

**RELATIONSHIP AMONG CURRENT YEAR EARNINGS PER SHARE,  
PRECEDING YEAR DIVIDENDS PER SHARE AND CURRENT YEAR  
DIVIDENDS PER SHARE FOR FIRMS LISTED AT THE NAIROBI STOCK  
EXCHANGE**

**BY**

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**D61/71156/2008**

**A MANAGEMENT RESEARCH PROJECT SUBMITTED IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE  
DEGREE OF MASTER OF BUSINESS ADMINISTRATION OF UNIVERSITY  
OF NAIROBI.**

**OCTOBER 2010**

## DECLARATION

I declare that this research project is my original work and has not been presented for a degree in any other university.

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Signed Geoffrey Ogwoka

Date 15/11/2010

This research project has been presented for examination with my approval as the university supervisor.

Signed Mirie Mwangi

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## **DEDICATION**

This project is dedicated in all sincerity and due respect to all my friends and parents for their psychological, financial and spiritual support that largely contributed to the successful conduct of these study. To the Almighty God for the support and blessing that has seen me through this project.

## **ACKNOWLEDGEMENT**

I owe my gratitude to all people who have immensely contributed to the successful completion of this project. I thank the Almighty God for the wisdom and health that has seen me all through. I am deeply indebted to my Supervisor, Mr. Mirie Mwangi for his invaluable assistance and scholarly comments.

My special thanks go to the Department of Finance and Accounting (University of Nairobi) and all my colleagues for their assistance and moral support. Lastly, my heartfelt thanks go to the family of Mr. Joseph Manduku for their encouragement and support during my preparations of this research.

## ABSTRACT

Corporate dividend policy has been a thing of concern to the financial managers and firm's at large. It's critical because of its influence on other financial and investment decisions.

The main objective of this project is to establish the relationship among the current earnings per share, preceding year dividends per share and the preceding year dividends per share. To achieve this objective a sample of 20 firms listed at the NSE for a period of seven years from 2003 to 2009 was selected for analysis.

Both descriptive and quantitative methods were used to analyze the data collected from the NSE and CMA library. The descriptive statistics computed includes the mean and the Standard deviations. The quantitative methods utilized include the Pearson's correlation coefficients and regression analysis. The regression models were generated using the SPSS software.

The result of the study shows that both the current earnings per share and preceding year dividends per share significantly influence the dividends policies of Kenyan firms. There is a strong and positive relationship between  $DPS_{t-1}$  and  $DPS_t$  which means that firms use past dividends as benchmarks in setting their current dividends. The relationship between  $EPS_t$  and  $DPS_t$  is positive which suggest that an increase in earnings may trigger an increase in dividend levels. The study also found out that  $DPS_t$  is more sensitive to past dividends that current earnings.

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## LIST OF ABBREVIATIONS

ANOVA	Analysis of variance
CMA	Capital markets authority
DPS	Dividends per share
DPS <sub>t-1</sub>	Preceding year dividends per share
EPS	Earnings per share
GSE	Ghana stock exchange
IAS	International accounting standards
MM	Modigliani and Miller
NASDAQ	National association of securities dealers automated quotations
NSE	Nairobi stock exchange
NYSE	New York stock exchange
P/E	Price earnings ratio
R	Coefficient of determination
SACCOS's	Savings and credit cooperative societies
SPSS	Statistical package for social sciences
TSE	Toronto stock exchange
UON	University of Nairobi
$\Delta$	Change.



# CHAPTER ONE

## INTRODUCTION

### 1.1 Background to the study

Corporate managers in their daily routine are exposed to a number of crucial decisions regarding the finances of a firm. According to Baker and Powel (1999) dividend payout policy is one of the most important financial decisions that managers come across as it's perceived to be a symbol of good financial health of a firm.

Brealey and Myers (2002) define dividend policy as, "the trade off between retained earnings on one hand and paying out cash and issuing new shares on the other". According to Pandey (2006) the term dividends usually refer to a cash distribution of earnings. If distribution is made from other sources other than current or accumulated retained earnings, the term distribution rather than dividends is used. However, it is acceptable to refer to a distribution from earnings as dividends and a distribution from capital as liquidating dividends. Dividends can be paid either as stock dividends or cash dividends.

Payout policy is important not only because of the amount of money involved and the repeated nature of the decision, but also because payout policy is closely related to and interacts with most of the financial and investment decisions. The interactivity of dividend decisions with other financial decisions has been emphasized by Weston and Bringham (1986) who argue that the theory of capital structure, capital budgeting, asset pricing, mergers and acquisitions all rely on a view of how and why firms pay out cash.

The main objective of a firm is to increase its earnings. Lease (1999) highlights that earnings are the reason corporations exist and are often the single most important determinant of a stock's price. The earnings of a company are its profits, that is, its income less expenses. They are important to investors

because they give an indication of the company's expected future dividends and its potential for growth and capital appreciation.

IAS 33 requires that an enterprise whose securities are traded must present both basic and diluted EPS on the face of its income statement for each class of ordinary shares. The EPS is the outcome of current year's earnings attributable to shareholders divided by the number of ordinary shares. IAS 33 recommends that in calculating EPS it more accurate to use a weighted-average number of shares outstanding as the number of shares outstanding over the reporting period can change. Diluted EPS expands on the basic EPS by including the shares of convertible securities such as warrants, stock options preferred shares and convertible shares.

The earnings per share figure is important as the determining factor of the market price pertaining to the common stock and thus, a high EPS figure will attract more investors. The rule of thumb is that the higher the EPS of a firm the higher its share price in the market. However, Nzomo (1984) observes that the figure of earnings per share is not an indication of the true market value since it's based on the records of the books of accounts and therefore does not reflect the true share price.

It is important for a firm to determine the amount of profits that have on average been earned by each share as it gives an indication of the returns to the shareholders. According to Lumby and Chris (2003) EPS is often taken to be the single most important factor in the financial statement and as such it is known as the "bottom line" indicator of financial performance. It also serves as a gauge of the effectiveness of management in handling the business operations.

Since the shareholders are the owners of the company they are entitled to a share of the company's profits. This is mostly paid out as dividends and usually expressed as an amount per share. Dividend per share thus is the amount of the

dividends that shareholders have (or will) receive for each share they own. It is usually calculated for each class of shares (ordinary shares and preference shares) and often used to calculate the dividend yield, dividend cover and the payout ratios.

Companies may pay interim dividends during the year as well as a final dividend. These should all be aggregated to get the total annual amount in order to calculate DPS, dividend yield and other ratios. Special dividends may also be declared. The main significance of a dividend being declared as special (according to Baker, 1989) is that it serves as a signal to investors that it is not part of a company's normal dividend policy and therefore does not indicate that future similar dividends will be paid annually, as is otherwise the case. These should not be included in the DPS or when calculating dividend yield, but should be looked at separately. They often are a return of capital than a distribution of current profits.

Much of the literature in the past has attempted to find and explain the pattern in payout policies of corporations. Despite the many researches conducted by financial economists, the issue of dividend policy determinants still remains unresolved. Berkley and Myers (2005) have listed the dividend issue as one of the top ten most important unresolved issues in the field of advanced corporate finance. For Black (1976) the harder we look at the dividend picture, the more it seems like a puzzle with pieces which just don't fit together. This controversy has led to two opposing schools of thought on the issue of dividend policy: those who argue dividends are relevant and those who see dividends to be irrelevant.

Miller and Modigliani (1961), by assuming a perfectly efficient market, proved that the firm's value cannot be increased by changing dividend policy. They argued that the value of the firm depended on the firm's earnings or investment policy and not on its dividend policy.

Following Miller and Modigliani's (1961) pioneering dividend irrelevance hypothesis, financial economists have advanced a number of contradicting theories in an attempt to explain why corporate dividend policy does seem to matter in practice. Some theories have developed around the proposition that dividend policy is relevant due to the existence of (differential) taxes (for example, Black, 1976). Another dividend policy hypothesis suggests that dividend policy is affected by other market imperfections such as information asymmetries and agency costs.

This study examines the relationship among current EPS, preceding year dividends per share, current DPS for companies quoted at the NSE. The importance of these variables in determining dividend policy has been emphasized by Lintner (1956). Lintner (1956) in his study found out that the most important determinant of a company's dividend policy was a major change in earnings. He observed that past dividends appeared as benchmarks for current dividends and asserted that the current dividend payouts of firms always have a reference point, a bearing with past dividends in order to reflect basic corporate interests as well as those of the stockholders.

Babiarz and Fama (1968) studies support Lintner's view that changes in per share dividends are largely a function of a target dividend payout based on earnings and the last period's dividend payout. However, not all studies have agreed with Lintner's findings. Bond and Mougoue (1991) assert that, for firms with auto correlated earnings, Lintner partial adjustment model gives results that are not unique; thus, for such firms, the partial adjustment model is not a succinct description of dividends policy. Wolramorans (2003) in his test of Lintner (1956) model concludes that it doesn't explain dividend policy for South Africa's firms.

The level of dividends is expected to vary directly with the level of earnings, *ceteris paribus*. Karanja (1987) found out that the firms listed at the NSE follow a stable dividend policy and their level of dividends varies directly with earnings.

Wandeto (2005) findings suggest a strong and positive relationship between DPS and EPS. According to Okpara (2010) earnings exert a negative impact on the payout ratio indicating that they are apportioned to retention (as they increase) for the growth of the firm, while current ratio and previous year's dividends exert a positive impact on the payout ratio and dividend yield.

