

**EVALUATING THE INFORMATION
CONTENT OF STOCK DIVIDEND
ANNOUNCEMENTS: THE CASE
OF COMPANIES QUOTED AT THE
NAIROBI STOCK EXCHANGE.**

BY:

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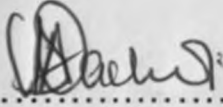
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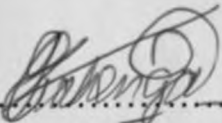
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THIS PROJECT HAS BEEN SUBMITTED FOR EXAMINATION WITH MY APPROVAL AS THE UNIVERSITY SUPERVISOR.

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DEDICATION

To my

Husband Fred,

Children

Cynthia and Chris

**For the support offered and the sacrifice of their time which they were
entitled to.**

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ABSTRACT

Despite their longevity, splits have long puzzled finance theorists. After all, splits are at one level only cosmetic change, slicing the same pie into smaller pieces but not changing an investor's fractional ownership of the equity interest and votes in the company. In this paper, I examine the impact of stock dividend announcement on share price of companies and secondly the impact of stock dividend size on stock returns by use of event studies at the Nairobi stock exchange. Twenty-four companies, which issued stock dividend /stock split (bonus) were examined. Results from the study indicate that stock dividend announcements have an impact on stock returns. The results also indicate that the size of stock dividend has an effect on stock returns.

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CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND

Dividend policy forms an integral part of the firm's strategic financing decisions: the others being the financing and investment decisions (McMenamin, (1999). Corporations view the dividend decision as quite important because it determines what funds flow to investors and what funds, are retained by the firm for re-investment (Ross and Westfield, (1998).

The Income Tax Act (CAP 470) of laws of Kenya defines a dividend as "any distribution whether in cash or property to its shareholders with respect to their equity interest in the company"(section 2). Over the years two types of dividend payout have come to dominate company distribution to its shareholders. These are cash dividends and stock dividend.

1.1.1. Cash dividends

Dividend is a payment from the firm to the shareholders. Although specific legal requirements must be met, the firm's board of directors has the ultimate authority in the declaration of dividends (Archer et al, (1983).

Franklin and Roni (1995) assert that one reason why dividend policy questions are so interesting is that, deciding on amounts of earnings to pay out as dividends is one of the major decisions that a firm's managers face. In particular, theories of asset pricing, capital

structure, mergers and acquisitions and capital budgeting all rely on a view of how and why dividends are paid. Although traditionally dividend decisions have been treated as financing decisions (because cash used for dividends payments is not available for reinvestment) the dividend decisions transcends financing decisions since it involves a broad set of policies such as saving agency costs associated with separation of management and ownership and signaling information of insiders (Kaen, 1995). The basic dividend model by Gordon (1962) concluded that if company's pays out more cash dividend, the price of its shares would increase. However with more cash dividend being paid out, the less the retained earnings for reinvestment which may hamper the future growth of the company especially if company cannot raise additional cash.

But as Black (1976) stated many years ago the decision to pay dividends remains a puzzle. The questions, which have been raised about the payment of dividends, are: Why do corporations pay dividends and why do investors pay attention to dividends?

On one hand the answers to the above questions might seem pretty obvious in the sense that dividends represent return to the investor who puts his money at risk in the corporation. Dividends may also be a reward to existing shareholders and an encouragement for others to buy new issues of common stock at higher prices (Black, (1976). Dividends appeal to investors because only through them or the prospect of dividends can they receive a

return on their investment or the chances to sell their shares at a higher price in the future. Dividends convey valuable information to investors over and above that available from other sources (Van Horne, (1997).

On the other hand answers to the above questions may not be obvious. For instance a firm may not pay dividends to demonstrate confidence that it has attractive investment opportunities that might be missed if it paid dividends i.e. it signals by non-payment of dividends. If it makes these investments it may increase the value of the shares by more than the amount of the lost dividends. If that happens the shareholders may be doubly better off. It does not make financial logic for a firm to simultaneously pay dividends and then go to the capital markets to source for costly external funds for investment. Dividends payment are restricted if there is no external financing. The availability of external sources of financing breaks the link between dividend and investment policies. Given the ability to raise outside capital the firm can simultaneously increase investment and dividends, (Levy and Samat, (1990).

The above contradictory scenarios present the dividend controversy or "puzzle". Black (1976 p. 5) Thus summed as "the harder we look at the dividend picture the more it seems like a puzzle with pieces that just don't fit together"

In the real world a change in dividend rate is often followed by a change in the market place (sometimes spectacularly so) such a

phenomenon would not be incompatible with irrelevance to the extent that it was merely a reflection of what might be called the informational content of dividends (Miller and Modigliani, (1964).

Dividends are viewed as an important source of information by both investors and management. Payment policy to management is a matter of indifference to the firm and that dividend conveys information to investors is no exception (Archer et al, (1983)

In Kenya firms listed at the Nairobi Stock Exchange usually pay dividends semiannually. There are no legal requirements requiring a firm to adopt a specific dividend policy or payment schedule, dividend distributions however do face legal restrictions. If the Board declares a dividend, it will announce that the dividend (of a set amount) will be paid to shareholders of record as of the record date and will be paid or distributed on the distribution date (sometimes called the Payable Date). In addition to declaring cash dividends, the firm has other options for distribution of profits to share holders. These options are, stock dividends/ stock splits, share repurchase, and dividend- in- kind.

1.1.2 Stock dividend

Neither stock dividend nor stock splits are recent phenomenon. The latter dates back to the Elizabethan age. Among the first to declare such dividends was the East India Company, which, while enjoying great prosperity, declared in 1682 a stock dividend of one

hundred percent. Stock dividend/splits are puzzling corporate phenomenon. A split is seemingly cosmetic corporate event, yet the market generally reacts favorably to split announcement. Since the classic paper by Fama et al (1969), the signaling hypothesis and the trading range hypothesis have emerged in the finance literature as the leading explanations of stock splits. In markets like Kenya where managers have information about the current and future earnings, which is unavailable to investors, stock dividend may provide a low cost signaling device through which a manager can convey his or her assessment of firms' prospects to investors. It is presumed that managers convey their expectations to the market through financial signals such as dividend changes such as stock splits, stock dividend, and stock repurchases.

Grinblatt et al (1994), document that stock prices rise on average when stock dividend/ stock split announced. They hypothesized that this transactions signal information about the firm on future earnings or equity values.

Asquith et al (1989), McNichhols and Dravid (1990) in their studies on stock splits /stock dividend found that stock dividends/splits reveal favorable future information. They found that stock splits are followed by abnormal increases in dividends or earnings, or both. A stock split results in an increase in stock price of the splitting firm but it might also reveal information about the industry in general.

Ross (1977), has suggested that given asymmetric information between managers and investors, the former might use financial decisions, such as stock splits and stock dividend distributions, to convey favorable information to the latter. However, for signaling device to be valid, there should be a cost associated with sending false signals: namely, it should be costly for firms with below - average expected performance to mimic the signaling decisions of those firms enjoying above-average performance. A case for costly signaling can be made for stock dividends. As mentioned in Grinblatt et al (1984), accounting principles require that stock dividend distributions will be accompanied by a decrease in the firm's balance of retained earnings. Accordingly, it is argued, such distributions will be made only when managers do not expect the balance of retained earnings to constrain future cash dividend payments. There are many documented benefits in use of stock dividend/ stock split such as that it conserves cash, indicates higher future profits, raise future dividends for investors has high psychological value and that it retains proportional ownership among other reasons. Onyango (1999), in her research found that managers believe that stock dividend (bonus issues) benefits the firm.

In Kenya, stock dividend/ stock split (bonus issue) is fairly frequent mode of paying dividend payments to shareholders. In the last 10 years about 20% of companies quoted on Nairobi stock exchange have declared stock dividend/ stock split in each year. At

the same time stock dividend/ stock split has become very controversial in Kenya, it is possible that some companies might have knowingly or unknowingly abused it. The cases that can be cited include Kenya Finance Bank, which in 1994 and 1995 declared stock dividend and was put under receivership a few months after the 1995 stock dividend declaration. Unga group in 1998 issued stock dividend at the rate of one share for 5 shares held and yet the company incurred huge losses that year.

In differentiating between stock dividend and stock splits the Committee on Accounting Procedure (CAP) of the American institute of certified public accountants has recommended that stock distributions below 20 % to 25% be recorded, as stock dividends above this should be recognized as stock splits. The basis for this division, according to CAP, is the different objectives of dividends and split. The CAP argues that stock dividends are

“... Prompted mainly by a desire to give the recipient shareholders some ostensibly separate evidence of a part of their respective interests in accumulated corporate earnings without distribution of cash or property...”(CAP, 1961, P.49). The CAP states that stock splits, on the other hand are “... prompted mainly by a desire to increase the number of outstanding shares for the purpose of effecting reduction in their unit market price...”(CAP, 1961, P.49).

These different objectives, if recognized by managers and investors, indicate that stock dividends, but not stock splits, may be an effective signaling device. In Kenya there is no differentiation of stock dividend and stock split and are generally referred to as

bonus Issue. Due to the thinness of trading in the Nairobi stock exchange, if I separated the stock dividends from stock splits I will not have enough events, so I will not make a distinction; I will refer to all as stock dividend for the sake of the study.

As is evident from above many studies have been carried out in other countries on stock dividend. Researchers in Kenya have tended to concentrate on dividend policy [Karanja (1987), Obonyo (1989), Farida (1993) Iminza (1997), Njoroge (2001) and Maina (2002)]. The only research done on the area of stock dividend/ stock split was by Onyango (1999), who studied the factors managers consider before declaring bonus issue and the estimation of the benefits to shareholders. To the best of the researchers knowledge no study has been carried out in Kenya on the information content of stock dividend. Thus by carrying out this research I will be trying to fill the gap that exists.

