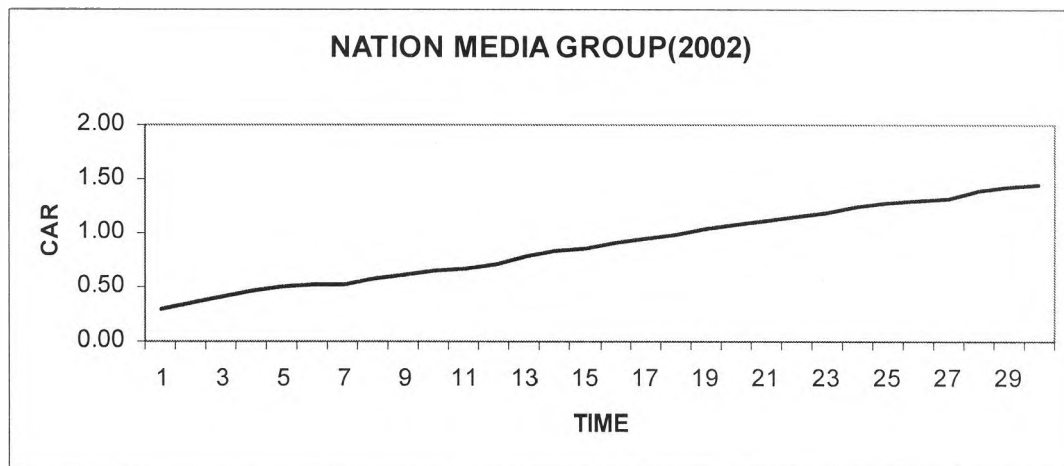


Table 20 shows that except for day 7, the abnormal returns over the event window are positive. The CAR graph Fig.20 is upward sloping over the event window. This indicates that the market received the stock dividend announcement as news but the effect was not completed on the event day.

Table 21: Summary Statistics for Barclays Bank of Kenya (2003)

| Price | Div | AdjPrice | Actual | Exp Return | AR | CAR | ACAR |
|--------|------|----------|--------|------------|--------|--------|----------|
| 110.08 | | 100.0758 | | | | | |
| 106.26 | 6.00 | 96.60428 | 0.0253 | 0.0030 | 0.0222 | | |
| 106.36 | 6.00 | 96.68831 | 0.0630 | 0.0030 | 0.0599 | 0.0599 | 0.059942 |
| 110.55 | 6.00 | 100.4959 | 0.1014 | 0.0030 | 0.0984 | 0.1583 | 0.07917 |
| 112.29 | 6.00 | 102.0856 | 0.0755 | 0.0030 | 0.0725 | 0.2308 | 0.076942 |

| | | | | | | | |
|--------|------|----------|---------|--------|---------|--------|----------|
| 113.60 | 6.00 | 103.2727 | 0.0704 | 0.0030 | 0.0674 | 0.2982 | 0.074548 |
| 114.05 | 6.00 | 103.6842 | 0.0621 | 0.0030 | 0.0590 | 0.3572 | 0.071447 |
| 116.50 | 6.00 | 105.9091 | 0.0793 | 0.0030 | 0.0763 | 0.4335 | 0.072254 |
| 116.33 | 6.00 | 105.7576 | 0.0552 | 0.0030 | 0.0522 | 0.4857 | 0.069387 |
| 116.00 | 6.00 | 105.4545 | 0.0539 | 0.0030 | 0.0508 | 0.5365 | 0.067068 |
| 117.18 | 6.00 | 106.5289 | 0.0671 | 0.0030 | 0.0640 | 0.6006 | 0.066732 |
| 117.58 | 6.00 | 106.8896 | 0.0597 | 0.0030 | 0.0567 | 0.6573 | 0.065726 |
| 120.53 | 6.00 | 109.5739 | 0.0812 | 0.0030 | 0.0782 | 0.7355 | 0.066861 |
| 122.00 | 6.00 | 110.9091 | 0.0669 | 0.0030 | 0.0639 | 0.7994 | 0.066615 |
| 126.95 | 6.00 | 115.4067 | 0.0947 | 0.0030 | 0.0916 | 0.8910 | 0.068538 |
| 123.57 | 6.00 | 112.3377 | 0.0254 | 0.0030 | 0.0224 | 0.9133 | 0.065239 |
| 123.48 | 6.00 | 112.2513 | 0.0526 | 0.0030 | 0.0496 | 0.9630 | 0.064197 |
| 125.27 | 6.00 | 113.8843 | 0.0680 | 0.0030 | 0.0650 | 1.0279 | 0.064245 |
| 125.56 | 6.00 | 114.1455 | 0.0550 | 0.0030 | 0.0519 | 1.0799 | 0.063521 |
| 126.34 | 6.00 | 114.8529 | 0.0588 | 0.0030 | 0.0557 | 1.1356 | 0.063088 |
| 127.17 | 6.00 | 115.6126 | 0.0589 | 0.0030 | 0.0558 | 1.1914 | 0.062705 |
| 127.76 | 6.00 | 116.1455 | 0.0565 | 0.0030 | 0.0535 | 1.2449 | 0.062243 |
| 113.18 | 6.00 | 102.8926 | -0.0624 | 0.0030 | -0.0655 | 1.1794 | 0.056161 |
| 118.25 | 6.00 | 107.5 | 0.1031 | 0.0030 | 0.1001 | 1.2794 | 0.058156 |
| 117.56 | 6.00 | 106.8717 | 0.0500 | 0.0030 | 0.0469 | 1.3264 | 0.057668 |
| 118.14 | 6.00 | 107.4026 | 0.0611 | 0.0030 | 0.0581 | 1.3844 | 0.057685 |
| 119.59 | 6.00 | 108.7166 | 0.0681 | 0.0030 | 0.0651 | 1.4495 | 0.05798 |
| 119.81 | 6.00 | 108.9177 | 0.0570 | 0.0030 | 0.0540 | 1.5035 | 0.057827 |
| 120.48 | 6.00 | 109.5263 | 0.0607 | 0.0030 | 0.0576 | 1.5611 | 0.05782 |
| 120.26 | 6.00 | 109.3239 | 0.0529 | 0.0030 | 0.0499 | 1.6110 | 0.057537 |
| 122.77 | 6.00 | 111.6084 | 0.0758 | 0.0030 | 0.0727 | 1.6838 | 0.058062 |
| 124.85 | 6.00 | 113.5015 | 0.0707 | 0.0030 | 0.0677 | 1.7515 | 0.058382 |

Figure 21: Trend of Cumulative Abnormal Return for BARCLAYS BANK OF KENYA (2003)

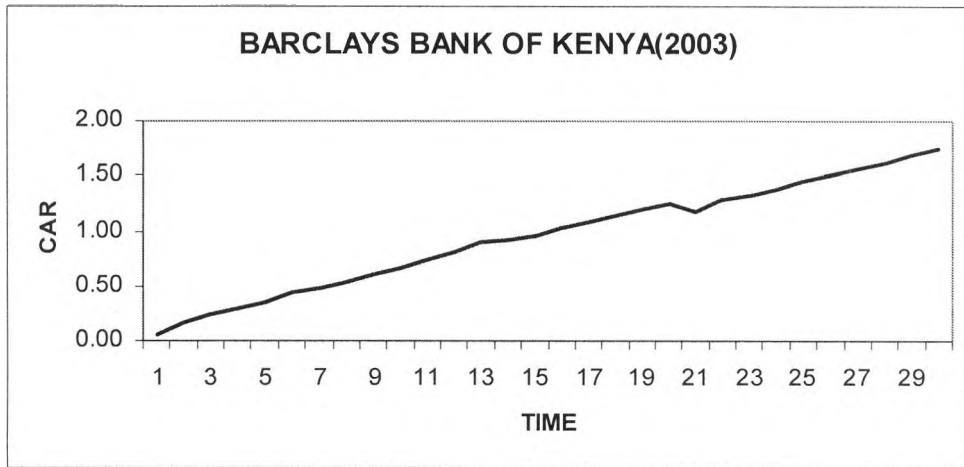


Table 21 shows that the abnormal returns for BBK(2003) are all positive over the event window except for day 21. Fig. 21 shows the CAR graph which is upward sloping. This shows that the impact of stock dividend announcement was not completed on the announcement date.