Firms may not be willing to deviate from their past dividend history, especially if it's retrogressive. Karanja (1987) studies on companies listed at the NSE suggest that companies tend to emphasize dividend regularity, that is, dividends were paid even when company earnings were very poor or losses incurred. Firms may attempt to avoid dividends cuts because of the signaling effect. Petit (1972) in his dividend information hypothesis assert that dividend increases send good signals to the market while dividend cuts send bad signals. Hence a significant deviation from the past may send positive or negative signals.

### **Nairobi Stock Exchange**

The population of this study consists of all companies listed on the NSE for the period 2003-2009. The NSE, the only stock exchange in Kenya, began in 1954 and comprises approximately 47 listed companies.

The exchange normal trading sessions starts from 09:30 a.m on all days of the week except Saturdays, Sundays and holidays declared by the Exchange in advance. The NSE's offices and trading floor are located at the Nation Centre along Kimathi Street.

Aside from equities, Government and corporate bonds are also traded on the NSE. It has three market segments; main investment, alternative and the fixed income securities market segments.

Two indices are popularly used to measure performance. The NSE 20-Share Index measures the performance of 20 blue-chip companies. The Nairobi Stock Exchange All Share Index (NASI) is an overall indicator of market performance

since it incorporates all the traded shares of the day. There is, however, a third Index; the AIG 27 Index that compares price movements of 27 companies defined by the AIG Group of companies.

There are no foreign exchange controls in Kenya and also no capital gains tax. Dividend withholding tax for foreigners is a final 10% and for locals is a final of 5%.

## **1.2 Statement of the problem**

The issue of dividend policy has been extensively studied yet it remains one of the most controversial issues in finance. Despite the many theories and models put forth to explain the dividend paying phenomenon the empirical evidence is still mixed. This calls for further research on this area.

There are many company characteristics that have been found to be related to dividend policy such as profitability, ownership structure, liquidity, size, past dividends, earnings, etc. Lintner (1956) studies suggest that dividends depend in part on the firm's current earnings and in part on the dividends of the previous years. Several subsequent studies have supported Lintner's view while others have opposed his findings. Fama and Babiak (1968) and Fama (1974) results support Lintner's view and conclude that changes in per share dividends are largely a function of a target dividend payout based on earnings and the last period's dividend payout.

Similarly, Hafeez and Attya (2009), Bakel et al (2007) studies suggest that managers still make dividend decisions in line with Lintner's propositions. However, Bond and Mougoue (1991) empirical tests disagree with Lintner's findings. They argue that for firms with auto correlated earnings, Lintner's partial adjustment model is not a succinct description of dividend policy. For Wolmarans (2003), Lintner (1956) model does not explain South African firm's dividend policies.

It is important to note that Lintner's model, which incorporates the preceding year dividend, current DPS and current DPS as variables, has been examined and tested in foreign markets. No study has examined the association among these variables in Kenya. The Kenyan market differs from those in developed countries in many aspects. It's of more recent origin, has less information efficiency, more volatility and smaller in size. The Kenyan market also differ from those developed markets in other characteristics such corporate governance, financial constraints taxation on dividends and capital gains and ownership structure. These differences and peculiarities raise the question about the extent to which competing dividend policy theories can apply to this market.

Several studies on the determinants of dividends policy have been done in Kenya. Most studies such as Karanja (1987), Njiru (2003) and Tiriongo (2004) and Wandeto (2004) suggest that the level of dividends varies directly with the level of earnings. No study has included past dividends as one of the variables except Njiru (2003). However; Njiru's (2003) study is limited in scope as it only examines SACCO's in Nairobi between 1998 and 2002. This study seeks to bridge this knowledge gap by establishing the separate and combined effect of current earnings and previous dividends on the dividend policy of quoted firms in Kenya.

### **1.3 Objectives of the Study**

The objectives of the study include:

- (1) To establish the relationship between current earnings, preceding year dividends and current dividends for firms listed at the NSE.
- (2) To determine the sensitivity of current dividends to changes in current earnings and preceding year dividends for firms listed at the NSE.

## **1.4 Importance of the Study**

Studies on dividend policy are relevant to individuals and various groups in the Kenyan economy. This includes investors, financial analysts, management and academicians. The study will be beneficial in the following ways;

### **Investors**

It will enable investors to assess the influence of current earnings and the preceding year dividends on the expected dividends. Investors equipped with this understanding can be able to predict the future dividends with a high degree of accuracy. Consequently, they may be able to increase their returns by making informed decisions on where and how much to invest.

### **Financial analysts and advisors**

Investment advisors like stockbrokers and agents provide investment advice to both individual and institutional investors. A proper understanding of the effect of earnings and previous year's dividends on expected dividends will improve the quality of their advice.

### **Management**

The study will help corporate managers and directors to set appropriate dividend policies based on the relationship between earnings and dividends.

### **Academicians**

The study will enable academicians to carry out further research. It will provide data and information that can be quoted as part of literature reviews in subsequent studies. By critically analyzing the study researchers can be able to identify potential research areas. Also it may assist to understand and resolve other puzzles in the area of corporate finance.



## CHAPTER TWO

### LITERATURE REVIEW

#### **2.1 Introduction**

This chapter seeks to give an insight of the views of other scholars, both local and foreign, who have undertaken studies in the area of dividend policy. It aims to review the critical points of current knowledge and/or methodology approaches of studies in the area of dividend policy.

#### **2. 2 Dividend Payout Policies**

A dividend policy represents the firm's plan of action whenever the dividend decision has to be made keeping in mind the basic objective of maximizing shareholders wealth and providing sufficient financing. The common dividend policies as discussed by Pandey (2006) are;

##### **2.2.1 Constant DPS or Dividend Rate**

The firm follows the policy of paying a fixed amount per share or fixed rate on paid -up capital as dividends every year, irrespective of the fluctuations in earnings. When the company reaches new levels of earnings and expects to maintain them the annual DPS or dividend rate may increased. It's easy to follow this policy when earnings are stable.

##### **2.2.2 Constant payout**

The ratio of dividends to earnings is known as payout ratio. Some firms may follow a policy of constant payout ratio, which is, paying a fixed percentage of net earnings every year. With this policy the amount of dividends will fluctuate in direct proportion to earnings.

##### **2.2.3 Constant DPS plus an extra dividend**

This policy enables a company to pay constant amount of dividends regularly without default and allows a great deal of flexibility for supplementing the income of shareholders only when the firm's earnings are higher than the usual, without committing itself to make payments as part of the future fixed dividends.

## **2.2.4 Residual Dividend Policy**

Under this policy, dividends are paid out of earnings left over after investment decisions have been financed. Dividends will only be paid if there are no profitable investment opportunities available. This policy is consistent with shareholders wealth maximization.

## **2.3 Definition of terms**

IAS 33.47 requires that an enterprise whose securities are traded must present both the basic and diluted EPS on the face of its income statement for each class of shares with equal prominence for all periods.

### **2.3.1 Basic EPS**

IAS 33 defines basic EPS as the net profit or loss for the period attributable to ordinary shares divided by the weighted average number of ordinary shares outstanding during the period. The earnings numerator used for the calculation should be after deduction of all expenses including tax, extraordinary items and minority interests and after deduction of preference dividends. The denominator is calculated by adjusting the shares in issue at the beginning of the period by the number of shares bought back or issued during the period, multiplied by a time-weighting factor determined by reference to the date of issue or date of buy-back of shares.

### **2.3.2 Diluted EPS**

According to IAS 33 diluted EPS is calculated by adjusting the earnings and number of shares for the effects of dilutive options and other potential ordinary shares. The effects of anti-dilutive potential ordinary shares are ignored in calculating diluted EPS. The numerator should be adjusted for the after-tax effects of dividends and interest charged in relation to dilutive potential ordinary and for any other changes in income that would result from the conversion of the potential ordinary shares. The denominator should be adjusted for the number of shares that would be issued on the conversion of all of the dilutive potential ordinary shares into ordinary shares. Shares should be deemed to have been converted on the first date of the accounting period or the date of issue, if later.

### **2.3.3 Dividends per share**

Lumby and Chris (2003) defines the dividend per share (DPS) as the total dividends paid out over an entire period (including interim dividends but not including special dividends) divided by the number of outstanding ordinary shares issued.

## **2.4 Dividend Theories**

Several theories have been advanced to explain the relationship between dividend policy and the value of the firm. The theories can be grouped into two categories, that is, theories that consider dividend decision to be irrelevant and those that consider dividend decisions to be an active variable influencing the value of the firm. In the latter there are two extremes. On one extreme, dividends are good as they increase the shareholders values while on the other extreme dividends are bad since they reduce shareholders value. The following is a critical evaluation of some important theories representing these two points of view.

### **2.4. 1 Dividend Irrelevance; The Miller Modigliani (MM) Hypothesis**

According to the Modigliani and Miller hypothesis (1961), under a perfect market situation the dividend policy of a firm is irrelevant as it does not affect the value of the firm. They argue that the value of the firm depends on the firm's earnings that result from its investment policy. Thus, when investment decision of the firms given, dividend decisions- the split of earnings between dividends and retained earnings- is of no significance in determining the value of the firm.