1.2 STATEMENT OF PROBLEM

This research sets to look at the empirical relationship between the stock dividend announcement and the market value of shares for firms quoted at the Nairobi stock exchange (NSE) by use of an event study. Stock dividends are distributions of dividend in form of common stock. For the declaring firm, a stock dividend simply involves a transfer on the books of an amount equal to the market value of the distributed shares from retained earnings to permanent capital. The stockholders do receive additional common shares but since stock dividends do not enhance earning power, change the firm's capital structure, or result in expense reductions, the total market value of the firm, in the absence of information asymmetries, should remain the same. Yet studies in developed markets document evidence that stock dividends /split announcement have positive impact on price of company 's shares. The research task therefore is to ascertain whether the findings in developed markets are portable to the developing markets specifically the NSE.

1.3 OBJECTIVE OF THE STUDY.

1. Measure the impact of stock dividend announcement on share price of companies.
2. Examine the impact of stock dividend size on stock returns.

1.4 IMPORTANCE OF THE STUDY

1. Academicians: the study will give a good insight to academicians who wish to do further research on the effect of stock dividends on market price of shares.

2. Investors: This study will assist Investors who may need to know the relationship between stock dividend and market price of the firm for them to make informed decisions in the choice of their portfolio mix

3. Financial consultants: so that they will be able to offer quality services to their clients.

4. Company directors: the management of publicly quoted companies in determining the effect of stock dividends on share value of their firm's securities which determines the value of the firm. This will help them make informed dividend policy decisions.

CHAPTER TWO: LITERATURE REVIEW

2.1 THE DIVIDEND DECISION

Dividend may be defined as a per share payment designated by a company's board of directors to be distributed among shareholders. For preferred shares, it is generally a fixed amount and for common shares, the dividend varies with the fortunes of the company and the amount of cash on hand. Dividend policy determines the extent of internal financing by a firm. The finance manager decides whether to release corporate earnings from the control of the enterprise. Because dividend policy may affect such areas as the finance structure, the flow of liquid funds, corporate liquidity, stock prices, and investor satisfaction, it is clearly an important aspect of financial management (Weston and Brigham (1981).

Gordon and Linter (1962), have argued that dividends are relevant under conditions of uncertainty. They argued that dividends resolve uncertainty in the minds of investors and therefore investors prefer dividends to capital gains. They contend that uncertainty increases with the length of period and further argue that investors are risk averse and prefer near dividends to future dividends. Future dividends are therefore discounted at a higher rate of return than near dividends as a result a firm paying dividends will command a higher value than a firm that follows a policy of retention.

Black and Scholes (1974), found out that a corporation that increases its dividend could expect that this will have no definite effect on its stock price. The price may change temporarily in response to a change in the dividend, because the market may believe that the change indicates something about probable future course of earnings. If it becomes clear that the change was not made because of any change in dividend estimated future earnings, this temporary effect should disappear.

A great deal of theoretical and empirical work over the last 40 years has been concerned with the precise effect of a company's dividend policy on its share price. Nevertheless the relationship between dividend and the value of the share is still not clear-cut. It is true that dividend announcements are associated with movements in share price but these changes may be due to the informational content of dividends. This is a matter of considerable controversy which centers on whether or not the positive association between share price movements and dividend can be attributed directly to the fact that dividend have change or to the fact that the dividend changes has informational effect. This has become a puzzle, which unfortunately is still unresolved. In the words of Black (1976 p.5) "The harder we look at the dividend picture, the more it seems like a puzzle with pieces that just don't fit together."

Miller and Modigliani (MM)(1961), who present a cogent argument for the fact that the value of the firm is unaffected by dividend policy in a world without taxes or transaction costs. This

has come to be referred to as "dividend policy irrelevance theory." According to dividend irrelevancy theory the underlying earnings are only viewed as a means to an end. If the earnings were retained and reinvested for the benefits of shareholders then it would produce future dividends for the investors. MM (1961) tried to prove that price of firm's common stock is independent of its dividend policy in a perfect risk less capital market (Also see Levy and Samat, (1990).

Starting from the MM propositions, subsequent developments have attempted to relax the assumptions underlying the proposition. Studies have been carried out when the tax assumption is relaxed. The researchers tried to examine the effect of taxes on the level of firm's dividend. Dividends are taxable when distributed whereas taxes on capital gains are deferred until the stock is sold. Thus for individual shareholders, the effective tax rate on dividends income is higher, (Ross and Westfield, (1998).

MM (1961) tried to shift the burden of proof. Before MM firm value was believed to be influenced by its dividend policy. After MM it became clear that establishing a correct dividend policy was not obvious at all (Ross and Westfield, (1998).

Dividends payment are restricted if there is no external financing. The availability of external sources of financing breaks the link between dividend and investment policies. Given the ability to raise outside capital the firm can simultaneously increase investment and dividends (Levy and Samat (1990).

2.2 BRIEF HISTORY OF DIVIDEND STUDIES

1950's-1960 most studies at this time concentrated on the multiplier effect of dividend.

Some of the research carried out in the 1950's and 1960's found earnings were a more important influence on share price than dividends.

a.) Miller and Modigliani (1961)

Miller and Modigliani (1961) tried to prove that price of firms common stock is independent of its dividend policy in a perfect risk less capital market.

b.) Gordon's model (1962)

Gordon's (1962), related the market value of the firm to dividend policy. According to the dividend capitalization model the market value of the share is equal to the present value of an infinite stream of dividends to be received by the shareholder.

c.) Walters model (1963)

Walter (1963), argues that the choice of dividend policies almost always affect the value of the enterprise. He found in his studies into the relationship between retained earnings and share price that the rate of growth of share price over time is associated with the proportion of earnings retained. His model shows the importance of the relationship between the firm's internal rate of return and the cost of capital in determining the dividend policy that will maximize the wealth of shareholders.

d.) Fisher Black (1974)

Black (1974) He found out that by explaining share price in terms of retained earnings plus dividend gave better results than evaluating shares in terms of present or past dividends alone. Hence retained earnings influence share price.

e.) Friend and Pickett (1964)

Friend and Pickett (1964) find little basis for the view that "a dollar of dividend has several times the impact on price of a dollar of retained earnings."

In the 1970's-1990 the emphases of the research in this period was to prove or disapprove the irrelevancy proposition rather than to find a multiplier effect of dividend as opposed to retained earnings. Studies carried out at this time were by Litzenberg and Ramaswany (1979) who noted that the tax rate on dividend is higher than the rate on capital gain and Ross (1977) on the signaling theory.

2.3 FORMS OF DIVIDEND

Dividends can take several forms. Among others are;

2.3.1 Cash Dividends

This is the usual form of dividend payment. For a firm to adopt this type, it must have sufficient liquidity to pay-off the dividends once declared. The dividend dates remain similar over the years and investors expect dividend announcements at these times (Kaen, 1995).

2.3.2 Stock dividends

This is dividend paid in form of additional shares of stock

instead of cash. It simply involves capitalization of retained earnings. In this case, the stockholders proportional ownership remains unchanged. Stock dividend is stated as a percentage increase in number of shares outstanding. Additional shares are allocated based on a fixed proportion of shares owned by each investor prior to the declaration of the stock dividend (Kaen, (1995).

2.3.3 Stock spits

This is basically a situation where the number of shares is increased through a proportional reduction in the par value of stock. Stock splits are issued when the firm intends to attract more buyers through substantial reduction in market prices of its shares.

Justification of stock splits /dividends is that such moves improve the attractiveness of shares to investors (Kaen, (1995).

2.3.4 Stock Repurchases

This is repurchasing shares of their own stock. This can be accomplished through open market purchases or through a tender offer for shares. In open market purchase, corporations buys its own stock in the secondary market just like any other investor except that firms must publicly announce their intention to repurchase shares. A tender offer is a formal offer to buy all shares tendered up to given level, and repurchase price is stated in the tender offer announcement and is usually above the current market price. Firms usually use the tender offer method when they are repurchasing a large number of shares. The repurchased stock becomes treasury stock (Hickman, et al, (1996).

Companies repurchase a portion of their common stock for the following reasons: -

- ◆ In order to have at its disposal available stock options,
- ◆ In order to have shares available for the acquisition of other companies
- ◆ The company intends to go private by purchasing its shares held externally,
- ◆ With the intention of retaining (as substitute) dividends.

Repurchasing stock has a tendency of raising share prices so that shareholders can be taxed at the capital gains rate instead of ordinary dividend rate and therefore has a tax advantage over dividend pay out. It signals positively that the firm's shares are undervalued.

A stock repurchase program has the virtue of providing a strong statement from management to investors that we as the management want to increase our stake in the company by buying (generally at some premium over market) from people who are willing to sell. It's a very effective way to sharpen management's focus on the core business and thereby increase the value of shares (Dick, (1998).

Stock repurchases involves distribution of information, the effect on share price is especially dramatic when shares are acquired through tender offer (Kaen, (1995).

2.3.5 Reverse split

Reverse splits represents a proportional reduction in shares and

leaves ownership interests and value unchanged (Hickman, et al, (1996).

This signal is usually negative, such as would accompany the admission that it is in financial difficulty. The company may not necessary be experiencing financial difficulty, but may want to move the stock price into higher trading range where total trading costs and servicing expenses are lower. (Horne, and Wachowicz, (2001).

Woodridge and chambers (1983), found a statistically significant decline in share price around the reverse stock split announcement date, holding other things constant.

2.4 DIVIDEND THEORIES

The controversy about dividend policy has three schools of thought.

- There is a conservative group, which believes that an increase in dividend pay out increases the value of the firm.
- The radical group that believes that an increase in pay out reduces the value of the firm.
- The third group, which claims that dividend policy, makes no difference.