Table 22: Summary Statistics for Diamond Trust Bank (2003)

| Price | Div | AdjPrice | Actual | Exp Return | Abreturn | CAR | ACAR |
|-------|------|----------|--------|------------|----------|--------|----------|
| 12.50 | | 10.00 | | | | | |
| 14.50 | 0.60 | 11.60 | 0.2200 | 0.0075 | 0.2125 | | |
| 14.50 | 0.60 | 11.60 | 0.0517 | 0.0075 | 0.0442 | 0.0442 | 0.044209 |
| 14.50 | 0.60 | 11.60 | 0.0517 | 0.0075 | 0.0442 | 0.0884 | 0.044209 |
| 14.50 | 0.60 | 11.60 | 0.0517 | 0.0075 | 0.0442 | 0.1326 | 0.044209 |
| 14.77 | 0.60 | 11.81 | 0.0701 | 0.0075 | 0.0626 | 0.1952 | 0.048807 |
| 14.50 | 0.60 | 11.60 | 0.0327 | 0.0075 | 0.0252 | 0.2204 | 0.044089 |
| 15.50 | 0.60 | 12.40 | 0.1207 | 0.0075 | 0.1132 | 0.3336 | 0.055603 |
| 15.20 | 0.60 | 12.16 | 0.0290 | 0.0075 | 0.0215 | 0.3551 | 0.050734 |
| 16.00 | 0.60 | 12.80 | 0.1020 | 0.0075 | 0.0945 | 0.4496 | 0.056199 |
| 16.00 | 0.60 | 12.80 | 0.0469 | 0.0075 | 0.0394 | 0.4890 | 0.054328 |
| 16.00 | 0.60 | 12.80 | 0.0469 | 0.0075 | 0.0394 | 0.5283 | 0.052832 |
| 16.00 | 0.60 | 12.80 | 0.0469 | 0.0075 | 0.0394 | 0.5677 | 0.051607 |
| 16.00 | 0.60 | 12.80 | 0.0469 | 0.0075 | 0.0394 | 0.6070 | 0.050586 |
| 16.00 | 0.60 | 12.80 | 0.0469 | 0.0075 | 0.0394 | 0.6464 | 0.049723 |
| 16.00 | 0.60 | 12.80 | 0.0469 | 0.0075 | 0.0394 | 0.6858 | 0.048983 |
| 16.24 | 0.60 | 12.99 | 0.0619 | 0.0075 | 0.0544 | 0.7401 | 0.049341 |
| 16.66 | 0.60 | 13.33 | 0.0720 | 0.0075 | 0.0645 | 0.8046 | 0.05029 |
| 16.40 | 0.60 | 13.12 | 0.0294 | 0.0075 | 0.0219 | 0.8265 | 0.04862 |
| 16.65 | 0.60 | 13.32 | 0.0610 | 0.0075 | 0.0535 | 0.8800 | 0.048889 |
| 17.00 | 0.60 | 13.60 | 0.0661 | 0.0075 | 0.0586 | 0.9386 | 0.049398 |
| 18.00 | 0.60 | 14.40 | 0.1029 | 0.0075 | 0.0954 | 1.0340 | 0.051699 |
| 18.30 | 0.60 | 14.64 | 0.0583 | 0.0075 | 0.0508 | 1.0848 | 0.051657 |
| 18.50 | 0.60 | 14.80 | 0.0519 | 0.0075 | 0.0444 | 1.1292 | 0.051327 |
| 18.50 | 0.60 | 14.80 | 0.0405 | 0.0075 | 0.0330 | 1.1622 | 0.050531 |
| 18.50 | 0.60 | 14.80 | 0.0405 | 0.0075 | 0.0330 | 1.1952 | 0.049802 |
| 18.90 | 0.60 | 15.12 | 0.0622 | 0.0075 | 0.0546 | 1.2499 | 0.049996 |
| 19.13 | 0.60 | 15.30 | 0.0516 | 0.0075 | 0.0441 | 1.2940 | 0.049768 |
| 19.50 | 0.60 | 15.60 | 0.0588 | 0.0075 | 0.0513 | 1.3453 | 0.049825 |
| 21.00 | 0.60 | 16.80 | 0.1154 | 0.0075 | 0.1079 | 1.4531 | 0.051898 |
| 21.94 | 0.60 | 17.55 | 0.0804 | 0.0075 | 0.0728 | 1.5260 | 0.05262 |
| 22.10 | 0.60 | 17.68 | 0.0416 | 0.0075 | 0.0341 | 1.5601 | 0.052002 |

Figure 22: Trend of Cumulative Abnormal Return for Diamond Trust Bank (2003)

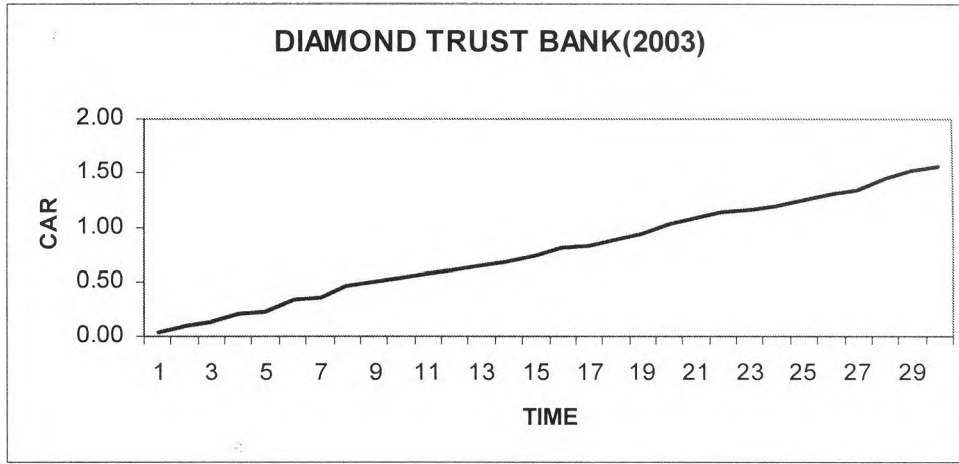


Table 22

shows that the abnormal returns for Diamond Trust (2003) are all positive. Fig. 22 show that the CAR graph is on upward trend over the event window. This indicates that the impact of stock dividend announcement was being felt on stock price in the days following the news event.

Table 23: Summary Statistics for CFC Bank (2004)

| Price | Div | AdjPrice | Actual | Exp Return | Abreturn | CAR | ACAR |
|-------|------|----------|----------|------------|----------|----------|----------|
| 58.64 | | 48.87 | | | | | |
| 58.39 | 0.84 | 48.66 | 0.012958 | 0.016434 | -0.00348 | | |
| 64.88 | 0.84 | 54.06 | 0.128235 | 0.016434 | 0.111801 | 0.111801 | 0.111801 |
| 63.29 | 0.84 | 52.74 | -0.00887 | 0.016434 | -0.0253 | 0.086499 | 0.04325 |
| 64.00 | 0.84 | 53.33 | 0.027118 | 0.016434 | 0.010684 | 0.097183 | 0.032394 |
| 62.67 | 0.84 | 52.22 | -0.00508 | 0.016434 | -0.02152 | 0.075666 | 0.018917 |
| 63.00 | 0.84 | 52.50 | 0.021404 | 0.016434 | 0.00497 | 0.080636 | 0.016127 |
| 63.33 | 0.84 | 52.78 | 0.021291 | 0.016434 | 0.004857 | 0.085494 | 0.014249 |
| 63.04 | 0.84 | 52.53 | 0.011311 | 0.016434 | -0.00512 | 0.08037 | 0.011481 |
| 63.50 | 0.84 | 52.92 | 0.02326 | 0.016434 | 0.006826 | 0.087196 | 0.0109 |
| 63.63 | 0.84 | 53.02 | 0.017843 | 0.016434 | 0.001409 | 0.088605 | 0.009845 |
| 63.50 | 0.84 | 52.92 | 0.013878 | 0.016434 | -0.00256 | 0.086049 | 0.008605 |
| 63.20 | 0.84 | 52.67 | 0.01115 | 0.016434 | -0.00528 | 0.080765 | 0.007342 |
| 62.94 | 0.84 | 52.45 | 0.011906 | 0.016434 | -0.00453 | 0.076237 | 0.006353 |
| 62.55 | 0.84 | 52.12 | 0.009675 | 0.016434 | -0.00676 | 0.069478 | 0.005344 |
| 61.50 | 0.84 | 51.25 | -0.0006 | 0.016434 | -0.01703 | 0.052446 | 0.003746 |
| 62.50 | 0.84 | 52.08 | 0.03265 | 0.016434 | 0.016217 | 0.068662 | 0.004577 |
| 62.00 | 0.84 | 51.67 | 0.008128 | 0.016434 | -0.00831 | 0.060357 | 0.003772 |
| 60.00 | 0.84 | 50.00 | -0.016 | 0.016434 | -0.03243 | 0.027923 | 0.001643 |
| 58.25 | 0.84 | 48.54 | -0.01237 | 0.016434 | -0.0288 | -0.00088 | -4.9E-05 |
| 58.69 | 0.84 | 48.91 | 0.024815 | 0.016434 | 0.008382 | 0.007504 | 0.000395 |
| 59.33 | 0.84 | 49.44 | 0.02818 | 0.016434 | 0.011746 | 0.01925 | 0.000963 |
| 58.33 | 0.84 | 48.61 | 0.000135 | 0.016434 | -0.0163 | 0.002951 | 0.000141 |
| 56.50 | 0.84 | 47.08 | -0.01415 | 0.016434 | -0.03058 | -0.02763 | -0.00126 |
| 55.75 | 0.84 | 46.46 | 0.004566 | 0.016434 | -0.01187 | -0.0395 | -0.00172 |
| 58.00 | 0.84 | 48.33 | 0.058439 | 0.016434 | 0.042006 | 0.002507 | 0.000104 |
| 58.00 | 0.84 | 48.33 | 0.017379 | 0.016434 | 0.000945 | 0.003453 | 0.000138 |
| 57.50 | 0.84 | 47.92 | 0.008759 | 0.016434 | -0.00768 | -0.00422 | -0.00016 |