MM (1961) showed that in perfect and complete capital markets a firm's dividend policy does not affect its value. The basic premise of their argument is that firm's value is determined by choosing optimal investment. The net payout is the difference between earnings and investments and is simply residual. Because net payout comprises dividends and share issues/repurchases a firm can adjust its dividends to any level with an offsetting change in shares outstanding. From

the perspective of investors, dividend policy is irrelevant because any desired stream of dividends can be replicated by appropriate purchases and sales of equity. Thus, investors will not pay any premium for any particular dividend policy

The implication of the theory is that given two firms that have the same set of available investment opportunities, their values will be the same even if one paid all its earnings as dividends and the other paid no dividends provided that the two firms belong to the same risk class.

MM (1961) hypothesis of irrelevance is based on several assumptions. The firm is assumed to operate a perfect capital markets with the following elements; investors behave rationally, information symmetry, transaction and floatation costs do not exist, taxes do not exist implying that there is no difference in tax rates applicable to capital gains and dividends and risk or uncertainty does not exist.

DelAngelo and DelAngelo (2006) highlight that MM ( 1961) proof of dividend irrelevance is based on the assumption that the amount of dividends that is distributed to shareholders is equal or greater than free cash flows generated by the fixed investment strategy, thus shunting aside the possibility of retention. Further, the assumption of non retention made by MM (1961) dividend irrelevance is a, "meaningless tautology". If retention is allowed, then dividend policy is relevant, because managers could choose suboptimal policies by investing in non-zero net present projects.

#### **2.4. 2 The Information Content of Dividends**

Petit (1972) in 'his dividend information hypothesis' argues that market changes in dividend policy affect stock prices. The hypothesis further went on to explain that dividend increases send good signals to the market while dividend cuts send bad signals.

Ross (1977) contends that dividends are relevant because they have an informational value. A company can make statements about expected earnings growth to inform shareholders in order to create a favorable impression on them. The cash payment of dividends conveys to shareholders that the company is profitable and financially strong. When a firm changes its dividend policy in a significant manner, investors assume that it is in response to an expected change in the firm's profitability which will last long. An increase in payout ratio signals to shareholders a permanent or long-term increase in a firm's expected earnings. It is, therefore, argued that the announcement of changes in dividend policy influences share prices and that manager's use the dividend changes to convey information about the future earnings of the company.

Solomon (1963) contends that dividends may offer tangible evidence of the firm's ability to generate cash and as a result, dividends policy of the firm may affect the share price. He asserts that in an uncertain world in which verbal statements can be ignored or misinterpreted, dividend action does provide a clear means of making a statement that speaks louder than a thousand words.

MM accept the information content of dividends. They contend that the price of the share is determined by the expected future earnings and the firm's investment policy and not the dividends. They argue that the information value of dividends indicates that they are merely reflective of the firm's investment policy and the expected earnings and do not have any impact on the value in their own accord.

Lintner (1956) found out that directors used dividend policy to convey to the shareholders their expectations about the firm's future performance. He argues that since the directors use the firm's dividend policy to convey useful information they do not adjust to changes instantaneously. Firms do have a target ratio and it's only when management is convinced that the change in earnings is sustainable that the dividend policy is changed.

### 2.4.3 The Bird in the Hand Theory

The bird in the hand theory was put forward, first of all, by Kirshman (1933). He argues that of two stocks with identical earnings record, and prospects but one paying a larger dividend than the other, the former will undoubtedly command a higher price merely because stockholders prefer present to future values. Myopic vision plays a part in the price making process. Stockholders often act on the principle that a bird in the hand is worth two in the bush and for this reason are willing to pay a premium for the stock with higher dividend rates, just as they discount the one with the lower rate.

The bird in the hand theory has been expressed more convincingly and in more formal terms by Myron Gordon. Gordon (1963) argues that dividends are more relevant under uncertainty. Gordon asserts that uncertainty increases with futurity; that is, the further one looks into the future, the more uncertain dividend becomes. Investors are risk- averters and, therefore, prefer near dividends to future dividends. Though retained earnings reinvested in the business theoretically belongs to the common stockholders, there is uncertainty about their eventual translation into dividends. Thus, it can be hypothesized that stockholders might apply a higher discount rate and assign a lower valuation to funds that are retained in the as opposed to those that are paid out.

However, MM (1964) argues that the uncertainty argument is not convincing. They contend that the market price of two firms with identical investment and capital structure policies and risk, cannot be different because they follow different policies. These firms will have the same cash flows from their investments despite the differences in dividend policies. Dividend policies does not change the amount of and risk of cash flows from investments and hence has no effect on the value of the firm.

#### **2.4.4 The Clientele Effect**

Black and scholes (1974) argue that shareholders trade off the benefits of dividends against the tax loss. Based on this trade-offs that shareholders make, they could be classified into three clienteles: a clientele that considers dividends are always good, a clientele that considers dividends are always bad and a clientele that is indifferent to dividends.

Shareholders in high tax projects may belong to the high payout clientele since in their case the tax disadvantages may outweigh the benefits of dividends. On the other hand, shareholders in low tax brackets may fit in to low payout clientele as they may suffer marginal tax disadvantages of dividends. Tax – exempt investors are indifferent between dividends and capital gains as they pay no taxes on their income.

#### **2.4.5 The Agency Theory**

The agency hypothesis of dividends posits that dividend payments can be used as a mechanism to alleviate agency problems. Rozef (1982) contends that dividend policy and insider ownership are substitute tools a used to reduce agency costs. Firms that use a high percentage of inside stock ownership to agency -costs tend to pay smaller dividends, while firms with lower insider stock ownership are characterized by high dividend payout.

Rozeff (1982) continues to argue that the payment of cash dividends forces the firm to go to the capital markets frequently, thereby; reducing agency costs as a result of scrutiny the capital places on the firm. Therefore, dividend payments benefit shareholders by reducing the agency costs associated with monitoring managers in expanding this role to capital markets.

According to Jensen (1986) the agency relation between a corporation's manager and its management creates the opportunity for managers to pursue goals other than shareholders wealth maximization. The agency theory predicts

that in the absence of effective governance mechanisms, managers would expropriate cash and would not invest in cash profitable business or distribute dividend to shareholders.

#### **2.4.6 The Neutrality of Dividend Policy**

Black (1976) poses the question, "if dividends are irrelevant, why do corporations pay dividends?" In addition, he poses a second question, "why do investors' pay attention to dividends?" He argues that perhaps dividends represent the return to the shareholders who put his money at risk in the corporation. Sometimes corporations pay dividends to reward existing shareholders and to encourage others to buy new common stock at high prices. Perhaps investors pay attention to dividends because through dividends or the prospect of dividends do they receive a return on their investment or the chance to sell their share at a higher price in the future.

Black (1976) continues to observe that perhaps the answers to these questions are not so obvious. Perhaps a corporation that pays no dividends is demonstrating confidence that it has attractive investment opportunities that might be missed if it paid dividends. If it makes the investment shareholders may end up with capital appreciation greater than the dividends they missed out. He epitomizes the lack of consensus by stating that the harder we look at the dividend picture, the more it seems like a puzzle, with pieces which just don't fit together.

#### **2.5 Factors Influencing Dividend Policies**

This section presents surveys and studies that provide useful insights into what factors financial managers consider very important in determining their firm's dividend policies.



Lintner (1956) in his study of USA firms found out that a firm's level of earnings was the most important factor that influenced dividend policy and that firms use past dividends as benchmarks in setting out dividend policies.

Karanja (1987) studied the dividend practices of publicly quoted companies in Kenya. The objectives of the study were to investigate the dividend practices and identify those factors which influence the dividend policies of publicly quoted companies in Kenya. The research findings suggest that that the level of dividend varies directly with the level of earnings, that is, most companies follow a stable dividend policy. Most companies distributed between 20% and 60% of their earnings, with the heaviest concentration in the 40% and 60% range. He also found out that companies tend to emphasize dividend regularity, that is, dividends were paid even when company earnings were very poor or losses incurred. Karanja further points out that through logical reasoning liquidity position of a firm could be a factor influencing dividend policy.

Pruitt and Gitman (1991) surveyed financial managers of the 1,000 largest US firms about the interplay among the investment, financing, and dividend decisions in their firms. Their results suggest that the most important influences on the amount of dividends paid are current and past years' profits, the year-to-year variability of earnings, and the growth in earnings. They also found out that prior years' dividends bear an important influence on current dividends.

Glen et al (1996) in their study of dividend practices in both developing and developed countries identified the following factors as the critical determinants of dividend levels: shareholders preferences, legal considerations, level of earnings and a firm's growth prospects.

Fama and French (2001) examined the characteristics of dividend paying companies. They found out three characteristics that mainly affect the decision of the firm to pay dividends: firm size, profitability, and investment opportunities.

They assert that larger firms and more profitable firms are more likely to pay dividends, whereas firms with more investment opportunities are less likely to pay dividends

Njiru (2003) sought to identify the determinants of dividend payments by SACCO's in Nairobi between the periods 1998 to 2002. The financial reports were used and analyzed using descriptive statistics and SPSS packages. He used the multiple regression models to explain the relationship between the variables. The study revealed that there is a high correlation between dividends and the selected variables, that is, surpluses, investments, liquidity, debt, past dividends and reserves. However, the relationship depends on the size of the firm. The results of the study further indicates that past dividends and surpluses were statistically significant, investment, liquidity and reserves were moderately significant while the level of debt is weakly significant as determinant of dividends paid by SACCO's in Nairobi.