The main theories are

2.4.1 MM dividend irrelevance theory

Modigliani and Miller (MM)(1961) argue that dividend policy has no effect on either the firms stock or its cost of capital. They contend that the firm's value is determined by its basic earnings power (cash flows) and it's risk class (cost of capital). It does not matter how any earnings are distributed between

dividends or retained earnings. The wealth of the stockholders will depend only on the investment decisions of management, not on management's dividend policy (Van Horne, (1997).

When cash dividends are paid, some of the assets of the company are sent to the stockholders. The company cannot grow as fast as it would have otherwise (unless it borrows more money or issues more stocks). The stockholders have traded current income for future stock price growth.

MM demonstrated that under particular set of assumptions if a firm pays higher dividends then it must sell new stock to new investors and share of the value of the company given up to the investors is exactly equal to the dividends paid out.

MM further argued that investors are able to replicate any dividend stream that the corporation might be able to pay. If for instance the company's dividends are lower than desired by shareholders, the shareholder can sell some of their shares to obtain their desired cash distribution hence investors are able to manufacture homemade dividends, which are perfect substitute of corporate dividends.

Homemade dividend is the sale of stock holding by investor to obtain cash as a substitute for payment of cash dividend by corporation (Archer, et al, (1983).

When cash dividends are not paid, the company retains the assets and invests in capital projects, which makes the company- and its stock- grow. Either way the stockholders will have the same

total return. Investors will have no preference between getting the increase in wealth in the form of dividends now or capital appreciation later. Since shareholders can manufacture home made dividends that are perfect substitutes of corporate dividends, then dividend policy is irrelevant and one dividend policy is as good as any other.

2.4.2 Bird in hand theory

This theory was advanced by Lintner (1962) and Gordon (1963) who argue that actually stockholders are averse and prefers dividends to capital appreciation.

There is less uncertainty (risk) in the dividends received today than there is in the expected capital appreciation some time in the future. Therefore maximizing the dividend payout rate will maximize the stock price. This is the commonly held view within the investment community.

This theory was criticized by M&M (1963) who referred to it as the "bird in the hand fallacy."

2.4.3 Tax differential theory

Advanced by Lizenberger and Ramaswamy (1979), they argued that tax rate on dividends is higher than tax rate on capital gains. Therefore, a firm that pays dividends has a lower value since shareholders pay more on dividends. Taxes must be paid on dividends in the year they are received. Taxes on capital gains do not have to be paid until the stock is sold. And taxes on capital gains may be less than on dividends, which are considered ordinary

income.

Therefore, depending on the tax situation of the investor, investors will prefer that companies retain the earnings and promote capital appreciation. Therefore minimizing the dividend payout rate will maximize the stock price.

In Kenya, dividends attract withholding tax of 15%, which is final, while capital gains are exempt (Hirt, 1981).

2.4.4 Clientele effect theory

The clientele effect hypothesis states that with different tax brackets, clienteles of investors may develop distinct preference for dividend or non-dividend paying stock. Small individual and institutional investors will for instance prefer dividend-paying stocks whereas highly taxable investors will prefer stocks that pay no dividends. If various clienteles of investors have divided preferences, firms should adjust their dividend policies to take advantage of the situation. Shareholder preferring capital gains will tend to hold shares with low payout ratios whereas shareholders preferring current income will tend to hold shares with high payout ratios (Archer, et al 1983)(I.e. Firms should tailor their dividend policies to unfulfilled desires of investors and thereby take advantage of the market). Thus, in equilibrium, the dividend payout by firms will match the desires of investor groups. At this point, no firm will be able to change its share price by altering its dividend. As a result, even with taxes, dividend policies would be irrelevant.

2.4.5 Agency theory

Agency problem is the potential for conflict in objectives, which exists in a principle- agent relationship.

Agency cost theory implies that firms adopt high dividend policies after all suitable investment projects have been financed. Dividend policy helps resolve the agency problem and thus enhances shareholders value (McMenamin, (1999).

Payment of dividend in an indirect way leads to the activities of managers being subjected to closer external investigation, hence having a beneficial effect on the value of the firm.

Black (1976) points out "there is no easier way for a company to escape the burden of debt than to pay out all of its assets in the form of dividend, and leave the creditors holding an empty shell."

2.4.6 Informational signaling effect theory

One of the most important considerations that companies decision makers ought to recognize is the information processing capacity (interpretation) by the market.

Rise in dividend payment is viewed as a positive signal conveying positive information about a firms future earnings prospects resulting in an increase in share price. Conversely a reduction in dividend payment is viewed as a negative signal about future earnings prospects, resulting in a decrease in share price (McMenamin, (1999). If for instance, a decision is made to pay unexpectedly high dividend, the market interprets this as evidence of sustaining greater dividend-paying capacity in the future and

consequently, an increase in the share price.

Ross (1977) argues that in an efficient market, management can use dividend payment to signal important information to the market, which is only known to them. Increase in dividends is often accompanied by increase in prices of the stock while a dividend reduction generally leads to stock price decline. This according to Ross suggests that investors generally prefer dividends to capital gains.

MM however argued that a higher than normal dividend increase is a signal to investors that the firm's management forecast better future earnings. On the contrary dividend reduction is a signal that management forecast poor earnings in the future. The reaction to change in dividend policy does not necessarily show that investors prefer dividends to capital gains but rather the fact that a price change follows a dividend action simply indicates important information or signaling content in a dividend announcement.

Solomon Ezra (1963) stated, " Dividend may offer tangible evidence of the firms ability to generate cash thus dividend policy affects the share price. He further observed that "in an uncertain world in which verbal statements may be misinterpreted or ignored dividend action does provide a clear cut means of making a statement that speaks louder than 1000 words".

2.5 EXPERIENCE OF DIVIDENDS AND STOCK DIVIDENDS IN KENYA

In Kenya most of the firms listed in the Nairobi stock exchange,

pay dividends semiannually. There are no legal requirements requiring a firm to adopt a specific dividend policy or payment schedule, dividend distributions however do face legal restrictions. A number of studies have been done on dividend policy:

Karanja (1987) studied the dividend practices of publicly quoted companies in Kenya, and found out there are many reasons why firms should pay dividends. One of the reasons is lack of investment opportunity, which promises adequate returns. Firm's cash position was the most important consideration when paying dividend. Dividend policy does not only involve the decision on whether to pay dividend or not, but also how much dividend to pay the mode of dividend payment, and when to pay the dividend. This makes dividend decision more complicated.

Farida (1993) examined empirically the parameters, which are important in the determination of dividend of publicly quoted companies. The result obtained indicated clearly that liquidity is the most important variable in determining dividend in the quoted companies. Variables such as liquidity, working capital, capital expenditure cash flows, and current net income were used.

Iminza (1997) carried out a study to investigate whether dividend payment does affect stock prices and found that dividend has a significant impact on share prices. He also deduced that the impact is much greater when there is a reduction in dividend paid than an increase.

Onyango (1999) in her research on the factors managers consider

before declaring bonus issue and the estimation of the benefits to shareholders found that managers believe that stock dividend (bonus issues) benefits the firm. She observed that shareholders tend to receive higher cash dividend after bonus issue. There was an increase in cash dividend of 10.23% after the issue of bonus issues, which was statistically significant.

Njoronge (2001) examined the relationship between dividend payouts and some financial ratios such as return on assets. The results obtained were that the most significant variables in making dividend decisions is return on asset while returns on equity and growth in assts are not considered in making dividend decisions .

Maina (2002), carried studies to establish whether there exists a relationship between dividend and investment decisions. She concluded that investment decisions affect the dividend decisions. Since both are competing for the internal sources of funds given that in Kenya funds obtained by debt are very expensive and are not available to all the companies.

2.6 EMPIRICAL EVIDENCE ON STOCK DIVIDEND

Studies on stock dividends dates back to 1930s when James Dolly (1933) examined the price effect of stock splits, studying nominal price changes at the time of the split. He found out that the price increased for 57 firms out of the 95 splits in his sample.

Past empirical research demonstrates that splits have real, not just cosmetic, effects in financial markets. Some of the effects are

apparently beneficial: splits are associated with significant value increases, appear to spur trading volume, and may increase the number of investors in the company. Other consequences seem less desirable: both shareholder risks and some transactions costs appear higher after splits. One source of cost increase is higher percentage bid-ask spreads on lower-priced shares.

Studying the determinants of split ratios, Lakonishok and Lev (1987) use price data to show that "the market-wide average price and, to a lesser extent, the industry-wide average are targets for the size of split" Moreover, splits are preceded by unusually high growth in earnings and dividends. Based on market microstructure foundations, the optimal-tick-size hypothesis (Angel, 1997) holds that firms split their stock to increase the size of the tick relative to the share price. A larger relative tick size "means greater protection for limit orders, fewer trading errors and lower costs of negotiation between traders" (Schultz, 1997, p. 1). These advantages are traded off against the cost to investors inherent in a wider percentage spread that comes with a wider tick. Schultz (1997) finds no evidence of split-induced reductions in trading costs but does document an increase in the shareholder base after splits. One possible reason for such an increase is that the wider spreads accompanying splits give brokerage firms sufficient incentive to provide information (e.g., through research reports) and bring in new investors (Brennan and Hughes, 1991). A wider distribution of stock may lead to lower capital costs in a market with incomplete

information (Merton, 1987).

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

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

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

especially good information about the prospects for the firm.

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

Whatever the financial market consequences, the evidence that company executives base splits on the notion of a preferred price range is overwhelming and long-standing. Based on a survey of companies with splits in the first third of the century, Dolley (1933) reports that over 90% of the managers responding said that the primary reason for splits was a wider distribution of shares, which was "accomplished, presumably, by reducing the market value per share and thus facilitating trading, as well as by increasing the absolute number of shares outstanding" (p. 70). Over half a century later, Baker and Powell (1993) report that managers' major stated purpose of splits (during the years 1987 through 1990) is to "lower the stock price and thus bring it into a preferred trading range" (p. 28). Over 70% of the managers surveyed cited a preferred price

range or a stock's liquidity as the primary reason for split; only 14% pointed to signaling information as a primary motivation.