| | | | | | | | |
|-------|------|-------|----------|----------|----------|----------|----------|
| 57.13 | 0.84 | 47.60 | 0.011009 | 0.016434 | -0.00543 | -0.00965 | -0.00036 |
| 57.50 | 0.84 | 47.92 | 0.02421 | 0.016434 | 0.007776 | -0.00187 | -6.7E-05 |
| 57.00 | 0.84 | 47.50 | 0.008835 | 0.016434 | -0.0076 | -0.00947 | -0.00033 |
| 57.14 | 0.84 | 47.62 | 0.02019 | 0.016434 | 0.003757 | -0.00571 | -0.00019 |

Figure 23: Trend of Cumulative Abnormal Return for CFC BANK (2004)

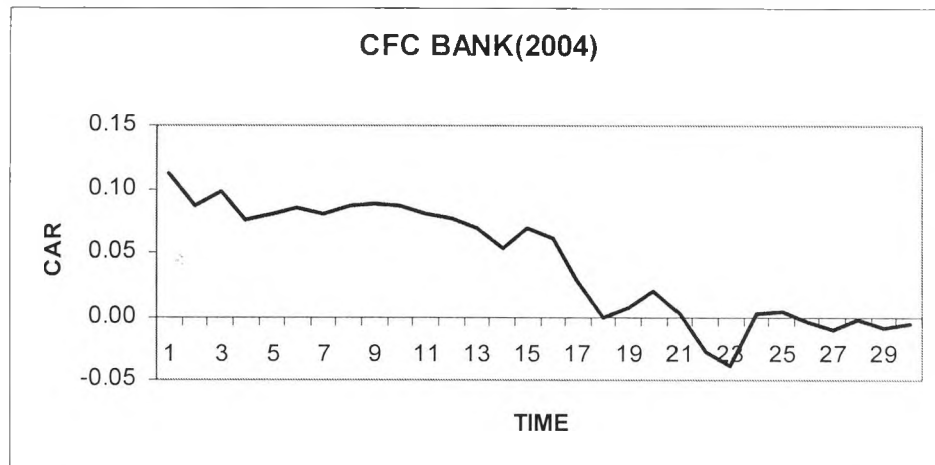


Table 23 shows that the abnormal return on the event day was negative. It also shows that, there were almost as many negative abnormal returns as there were positive abnormal returns over the event window. The CAR graph shown above is irregular, starts as almost horizontal before sloping downwards after the day 15. This suggests that the market did not receive the announcement of stock dividend as news or there could have been other information effect, which neutralized the news effect.

Table 24: Summary Statistics for Standard Chartered Bank (2004)

| Price | Div | AdjPrice | Actual | Exp Return | Abreturn | CAR | ACAR |
|--------|------|----------|----------|------------|----------|----------|----------|
| 227.45 | | 206.7727 | | | | | |
| 229.04 | 4.10 | 208.2143 | 0.0268 | 0.003121 | 0.023679 | | |
| 247.00 | 4.10 | 224.5455 | 0.098126 | 0.003121 | 0.095005 | 0.095005 | 0.095005 |
| 228.33 | 4.10 | 207.5758 | -0.05731 | 0.003121 | -0.06044 | 0.034569 | 0.017285 |
| 225.00 | 4.10 | 204.5455 | 0.005153 | 0.003121 | 0.002032 | 0.036601 | 0.0122 |
| 215.70 | 4.10 | 196.0909 | -0.02129 | 0.003121 | -0.02441 | 0.012191 | 0.003048 |
| 210.54 | 4.10 | 191.3986 | -0.00302 | 0.003121 | -0.00614 | 0.00605 | 0.00121 |
| 205.77 | 4.10 | 187.0629 | -0.00123 | 0.003121 | -0.00435 | 0.001697 | 0.000283 |
| 201.42 | 4.10 | 183.1061 | 0.000765 | 0.003121 | -0.00236 | -0.00066 | -9.4E-05 |
| 200.81 | 4.10 | 182.5541 | 0.019377 | 0.003121 | 0.016256 | 0.015598 | 0.00195 |
| 201.47 | 4.10 | 183.1551 | 0.025751 | 0.003121 | 0.02263 | 0.038228 | 0.004248 |
| 203.50 | 4.10 | 185 | 0.032458 | 0.003121 | 0.029337 | 0.067565 | 0.006756 |
| 206.96 | 4.10 | 188.1455 | 0.039165 | 0.003121 | 0.036044 | 0.103608 | 0.009419 |
| 206.17 | 4.10 | 187.4242 | 0.017958 | 0.003121 | 0.014837 | 0.118446 | 0.00987 |
| 200.00 | 4.10 | 181.8182 | -0.00804 | 0.003121 | -0.01116 | 0.107289 | 0.008253 |
| 197.89 | 4.10 | 179.899 | 0.011994 | 0.003121 | 0.008873 | 0.116163 | 0.008297 |
| 197.65 | 4.10 | 179.6791 | 0.021569 | 0.003121 | 0.018447 | 0.13461 | 0.008974 |
| 196.20 | 4.10 | 178.3636 | 0.015497 | 0.003121 | 0.012376 | 0.146986 | 0.009187 |
| 193.00 | 4.10 | 175.4545 | 0.006677 | 0.003121 | 0.003556 | 0.150542 | 0.008855 |
| 188.64 | 4.10 | 171.4935 | 0.000792 | 0.003121 | -0.00233 | 0.148213 | 0.008234 |
| 190.00 | 4.10 | 172.7273 | 0.031102 | 0.003121 | 0.027981 | 0.176194 | 0.009273 |

| | | | | | | | |
|--------|------|----------|----------|----------|----------|----------|----------|
| 188.00 | 4.10 | 170.9091 | 0.013211 | 0.003121 | 0.010089 | 0.186283 | 0.009314 |
| 188.00 | 4.10 | 170.9091 | 0.023989 | 0.003121 | 0.020868 | 0.207151 | 0.009864 |
| 188.00 | 4.10 | 170.9091 | 0.023989 | 0.003121 | 0.020868 | 0.22802 | 0.010365 |
| 186.67 | 4.10 | 169.697 | 0.016897 | 0.003121 | 0.013776 | 0.241796 | 0.010513 |
| 183.57 | 4.10 | 166.8831 | 0.007579 | 0.003121 | 0.004458 | 0.246254 | 0.010261 |
| 160.00 | 4.10 | 145.4545 | -0.10384 | 0.003121 | -0.10696 | 0.139296 | 0.005572 |
| 150.00 | 4.10 | 136.3636 | -0.03431 | 0.003121 | -0.03743 | 0.101863 | 0.003918 |
| 141.67 | 4.10 | 128.7879 | -0.02549 | 0.003121 | -0.02861 | 0.073253 | 0.002713 |
| 125.44 | 4.10 | 114.0404 | -0.08267 | 0.003121 | -0.0858 | -0.01254 | -0.00045 |
| 119.92 | 4.10 | 109.0152 | -0.00811 | 0.003121 | -0.01123 | -0.02378 | -0.00082 |
| 131.90 | 4.10 | 119.9091 | 0.13754 | 0.003121 | 0.134419 | 0.110642 | 0.003688 |

Figure 24 Trend of Cumulative Abnormal Return for Standard Chartered Bank (2004)

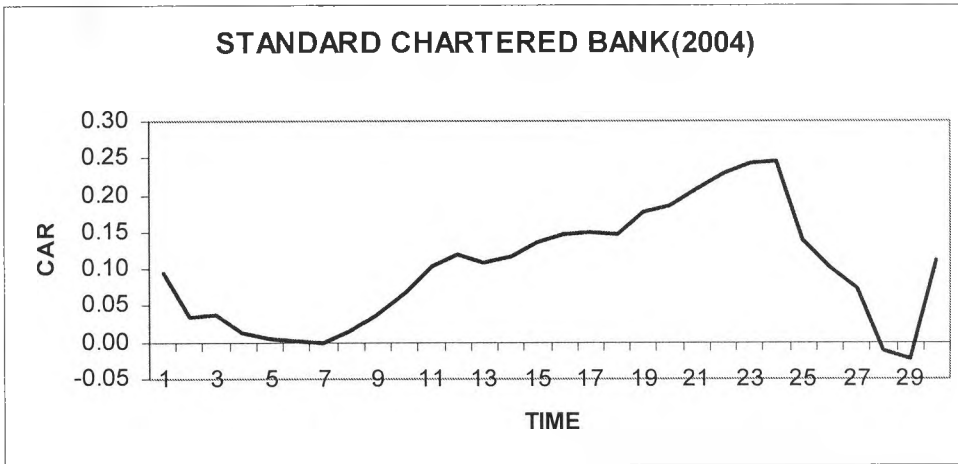


Table 24 above show that in the first few days following the announcements the abnormal returns were negative, later on it fluctuated between positive and negative over the event window. The CAR graph Fig. 24 is irregular with no general pattern. This does not provide evidence either in support of positive result continuation or immediate incorporation of news effect in stock prices.