Bitok (2004) studied the effect of dividend policy on the value of firms quoted on the NSE. His sample included companies that had been consistently quoted at the NSE for the period of six years from 1998 to 2003 and paid dividends during that period. The analysis was done using regression method. The study reveals a negative relationship between dividend policy and the value of the firms for the entire market. Furthermore, it was revealed that there is a weak negative relationship between dividend policy and the value of firms in different sectors. Large firms had a greater impact on the market than smaller firms. They maintained a clear and consistent dividend policy which affected their values more than smaller ones.

Myers and Frank (2004) empirically examined the data for a sample of 483 firms taken from the Multex Investor Databases to assess the impact of selected financial variables on the dividend decision using regression. In this study they used the firm's dividend payout ratio as the dependent variable to represent the

dividend decision. The independent variables tested include: price to earnings ratio, profit margin, the debt to equity ratio, the current ratio, percent of insider ownership, and percent of institutional ownership, float and the estimated five – year growth rates for earnings per share and sales. The PE and sales growth related positively to the dividend payout ratio. Likewise, insider ownership produced a negative relationship with dividend payout. Institutional ownership varied positively with dividend payout. The positive relationship between the debt to equity ratio and the dividend payout ratio produced anomalous results. Results of this study suggest that the higher the firm's PE, the lower its risk, and the higher is its payout ratio.

Tiriongo (2004) investigated the significant determinants of dividends policies of the companies listed at the NSE. He carried out a ten years study by empirically analyzing the determinants of dividend policy on a sample of 49 quoted firms on the NSE over a period of 1993-2002. Dividend behavior was tested using multiple regressions method. He found out that dividend policies of Kenya firms (all companies collectively) quoted at the NSE depend on growth prospects, leverage, profitability, liquidity and stability of earnings. A sector by sector analysis reveals that profits rate and leverage are significant in the Agriculture sector, the commercial sector exhibits stability of earnings, firm size and liquidity while in the financial sector stability of earnings, firm size and expected growth are the dominant factors.

Eriotis (2005) examined the effect of distributed earnings and size of the firm to its dividend policy of Greek firms. He studied how Greek firms set their dividend policies not only by net distributed earnings but also by change in dividends, the change from last year earnings and size of the firm. The empirical findings of the study suggest that distributed earnings and size of firms included as a signal about the firm's dividends. The firms also have long term dividend payout ratios. The panel regressions were done and the results of the model gave a significant estimation with the explanatory power ( $R^2$ ) of 95.4%. The evidence suggest that

the div at time ( t ) can be expressed as the long run target dividend payout represented by both changes in dividends and in distributed earnings and its speed of adjustments towards distributed earnings and last year dividends of the firm at (t). They concluded that Greek firms have a general dividend policy to distribute earnings according to their target payout ratio, which is distributed earnings and size of the firm.

Wandeto (2005) carried out an empirical investigation of the relationship between dividend changes and earnings, cash flows and capital structure for firms listed at the NSE. The sample consisted of 43 firms listed at the NSE between 1998 and 2003. Regressiom method was used. He found out that dividend changes are most sensitive to earnings, the cash flows from operating activities and finally to debt to equity in that order. The findings indicate that the relationship between dividend per share and earnings per share is strong and positive (85.7 %), between dividend per share and cash flows is positive and weak (25.3%) and between dividend per share and debt to equity ratio is negative and weak (-4.0%).

Mohammed (2007) examined whether dividend policy influences firm performance in Ghana. The analysis was performed using data derived from the financial statements of listed firms on the Ghana Stock Exchange for an eight year period. Ordinary least squares model is used to estimate the regression equation. The results showed positive relationship between return on assets, dividend policy and growth in sales. Surprisingly, the study revealed that bigger firms on the GSE perform less with respect to returns on assets. The results also revealed negative association between return on assets and dividend payout ratio and leverage. The results generally support previous empirical studies.

Baker et al (2007) conducted a study on the perception of dividends by Canadian managers and used a sample of 291 listed firms on Toronto Stock exchange. The study sought to identify the factors influencing dividend policy and the

explanation of why firms pay dividends. The results of the study suggest that the most important factors determining dividends includes: the level of expected future earnings, stable earnings, patterns of past dividends and the level of current earnings. They observed that most managers of TSE listed firms are still making their decisions regarding dividends consistent with survey results and behavioral model of Lintner (1956).

Mwenda (2008) investigated the industry influence on dividend payout decisions for 42 firms listed at the NSE for the period 2002 to 2006. He regressed the average payout ratio for 2002 to 2006 against the percentage of common stock held by insiders, natural log of number of shareholders, average growth rate of revenues (2002 to 2006) and beta coefficient of stock. The results of the study suggest that cash was the only form of dividend which was paid out by the firms. In terms of industry, it was not possible to conclude that a particular form of dividend payout is preferred over the other since all the firms paid their dividends in the form of cash. Based on his investigations he concluded that industry factors had a strong positive impact on payout ratio in the three industries, i.e. Agriculture, Finance and investment and Industry and Allied workers.

Hafeez and Attya (2009) examined the dynamics and determinants of dividend payout policy of 320 non-financial firms listed in Karachi stock exchange during the period 2001 to 2006. For analysis they used Lintner's model (1956) and its extended versions. Their results consistently support that Pakistan listed non-financial firms rely on both current earnings per share and past dividends per share to set their dividend payments. However, the dividends tend to be more sensitive to current earnings than prior dividends. Also they found out that the profitable firms with more stable net earnings can afford larger free cash flows and therefore pay larger dividends. Furthermore, the ownership concentration and market liquidity have a positive impact on dividend payout policy. Besides, the investment opportunities and leverage have a negative impact on dividend payout. The market capitalization and size of the firm have a negative impact on

dividend payout policy which shows that firms prefer to invest their assets rather than pay dividends to their shareholders.

Okpara (2010) investigated the factors determining dividend pay-out policy in Nigeria. He employed factor analysis technique and econometric method on the identified critical factors to ascertain the authenticity or validity of the identified factors. The results show that three factors, that is, earnings, current ratio and last year's dividends impact significantly on the dividend payout and dividend yield in Nigeria. Earnings exert a negative impact on the payout ratio indicating that they are apportioned to retention (as they increase) for the growth of the firm, while current ratio and previous year's dividends exert a positive impact on the payout ratio and dividend yield, showing firstly that firms are more willing to pay out dividends when they have no problem with meeting their short-term needs for cash, and secondly that firms try to increase payout ratio from its previous level. He concludes that the three variables are good predictors of dividend payout policy in Nigeria.

There are many company characteristics that have been found to be related to dividend policy. Some of these characteristics are discussed below:

### **2.5.1 Legal Considerations**

Dividend policies are affected by legal requirements in different countries. In Kenya the Company Act recognizes the right of shareholders to receive dividends. The same Act gives the directors the discretion of declaring dividends. However, it's silent as to when the shareholders can invoke this right and overrule a director's decision to withhold dividends. The Act requires that dividends be paid out of reserves ( both current and accumulated).The payment of dividends out of paid up capital is clearly restricted by the Act and thus it is illegal unless certain specified conditions are fulfilled such as a special resolution in the AGM supported by two thirds of the shareholders (Nzomo, 1984).

### **2.5.2 Restriction in Debt Contracts**

The risk associated with high degrees of financial leverage may result in low dividend payments because, *ceteris paribus*, firms need to maintain cash flow to pay their obligations rather than distributing the cash to shareholders. Moreover, Rozeff (1982) points out that, firms with high financial leverage tend to have low payouts ratios to reduce the transaction costs associated with external financing. In addition, some debt covenants have restrictions on dividend payments. Therefore, other things being equal, an inverse relationship between debt and dividend payout seem plausible.

### **2.5.3 Investment Opportunities**

Dividend policies can be influenced by the quality of available investment opportunities. Investment projects can be financed by either debt or equity. However, raising equity or debt is quite expensive compared to retained earnings. Thus firms with profitable investment opportunities will generally retain funds to finance investment and hence pay little or zero dividends. Conversely, firms with limited investment opportunities may maintain high dividend payout ratios.

### **2.5.4 The Firm's Size**

According to Fama and French (2000), large and more profitable firms are more likely to pay more dividends largely due to their ability to sustain the higher payout. As the size of the firm increases shareholders are not able to monitor the firm effectively and there is a high tendency of agency problems. Thus shareholders will demand a high dividend payout which will act as an indirect control.

### **2.5.5 Liquidity**

The payment of dividends means cash outflow. Although a firm may have adequate earnings to declare dividends, it may not have sufficient cash to pay dividends. The greater the cash position and overall liquidity of a company, the greater will be its ability to pay dividends.

A mature company is generally liquid and is able to pay large amounts of dividends. It does not have much investment opportunities; much of its funds are not tied up in permanent working capital and therefore it has a sound cash position. On the other hand, growing firms face the problem of liquidity. Even though they may make profits, they continuously need funds for financing growing fixed assets and working capital. Because of the insufficient cash or pressure on liquidity in case of growth firms, management may follow a conservative dividend policy.

### **2.5.6 Access to Capital Markets**

A company that is not sufficiently liquid can still pay dividends if it is able to raise debt equity in the capital market. If it is well established and has a record of profitability, it will not find much difficulty in raising funds in the capital market. Easy access to the capital market provides flexibility to the management in paying dividends as well as in meeting the corporate obligation.