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

Angel (1997) provides another view of splits driving prices to a desired level, which is based on achieving an optimal relative tick size.

Conroy, and Harris,(1999) investigated the announcement of split factors, split announcement returns, and revisions of analysts' earnings forecasts and concluded that a firm's past history of stock splits plays a crucial role in both the design and effect of current splits. Asquith et al (1989) document that firms that announce stock splits are in industries that experience abnormally high earnings growth during the announcement year.

Foster and Vickrey (1978) find that stock dividend has informational content in that prices tended to raise with announcement of stock dividend, they further found that market efficiently react to stock dividend at the ex- dividend date.

2.7 EVENT STUDIES

Event study is an important research tool in economics and finance. It is a powerful tool that can be used to help researchers assess the financial impact of changes in corporate policy. The researcher by using event studies can determine whether there is an abnormal stock price effect associated with an unanticipated event so as to infer the significance of the event. An event in finance or economics may be defined as some change, development, announcement that may produce a relatively large change in the price of the asset over some period. The goal of an event study is to measure the effects of an economic event on the value of the firms. Event studies exploit the fact that, given rationality in the market place, the effects of an event will be reflected immediately in security prices. Thus the impact can be measured by examining security prices surrounding the event (Mackinlay,(1997).

Event studies have been used to test the semi strong form of market efficiency (Fama et al, (1969). Tests have been done on stock splits, dividend announcement, mergers, release of financial statements and regulatory change. Event studies based on stock prices which is supposedly assumed to reflect true value of firm since it can not be manipulated and reflect all the relevant information, should measure the financial impact of change in corporate policy.

In event studies one has to define the following :

- ❖ Event

- ❖ Event window- period over which the event occurs .
- ❖ Estimation window- period over which parameters are estimated
- ❖ Measurement of abnormal return- first estimates the normal return. Abnormal return is given by return during the event window minus normal return. Abnormal returns are assumed to reflect the stock market's reaction to arrival of new information.
- ❖ Design testing framework .
- ❖ Conclusions .

CHAPTER THREE: RESERCH METHODOLOGY

3.0 POPULATION

The study confined itself only to companies listed at the Nairobi stock exchange (NSE). This is out of necessity because the methodology employed (event studies) is wholly dependent on the existence of stock prices generated by the stock exchange. During the period covered by the study, the number of actively traded equity securities at the bourse has fluctuated between 56 to 48 firms and all were given consideration.

3.2 SAMPLING DESIGN

The sample comprised all the listed companies that declared stock dividend (or a bonus issue or stock dividend) during the period spanning from 1st January 1998 to 31st December 2002 (appendix 1). Because the study used a comparison approach, which required that stock dividend be available for at least 60 trading days before and after the announcement date any initially sampled company that did not meet this requirement were excluded, two firms were excluded from the study, since data was not available for the month of October 1997. Foster and Vickery (1978) excluded from their sample all companies that paid cash dividend contemporaneously with stock dividend. Their reason for exclusion was that the cash dividend announcement would confound and contaminate the effect of stock dividend announcement. Thompson (1988) later on examined the effect of confounding events and concluded that they do not materially impair the results of studies. This study

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addresses the confounding effect of cash dividends occurring during the events window by first performing the tests on all sampled companies regardless of whether or not a cash dividend accompanied the stock dividend. Secondly, sampled companies that simultaneously paid a cash dividend were excluded and the analysis repeated only on the remaining companies to test for the robustness of results in the face of contemporaneous cash dividend.

3.3 DATA AND DATA SPECIFICATION.

The data used was secondary in nature and consisted mainly of five items: the name of the company making stock dividend issue, rate of the stock dividend, date of stock dividend announcement, any cash dividend and daily stock prices for the company (Appendix (ii)). The data was sourced from the NSE secretariat information databases. The information related to period from 1st October 1997 to 31st march 2003.

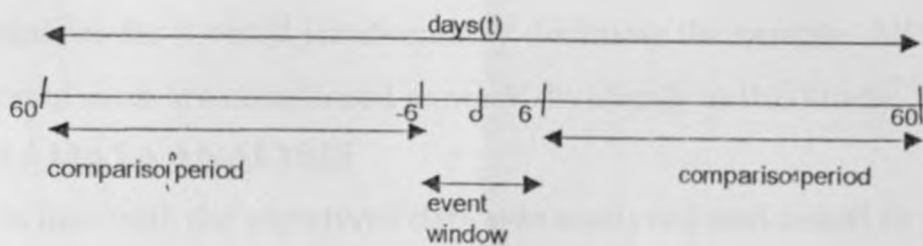
In order to be employed for the event study, the data was specified as follows

1. The event of study was the stock dividend announcement. The announcement date was based on the date the NSE was notified by the company of the impending issue. The dates were stamped on the stock dividend notice when received at the NSE secretariat.
2. The event window included the date of announcement and five trading days each prior to and after the announcement date. Thus the length of event window was eleven (11) days. These multiple event window was necessitated by two considerations. First the five

trading days prior to announcement date were needed for the purpose of capturing any leakages through insider trading (McWilliams et al (1997). And second, the five days after the announcement were necessary because of the thin market and the few trades at the NSE required a broadened window in order to increase the probability that trading on announcement information will be captured by the event window.

3. Data analysis was done by use of the Comparison Period Return Approach (CPRA) initially modeled by Foster and Vickrey (1978) and subsequently refined by Woolridge (1983). The CPRA requires that a representative time period (called the Comparison Period) be identified. To determine whether stock dividend announcements impact on prices, the mean daily return of the event period (observation period) was tested for significant statistical difference with the mean daily return of the comparison period. The comparison period for the study was 55 trading days before the event window and 55 trading days after the window.

4. The study envisages the determination of 121 daily returns surrounding each stock dividend announcement date. If $t=0$ is the announcement date then the event window will have 11 days from $-5=t=+5$. The comparison period will have 110 days, spanning $-60=t=-6$ and $+6=t=+60$



5. For each stock dividend announcement event the daily raw returns were determined by

$$\check{R}_t = \frac{p_t - p_{t-1}}{p_{t-1}}$$

\check{R}_t is the rate of return for each security on day t

p_t is the closing price on the security on day t

p_{t-1} is the closing price on the security on day t -1 (previous day)

This calculation of raw returns was repeated for all stock dividend announcements. Consistent with Woolridge (1983) the stock dividend sample was stratified into four-sub sample based on absolute dividend size. The four-sub sample were

- i. < 10%
- ii. $\geq 10\% < 20\%$
- iii. $\geq 20\% < 50\%$
- iv. $\geq 50\%$

The CAP (1961) in America restricts stock dividends to distribution of not more than 20%. This study did not impose such

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restrictions for it could irredeemably decimate the sample. All sizes of bonus issue are considered as stock dividends in this study.

3.4 DATA ANALYSIS

In line with the objectives data was analyzed and tested to yield conclusions in respect of two null hypotheses as follows :

Null hypothesis one

H₀: Stock dividend announcements have no impact on stock returns

Null hypothesis two

H₀: The size of stock dividend has no effect on stock returns

To achieve objective one the portfolio daily return (PDR), the cumulative portfolio daily return (CPDR), and the percent daily returns greater than zero (PDRGZ) for all 131 days and for all the announcement events was determined. The mean PDRs and the mean PDRGZ were calculated for the event window and the comparison periods. t- statistics was computed and tests of significant difference between the two periods performed. To ascertain whether the size of stock dividend declared affects stock price response to a stock dividend announcement the mean PDR and the mean PDRGZ was computed for each size sub sample, distinguishing between the comparison period and the event window. t- statistics was computed for each sub sample and differences in means tested. Evidence for an association of stock returns and size of stock dividend was sought.

Tests were conducted to determine if the mean daily returns of the observation period (i.e. event period) are statistically different from the mean daily returns of the comparison period, which is considered representative. To sustain unbiased figures for mean daily returns, portfolios of securities were used, and since these (portfolios) relate to a large sample, results obtained approach normal distributions.

Consequently, the student distribution for the difference in sample means is employed to test for equality of event period and comparison period means returns.

The t-test for paired differences is the appropriate test for cases where samples are related. From the sample data for portfolio daily returns, it is clear that the two samples (event period and comparison period) are related.

The t-test for related samples is as follows:

$$T = \frac{\bar{d} - D}{S_d / \sqrt{n}}$$

Where

\bar{d} is the mean of the differences

D is the difference that is expected under the null hypothesis.

S_d / \sqrt{n} is standard errors of the difference

n is the sample size

Differences between the two sample values are obtained and the

calculated t statistic compared with the critical t-value from tables.

(Note: the analysis for the obtained data was performed using a statistical software, SPSS, which automatically provides calculated values of t for each pair of variables and an indication of their statistical significance.)

CHAPTER FOUR: RESULTS AND FINDINGS

This study used the comparison period return approach (CPRA) to determine if stock dividend announcements convey information to investors.

Twenty-four companies (24) listed on the Nairobi Stock Exchange (NSE) (appendix 3) composed this study sample. The sample was selected from a sampling frame of all companies listed on the Exchange with a view to examining the following objectives.

- To resolve the impact of stock dividend announcement on returns of share prices for sample companies
- To examine the impact of stock dividend size on stock returns

The study findings were as follows

4.1 Relationship between cumulative portfolios daily return and event day

A correlation analysis was obtained to explore the relationship between cumulative portfolio daily returns and event day.