Table 25: Summary Statistics for Crown Berger (2004)

| Price | Div | AdjPrice | Actual | Exp Return | Abreturn | CAR | ACAR |
|-------|-----|----------|---------|------------|----------|--------|----------|
| 38.00 | | 34.54545 | | | | | |
| 37.58 | 1.5 | 34.16667 | 0.0325 | 0.0002 | 0.0322 | | |
| 47.00 | 1.5 | 42.72727 | 0.2945 | 0.0002 | 0.2942 | 0.2942 | 0.294221 |
| 44.21 | 1.5 | 40.19481 | -0.0242 | 0.0002 | -0.0244 | 0.2698 | 0.134911 |
| 43.00 | 1.5 | 39.09091 | 0.0099 | 0.0002 | 0.0096 | 0.2794 | 0.093147 |
| 41.28 | 1.5 | 37.52841 | -0.0016 | 0.0002 | -0.0018 | 0.2776 | 0.069402 |
| 39.50 | 1.5 | 35.90909 | -0.0032 | 0.0002 | -0.0034 | 0.2742 | 0.054838 |
| 39.33 | 1.5 | 35.75758 | 0.0376 | 0.0002 | 0.0373 | 0.3115 | 0.051918 |
| 37.38 | 1.5 | 33.97727 | -0.0078 | 0.0002 | -0.0081 | 0.3034 | 0.043348 |
| 35.85 | 1.5 | 32.59091 | 0.0033 | 0.0002 | 0.0031 | 0.3065 | 0.038318 |
| 35.08 | 1.5 | 31.88995 | 0.0245 | 0.0002 | 0.0243 | 0.3308 | 0.036758 |
| 35.52 | 1.5 | 32.29339 | 0.0597 | 0.0002 | 0.0595 | 0.3903 | 0.039028 |
| 36.00 | 1.5 | 32.72727 | 0.0599 | 0.0002 | 0.0596 | 0.4499 | 0.040903 |
| 36.04 | 1.5 | 32.75974 | 0.0468 | 0.0002 | 0.0466 | 0.4965 | 0.041376 |
| 36.00 | 1.5 | 32.72727 | 0.0448 | 0.0002 | 0.0446 | 0.5411 | 0.041621 |

| | | | | | | | |
|-------|-----|----------|--------|--------|--------|--------|----------|
| 36.03 | 1.5 | 32.75568 | 0.0467 | 0.0002 | 0.0465 | 0.5875 | 0.041968 |
| 37.78 | 1.5 | 34.34659 | 0.0944 | 0.0002 | 0.0941 | 0.6817 | 0.045445 |
| 38.00 | 1.5 | 34.54545 | 0.0495 | 0.0002 | 0.0492 | 0.7309 | 0.045681 |
| 38.00 | 1.5 | 34.54545 | 0.0434 | 0.0002 | 0.0432 | 0.7741 | 0.045534 |
| 37.38 | 1.5 | 33.97727 | 0.0270 | 0.0002 | 0.0267 | 0.8008 | 0.04449 |
| 36.80 | 1.5 | 33.45455 | 0.0288 | 0.0002 | 0.0285 | 0.8294 | 0.04365 |
| 36.75 | 1.5 | 33.40909 | 0.0435 | 0.0002 | 0.0432 | 0.8726 | 0.04363 |
| 37.00 | 1.5 | 33.63636 | 0.0517 | 0.0002 | 0.0515 | 0.9241 | 0.044003 |
| 36.83 | 1.5 | 33.48485 | 0.0401 | 0.0002 | 0.0399 | 0.9639 | 0.043814 |
| 36.50 | 1.5 | 33.18182 | 0.0357 | 0.0002 | 0.0355 | 0.9994 | 0.043453 |
| 35.68 | 1.5 | 32.43182 | 0.0226 | 0.0002 | 0.0224 | 1.0218 | 0.042575 |
| 36.50 | 1.5 | 33.18182 | 0.0694 | 0.0002 | 0.0691 | 1.0909 | 0.043637 |
| 36.00 | 1.5 | 32.72727 | 0.0315 | 0.0002 | 0.0313 | 1.1222 | 0.043162 |
| 36.00 | 1.5 | 32.72727 | 0.0458 | 0.0002 | 0.0456 | 1.1678 | 0.043252 |
| 36.00 | 1.5 | 32.72727 | 0.0458 | 0.0002 | 0.0456 | 1.2134 | 0.043336 |
| 35.90 | 1.5 | 32.63258 | 0.0429 | 0.0002 | 0.0427 | 1.2561 | 0.043314 |
| 36.00 | 1.5 | 32.72727 | 0.0489 | 0.0002 | 0.0486 | 1.3047 | 0.043491 |

Figure 25: Trend of Cumulative Abnormal Return for Crown Berger (2004)

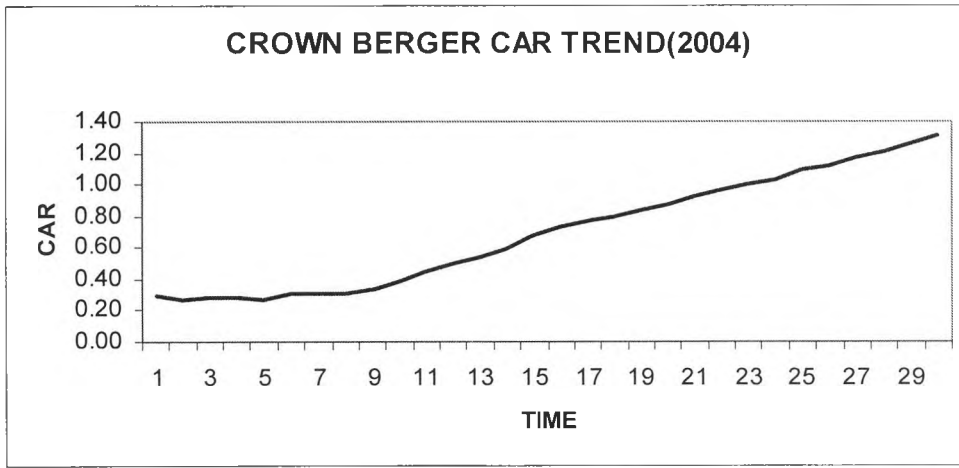


Table 25 shows that in the first few days following the announcement the abnormal returns fluctuated between positive and negative. After day 7 the returns were positive to the end of the event window. Fig. 25 show the graph for the CAR. The graph starts as almost constant before picking momentum from day 8. This shows that the market reacted to stock dividend announcement after a few days following the announcement and continued to react to the same over the event window.

Table 26: Summary Statistics for East Africa Breweries (2004)

| Price | Div | AdjPrice | Actual | Exp Return | Abreturn | CAR | ACAR |
|--------|-------|----------|--------|------------|----------|--------|----------|
| 496.83 | | 414.0278 | | | | | |
| 525.25 | 14.25 | 437.7083 | 0.0916 | 0.0031 | 0.0885 | | |
| 512.25 | 14.25 | 426.875 | 0.0078 | 0.0031 | 0.0047 | 0.0047 | 0.004659 |
| 510.36 | 14.25 | 425.2976 | 0.0297 | 0.0031 | 0.0265 | 0.0312 | 0.0156 |
| 507.50 | 14.25 | 422.9167 | 0.0279 | 0.0031 | 0.0248 | 0.0560 | 0.018654 |
| 507.63 | 14.25 | 423.0208 | 0.0339 | 0.0031 | 0.0308 | 0.0868 | 0.021689 |
| 508.40 | 14.25 | 423.6667 | 0.0352 | 0.0031 | 0.0321 | 0.1188 | 0.023765 |
| 510.11 | 14.25 | 425.0877 | 0.0370 | 0.0031 | 0.0338 | 0.1527 | 0.025444 |