A fast growing firm, which has tight liquidity position, will not face any difficulty in paying dividends if it has access to capital markets. A company that does not have a sound cash position and it is also unable to raise funds, will not be able to pay dividends.

### **2.5.7 Desire for Control**

Management must consider the effect of dividend policy on its collective ability to maintain control. The directors and officers of a small closely held firm may be hesitant to pay any dividends at all for fear of diluting the cash position of the firm and forcing the owners to look outside investors for financing. A large firm with a broad base of shareholders may face different type of threat in regard to dividend policy. Stockholders, spoiled by a past record of dividend payments, may demand the ouster of management if dividends are withheld.

### **2.5.8 Target Payout Ratio**

Some companies may follow the policy of target payout ratio over the long-run. Lintner (1956) contends that dividends are adjusted to changes in earnings, but only with a lag. When earnings increase to a new level, a company increases



dividends only when it feels it can maintain the increase in earnings. This explains why dividend changes often lag behind changes in earnings.

## 2.6 Review of Empirical Studies

Lintner (1956) formulated the partial adjustment model to explain dividend policies of corporations. He started with over 600 U.S.A listed companies and selected 28 to survey and interview. Lintner made a number of observations concerning the dividend policies of these firms. The first is that firms are primarily concerned with stability of dividends. Firms do not set dividend policies arbitrary. Instead they first consider whether they need to make any change from the existing rate. Only when they have decided any change is necessary do they consider how large it should be. Management believes strongly that investors put a premium on firms with stable dividend policy.

Second Lintner observed that earnings were the most important determinants of any changes in dividends. Most companies appeared to have a target payout ratio and a speed of adjustment. If there was a sudden increase in earnings, firms adjusted their dividends slowly. However, firms were reluctant to cut dividends. Based on interview of the 28 firm's management teams Lintner reported a medium target payout of 50%. Lintner's third finding was that management set dividend policy first. Other policies were then adjusted, taking dividend policy as given.

Lintner (1956) proposed this target- adjustment formula to describe dividend payout by a mature corporation:

$$\Delta \text{Dividend}_t = K + b (\text{Target Dividend}_t - \text{Dividend}_{t-1}) + e$$

$$\text{DPS}_t - \text{DPS}_{t-1} = K + b (p\text{EPS}_t - \text{DPS}_{t-1}) + e$$

$$\text{DPS}_t = K + b p \text{EPS}_t - b \text{DPS}_{t-1} + \text{DPS}_{t-1} + e$$

$$\text{DPS}_t = K + b p \text{EPS}_t - (1-b) \text{DPS}_{t-1} + e$$

Where  $b$  is the speed of adjustment,  $p$  is the target ratio.  $K$  is a constant.

Pandey (2006) argues that in practice, the target payout ratio may not be known and modifies the equation to read as follows;

$$DPS_t = K + b_1 EPS_t - b_2 DPS_{t-1} + e$$

$b_1 = b_p$  and  $b_2 = 1 - b$ . Pandey (2006) suggest that the coefficients  $b_1$  and  $b_2$  can be used to explain how firms set their dividends levels.

Studies by Fama and Babiak (1968) have applied Lintner's model for individual firms. The two researchers used a sample of 412 firms for the period 1947-1964. They used regression model analysis, simulation and prediction statistical tests and adjusted Lintner model to read as follows;

$$D_{it} = A_i + B_{1i} D_{it-1} + B_{2i} E_{it} + B_{3i} A_{it} + U_{itG}$$

Where

$D_{it}$  = DPS paid by the firm  $i$  during year  $t$ .

$E_{it}$  = Profits per share.

$A_{it}$  = Depreciation per share.

$U_{itG}$  = Random disturbance term.

Fama and Babiak (1968) found that net income seems to provide a better measure of dividend policy than either cash flow or net income and depreciation. Fama (1974) examined other models for explaining dividend behavior. Fama and Babiak (1968) and Fama (1974) results support Lintner's view that managers prefer a stable dividend policy, and are reluctant to increase dividends to a level that cannot be sustained. Therefore, these researchers concluded that changes in per share dividends are largely a function of a target dividend payout based on earnings and the last period's dividend payout.

Bond and Mougoue (1991) re-examine the partial adjustment model of dividends payment suggested by Lintner. They found out that when earnings follow a linear autoregressive processes, then there are many combinations of target payout ratios and the speed of adjustment that would fit the same earning stream and dividend stream. They conclude that, for firms with auto correlated earnings,

Lintner's partial adjustment model gives results that are not unique; thus, for such firms, the partial adjustment model is not succinct description of dividends policy. In their own sample Bond and Mougoune found out that 310 of the 430 firms in their sample showed significant auto regression in earnings.

Del Angelo and Skinner (1992) analyzed the relationship between dividends and losses and the information conveyed by dividend changes about earnings performance. They examined the dividend behavior of 167 NYSE firms during 1980 and 1995 and those of 440 firms with no losses during the same period, where all the firms had a consistent track record of ten or more years of positive earnings and dividends. They found out that 50.9% of 167 firms with at least one loss during 1980-95 reduced dividends compared to 10% of 440 firms without losses. Their findings support signaling hypothesis in that dividends changes improve the ability to predict future earnings performance.

Lazo's survey (1999) revealed that 87% of dividend paying companies believe that dividends do signal information regarding future earnings of the company. 110 senior financial officers from S and P 500 companies responded to the survey, representing a response rate of 22%. Results show that of corporations having a buyback program in place in the last two years, 72% increased their dividend payout, 25% used cash flow to fund repurchase programs, rather than to increase dividend payments. 93% of the responding officers felt that, "initiating a stock-buyback program is believed to be more effective than raising dividends in providing down side stock-price protection in a falling market." 79% of respondents stated that, "stock repurchase programs do not receive a higher priority use of corporate cash flow than dividends, even if corporate profitability were to come under pressure.

Baker et al (2001) study reports the results of a 1999 survey of 630 NASDAQ-listed firms. Based on their analysis of responses from 188 managers about the importance of 22 different factors that influence their dividend policy, they found

that managers of NASDAQ firms make dividend decisions consistent with Lintner's (1956) survey results and model. Their results also show significant differences between the manager responses of financial and non-financial firms on nine of the 22 factors. Their results suggest that managers pay careful attention to their choice of dividend policy for their firm. They conclude that because the dividend decision can affect firm value and, in turn, the wealth of stockholders, dividend policy is worthy of serious attention.

Maina (2002) studied the relationship between dividends and investment decisions for companies listed at the NSE for the period 1981 to 2001. In this study the dividend model and investment models were regressed and resultant equations obtained. Each variable present in the model was tested for its significance in the model using the t-statistics. The whole model was tested using the adjusted  $R^2$ . He found out that the relationship between dividends and investment decisions exist. The dividend model was most favorable in the companies under investigation. The investment variable in the different companies was significant in the dividend model whereas the dividend variable in the investment model was also significant in the investment model.

Omondi (2003) tested the reliability of the dividend discount model on the valuation of common stock at the NSE. He utilized secondary data between December 1994 and January 2000. He tested the differences between share prices obtained using the dividend discount model and the actual price. The tests were carried out using the T-test. Out of the eighteen companies studied, only three showed that the differences were significant. He concluded that the dividend model cannot be relied on by companies in the valuation of their stocks at the NSE. He attributed the results to among other factors, the inefficient market, inappropriate discounting factors, information differentials, and measurement and valuation problems. He suggests that further tests should be carried out using other models such as arbitrage pricing model and over longer periods of time.

Wolmarans (2003) investigated whether Lintner's model can be used to explain South African dividend payments and compares this model with another, less sophisticated model, the percentage model. From a total of 97 companies the percentage model provided a better explanation of dividend payments in the case of 50 companies, (52 %), whereas Lintner's model provided a better explanation of the dividends payment in the case of 47 companies. For the largest companies by market capitalization, the percentage model provided a better explanation of dividend payment of 44% of the companies, whereas lintner's model provided a better explanation of dividend payment of the 56% of the companies Therefore, the size of the company does not appear to affect the degree of fit for lintner's model. He concludes that lintner's model does not explain dividend payments in South Africa during the period of study.

Humphrey, (2006) examined the relationship between earnings per share and dividend per share of equities for companies listed at the NSE for the period 2000-2005. Using simple regression he asserts that there is a strong relationship between the observed variables with the earnings per share always having a higher value than dividend per share. He argues that an increase in earnings per share will have similar increase in the dividend per share. However, the study fails to incorporate other variables that may influence dividends such as past dividends.

## **2.7 Summary of Literature Review**

Many researchers both, internationally and locally, have tried to cover the issue regarding the dividend behavior or dynamics and determinants of dividend policy but we still don't have an acceptable explanation for the observed dividend behavior.

An important observation to emerge from this literature, however, is that dividend policy is not irrelevant; there are many possible factors that may act as a

determinant of dividend policy. Importantly also, the literature has concentrated mostly on dividend policy in developed capital markets. The unresolved nature of the theoretical debate and relative neglect of dividend policy in developing capital markets calls for further empirical tests.

Locally not much has been done on the relationship among current, past dividends and earnings. Most of the studies have focused on earnings and other variables such as level of debt, cash flow, size, ownership concentration, investments and information symmetry while totally ignoring past dividends as one of the determinants. This study, therefore, seeks to bridge this knowledge gap in Kenya, which is one of the emerging markets.