Table 1: Correlations Of Cumulative Portfolios Daily Return And Event Day

| | | Correlations | |
|-----------------------------------|---------------------|-----------------------------------|-----------|
| | | cumulative portfolio daily return | event day |
| cumulative portfolio daily return | Pearson Correlation | 1.000 | -.843** |
| | Sig. (2-tailed) | | .000 |
| | N | 114 | 114 |
| event day | Pearson Correlation | -.843** | 1.000 |
| | Sig. (2-tailed) | .000 | |
| | N | 114 | 114 |

** . Correlation is significant at the 0.01 level (2-tailed).

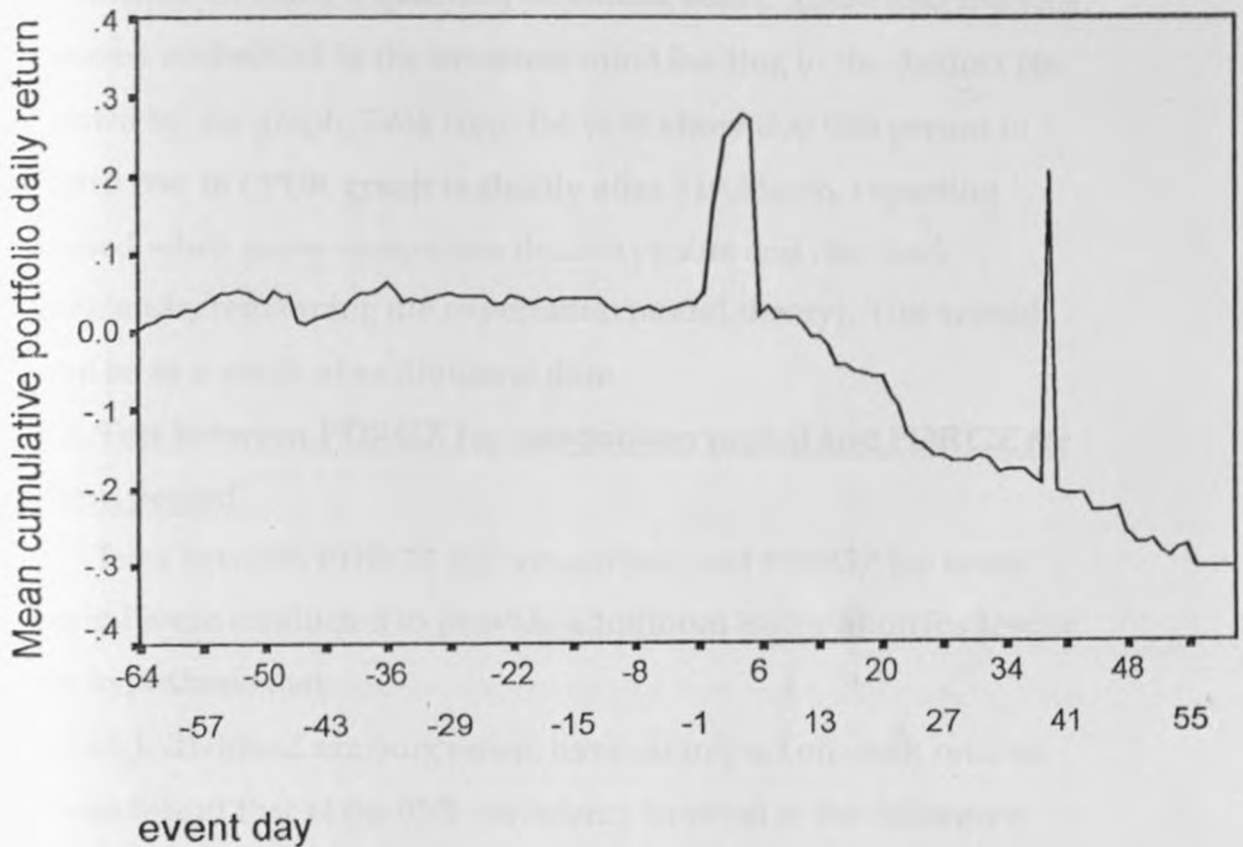
This study found a high level of association between the two variables, where Pearson's correlation coefficient = -0.843 as per table 1 above. Correlation of cumulative portfolios daily return and event day is significant at 98 % level of confidence.

As the pre -announcement comparison period approaches the announcement day, cumulative returns decrease gradually meaning that portfolio daily returns do not increase (in anticipation of the stock dividend announcement in future). This is in line with the semi-strong form of the efficient market hypothesis (EMH).



Graph 1: Cumulative Portfolio Daily Returns

Movement of Portfolio Daily Returns



Movement of Returns of Securities-NSE

However a line graph of cumulative portfolio daily returns against event days, As shown above while showing the general negative relationship described by the correlation coefficient (i.e. 0.843) reveals a distinctive rise in CPDR towards the event day, there is a distinct increase in portfolio return. This would be attributed to effects of insider trading since. Towards the end of the event period (day 35 to 42) a possible

expectation model might explain this, where investors (somehow) expect a stock dividend announcement to be made. This is the case where investors know that some firms regularly declare stock dividends on either a quarterly or annual basis. These distributions become embedded in the investors mind leading to the distinct rise shown by the graph. Data from the NSE show that this period of sharp rise in CPDR graph is shortly after 31st March, reporting period when many companies declare profits and rise stock dividends, reinforcing the expectation model theory). This would also be as a result of ex dividend date.

4.2. Test between PDRGZ for comparison period and PDRGZ for event period

Tests between PDRGZ for comparison and PDRGZ for event period were conducted to provide additional information for testing the hypothesis that:

If: Stock dividend announcement have no impact on stock returns

It was found that at the 95% confidence interval of the difference

Critical value for $t = -0.364$

Calculated value for $t = -0.916$

The calculated value is less than the critical value (it falls in The

reject region)The findings from the data indicate that the null hypothesis can be rejected in favour of the alternative hypothesis.

Thus, from the available data stock dividend announcements (which are statistically captured in the Percentage Daily Returns Greater than Zero (PDRGZ) variable) have a significant effect on stock

returns.

4.3. Portfolio Daily Returns Tests

Portfolio Daily Returns for both comparison period and the event period were compared for paired differences.

The following statistics were obtained:

Table 2: Summary Statistics For Portfolio Daily Returns.

| Statistic | Value |
|----------------------------------|--------|
| Mean | 0.0070 |
| Standard deviation | 0.0129 |
| Coefficient of variation derived | 184.3% |
| Calculated t | 3.899 |
| Critical | 0.000 |

The coefficient of variation 184.3% shows a great degree of relative dispersion of daily returns from the mean of 0.007. This is because of the fluctuations of stock returns for the various companies.

The calculated value of $t=3.899$, is greater than the critical value of 0.00, meaning it is on the reject region. From the same hypothesis above, it is conclude that stock dividend announcements have a significance effect on stock returns (represented by the portfolio Daily Returns, PDRs). The null hypothesis is rejected.

4.4. Paired Sample Statistics For Effect Of Stock Dividend Rate On Portfolio Returns.

This study hypothesized that these is a relationship between the rate of stock dividend declared and the stock returns.

The null hypothesis, set with a view to be rejected is stated as:

H_0 : The size of the stock dividend (represented by the rate) has no effect on stock returns.

H_A : The size of stock dividend has an effect on stock returns.

A two-tail test was performed and the following data was generated as shown in the following table

Table 3: Summary statistics for paired samples of stock divided rate

| statistics | SDR&PDR _c | SDR&PDR _c | SDR&PDRGZ _c | SDR&PDRGZ _e |
|------------|----------------------|----------------------|------------------------|------------------------|
| mean | 0.0017 | -0.008 | 20.9992 | 99.32 |
| std.dev | 1.1953 | 0.009 | 7.558 | 412.3087 |
| coeff% | 703 | 1.125 | 0.356 | 4.161 |

Where

SDR is the Stock divided Rate

PDR is the Portfolio daily return (comparison)

PDR is the Portfolio daily return (event)

PDRGZ_c is the Portfolio daily return greater than zero (comparison)

The summary statistics show that there is a wide fluctuation between stock dividend rate and portfolio daily returns for the comparison period. The relevant coefficient of variation is 703%. This is explained by the fact that there is much less consistency between these two variables because, in the absence of a stock dividend announcement there is likelihood of having a wide variation in stock returns, which are subsequently tempered by the announcement of a stock dividend.

After such an announcement has been made, it is expected that the variation in stock returns is smoothed off by the activities of investors and process tend to be more or less consistent, i.e. less variability. This is indicated by the modest 1.125 values for coefficient of variation (SDR and PDR event).

4.5 Paired Samples Test For Stock Dividend Rate

Table 4: Stock Dividend Rates Comparison With Returns.

| Variable name | Calculated t | Critical t | Decision on Ho |
|------------------------------------|--------------|------------|----------------|
| Portfolio daily return(comparison) | 3.346 | .003 | Reject |
| Portfolio daily return(event) | 3.378 | .002 | Reject |
| PDRGZ(comparison) | -12.605 | .000 | Reject |
| PDRGZ(event) | -1.192 | -.245 | Reject |

In the t-tests for stock dividend returns as the returns as represented by

- a. Portfolio daily return (event period)
- b. Percent daily return greater than zero (comparison)
- c. Percent daily return greater than zero (event)

The calculated values for t 3.346,3.378,-12.605,-1.192 respectively while the corresponding critical values are .003,.002,.00,-.245

respectively, they all lie in the reject region as indicated in the above

table of summaries.

It is therefore concluded that the null hypothesis be rejected and the management decision is that stock dividend rates have a significant effect on stock returns.

4.5. Correlation Analysis Between Stock Dividend Rates And Returns

The study also attempted to explore the relationship between size of the stock dividend and the returns (PDRs and PDRGZs), though correlation analysis.