| | | | | | | | |
|--------|-------|----------|---------|--------|---------|--------|----------|
| 510.40 | 14.25 | 425.3333 | 0.0341 | 0.0031 | 0.0310 | 0.1836 | 0.026231 |
| 509.93 | 14.25 | 424.9383 | 0.0326 | 0.0031 | 0.0294 | 0.2130 | 0.026631 |
| 510.00 | 14.25 | 425 | 0.0337 | 0.0031 | 0.0305 | 0.2436 | 0.027065 |
| 508.58 | 14.25 | 423.8158 | 0.0307 | 0.0031 | 0.0276 | 0.2712 | 0.027118 |
| 509.14 | 14.25 | 424.2857 | 0.0347 | 0.0031 | 0.0316 | 0.3028 | 0.027524 |
| 508.67 | 14.25 | 423.8889 | 0.0327 | 0.0031 | 0.0295 | 0.3323 | 0.027689 |
| 508.25 | 14.25 | 423.5417 | 0.0328 | 0.0031 | 0.0297 | 0.3619 | 0.02784 |
| 508.33 | 14.25 | 423.6111 | 0.0338 | 0.0031 | 0.0307 | 0.3926 | 0.028042 |
| 510.00 | 14.25 | 425 | 0.0369 | 0.0031 | 0.0338 | 0.4264 | 0.028424 |
| 507.87 | 14.25 | 423.2222 | 0.0293 | 0.0031 | 0.0262 | 0.4526 | 0.028285 |
| 508.82 | 14.25 | 424.0152 | 0.0355 | 0.0031 | 0.0324 | 0.4850 | 0.028527 |
| 508.77 | 14.25 | 423.9744 | 0.0335 | 0.0031 | 0.0304 | 0.5153 | 0.028629 |
| 509.00 | 14.25 | 424.1667 | 0.0341 | 0.0031 | 0.0309 | 0.5462 | 0.028749 |
| 509.33 | 14.25 | 424.4444 | 0.0343 | 0.0031 | 0.0311 | 0.5773 | 0.028867 |
| 504.16 | 14.25 | 420.1316 | 0.0234 | 0.0031 | 0.0203 | 0.5976 | 0.028457 |
| 510.24 | 14.25 | 425.1961 | 0.0460 | 0.0031 | 0.0428 | 0.6404 | 0.02911 |
| 514.20 | 14.25 | 428.5 | 0.0413 | 0.0031 | 0.0381 | 0.6786 | 0.029503 |
| 527.11 | 14.25 | 439.2593 | 0.0584 | 0.0031 | 0.0552 | 0.7338 | 0.030574 |
| 528.33 | 14.25 | 440.2778 | 0.0348 | 0.0031 | 0.0316 | 0.7654 | 0.030616 |
| 543.92 | 14.25 | 453.2639 | 0.0619 | 0.0031 | 0.0587 | 0.8241 | 0.031697 |
| 555.86 | 14.25 | 463.2143 | 0.0534 | 0.0031 | 0.0502 | 0.8744 | 0.032384 |
| 551.19 | 14.25 | 459.3254 | 0.0224 | 0.0031 | 0.0192 | 0.8936 | 0.031914 |
| 447.25 | 14.25 | 372.7083 | -0.1576 | 0.0031 | -0.1607 | 0.7329 | 0.025272 |
| 457.62 | 14.25 | 381.3462 | 0.0614 | 0.0031 | 0.0583 | 0.7911 | 0.026372 |

Figure 26: Trend of Cumulative Abnormal Return for East Africa Breweries (2004)

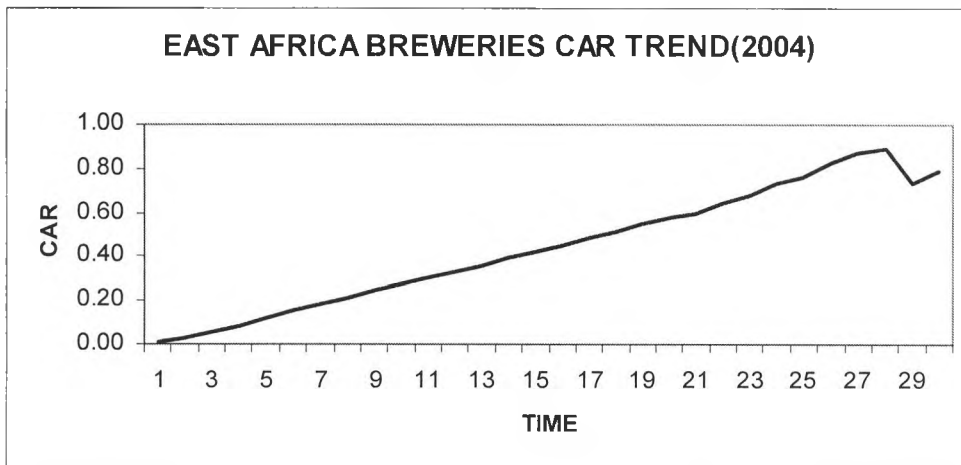


Table 26 shows that except for day 30, the abnormal returns for EABL (2004) are positive over the event window. Fig. 26 above shows that the CAR graph is upward sloping over the event window up to day 29. This indicates that the stock prices of EABL reacted to stock dividend announcement and continued to react in the days following the announcements.

Table 107: Summary Statistics for CMC Holdings (2004)

| Price | Div | Adjprice | Actual | Exp Return | Abreturn | CAR | ACAR |
|-------|-----|----------|--------|------------|----------|-----|------|
| 82.67 | | 41.33 | | | | | |

| | | | | | | | |
|--------|------|-------|---------|--------|---------|---------|----------|
| 103.00 | 1.00 | 51.50 | 0.2702 | 0.0060 | 0.2642 | | |
| 112.17 | 1.00 | 56.08 | 0.1084 | 0.0060 | 0.1025 | 0.1025 | 0.102455 |
| 117.42 | 1.00 | 58.71 | 0.0646 | 0.0060 | 0.0587 | 0.1611 | 0.080566 |
| 112.20 | 1.00 | 56.10 | -0.0274 | 0.0060 | -0.0334 | 0.1278 | 0.042593 |
| 106.00 | 1.00 | 53.00 | -0.0374 | 0.0060 | -0.0434 | 0.0844 | 0.021097 |
| 106.00 | 1.00 | 53.00 | 0.0189 | 0.0060 | 0.0129 | 0.0973 | 0.019459 |
| 106.00 | 1.00 | 53.00 | 0.0189 | 0.0060 | 0.0129 | 0.1102 | 0.018367 |
| 106.55 | 1.00 | 53.27 | 0.0240 | 0.0060 | 0.0181 | 0.1283 | 0.018323 |
| 108.33 | 1.00 | 54.17 | 0.0356 | 0.0060 | 0.0296 | 0.1579 | 0.019731 |
| 118.75 | 1.00 | 59.38 | 0.1146 | 0.0060 | 0.1087 | 0.2665 | 0.029612 |
| 119.00 | 1.00 | 59.50 | 0.0189 | 0.0060 | 0.0130 | 0.2795 | 0.02795 |
| 119.44 | 1.00 | 59.72 | 0.0205 | 0.0060 | 0.0146 | 0.2941 | 0.026734 |
| 127.40 | 1.00 | 63.70 | 0.0833 | 0.0060 | 0.0774 | 0.3715 | 0.030956 |
| 135.13 | 1.00 | 67.56 | 0.0763 | 0.0060 | 0.0704 | 0.4418 | 0.033988 |
| 139.85 | 1.00 | 69.92 | 0.0497 | 0.0060 | 0.0438 | 0.4856 | 0.034688 |
| 138.56 | 1.00 | 69.28 | 0.0051 | 0.0060 | -0.0009 | 0.4847 | 0.032316 |
| 136.00 | 1.00 | 68.00 | -0.0040 | 0.0060 | -0.0100 | 0.4748 | 0.029673 |
| 133.38 | 1.00 | 66.69 | -0.0046 | 0.0060 | -0.0106 | 0.4642 | 0.027307 |
| 79.33 | 1.00 | 39.67 | -0.3902 | 0.0060 | -0.3961 | 0.0681 | 0.003782 |
| 74.71 | 1.00 | 37.36 | -0.0330 | 0.0060 | -0.0390 | 0.0291 | 0.001531 |
| 70.79 | 1.00 | 35.39 | -0.0258 | 0.0060 | -0.0318 | -0.0027 | -0.00013 |
| 70.50 | 1.00 | 35.25 | 0.0242 | 0.0060 | 0.0183 | 0.0156 | 0.000742 |
| 68.50 | 1.00 | 34.25 | 0.0000 | 0.0060 | -0.0060 | 0.0096 | 0.000437 |
| 68.17 | 1.00 | 34.08 | 0.0243 | 0.0060 | 0.0184 | 0.0280 | 0.001217 |
| 68.00 | 1.00 | 34.00 | 0.0269 | 0.0060 | 0.0209 | 0.0489 | 0.002039 |
| 69.50 | 1.00 | 34.75 | 0.0515 | 0.0060 | 0.0455 | 0.0944 | 0.003778 |
| 70.00 | 1.00 | 35.00 | 0.0360 | 0.0060 | 0.0300 | 0.1245 | 0.004787 |
| 69.83 | 1.00 | 34.92 | 0.0262 | 0.0060 | 0.0202 | 0.1447 | 0.005359 |
| 69.88 | 1.00 | 34.94 | 0.0292 | 0.0060 | 0.0233 | 0.1680 | 0.005999 |
| 72.94 | 1.00 | 36.47 | 0.0726 | 0.0060 | 0.0666 | 0.2346 | 0.008088 |
| 72.41 | 1.00 | 36.20 | 0.0201 | 0.0060 | 0.0141 | 0.2487 | 0.008289 |