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## CHAPTER THREE

### RESEARCH METHODOLOGY

#### 3.1 Introduction

This chapter explains the research design, the population and sample of the study. It also outlines the methods of data collection and analysis.

#### 3.2 Research Design

The study is an empirical study that establishes the relationship among current dividends, current earnings and preceding year dividends for firms listed at the NSE. The estimation of the relationship is done using multiple and simple regression that analyses the independent variables and tests their significance.

#### 3.3 The Population and Sample

The population of interest in this study comprises of all firms quoted at the NSE for seven years from 2003 to 2009. The period is chosen since it is considered to be adequate for any relationship to exist. The study is limited to listed companies because of the easiness of obtaining the relevant data and information since all listed firms are required by the Capital Markets Authority to file their annual returns.

The sample of the study consisted of twenty firms listed at the NSE. For a firm to be included in the sample it must have been listed and paid dividends consistently for the entire period of study. Most firms from the population did not meet these criteria and thus were excluded from sample. The sample companies were drawn from the agricultural, commercial and services, finance and investment, industry and allied sectors.

#### 3.4 Data Collection

Secondary data was utilized for purposes of this study. The sources of data were the NSE and the CMA libraries where data on EPS and DPS was extracted from.

### 3.5 Data Analysis

The data was analyzed using both descriptive and quantitative methods. Descriptive statistics were calculated for each variable of the study using the SPSS software and these include the mean and the standard deviation. The quantitative methods used include the Pearson's correlation and regression. The Pearson's correlation was used to measure the degree of association between the variables under study. Regression analysis was used to estimate the causal relationship among the relevant variables. The regression model was generated using the statistical package for social sciences (SPSS).

In the study the independent variables are preceding year dividends per share and the current year earnings per share while the dependent variable is the current year dividends per share. These variables were captured by Lintner (1956) partial adjustment model.

The multiple regression model is as follows:

$$DPS_t = a_1 + b_1EPS_t + b_2DPS_{t-1} + e$$

The simple regression equations;

$$DPS_t = a_2 + b_3EPS_t + e$$

$$DPS_t = a_3 + b_4DPS_{t-1} + e$$

Where;

$DPS_t$  is the current dividends per share,  $EPS_t$  is the current earnings per share,  $DPS_{t-1}$  is the previous year dividends per share,  $a_1, \dots, a_3$  are intercepts,  $b_1, \dots, b_4$  are the coefficients,  $e$  is the error term.

For purposes of fitting the regression model as much as possible to total variation, the study utilized the coefficient of determination and analysis of variance to determine the best model of fitness.



## CHAPTER FOUR

### DATA ANALYSIS AND FINDINGS

#### 4.1 Introduction

The study used both descriptive and quantitative analysis. In quantitative analysis two methods have been used, that is, the Pearson's correlation coefficient analysis and regression analysis. The results of these two types of analysis are discussed in this section.

#### 4.2 The Pearson's Correlation Coefficient Analysis

The Pearson's correlation coefficient is used to explain the relationship between the variables under study. The correlation results between  $EPS_t$  and  $DPS_t$  is positive and significant with a coefficient of 0.654. This indicates that for the sample firms an increase in EPS may trigger an increase in DPS. The correlation between  $DPS_t$  and  $DPS_{t-1}$  is positive and strong with a coefficient of 0.801. The high coefficient shows that  $DPS_{t-1}$  significantly influences the current dividends. It worth to note that the  $DPS_t$  is more sensitive to  $DPS_{t-1}$  than  $EPS_t$  meaning that preceding year dividends matter most when setting the current dividends. The relationship between  $DPS_{t-1}$  and  $EPS_t$  is also positive and strong with a correlation coefficient of 0.560.

#### 4.3 Multiple Regression Model (All Companies)

$R^2$  is a statistic that gives information about the goodness of fit of a model. It's a statistical measure of how well the regression line approximates the real data points and measures the proportion of the total variation in dependent variable that is explained by the independent variables. The  $R^2$  of the multiple regression model is 73.1%. This means that about 73.1% of the variations in  $DPS_t$  are explained by  $EPS_t$  and  $DPS_{t-1}$ . The multiple regression model is as follows;

$$DPS_t = 0.241 + 0.28EPS_t + 0.66DPS_{t-1} + e$$

The result of this multiple regression indicates that the coefficient of  $EPS_t$  is weak and positive. This implies that there is a direct relationship between current  $EPS_t$  and current  $DPS_t$ , suggesting that an increase in earnings may trigger a less than proportionate increase in dividends. In the case of  $DPS_{t-1}$  it has a strong and positive relation with  $DPS_t$ . The strong relationship implies that firms listed at the NSE have a bearing into the past in setting their dividend levels.

Furthermore, the higher coefficient of  $DPS_{t-1}$  indicate that  $DPS_t$  is more sensitive to  $DPS_{t-1}$  than  $EPS_t$ . The constant of the model is 0.274, where the regression line intercepts the Y axis representing the amount the dependant variable will be when all the independent variables are 0.

The model summary is as follows;

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.855(a)	.731	.727	2.38347

a Predictors: (Constant),  $EPS_t$ ,  $DPS_{t-1}$

Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.241	.315		.766	.445
	$EPS_t$	.184	.035	.282	5.311	.000
	$DPS_{t-1}$	.685	.055	.664	12.512	.000

a Dependent Variable: DPSt

### Analysis of Variance (ANOVA) (All Companies)

ANOVA is use to test the overall significance of a regression equation. It's a statistical method that yields values that can be tested to determine whether a significant relation exists between variables. The F distribution is used commonly in the analysis of variance. The F-test statistic is ratio of two scaled sums of squares reflecting different variability i.e. ratio between explained and unexplained variance.

ANOVA is used to test the null hypothesis that the independent variables do not influence dividend payments. The alternative hypothesis tested is that the independent variables do influence dividend payments.

With two and seventeen degrees of freedom the critical value of  $F_{0.05}$  is 3.59 and the observed value is 188.62. Since the observed value exceed the critical value we accept the alternative hypothesis that the two independent variables influence the payment of dividends and therefore they are significant.

#### ANOVA (b) (All companies)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2143.090	2	1071.545	188.622	.000(a)
	Residual	789.647	139	5.681		
	Total	2932.737	141			

a Predictors: (Constant), EPS,  $DPS_{t-1}$ ,

b Dependent Variable:  $DPS_t$

#### 4.4 Simple Regression analysis

Simple regression is used to test the relationship between two variables. In the study the relationship between  $DPS_t$  and  $DPS_{t-1}$  and that between  $DPS_t$  and  $EPS_{t-1}$  has been tested using simple regression.

##### 4.4.1 Between $DPS_t$ and $DPS_{t-1}$

This regression is run using  $DPS_t$  as the dependent variable and  $DPS_{t-1}$  as the independent variable. The resulting model is as follows;

$$DPS_t = 1.005 + 0.801DPS_{t-1} + e$$

The  $R^2$  of the model is 64.2% which means that 64.2% of the variations in  $DPS_t$  are explained by  $DPS_{t-1}$ . The coefficient of  $DPS_{t-1}$  is strong and positive which indicate that the relationship between the variables is significant. This highlights the significance of the past dividends in setting the current dividend levels.

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.801(a)	.642	.639	2.70862

a Predictors: (Constant),  $DPS_{t-1}$

### Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.005	.320		3.144	.002
	$DPS_{t-1}$	.811	.050	.801	16.117	.000

a Dependent Variable:  $DPS_t$

ANOVA (b) Between  $DPS_t$  and  $DPS_{t-1}$

The critical value of  $F_{0.05}$  with one and eighteen degrees of freedom is 4.41. The observed value (259.76) is larger than the critical value. We therefore reject the null hypothesis that  $DPS_{t-1}$  does not influence dividends.

### ANOVA (b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1905.759	1	1905.759	259.760	.000(a)
	Residual	1063.808	145	7.337		
	Total	2969.567	146			

a Predictors: (Constant),  $DPS_{t-1}$

b Dependent Variable:  $DPS_t$

### 4.4.2 Between $DPS_t$ and $EPS_t$

This regression was run using  $DPS_t$  as the dependent variable and  $EPS_t$  as the independent variable. The results are as follows;

$$DPS_t = 1.45 + 0.65EPS_t + e$$

The  $R^2$  of the model is high which means that 42.7% of the variations in  $DPS_t$  are explained by  $EPS_t$ . The coefficient of  $EPS_t$  is strong and positive. The impact of  $EPS_t$  is significant and this is in line with the view that, ceteris paribus, an increase in earnings leads to an increase in dividends.

The model summary is as follows;

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.654(a)	.427	.423	3.46312

a Predictors: (Constant),  $EPS_t$

Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.449	.435		3.331	.001
	$EPS_t$	.427	.042	.654	10.224	.000

a Dependent Variable:  $DPS_t$

ANOVA (b) Between  $DPS_t$  and  $EPS_t$

ANOVA is used to test whether all the true coefficients in the equation equal to zero. We use the F statistic to confirm the existence. With one and eighteen degrees of freedom the critical value of  $F_{0.5}$  is 4.41. Since the observed value (104.53) exceeds the critical value we reject the null hypothesis that the independent variable does not significantly influence dividends and is therefore significant.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1253.684	1	1253.684	104.533	.000(a)
	Residual	1679.052	140	11.993		
	Total	2932.737	141			

a Predictors: (Constant),  $EPS_t$ , b Dependent Variable:  $DPS_t$

#### 4.5 Descriptive Statistics

The descriptive statistics utilized in the analysis includes the average and standard deviation, the minimum and the maximum values, which were computed for each variable of the study.