The stock dividend rates were stratified into four as shown in the following table

Table 5. Distributed Rate Of Stock Dividend

| From % | To % | Companies |
|----------|------|-----------|
| 0 | 9 | Nil |
| 10 | 19 | Nil |
| 20 | 49 | 12 |
| Above 50 | | 12 |
| Total | | 24 |

There were no stock dividend of below 50% given by the companies in the period and all the stock dividend were above 50%, by the definition of CAP (1961) in America these would be referred to as stock splits. And according to woolridge (1983) this would be defined as large stock splits. The sample was uniform in that the sample size for the two strata's was same i.e. twelve companies When a paired samples correlations were performed the following data was generated

Table 6 Relationships Between Stock Dividend Size And Returns

Paired Samples Correlations

| | | N | Correlation | Sig. |
|--------|--|----|-------------|------|
| Pair 1 | portfolio daily return(comparison) & stock dividend sample size | 24 | .199 | .351 |
| Pair 2 | portfolio daily return (event period) & stock dividend sample size | 24 | .098 | .648 |
| Pair 3 | percent daily return greater than zero (comparison) & stock dividend sample size | 24 | .212 | .320 |
| Pair 4 | percent daily return greater than zero (event) & stock dividend sample size | 24 | .205 | .336 |

Small values of correlation coefficient i.e. 0.199, 0.098, 0.212, and 0.205 for portfolio returns comparison period and stock dividends sample size, portfolio returns event period and stock dividends sample size percentage returns greater than zero for comparison

period and stock dividends sample size, and percentage returns greater than zero for event period and stock dividends sample size, respectively indicate a small degree of association/ relationship between. This shows that investors do not seem to attach much importance to them what matters is that a stock dividend has been declared, rather than the size of the same.

The values for correlation coefficients for all the types of returns indicate a small degree of relationship/association.

For the most part there is a negative relationship between the parts, i.e. when stock dividend rate rises, portfolio returns decrease and vice versa.

This is possible due to the fact that when a high rate is announced, there is increased activity at the market, where many people want to buy the available services. This leads to many securities being offered for sale with the final result that the high supply/high demand depresses the prices.

It is of interest that there is a positive relationship between dividend rate and portfolio daily return for comparison period. This may reflect the fact that there is no expectation effect at the time, prices of securities therefore reflect only the usual market pattern.

Table 7: Variation Of Portfolio Daily Returns Vis-À-Vis Stock Dividend Size

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|--------|--|--------------------|----------------|-----------------|---|-----------|---------|----|-----------------|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | Upper | | | |
| Pair 1 | portfolio daily return(comparison) - stock dividend sample size | -3.498842 | .509120 | .103924 | -3.713824 | -3.283859 | -33.667 | 23 | .000 |
| Pair 2 | portfolio daily return (event period) - stock dividend sample size | -3.508233 | .509871 | .104077 | -3.723533 | -3.292934 | -33.708 | 23 | .000 |
| Pair 3 | percent daily return greater than zero (comparison) - stock dividend sample size | 17.1587 | 7.4310 | 1.5168 | 14.0209 | 20.2966 | 11.312 | 23 | .000 |
| Pair 4 | percent daily return greater than zero (event) - stock dividend sample size | 99.6113 | 421.6493 | 86.0688 | -78.4356 | 277.6581 | 1.157 | 23 | .259 |

The stock dividend sample sizes show a small degree of variation or dispersion from the portfolio daily returns for both the comparison and event periods as follows:

Stock dividend sample size PDR for comparison period the coefficient of variation is 14.55%.

Stock dividend sample size PDR for event window the coefficient of variation is 14.53%.

The magnitude of spread for both periods is nearly identical. This small dispersion indicates that portfolio returns do not fluctuate significantly as a consequence of stock dividend sample. However PDRGZ for event period shows a much larger dispersion from the average 421.29% i.e. around four times indicating that the percentage stocks with returns greater than zero is much higher after the event day than for the comparison period which is 43.3%

For the t- tests in all the cases, calculated values for t- statistics all lie in the reject region implying that the null hypothesis is rejected. Thus the empirical data shows that the size of stock dividend has some has a significant effect on stock dividend.

4.6 Tests Of Robustness

Tests of robustness were performed for all the firms that offered stock dividend contemporaneous with cash dividend.

Sampled companies that simultaneously paid a cash dividend were excluded and the analysis repeated only on the remaining companies, which were nine to test for the robustness of results in the face of contemporaneous cash dividend. The following table shows the summary of statistics generated.

Table 8 Summary Statistics For Firms, Which Did Not Declare, Cash Dividend

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|--------|--|--------------------|----------------|-----------------|---|----------|-----------|----|-----------------|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | Upper | | | |
| Pair 1 | portfolio daily return (comparison) - companies not paying cash dividend | -99.000 | 1.2E-02 | 4.0E-03 | -99.0097 | -98.9913 | -24736.29 | 8 | .000 |
| Pair 2 | portfolio daily return (event period) - companies not paying cash dividend | -99.006 | 6.2E-03 | 2.1E-03 | -99.0111 | -99.0016 | -47640.41 | 8 | .000 |
| Pair 3 | percent daily return greater than zero (comparison) - companies not paying cash dividend | -77.7044 | 9.6476 | 3.2159 | -85.1202 | -70.2887 | -24.163 | 8 | .000 |
| Pair 4 | percent daily return greater than zero (event) - companies not paying cash dividend | 146.332 | 689.156 | 229.7187 | -383.4001 | 676.0645 | .637 | 8 | .542 |

To test for robustness the following hypothesis were tested:

Null hypothesis

H21≠H22: there is a difference in terms of returns between companies, which pay cash dividend, and those, which do not.

Alternative hypothesis

H11=H12: there is no difference in terms of returns between companies, which pay cash dividend, and those, which do not.

Results are significant at the 95% level of because for all cases, calculated values lie on the left of the critical value and the positive value lie on the right of the critical value. Hence we reject null hypothesis and accept the alternative hypothesis meaning there is no confounding effect as the calculated t-values lie in the reject side. The results are the same regardless of whether stock dividend was issued alongside cash dividend or not.

CHAPTER FIVE: SUMMARY, CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

In this chapter, the findings of the research have been summarized and discussed in relation to the objectives of the study. Included also are the limitations of the study and suggestions for further research.

5.1 CONCLUSION

This study sought to answer the following objectives

1. Measure the impact of stock dividend announcement on share price of companies.
2. Examine the impact of stock dividend size on stock returns.

To answer the first objective i.e. measure the impact of stock dividend announcement on share price of companies the null hypothesis which stated that stock dividend announcements have no impact on stock returns was rejected at 95% level of significance arriving at the conclusion that stock dividend though a cosmetic corporate event do have a significant impact on stock returns. This is in line with the findings of Ikenbery et al (1996), Grinbalatt et al (1984), Asquith et al (1989) and McNichols and Dravid (1978) who found that stock dividend has informational content in that the prices tended to raise

with announcement of stock dividend and further found that market efficiently react to stock dividend at the ex- dividend date. This study found a sharp increase towards the thirty fifth to forty second days after stock dividend announcement, which is likely to be the ex-dividend day. It is therefore concluded that the null hypothesis be rejected and the management decision is that stock divided rates have a significant effect on stock returns as represented by the PDRs, PDRGZ.

The study also concludes that there is insider trading because some companies' share prices increased some days before the announcement day notable companies having the highest returns prior to announcement were Kenya power lighting, Unga group however some companies such as Limuru tea, Sasini were thinly traded during the period and their was no trading even after stock dividend announcements.

Results for the second objective i.e. the impact of stock dividend size on stock returns, the study stratified the stock dividend into two strata's of 12 companies each and so the results were uniform and results generated for the strata's show a negative relationship between the variables, i.e. When stock dividend rate rises, portfolio returns decrease and vice versa.

It is of interest that there is a positive relationship between dividend rate and portfolio daily return for comparison period. Woolridge (1983) also observed positive relationship for the large stock dividend sizes. This may reflect the fact that there is no

expectational effect at the time, prices of securities therefore reflect only the usual market pattern. The small values of correlation coefficient indicate a small degree of association/ relationship between portfolio returns and stock dividends sample size. It is concluded that investors do not seem to attach much importance to them what matters is that a stock dividend has been declared, rather than the size of the same. For the two stock dividend strata's the results was to reject the null hypothesis and accept the alternative hypothesis that the size of stock dividend has an effect on stock dividend. In Kenya it seems what managers give are stock splits not stock dividend going by the CAP (1961) of America definition. Stock splits are large distributions. The results are consistent with woolridge (1983) that large distribution classes result in significant stock price movement.

To test for the robustness of the results fifteen companies that pay a cash dividend were excluded from the study and analysis was done for the nine companies that did not contemporaneous pay cash dividend with stock dividend Results indicate there is no confounding effect as the calculated t-values lie in the reject side. The results are the same regardless of whether stock dividend was issued alongside cash dividend, which is in line with Thompson (1988) who concluded that confounding events do not materially impair the results of event studies.

5.2 LIMITATIONS

This study was constrained by a number of factors

1. Presence of gaps in the data collected. It was difficult to fill in these gaps especially for the year 1997 and 1998 to the point that some of the companies in the sample were left out and also the comparison period was reduced to 121 days to help accommodate some of the companies.
2. The focus of the study was also a limiting factor in that it focused on the companies that were continuously quoted at the Nairobi stock exchange from 1998-2002; it did not examine private companies, hence limiting the generalization of results.
3. The other limitation was time available for the research. If time were available one would have examined all stock dividend from the inception of the Nairobi stock exchange and more meaningful relationships could be revealed.

5.3 RECOMMENDATIONS FOR FURTHER RESEARCH

Extensive research is needed in the area of stock dividend /stock splits in Kenya since literature on this is lacking. This research examined only the informational content of stock split/stock dividend. Further research is recommended on this area are

1. Effects of stock split factor i.e. examine whether managers signal their private information about future earnings by choice of split

factor.

2. Industry effects after stock split/ stock dividend i.e. examine the effects of the other firms in an industry after one firm declares a stock/ stock dividend.
3. Test the trading range hypothesis for issuing stock dividend /stock split in Kenya.
4. Examine firm's past history of stock splits to see if it plays a crucial role in both the design and effect of current splits.