Figure: 27 Trend of Cumulative Abnormal Return for CMC Holdings (2004)

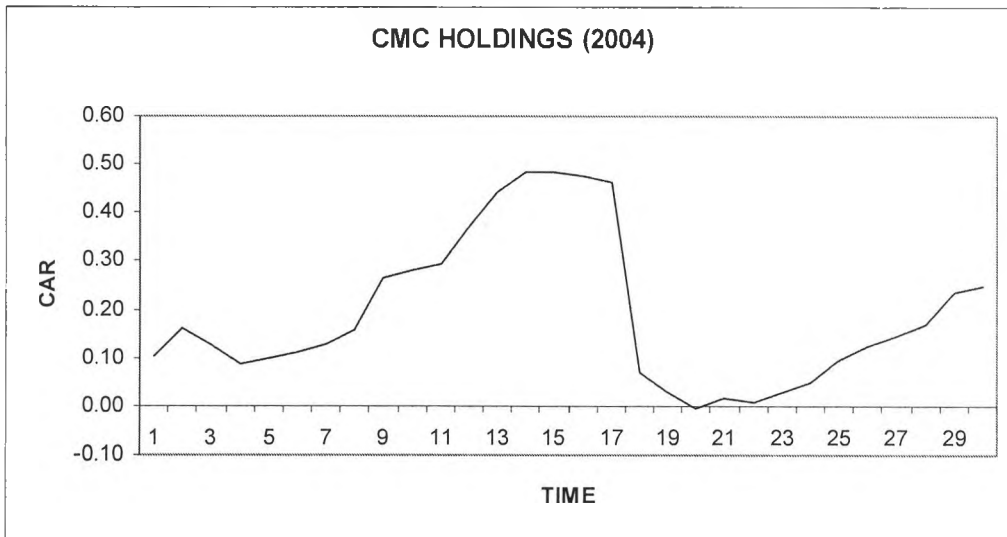


Table 27 shows that the abnormal returns for CMC are positive on the announcement date and two days following. In day 3 and 4 the returns are observed to be negative, this changes to positive thereafter until day 14. Thereafter the returns are seen to fluctuate between positive and negative. The CAR graph Fig. 27 is observed to be irregular and bumpy. It rises from the 5th day reaches the peak in day 14 and starts to fall from day 17. This suggests the presence of other factors which impact on the prices for CMC stocks apart from the stock dividend announcements.

Table 28: Summary Statistics for Diamond Trust (2005)

| Price | Div | AdjPrice | Actual | Exp Return | Abreturn | CAR | ACAR |
|-------|------|----------|----------|------------|----------|--------|----------|
| 28.58 | | 22.87 | | | | | |
| 32.08 | 0.75 | 25.67 | 0.155248 | 0.0079 | 0.1473 | | |
| 33.83 | 0.75 | 27.07 | 0.083766 | 0.0079 | 0.0759 | 0.0759 | 0.075856 |
| 34.71 | 0.75 | 27.77 | 0.053571 | 0.0079 | 0.0457 | 0.1215 | 0.060758 |
| 34.88 | 0.75 | 27.90 | 0.031813 | 0.0079 | 0.0239 | 0.1454 | 0.048473 |
| 36.25 | 0.75 | 29.00 | 0.066308 | 0.0079 | 0.0584 | 0.2038 | 0.050954 |
| 36.01 | 0.75 | 28.81 | 0.01931 | 0.0079 | 0.0114 | 0.2152 | 0.043043 |
| 35.88 | 0.75 | 28.70 | 0.022215 | 0.0079 | 0.0143 | 0.2295 | 0.038253 |
| 35.67 | 0.75 | 28.53 | 0.020325 | 0.0079 | 0.0124 | 0.2419 | 0.034562 |
| 35.58 | 0.75 | 28.47 | 0.023949 | 0.0079 | 0.0160 | 0.2580 | 0.032247 |
| 34.00 | 0.75 | 27.20 | -0.01815 | 0.0079 | -0.0261 | 0.2319 | 0.025768 |
| 34.50 | 0.75 | 27.60 | 0.042279 | 0.0079 | 0.0344 | 0.2663 | 0.026628 |
| 33.63 | 0.75 | 26.90 | 0.001812 | 0.0079 | -0.0061 | 0.2602 | 0.023653 |
| 33.75 | 0.75 | 27.00 | 0.031599 | 0.0079 | 0.0237 | 0.2839 | 0.023656 |
| 33.71 | 0.75 | 26.97 | 0.02672 | 0.0079 | 0.0188 | 0.3027 | 0.023283 |
| 34.00 | 0.75 | 27.20 | 0.036282 | 0.0079 | 0.0284 | 0.3311 | 0.023647 |
| 33.12 | 0.75 | 26.49 | 0.001555 | 0.0079 | -0.0064 | 0.3247 | 0.021646 |
| 32.13 | 0.75 | 25.70 | -0.0016 | 0.0079 | -0.0095 | 0.3152 | 0.019699 |
| 33.07 | 0.75 | 26.46 | 0.058644 | 0.0079 | 0.0507 | 0.3659 | 0.021525 |
| 33.17 | 0.75 | 26.53 | 0.031228 | 0.0079 | 0.0233 | 0.3892 | 0.021624 |
| 33.93 | 0.75 | 27.14 | 0.051238 | 0.0079 | 0.0433 | 0.4326 | 0.022767 |
| 34.00 | 0.75 | 27.20 | 0.029737 | 0.0079 | 0.0218 | 0.4544 | 0.02272 |
| 33.93 | 0.75 | 27.14 | 0.025473 | 0.0079 | 0.0176 | 0.4720 | 0.022474 |
| 34.00 | 0.75 | 27.20 | 0.029737 | 0.0079 | 0.0218 | 0.4938 | 0.022445 |
| 34.25 | 0.75 | 27.40 | 0.034926 | 0.0079 | 0.0270 | 0.5208 | 0.022643 |
| 35.00 | 0.75 | 28.00 | 0.04927 | 0.0079 | 0.0414 | 0.5622 | 0.023423 |
| 35.19 | 0.75 | 28.15 | 0.03228 | 0.0079 | 0.0244 | 0.5865 | 0.023461 |
| 34.75 | 0.75 | 27.80 | 0.014071 | 0.0079 | 0.0062 | 0.5927 | 0.022796 |
| 34.50 | 0.75 | 27.60 | 0.019784 | 0.0079 | 0.0119 | 0.6046 | 0.022391 |
| 34.13 | 0.75 | 27.30 | 0.016304 | 0.0079 | 0.0084 | 0.6130 | 0.021891 |
| 34.14 | 0.75 | 27.31 | 0.02788 | 0.0079 | 0.0200 | 0.6329 | 0.021825 |
| 34.06 | 0.75 | 27.25 | 0.025116 | 0.0079 | 0.0172 | 0.6501 | 0.021671 |

Figure 28: Trend of Cumulative Abnormal Return for Diamond Trust Bank (2005)

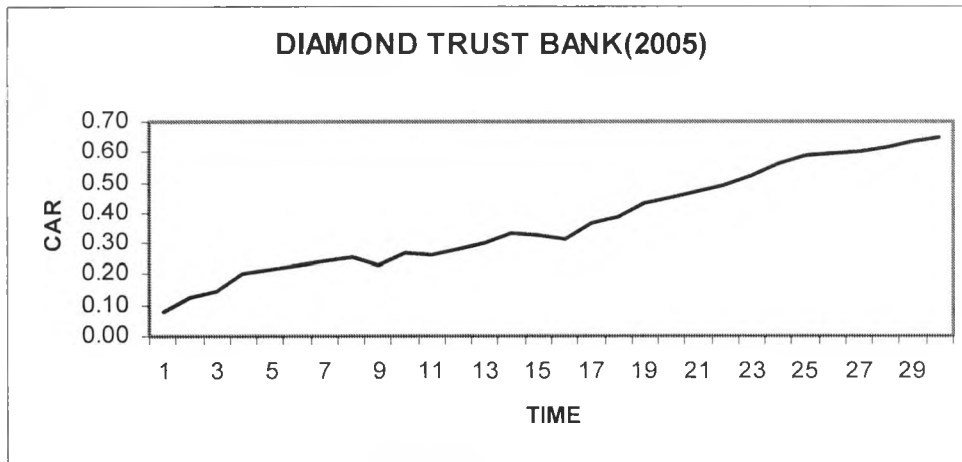


Table 28 above shows that the abnormal returns for most of the days subsequent to stock dividend announcements are positive. The graph for CAR Fig. 28 is generally upward sloping. This indicates that the market is reacting to stock dividend announcement days following the announcement.