Appendix 2 present descriptive statistics for 20 NSE listed firms for a period of 7 years from 2003 to 2009. The mean value of EPS is 7.75 and the standard deviation is 6.98. It means that the value of EPS can deviate from the mean to both sides by 6.98 units. The maximum for the EPS is 46.34 and the minimum is -17.84. The mean value for the  $DPS_t$  is 4.69 and the standard deviation is 4.51. It has a maximum value is 18 and minimum is 0.2. The  $DPS_{t-1}$  has a mean of 4.54 and standard deviation of 4.45.

#### 4.6 Summary of Findings

The simple regression results shows that the relationship between  $EPS_t$  and  $DPS_t$  is positive and averagely strong with a beta of 0.65 and  $R^2$  of 0.427. Thus the influence of  $EPS_t$  on  $DPS_t$  is significant and that 42.7% of changes in  $DPS_t$  are explained by changes in  $EPS_t$ . Similarly, the simple regression relationship between  $DPS_t$  and  $DPS_{t-1}$  is positive and very strong with a beta of 0.801. In this case, 80.1% of the changes in  $DPS_t$  are explained by changes in  $DPS_{t-1}$ .

Multiple regression results show the combined influence of  $EPS_t$  and  $DPS_{t-1}$  on  $DPS_t$ . The results show that both  $EPS_t$  and  $DPS_{t-1}$  have a positive impact on  $DPS_t$ . The variations in  $DPS_t$  explained by the two variables is 73.1%. The  $DPS_{t-1}$  has a beta of 0.66 while that of  $EPS_t$  is 0.282.

Unlike in simple regression where the coefficient of  $EPS_t$  is strong, it's weak in multiple regression. However, the coefficient of  $DPS_{t-1}$  in both simple and multiple regression is strong. Thus it's true that these two variables have a positive influence on  $DPS_t$  but not to the same degree. The findings suggest that  $DPS_t$  is more sensitive to  $DPS_{t-1}$  than  $EPS_t$ . The strong and positive coefficient

of  $DPS_{t-1}$  shows the importance that firms place on their dividend history. This means for that past dividends influence future dividends significantly. This explains why some firms pay dividends even when losses are incurred or earnings decline.

The significant relationship among the three variables is supported by the Pearson's correlation analysis. The Pearson's correlation coefficient between  $DPS_t$  and  $DPS_{t-1}$  is 0.801 and between  $DPS_t$  and  $EPS_t$  is 0.654.

Thus the relationship among current earnings per share, current dividends per share and preceding year dividends is positive and significant. The two variables significantly influence dividend policies, although current dividends tend to be more sensitive to prior dividends than current earnings.

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter presents a summary of the findings of the study. It also focuses on the limitations of the study and recommendations for further research.

#### 5.2 Conclusion of the Study

The objective of this study was to establish the relationship between  $EPS_t$ ,  $DPS_{t-1}$ , and  $DPS_t$ . The data used in the analysis covered a period of seven years from 2003 to 2009 and was obtained from the NSE and CMA libraries. The study utilized the Pearson's correlation coefficients, simple and multiple regressions to analyze the data.

The simple regression shows that the independent variables of the study positively and significantly influence  $DPS_t$ . The relationship between  $EPS_t$  and  $DPS_t$  is positive and averagely strong with a beta of 0.65. The changes in  $EPS_t$  accounts for 42.7% changes in  $DPS_t$ . On the other hand, the simple regression relationship between  $DPS_t$  and  $DPS_{t-1}$  is positive and very strong with a beta of 0.801. In this case, 60.4% of the changes in  $DPS_t$  are explained by changes in  $DPS_{t-1}$ .

The positive relationship among the three variables is supported by the Pearson's correlation analysis. The Pearson's correlation coefficient between  $DPS_t$  and  $DPS_{t-1}$  is 0.801 and between  $DPS_t$  and  $EPS_t$  is 0.654.

The multiple regression was carried out to establish the combined influence of  $EPS_t$  and  $DPS_{t-1}$  on  $DPS_t$ . The multiple regression results agree with the simple regression results that both  $EPS_t$  and  $DPS_{t-1}$  have a positive impact on  $DPS_t$ . The  $DPS_{t-1}$  has a beta of 0.66 while that of  $EPS_t$  is 0.282. The high coefficient of  $DPS_{t-1}$  emphasizes the importance of past dividends in influencing



dividends which suggest that firms use past dividends as benchmarks in setting their current dividends.

Furthermore, results also show that  $DPS_t$  is more sensitive to  $DPS_{t-1}$  than  $EPS_t$ . This means the past dividends significantly influence current dividends than the current earnings. Thus firms attach great importance to their past dividends history and may pay dividends in times of losses or poor earnings.

The conclusion of the study, therefore, is that there is a strong and positive relationship among the current earnings per share, current dividends per share and preceding year dividends per share for firms listed at the NSE. Thus both variables significantly influence the dividend policies of the listed firms.

### **5.3 Limitation of the Study**

It is difficult to have a perfect research situation and thus it is expected that this research will have some limitations. The following limitations were encountered;

The study was carried over a period of seven years from 2003 to 2009. Bearing in mind that the NSE began in 1954, the period is short and maybe an analysis over a longer period may yield different results.

The sample of the study consisted of 20 listed firms out a population of 47 firms. Most firms were eliminated from the sample because they did not paid dividends consistently during the period of study. This sample may not be representative of the total population because only the best performing firms were able to meet the criteria.

The study only covered listed firms. There are many unlisted firms that that pay dividends. The listed firms may not be an objective sample of companies in the Kenyan economy and hence the results cannot be generalized.

The study relied on secondary data from the NSE, which means high reliability was placed on the data. No tests were carried out on the data to test its accuracy. Furthermore, the calculation of the EPS and the DPS is historical and subject to accounting manipulations.

#### **5.4 Suggestions for Further Research**

For the purpose of improving the results of this study it is suggested that;

A similar study should be carried out over a relatively longer period so as to obtain more reliable findings.

Dividends are a function of multiple factors. Further analysis should be carried out incorporating other factors such as size of the firm, debt levels, cash flows, investment levels, past dividends and earnings.

The variables studied should be tested on companies not quoted at the NSE. The findings of such studies could be used to make generalizations for the entire economy.

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**APPENDIX ONE**  
**PEARSON'S CORRELATIONS COEFFICIENTS**

		DPSt	EPS	DPS <sub>t-1</sub>
DPS <sub>t</sub>	Pearson Correlation	1	.654(**)	.801(**)
	Sig. (2-tailed)	.	.000	.000
	N	147	142	147
EPS <sub>t</sub>	Pearson Correlation	.654(**)	1	.560(**)
	Sig. (2-tailed)	.000	.	.000
	N	142	142	142
DPS <sub>t-1</sub>	Pearson Correlation	.801(**)	.560(**)	1
	Sig. (2-tailed)	.000	.000	.
	N	147	142	147

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



**APPENDIX TWO**  
**DESCRIPTIVE STATISTICS**

	N	Minimum	Maximum	Mean	Std. Deviation
DPS <sub>t</sub>	147	.02	18.00	4.6921	4.50993
EPS <sub>t</sub>	142	-2.00	46.34	7.7502	6.98237
DPS <sub>t-1</sub>	147	.02	18.00	4.5441	4.45299
Valid N (list wise)	142				

**APPENDIX THREE  
LIST OF SAMPLE DATA**

		PERIOD	2009	2008	2007	2006	2005	2004	2003	2002
1	Rea Vipingo Ltd	DPS <sub>t</sub>	0.50	0.20	0.80	0.80	0.80	0.80	0.40	0.25
		EPS <sub>t</sub>	2.48	2.80	1.92	1.88	2.07	2.14	0.05	0.41
		DPS <sub>t-1</sub>	0.20	0.80	0.80	0.80	0.80	0.40	0.25	
2	CMC Holdings Ltd	DPS <sub>t</sub>	0.35	0.45	0.35	2.30	1.50	1.00	1.00	1.00
		EPS <sub>t</sub>	0.93	1.59	1.27	7.87	7.00	5.42	7.16	6.26
		DPS <sub>t-1</sub>	0.45	0.35	2.30	1.50	1.00	1.00	1.00	
3	Kenya Airways Ltd	DPS <sub>t</sub>	1.00	1.75	1.75	1.75	1.25	0.75	0.50	0.60
		EPS <sub>t</sub>	(8.85)	8.38	8.88	10.46	6.54	2.82	0.90	1.88
		DPS <sub>t-1</sub>	1.75	1.75	1.75	1.25	0.75	0.50	0.60	
4	Nation Media group Ltd	DPS <sub>t</sub>	5.50	5.50	10.50	12.00	6.00	6.00	5.00	2.50
		EPS <sub>t</sub>	11.34	26.79	15.10	10.98	10.04	11.99	11.27	7.55
		DPS <sub>t-1</sub>	5.50	10.50	12.00	6.00	6.00	5.00	2.50	
5	TPS (Serena Ltd)	DPS <sub>t</sub>	1.25	1.25	1.25	1.25	0.40	1.10	1.10	1.10
		EPS <sub>t</sub>	3.60	2.10	3.93	3.70	0.30	3.37	0.65	2.74
		DPS <sub>t-1</sub>	1.25	1.25	1.25	0.40	1.10	1.10	1.10	
6	Barclays Bank of Kenya	DPS <sub>t</sub>	2.50	2.00	1.65	1.65	14.00	14.00	14.00	9.00
		EPS <sub>t</sub>	4.49	4.07	3.62	3.31	2.41	18.13	16.53	9.63
		DPS <sub>t-1</sub>	2.00	1.65	1.65	14.00	14.00	14.00	9.00	
7	Diamond trust bank	DPS <sub>t</sub>	1.55	1.40	1.40	1.00	0.70	0.70	0.70	0.60
		EPS <sub>t</sub>	8.31	6.91	4.54	3.49	2.37	1.65	1.40	0.95
		DPS <sub>t-1</sub>	1.40	1.40	1.00	0.70	0.70	0.70	0.60	
8	Jubilee Insurance Co, Ltd	DPS <sub>t</sub>	4.50	4.25	4.25	4.25	4.00	2.50	2.25	1.75
		EPS <sub>t</sub>	20.30	15.85	14.73	15.54	15.18	7.68	6.74	4.43
		DPS <sub>t-1</sub>	4.25	4.25	4.25	4.00	2.50	2.25	1.75	
9	Pan African Insurance	DPS <sub>t</sub>	0.50	0.50	0.80	2.70	2.50	2.40	2.25	2.00
		EPS <sub>t</sub>	2.89	-2.00	4.19	1.96	3.68	1.95	-0.49	-0.33
		DPS <sub>t-1</sub>	0.50	0.80	2.70	2.50	2.40	2.25	2.00	
10	Standard Chartered Bank	DPS <sub>t</sub>	12.00	10.00	10.00	8.50	7.50	6.50	8.50	8.25
		EPS <sub>t</sub>	17.40	11.95	12.76	9.69	9.02	6.74	11.28	8.92