Appendix (i)sample
companies

| name of company | date of annoucement | rate of stock dividend | cash dividend |
|----------------------|---------------------|------------------------|---------------|
| CMC | Jan-98 | 1; 1 | NIL |
| REA VIPINGO | Jan-98 | 1; 14 | 0.04 |
| SASINI | Feb-98 | 1; 2 | NIL |
| BARCLAYS | Feb-98 | 1; 5 | 9 |
| FIRESTONE | Feb-98 | 1; 2 | 1.5 |
| KENYA NAT. MILLS | Mar-98 | 3; 2 | NIL |
| UNGA | Mar-98 | 5; 1 | NIL |
| HFCK | Mar-98 | 1; 4 | 1 |
| STARDARD NEWS | Mar-98 | 1; 2 | 10 |
| NATION MEDIA | Apr-98 | 1; 1 | 1 |
| JUBLEE | Apr-98 | 1; 5 | 1 |
| DUNLOP | Jun-98 | 4; 1 | 2 |
| KENYA POWER | Oct-98 | 1; 2 | 5 |
| NIC BANK | Mar-99 | 1; 4 | 1 |
| PAN AFRICA INSURANCE | Oct-99 | 1; 2 | 0.75 |
| BARCLAYS BANK | Feb-00 | 1; 5 | 7.5 |
| STARDARD CHARTERED | Feb-00 | 1; 2 | 5 |
| BAT | Feb-00 | 1; 3 | 8 |
| CFC BANK | Mar-00 | 1; 5 | 0.67 |
| CARBACID | Oct-00 | 1; 5 | 1.65 |
| EAAGADS | Jan-01 | 1; 4 | NIL |
| KENOL | Jan-01 | 2; 5 | NIL |
| ICDC | Feb-01 | 1; 5 | NIL |
| KCB | Feb-01 | 1; 3 | NIL |
| TOTAL | Mar-01 | 1; 2 | NIL |
| LIMURU TEA | Apr-01 | 2; 1 | NIL |

Appendix (ii) - Data collection sheet

NAME OF COMPANY

SERIAL NO.

DATE OF ANNOUNCEMENT

CASH

DIVIDEND

STOCK DIVIDEND RATE

| DAY | DATE | CLOSING PRICE | DAY | DATE | CLOSING PRICE | DAY | DATE | CLOSING PRICE |
|-----|------|---------------|-----|------|---------------|-----|------|---------------|
| -60 | | | -17 | | | 26 | | |
| -59 | | | -16 | | | 27 | | |
| -58 | | | -15 | | | 28 | | |
| -57 | | | -14 | | | 29 | | |
| -56 | | | -13 | | | 30 | | |
| -55 | | | -12 | | | 31 | | |
| -54 | | | -11 | | | 32 | | |
| -53 | | | -10 | | | 33 | | |
| -52 | | | -9 | | | 34 | | |
| -51 | | | -8 | | | 35 | | |
| -50 | | | -7 | | | 36 | | |
| -49 | | | -6 | | | 37 | | |
| -48 | | | -5 | | | 38 | | |
| -47 | | | -4 | | | 39 | | |
| -46 | | | -3 | | | 40 | | |
| -45 | | | -2 | | | 41 | | |
| -44 | | | -1 | | | 42 | | |
| -43 | | | 0 | | | 43 | | |
| -42 | | | 1 | | | 44 | | |
| -41 | | | 2 | | | 45 | | |
| -40 | | | 3 | | | 46 | | |
| -39 | | | 4 | | | 47 | | |
| -38 | | | 5 | | | 48 | | |
| -37 | | | 6 | | | 49 | | |
| -36 | | | 7 | | | 50 | | |
| -35 | | | 8 | | | 51 | | |
| -34 | | | 9 | | | 52 | | |
| -33 | | | 10 | | | 53 | | |
| -32 | | | 11 | | | 54 | | |
| -31 | | | 12 | | | 55 | | |
| -30 | | | 13 | | | 56 | | |
| -29 | | | 14 | | | 57 | | |
| -28 | | | 15 | | | 58 | | |
| -27 | | | 16 | | | 59 | | |
| -26 | | | 17 | | | 60 | | |
| -25 | | | 18 | | | | | |
| -24 | | | 19 | | | | | |
| -23 | | | 20 | | | | | |
| -22 | | | 21 | | | | | |
| -21 | | | 22 | | | | | |
| -20 | | | 23 | | | | | |
| -19 | | | 24 | | 58 | | | |
| -18 | | | 25 | | | | | |

Appendix (iii)-input data

| Event day | Portfolio daily return (PDR) | Cumulative PDR | PDR greater than zero |
|-----------|------------------------------|----------------|-----------------------|
| -60 | 0.0019 | 0.0019 | 33.33 |
| -59 | 0.0072 | 0.0091 | 4.17 |
| -58 | 0.0003 | 0.0094 | 20.83 |
| -57 | 0.00053 | 0.00993 | 29.17 |
| -56 | 0.0079 | 0.01783 | 29.17 |
| -55 | 0.03063 | 0.02423 | 20.83 |
| -54 | 0.0025 | 0.02673 | 20.83 |
| -53 | 0.0011 | 0.02783 | 20.83 |
| -52 | -0.0021 | 0.2572 | 20.83 |
| -51 | -0.0072 | 0.2501 | 25 |
| -50 | -0.0044 | 0.2457 | 12.5 |
| -49 | 0.0142 | 0.2599 | 8.33 |
| -48 | -0.0068 | 0.2531 | 12.5 |
| -47 | -0.0013 | 0.2518 | 20.83 |
| -46 | -0.0318 | 0.22 | 20.83 |
| -45 | -0.0014 | 0.2186 | 29.17 |
| -44 | 0.0054 | 0.224 | 25 |
| -43 | 0.0032 | 0.22752 | 29.17 |
| -42 | 0.0051 | 0.2323 | 20.83 |
| -41 | 0.0043 | 0.2366 | 20.83 |
| -40 | 0.0139 | 0.2505 | 29.17 |
| -39 | 0.0048 | 0.2553 | 20.83 |
| -38 | 0.0031 | 0.2584 | 25 |
| -37 | 0.0026 | 0.261 | 12.5 |
| -36 | 0.0084 | 0.2694 | 20.83 |
| -35 | -0.0075 | 0.2619 | 8.33 |
| -34 | -0.0156 | 0.2463 | 12.5 |
| -33 | 0.0039 | 0.2502 | 20.83 |
| -32 | -0.0032 | 0.247 | 20.83 |
| -31 | 0.004 | 0.251 | 37.5 |
| -30 | 0.0012 | 0.2522 | 20.83 |
| -29 | 0.0049 | 0.2571 | 20.83 |
| -28 | -0.0034 | 0.2537 | 12.5 |
| -27 | 0.0006 | 0.2543 | 20.83 |
| -26 | -0.0022 | 0.2521 | 8.33 |
| -25 | -0.0004 | 0.2517 | 16.67 |
| -24 | -0.0099 | 0.2418 | 12.5 |
| -23 | 0.0008 | 0.2426 | 12.5 |
| -21 | -0.0004 | 0.2518 | 20.83 |
| -20 | -0.0073 | 0.2514 | 12.5 |
| -19 | 0.0022 | 0.2463 | 12.5 |
| -18 | 0.002 | 0.2483 | 29.17 |
| -17 | -0.0028 | 0.2455 | 16.67 |
| -16 | 0.0028 | 0.2483 | 29.17 |
| -15 | 0.0019 | 0.252 | 33.33 |

| | | | |
|-----|----------|-----------|-------|
| -14 | -0.0012 | 0.249 | 12.54 |
| -13 | -0.0003 | 0.2487 | 16.67 |
| -12 | 0.0004 | 0.2491 | 12.5 |
| -11 | -0.01 | 0.2391 | 4.17 |
| -10 | -0.0068 | 0.2323 | 8.33 |
| -9 | 0.0019 | 0.2342 | 25 |
| -8 | -0.0012 | 0.233 | 20.83 |
| -7 | -0.0023 | 0.2307 | 16.67 |
| -6 | 0.0064 | 0.2371 | 37.5 |
| -5 | -0.0074 | 0.2297 | 17.39 |
| -4 | 0.001 | 0.2307 | 13.04 |
| -3 | 0.0065 | 0.2372 | 30.43 |
| -2 | 0.0018 | 0.239 | 26.09 |
| -1 | -0.0009 | 0.2381 | 21.74 |
| 0 | 0.0159 | 0.254 | 17.39 |
| 1 | 0.1081 | 0.1459 | 43.48 |
| 2 | 0.0927 | 0.2386 | 52.17 |
| 3 | 0.0139 | 0.2525 | 39.13 |
| 4 | 0.0121 | 0.2646 | 43.48 |
| 5 | -0.0045 | 0.2601 | 21.74 |
| 6 | -0.013 | 0.2471 | 20.83 |
| 7 | 0.01011 | 0.25721 | 25 |
| 8 | -0.0135 | 0.2437371 | 20.83 |
| 9 | -0.0005 | 0.24321 | 12.5 |
| 10 | 0.0011 | 0.24431 | 8.33 |
| 11 | -0.0112 | 0.23311 | 12.5 |
| 12 | -0.0147 | 0.21841 | 12.5 |
| 13 | 0.0007 | 0.21911 | 16.67 |
| 14 | -0.0087 | 0.21041 | 16.67 |
| 15 | -0.0241 | 0.18631 | 20.83 |
| 16 | -0.001 | 0.18531 | 16.67 |
| 17 | -0.0058 | 0.17951 | 16.67 |
| 18 | -0.0052 | 0.17431 | 12.5 |
| 19 | -0.0028 | 0.17151 | 16.67 |
| 20 | -0.00055 | 0.17101 | 25 |
| 21 | -0.0232 | 0.14781 | 29.17 |
| 22 | -0.0167 | 0.13111 | 12.5 |
| 23 | -0.0345 | 0.09661 | 12.5 |
| 24 | -0.01133 | 0.08528 | 20.83 |
| 25 | -0.0039 | 0.08138 | 12.5 |
| 26 | -0.0136 | 0.06778 | 25 |
| 27 | -0.0009 | 0.06688 | 12.5 |
| 28 | -0.0067 | 0.06018 | 8.33 |
| 29 | 0.0023 | 0.06248 | 25 |
| 30 | -0.0018 | 0.06068 | 8.33 |
| 31 | 0.0075 | 0.06818 | 37.5 |
| 32 | -0.0027 | 0.06548 | 20.83 |
| 33 | -0.0165 | 0.04898 | 12.5 |
| 34 | 0.001 | 0.04998 | 12.5 |