Table 29: Summary Statistics for NATION MEDIA GROUP (2005)

| Price | Div | AdjPrice | Actual | Exp Return | Abreturn | CAR | ACAR |
|--------|------|----------|---------|------------|----------|--------|----------|
| 196.40 | | 147.30 | | | | | |
| 195.33 | 5.00 | 146.50 | 0.0285 | 0.002728 | 0.0258 | | |
| 195.00 | 5.00 | 146.25 | 0.0324 | 0.002728 | 0.0297 | 0.0297 | 0.029695 |
| 195.80 | 5.00 | 146.85 | 0.0383 | 0.002728 | 0.0356 | 0.0653 | 0.032629 |
| 200.00 | 5.00 | 150.00 | 0.0555 | 0.002728 | 0.0528 | 0.1180 | 0.039343 |
| 216.00 | 5.00 | 162.00 | 0.1133 | 0.002728 | 0.1106 | 0.2286 | 0.057158 |
| 239.90 | 5.00 | 179.93 | 0.1415 | 0.002728 | 0.1388 | 0.3674 | 0.073483 |
| 239.67 | 5.00 | 179.75 | 0.0268 | 0.002728 | 0.0241 | 0.3915 | 0.065251 |
| 229.13 | 5.00 | 171.84 | -0.0162 | 0.002728 | -0.0189 | 0.3726 | 0.05323 |
| 226.83 | 5.00 | 170.13 | 0.0191 | 0.002728 | 0.0164 | 0.3890 | 0.048622 |
| 223.40 | 5.00 | 167.55 | 0.0143 | 0.002728 | 0.0115 | 0.4005 | 0.0445 |
| 222.78 | 5.00 | 167.08 | 0.0271 | 0.002728 | 0.0243 | 0.4248 | 0.042483 |
| 223.00 | 5.00 | 167.25 | 0.0309 | 0.002728 | 0.0282 | 0.4530 | 0.041184 |
| 223.75 | 5.00 | 167.81 | 0.0333 | 0.002728 | 0.0305 | 0.4836 | 0.040296 |
| 224.50 | 5.00 | 168.38 | 0.0331 | 0.002728 | 0.0304 | 0.5140 | 0.039536 |
| 225.77 | 5.00 | 169.33 | 0.0353 | 0.002728 | 0.0326 | 0.5466 | 0.039042 |
| 226.50 | 5.00 | 169.88 | 0.0328 | 0.002728 | 0.0300 | 0.5766 | 0.038442 |
| 229.67 | 5.00 | 172.25 | 0.0434 | 0.002728 | 0.0407 | 0.6173 | 0.038582 |
| 231.78 | 5.00 | 173.83 | 0.0382 | 0.002728 | 0.0355 | 0.6528 | 0.0384 |
| 231.08 | 5.00 | 173.31 | 0.0258 | 0.002728 | 0.0230 | 0.6758 | 0.037547 |
| 231.83 | 5.00 | 173.88 | 0.0321 | 0.002728 | 0.0294 | 0.7052 | 0.037116 |
| 232.00 | 5.00 | 174.00 | 0.0295 | 0.002728 | 0.0267 | 0.7320 | 0.036598 |
| 231.22 | 5.00 | 173.42 | 0.0254 | 0.002728 | 0.0227 | 0.7546 | 0.035934 |
| 230.64 | 5.00 | 172.98 | 0.0263 | 0.002728 | 0.0236 | 0.7782 | 0.035372 |
| 230.19 | 5.00 | 172.64 | 0.0270 | 0.002728 | 0.0242 | 0.8024 | 0.034888 |

| | | | | | | | |
|--------|------|--------|--------|----------|--------|--------|----------|
| 229.44 | 5.00 | 172.08 | 0.0257 | 0.002728 | 0.0230 | 0.8254 | 0.034393 |
| 229.50 | 5.00 | 172.13 | 0.0293 | 0.002728 | 0.0266 | 0.8520 | 0.03408 |
| 229.40 | 5.00 | 172.05 | 0.0286 | 0.002728 | 0.0259 | 0.8779 | 0.033764 |
| 228.88 | 5.00 | 171.66 | 0.0268 | 0.002728 | 0.0240 | 0.9019 | 0.033404 |
| 228.45 | 5.00 | 171.34 | 0.0273 | 0.002728 | 0.0246 | 0.9265 | 0.033089 |
| 228.83 | 5.00 | 171.63 | 0.0308 | 0.002728 | 0.0281 | 0.9546 | 0.032917 |
| 227.75 | 5.00 | 170.81 | 0.0244 | 0.002728 | 0.0217 | 0.9763 | 0.032542 |

Figure 29: Trend of Cumulative Abnormal Return for NATION MEDIA GROUP (2005)

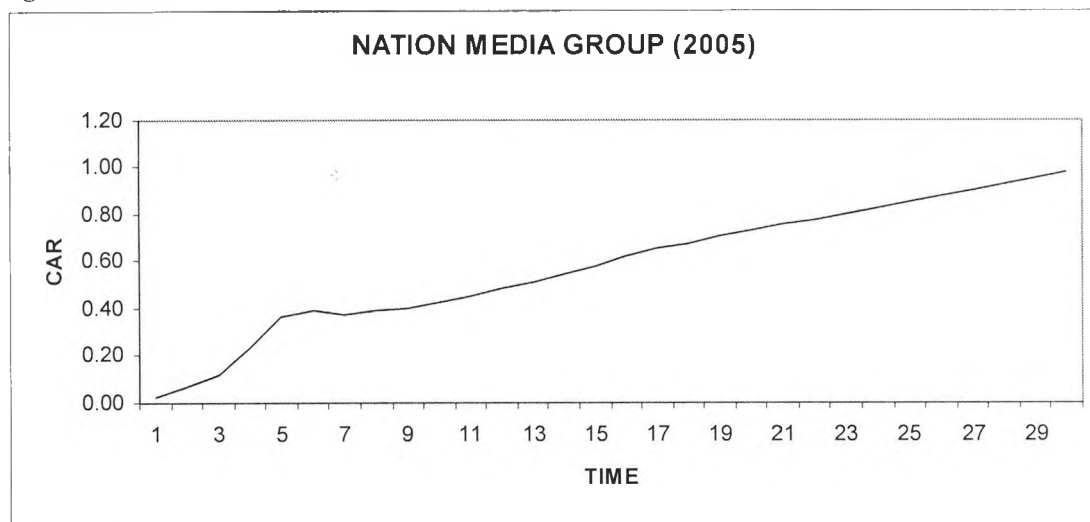


Table 29 shows that except for day 7, all the abnormal returns for NMG (2005) are positive. The CAR graph in Fig. 29 is upward sloping. This indicates continuation of positive returns in the days following the news event.

Table 30: T-test of Significance for Average Cumulative Abnormal Return by Company and year (1999-2005)

| Year | Company | N | Mean | Std. Deviation | Std. Error Mean | t-value | df | P-value |
|------|----------|----|--------|----------------|-----------------|---------|----|---------|
| 1999 | NIC | 30 | 0.0455 | 0.0303 | 0.0055 | 8.222 | 29 | .000 |
| | Panafric | 30 | 1.1095 | 0.0203 | 0.0037 | 299.067 | 29 | .000 |
| 2000 | BAT | 30 | 0.1257 | 0.0246 | 0.0045 | 27.979 | 29 | .000 |
| | BBK | 30 | 1.1095 | 0.0203 | 0.0037 | 299.067 | 29 | .000 |
| | CARBACID | 30 | 0.0183 | 0.0141 | 0.0026 | 7.145 | 29 | .000 |
| | CFC | 30 | 0.0517 | 0.0063 | 0.0012 | 44.862 | 29 | .000 |
| | SCBK | 30 | 0.1214 | 0.0362 | 0.0066 | 18.386 | 29 | .000 |
| 2001 | ICDC | 30 | 0.0046 | 0.0042 | 0.0008 | 5.997 | 29 | .000 |
| | KCB | 30 | 0.0373 | 0.0374 | 0.0068 | 5.464 | 29 | .000 |
| | KENOL | 30 | 0.0968 | 0.0115 | 0.0021 | 45.947 | 29 | .000 |
| | TOTAL | 30 | 0.0202 | 0.0204 | 0.0037 | 5.426 | 29 | .000 |
| 2002 | NMG | 30 | 0.0756 | 0.0510 | 0.0093 | 8.120 | 29 | .000 |
| 2003 | BBK | 30 | 0.0643 | 0.0063 | 0.0011 | 56.245 | 29 | .000 |
| | DTK | 30 | 0.0501 | 0.0030 | 0.0006 | 91.006 | 29 | .000 |
| 2004 | CFC | 30 | 0.0103 | 0.0217 | 0.0040 | 2.589 | 29 | .015 |
| | SCBK | 30 | 0.0096 | 0.0167 | 0.0031 | 3.138 | 29 | .004 |
| | CBERG | 30 | 0.0575 | 0.0487 | 0.0089 | 6.462 | 29 | .000 |

| | | | | | | | | |
|------|------|----|--------|--------|--------|--------|----|------|
| | CMC | 30 | 0.0214 | 0.0232 | 0.0042 | 5.055 | 29 | .000 |
| | EABL | 30 | 0.0265 | 0.0055 | 0.0010 | 26.536 | 29 | .000 |
| 2005 | NMG | 30 | 0.0405 | 0.0100 | 0.0018 | 22.210 | 29 | .000 |
| | DTK | 30 | 0.0295 | 0.0135 | 0.0025 | 11.996 | 29 | .000 |

The above t-test shows that the average cumulative abnormal returns are significantly different from zero for all the companies since their p-values <<< 0.05 at 5% level of significance.