**APPENDIX THREE  
LIST OF SAMPLE DATA**

		PERIOD	2009	2008	2007	2006	2005	2004	2003	2002
1	Rea Vipingo Ltd	DPS <sub>t</sub>	0.50	0.20	0.80	0.80	0.80	0.80	0.40	0.25
		EPS <sub>t</sub>	2.48	2.80	1.92	1.88	2.07	2.14	0.05	0.41
		DPS <sub>t-1</sub>	0.20	0.80	0.80	0.80	0.80	0.40	0.25	
2	CMC Holdings Ltd	DPS <sub>t</sub>	0.35	0.45	0.35	2.30	1.50	1.00	1.00	1.00
		EPS <sub>t</sub>	0.93	1.59	1.27	7.87	7.00	5.42	7.16	6.26
		DPS <sub>t-1</sub>	0.45	0.35	2.30	1.50	1.00	1.00	1.00	
3	Kenya Airways Ltd	DPS <sub>t</sub>	1.00	1.75	1.75	1.75	1.25	0.75	0.50	0.60
		EPS <sub>t</sub>	(8.85)	8.38	8.88	10.46	6.54	2.82	0.90	1.88
		DPS <sub>t-1</sub>	1.75	1.75	1.75	1.25	0.75	0.50	0.60	
4	Nation Media group Ltd	DPS <sub>t</sub>	5.50	5.50	10.50	12.00	6.00	6.00	5.00	2.50
		EPS <sub>t</sub>	11.34	26.79	15.10	10.98	10.04	11.99	11.27	7.55
		DPS <sub>t-1</sub>	5.50	10.50	12.00	6.00	6.00	5.00	2.50	
5	TPS (Serena Ltd)	DPS <sub>t</sub>	1.25	1.25	1.25	1.25	0.40	1.10	1.10	1.10
		EPS <sub>t</sub>	3.60	2.10	3.93	3.70	0.30	3.37	0.65	2.74
		DPS <sub>t-1</sub>	1.25	1.25	1.25	0.40	1.10	1.10	1.10	
6	Barclays Bank of Kenya	DPS <sub>t</sub>	2.50	2.00	1.65	1.65	14.00	14.00	14.00	9.00
		EPS <sub>t</sub>	4.49	4.07	3.62	3.31	2.41	18.13	16.53	9.63
		DPS <sub>t-1</sub>	2.00	1.65	1.65	14.00	14.00	14.00	9.00	
7	Diamond trust bank	DPS <sub>t</sub>	1.55	1.40	1.40	1.00	0.70	0.70	0.70	0.60
		EPS <sub>t</sub>	8.31	6.91	4.54	3.49	2.37	1.65	1.40	0.95
		DPS <sub>t-1</sub>	1.40	1.40	1.00	0.70	0.70	0.70	0.60	
8	Jubilee Insurance Co, Ltd	DPS <sub>t</sub>	4.50	4.25	4.25	4.25	4.00	2.50	2.25	1.75
		EPS <sub>t</sub>	20.30	15.85	14.73	15.54	15.18	7.68	6.74	4.43
		DPS <sub>t-1</sub>	4.25	4.25	4.25	4.00	2.50	2.25	1.75	
9	Pan African Insurance	DPS <sub>t</sub>	0.50	0.50	0.80	2.70	2.50	2.40	2.25	2.00
		EPS <sub>t</sub>	2.89	-2.00	4.19	1.96	3.68	1.95	-0.49	-0.33
		DPS <sub>t-1</sub>	0.50	0.80	2.70	2.50	2.40	2.25	2.00	
10	Standard Chartered Bank	DPS <sub>t</sub>	12.00	10.00	10.00	8.50	7.50	6.50	8.50	8.25
		EPS <sub>t</sub>	17.40	11.95	12.76	9.69	9.02	6.74	11.28	8.92

		DPS <sub>t-1</sub>	10.00	10.00	8.50	7.50	6.50	8.50	8.25	
11	Bamburi Cement Ltd	DPS <sub>t</sub>	11.00	6.00	6.00	5.50	5.30	6.12	2.80	3.50
		EPS <sub>t</sub>	19.20	9.40	10.50	7.71	5.94	5.24	3.18	3.66
		DPS <sub>t-1</sub>	6.00	6.00	5.50	5.30	6.12	2.80	3.50	
12	British American Tobacco	DPS <sub>t</sub>	14.75	17.00	17.00	12.00	12.50	16.50	12.50	9.00
		EPS <sub>t</sub>	14.78	17.00	13.86	12.01	13.82	12.10	11.40	8.23
		DPS <sub>t-1</sub>	17.00	17.00	12.00	12.50	16.50	12.50	9.00	
13	Boc Kenya Ltd	EPS <sub>t</sub>	7.88	10.26	13.70	11.57	10.62	8.20	7.82	5.40
		DPS <sub>t</sub>	6.80	6.80	9.25	11.30	5.50	4.50	4.35	4.35
		DPS <sub>t-1</sub>	6.80	9.25	11.30	5.50	4.50	4.35	4.35	
14	East African Cables	DPS <sub>t</sub>	1.00	1.00	0.90	0.70	5.00	3.50	1.00	0.50
		EPS <sub>t</sub>	1.46	2.29	2.06	1.41	10.52	6.11	0.46	-0.29
		DPS <sub>t-1</sub>	1.00	0.90	0.70	5.00	3.50	1.00	0.50	
15	E.A Breweries Ltd	DPS <sub>t</sub>	8.05	8.05	7.70	5.90	4.50	18.00	15.00	11.50
		EPS <sub>t</sub>	10.89	11.61	11.43	9.73	8.77	43.23	18.01	21.11
		DPS <sub>t-1</sub>	8.05	7.70	5.90	4.50	18.00	15.00	11.50	
16	Kenolkobil Ltd	DPS <sub>t</sub>	3.25	3.50	2.25	2.25	2.25	2.00	10.50	9.50
		EPS <sub>t</sub>	8.80	7.85	5.84	8.29	9.09	8.32	46.34	45.03
		DPS <sub>t-1</sub>	3.50	0.00	2.25	2.25	2.00	10.50	9.50	
17	Total Kenya Ltd	DPS <sub>t</sub>	1.00	2.50	2.50	2.50	2.50	2.50	2.50	1.70
		EPS <sub>t</sub>	2.79	4.02	2.99	2.81	3.07	3.34	3.10	2.31
		DPS <sub>t-1</sub>	2.50	2.50	2.50	2.50	2.50	2.50	1.70	
18	Kapchorua Tea Co.	DPS <sub>t</sub>	6.50	2.50	5.00	0.50	5.00	3.75	3.75	0.50
		EPS <sub>t</sub>	17.87	(17.84)	(0.24)	(2.50)	6.67	9.88	8.90	-3.54
		DPS <sub>t-1</sub>	2.50	5.00	0.50	5.00	3.75	3.75	0.50	
19	Limuru Tea co.	DPS <sub>t</sub>	7.50	10.00	5.00	10.00	5.00	15.00	10.00	3.00
		EPS <sub>t</sub>	22.47	14.11	2.34	8.05	(5.27)	16.10	13.41	3.46
		DPS <sub>t-1</sub>	10.00	5.00	10.00	5.00	15.00	10.00	3.00	
20	Williamson Ltd	DPS <sub>t</sub>	4.00	0.50	5.00	0.50	5.00	3.75	3.75	0.50
		EPS <sub>t</sub>	8.31	6.91	4.54	3.49	2.37	1.65	1.40	0.95
		DPS <sub>t-1</sub>	0.50	5.00	0.50	5.00	3.75	3.75	0.50	