| | | | |
|----|----------|-----------|-------|
| 35 | 0.0008 | 0.05078 | 20.83 |
| 36 | -0.0013 | 0.04948 | 4.17 |
| 37 | 0.0093 | 0.05878 | 12.5 |
| 38 | -0.0053 | 0.05348 | 16.67 |
| 39 | -0.034 | 0.01948 | 8.33 |
| 40 | 0.00031 | 0.01979 | 12.5 |
| 41 | -0.0025 | 0.01729 | 16.67 |
| 42 | -0.0015 | 0.01579 | 16.67 |
| 43 | 0.0025 | 0.01829 | 12.5 |
| 44 | -0.0233 | -0.00501 | 8.33 |
| 45 | -0.00019 | -0.0053 | 16.67 |
| 46 | 0.0021 | -0.0032 | 8.33 |
| 47 | 0.0022 | -0.001 | 29.17 |
| 48 | -0.03313 | -0.03413 | 8.33 |
| 49 | -0.0153 | -0.04943 | 16.67 |
| 50 | 0.0014 | -0.04803 | 16.67 |
| 51 | 0.0021 | -0.04593 | 16.67 |
| 52 | -0.0123 | -0.05823 | 12.5 |
| 53 | -0.0086 | -0.06683 | 20.83 |
| 54 | 0.0118 | -0.055503 | 25 |
| 55 | 0.0028 | -0.05223 | 20.83 |
| 56 | -0.0284 | -0.08063 | 16.67 |
| 57 | -0.0011 | -0.08173 | 4.17 |
| 58 | 0.0015 | -0.08023 | 12.5 |
| 59 | 0.0001 | -0.08013 | 16.67 |
| 60 | 0.0007 | -0.07943 | 20.83 |

Appendix (iv) -outputs

Paired Samples Statistics

| | | Mean | N | Std. Deviation | Std. Error Mean |
|--------|---|----------|----|----------------|-----------------|
| Pair 1 | portfolio daily return of event window | 2.17E-02 | 11 | 3.97393E-02 | 1.20E-02 |
| | percentage daily return greater than zero of event window | 29.6436 | 11 | 13.0172 | 3.9248 |

Paired Samples Correlations

| | | N | Correlation | Sig. |
|--------|--|----|-------------|------|
| Pair 1 | portfolio daily return of event window & percentage daily return greater than zero of event window | 11 | .735 | .010 |

Paired Samples Test

| | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|--|--------------------|----------------|-----------------|---|----------|--------|----|-----------------|
| | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | Lower | Upper | | | |
| portfolio daily return of event window - percentage daily return greater than zero of event window | -29.6219 | 12.988040 | 3.916041 | -38.3474 | -20.8964 | -7.564 | 10 | .000 |

Paired Samples Statistics

| | | Mean | N | Std. Deviation | Std. Error Mean |
|--------|---------------------|--------|----|----------------|-----------------|
| Pair 1 | stock dividend rate | .8004 | 25 | 1.1953 | .2391 |
| | cash dividend | 1.3600 | 25 | .4899 | 9.798E-02 |

Paired Samples Correlations

| | | N | Correlation | Sig. |
|--------|-------------------------------------|----|-------------|------|
| Pair 1 | stock dividend rate & cash dividend | 25 | .247 | .233 |

Paired Samples Test

| | | Paired Differences | | | | t | df | Sig. (2-tailed) | |
|--------|-------------------------------------|--------------------|-------------------|-----------------------|---|---------|--------|--------------------|-------|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | | | | Upper |
| Pair 1 | stock dividend rate - cash dividend | -.5596 | 1.1743 | .2349 | -1.0443 | -7.E-02 | -2.383 | 24 | .025 |

Paired Samples Statistics

| | | Mean | N | Std. Deviation | Std. Error Mean |
|--------|---|----------|----|----------------|-----------------|
| Pair 1 | portfolio daily return(comparison) | 4.27E-04 | 55 | 7.20369E-03 | 9.71E-04 |
| | portfolio daily return (event period) | -6.1E-03 | 55 | 1.00639E-02 | 1.36E-03 |
| Pair 2 | percent daily return greater than zero (comparison) | 19.1660 | 55 | 7.7581 | 1.0461 |
| | percent daily return greater than zero (event) | 53.7820 | 55 | 278.7625 | 37.5883 |

Paired Samples Correlations

| | | N | Correlation | Sig. |
|--------|--|----|-------------|------|
| Pair 1 | portfolio daily return(comparison) & portfolio daily return (event period) | 55 | -.089 | .521 |
| Pair 2 | percent daily return greater than zero (comparison) & percent daily return greater than zero (event) | 55 | -.194 | .157 |

Paired Samples Test

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|--------|--|--------------------|-------------------|--------------------|---|----------|-------|----|--------------------|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | Upper | | | |
| Pair 1 | portfolio daily return(comparison) - portfolio daily return (event period) | 7.E-03 | 1.288E-02 | 1.74E-03 | 3.04E-03 | 1.00E-02 | 3.757 | 54 | .000 |
| Pair 2 | percent daily return greater than zero (comparison) - percent daily return greater than zero (event) | -34.62 | 280.3676 | 37.8048 | -110.4100 | 41.1780 | -.916 | 54 | .364 |

Paired Samples Statistics

| | | Mean | N | Std. Deviation | Std. Error Mean |
|--------|---|----------|----|----------------|--------------------|
| Pair 1 | portfolio daily return(comparison) | 1.16E-03 | 24 | 8.54822E-03 | 1.74E-03 |
| | stock dividend sample size | 3.5000 | 24 | .5108 | .1043 |
| Pair 2 | portfolio daily return (event period) | -8.2E-03 | 24 | 9.96152E-03 | 2.03E-03 |
| | stock dividend sample size | 3.5000 | 24 | .5108 | .1043 |
| Pair 3 | percent daily return greater than zero (comparison) | 20.6587 | 24 | 7.5226 | 1.5355 |
| | stock dividend sample size | 3.5000 | 24 | .5108 | .1043 |
| Pair 4 | percent daily return greater than zero (event) | 103.1113 | 24 | 421.7538 | 86.0901 |
| | stock dividend sample size | 3.5000 | 24 | .5108 | .1043 |

Paired Samples Test

| | | Paired Differences | | | | t | df | Sig. (2-tailed) | |
|--------|--|--------------------|----------------|-----------------|---|-----------|---------|-----------------|-------|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | | | | Upper |
| Pair 1 | portfolio daily return(comparison) - stock dividend sample size | -3.498842 | .509120 | .103924 | -3.713824 | -3.283859 | -33.667 | 23 | .000 |
| Pair 2 | portfolio daily return (event period) - stock dividend sample size | -3.508233 | .509871 | .104077 | -3.723533 | -3.292934 | -33.708 | 23 | .000 |
| Pair 3 | percent daily return greater than zero (comparison) - stock dividend sample size | 17.1587 | 7.4310 | 1.5168 | 14.0209 | 20.2966 | 11.312 | 23 | .000 |
| Pair 4 | percent daily return greater than zero (event) - stock dividend sample size | 99.6113 | 421.6493 | 86.0688 | -78.4356 | 277.6581 | 1.157 | 23 | .259 |

Paired Samples Statistics

| | | Mean | N | Std. Deviation | Std. Error Mean |
|--------|---|----------|---|----------------|-----------------|
| Pair 1 | portfolio daily return(comparison) | -4.9E-04 | 9 | 1.20067E-02 | 4.00E-03 |
| | companies not paying cash dividend | 99.0000 | 9 | .0000 | .0000 |
| Pair 2 | portfolio daily return (event period) | -6.4E-03 | 9 | 6.23460E-03 | 2.08E-03 |
| | companies not paying cash dividend | 99.0000 | 9 | .0000 | .0000 |
| Pair 3 | percent daily return greater than zero (comparison) | 21.2956 | 9 | 9.6476 | 3.2159 |
| | companies not paying cash dividend | 99.0000 | 9 | .0000 | .0000 |
| Pair 4 | percent daily return greater than zero (event) | 245.3322 | 9 | 689.1561 | 229.7187 |
| | companies not paying cash dividend | 99.0000 | 9 | .0000 | .0000 |

Paired Samples Test

| | | Paired Differences | | | | t | df | Sig. (2-tailed) | |
|--------|--|--------------------|----------------|-----------------|---|----------|-----------|-----------------|-------|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | | | | Upper |
| Pair 1 | portfolio daily return (comparison) - companies not paying cash dividend | -99.000 | 1.2E-02 | 4.0E-03 | -99.0097 | -98.9913 | -24736.29 | 8 | .000 |
| Pair 2 | portfolio daily return (event period) - companies not paying cash dividend | -99.006 | 6.2E-03 | 2.1E-03 | -99.0111 | -99.0016 | -47640.41 | 8 | .000 |
| Pair 3 | percent daily return greater than zero (comparison) - companies not paying cash dividend | -77.7044 | 9.6476 | 3.2159 | -85.1202 | -70.2887 | -24.163 | 8 | .000 |
| Pair 4 | percent daily return greater than zero (event) - companies not paying cash dividend | 146.332 | 689.156 | 229.7187 | -383.4001 | 676.0645 | .637 | 8 | .542 |

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