Table 111 Paired Sample T-test of Actual and Expected Return by Company and Year

| Year | Company | | | Paired Differences | | t | df | P-value |
|------|----------|--------|----------------|--------------------|----------------|--------|----|---------|
| | | | | Mean | Std. Deviation | | | |
| 1999 | NIC | Pair 1 | ActualR - ExpR | .0353074 | .0390695 | 5.032 | 30 | .000 |
| | Panafric | Pair 1 | ActualR - ExpR | 1.1400866 | .1281831 | 49.521 | 30 | .000 |
| 2000 | BAT | Pair 1 | ActualR - ExpR | .1449395 | .0759482 | 10.626 | 30 | .000 |
| | BBK | Pair 1 | ActualR - ExpR | 1.1400866 | .1281831 | 49.521 | 30 | .000 |
| | CARBACID | Pair 1 | ActualR - ExpR | .0378396 | .0781386 | 2.696 | 30 | .011 |
| | CFC | Pair 1 | ActualR - ExpR | .0539272 | .0415237 | 7.231 | 30 | .000 |
| | SCBK | Pair 1 | ActualR - ExpR | .1221260 | .0922934 | 7.367 | 30 | .000 |
| 2001 | ICDC | Pair 1 | ActualR - ExpR | .0052370 | .0257993 | 1.130 | 30 | .267 |
| | KCB | Pair 1 | ActualR - ExpR | .0133942 | .0388589 | 1.919 | 30 | .065 |
| | KENOL | Pair 1 | ActualR - ExpR | .0954077 | .0685423 | 7.750 | 30 | .000 |
| | TOTAL | Pair 1 | ActualR - ExpR | -.0014446 | .0566267 | -.142 | 30 | .888 |
| 2002 | NMG | Pair 1 | ActualR - ExpR | .0491983 | .0488343 | 5.609 | 30 | .000 |
| 2003 | BBK | Pair 1 | ActualR - ExpR | .0572160 | .0284397 | 11.201 | 30 | .000 |
| | DTK | Pair 1 | ActualR - ExpR | .0571791 | .0370112 | 8.602 | 30 | .000 |
| 2004 | CFC | Pair 1 | ActualR - ExpR | -.0002965 | .0258131 | -.064 | 30 | .949 |
| | SCBK | Pair 1 | ActualR - ExpR | .0043329 | .0441101 | .547 | 30 | .588 |
| | CBERG | Pair 1 | ActualR - ExpR | .0431277 | .0525241 | 4.572 | 30 | .000 |
| | CMC | Pair 1 | ActualR - ExpR | .0165445 | .0956051 | .964 | 30 | .343 |

| | | | | | | | | |
|------|------|-----------|-------------------|----------|----------|-------|----|------|
| | EABL | Pair 1 | ActualR - ExpR | .0283746 | .0381068 | 4.146 | 30 | .000 |
| 2005 | NMG | Pair 1 | ActualR - ExpR | .0323242 | .0272487 | 6.605 | 30 | .000 |
| | DTK | Pair 1 | ActualR - ExpR | .0257248 | .0304100 | 4.710 | 30 | .000 |

The above paired t-test shows that there exists a significant difference between the actual returns and expected returns for most companies except ICDC (2001, p-value=0.267), KCB(2001, P-value=0.065), TOTAL (2001, p-value=0.888), CFC (2004, p-value=0.949), Standard Chartered Bank (2004, p-value=0.588) and CMC (2004, p-value=0.343).

5.0 SUMMARY & CONCLUSIONS

5.1 CONCLUSION

The objective of the study was to test for existence of underreaction anomaly at the NSE using stock dividend announcement events. According to underreaction hypothesis, prices of companies experiencing positive (negative) announcements tend to drift upwards (downwards). This phenomenon is an anomaly since it goes against the efficient market hypothesis of Fama (1970). Ball and Brown (1968) were the first to document existence of post-earnings-announcement-effect. This phenomenon has been observed in studies carried out in different stock markets in other parts of the world.

The study covered all stock dividend announcements at NSE for the 7 year period from 1st January 1999 to 31st December 2005. To check for unexpected returns over the event window a comparison-period-return approach (CPRA) was used. This approach has been used in other studies such as Foster and Vickrey (1978), Masulis (1980) and Woolridge (1983). Fama(1978) notes that CPRA is appropriate for testing the reaction of stock prices to firm-specific events. To examine the behavior of returns over the event window cumulative abnormal returns (CAR) were calculated and CAR graph charted.

Analysis was done for each stock dividend announcement separately first and then by year of announcement. Finally, the results for the full sample were presented. Generally the results of the analysis showed evidence in favor of existence of underreaction to stock dividend announcements at the NSE for the period of study. This by extension means that NSE portrays evidence of inefficiency in the semi-strong form of efficiency. However

this conclusion is limited to the period of study and subject to the limitations outlined below:

5.2 LIMITATIONS OF THE STUDY

Though every attempt was made to make the study as conclusive as possible, there were a few limitations encountered during the study. A brief discussion of these limitations follows: First, the study covered a relatively short period of 7 years. This was occasioned mainly by the time and financial constraints though data availability was also a factor. Even though the period compares favorably with other studies done on announcement effect at NSE, going by international standards this is by far a short period. Further in the period of analysis there were only 23 incidences of stock bonus announcements. This is a relatively small sample and may have been occasioned by the small number of listed companies at NSE and the fact that bonus issue is not a very common phenomenon at NSE. Working with a larger sample would have produced results that are more conclusive.

Another limitation faced in the study is lack of data. While most of the data on stock prices and bonus announcements was available at NSE database, data on the market-wide events was not available. The behavior of stock prices in year 2001 and 2004 gave an indication of presence of other pervasive factors affecting the stock market details of which was not available at NSE. As noted earlier, even some basic data for two companies viz. Limuru Tea and EAAGADS was not available leading to the two being dropped from the sample.

The study also covered one stock market, NSE, which is currently the only stock market in Kenya. Examining one stock market may show some effects that are not apparent in large-scale studies. The results could have been a bit more conclusive if the study was done on several stock markets.

5.3 RECOMMEDATION FOR FURTHER RESEARCH

The study sought to test for existence of underreaction anomaly at the NSE using stock dividend announcement as the key event. Researchers have used other news events to test for underreaction hypothesis. Some of the studied events include; IPOs and secondary offerings (Loughran and Ritter, 1995), mergers (Asquith, 1983), stock splits (Ikenberry et al, 1996), exchange listings (Dharan and Ikenberry, 1995), dividends initiation and omission (Michaely et al, 1995) spinoffs (Cusatis et al. 1993). Underreaction hypothesis can be tested using any of these events.

The model used in this study to examine the behavior of returns after the news event is comparison-period-return approach (CPRA). Fama (1998) has argued that all models for expected returns are incomplete descriptions of the systematic patterns in average returns during any sample period. Though CPRA is a powerful model in measuring the reaction of stock prices to firm specific returns, it cannot identify anomalies in the cross-section of average returns like the size effect. Test for underreaction can also be done using other models like the use of matching control firm approach. This would involve identifying a firm with similar characteristics as the sample based on such benchmarks as book to market value, size or return characteristics.

Some behavioral models like that of Barberis, Shleifer and Vishny (1998) predict an initial investor underreaction and eventual overreaction. DeBondt and Thaler (1985) has also provided evidence consistent with long-term returns reversal. A study can be done to test if the apparent short-term underreaction will be followed by long-term overreaction.

Finally, a study can be done to test whether contrarian profits can be realized by employing momentum strategies to exploit the apparent underreaction at NSE.

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