

**THE RELATIONSHIP BETWEEN EARNINGS VOLATILITY AND
DIVIDEND PAY-OUT OF FIRMS QUOTED AT THE NAIROBI
SECURITIES EXCHANGE**

BY

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DECLARATION

This research project is my original work and has not been presented for degree in any other university or any other award

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DEDICATION

To

My dear beloved wife Anntonette Atieno

(Your inspiration crowned it all)

And

My sweet daughters

Rosemary Atieno

And

Michelle Agnes Achieng'

(That you may excel beyond this)

ABSTRACT

The study was undertaken to examine the relationship between Earnings Volatility and Dividend Pay-out of companies listed at the Nairobi Securities Exchange (NSE). A sample of forty two companies listed continuously from January two thousand and eight to December two thousand and thirteen at the Nairobi Securities Exchange. Companies from all the segments of the market were considered. Multiple linear regression analysis was used to establish the relationship. Dividend pay-out (PO) was the dependent variable while earnings volatility (EVO) was the explanatory variable. Financial leverage (LEV), firm size (SIZ) and company growth (GRO) rate were used as control variables. The study showed that there was a negative significant relationship between Earnings Volatility and Dividend Pay-out of firms quoted at the Nairobi Securities Exchange (NSE). It was also found that there were other variables significantly correlated with dividend pay-out.

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LIST OF ABBREVIATIONS

ANOVA: Analysis of Variance

CMA: Capital markets Authority

DPS: Dividend per Share

EAIT: Earnings after Interest and Tax

EPS: Earnings per Share

EVO: Earning Volatility

LEV: Leverage

NSE: Nairobi Securities Exchange

PO: Pay-out

SPSS: Statistical Package for Social Science

VIF: Variance Inflation Factor

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Firms' earnings are basically used for two specific purposes: reinvestment and giving returns in form of dividends to shareholders. The earnings are an important consideration to a finance manager when making the investment, dividend and financing decision. Investment and financing decision entails making choices on how much of the earnings will be used to finance a firm's operations and undertake new investment opportunities. The dividend policy guides the finance manager to decide how much will be paid out to shareholders in form of dividends or returns for their share capital holding in the firm (Pandey, 2010). The finance manager also decides the portion of earnings to be retained by the firm for future expansion and investment of new opportunities.

All earnings belong to the firm's stockholders whether they are paid out as dividends or retained. Retained earnings offer an available source of financing since they are internally generated. It is also less costly since there is no issue cost and there is no required repayment date. Using retained earnings for reinvestment reduces the amount available to stockholders for dividend payment. This is more so for companies that make use of the residual dividend policy for issuing dividends. The residual dividend policy implies that stock owners will be issued dividends out of the

cash residual that remains after investment decision has been made (Lumby and Jones, 2003)

A firm mainly exists for the sole reason of maximizing wealth for the firm and shareholders (Howells and Bain, 2007)). Therefore a firm aims at maximizing profits and returns of the company which forms the basis of retained earnings. Earnings on the income statement of a firm are important as they show the profitability and viability of the business venture. A firm that continually makes losses is deemed of no value to stockholders as they do not receive any returns for their capital holding while at the same time reducing the capital base of the shareholders. An investment opportunity that offer high returns also entails higher risk (Lasher, 2008). If the investor is not certain of the dividends he will receive the next period, it gives an indication of volatile returns. A firm that is able to make earnings constantly year in year out is able to maintain a stream of dividends to its shareholders. When a firm makes high earnings, it's able to issue out high dividends to shareholders while low earnings mean that low dividends will be issued out to shareholders. Earnings volatility can be caused by both macro and micro economic factors affecting the firm. Macro factors are the factors outside the firms control while micro factors are the factors in which the firm has control over (Wolfgang, 2003).

The dividends paid out have an effect on the liquidity and profitability position of a firm. Liquidity is the ability of a firm to meet its obligations as and when they fall due. (Pandey, 2010). When a firm issues out dividends it reduces the amount of liquid

cash that can be used to meet the demands of short term creditors and lenders. This can have an impact on the survival of a firm forcing the firm to an insolvency situation. Profitability of a firm can also be affected by the dividend decision. By issuing out dividends to the shareholders, the available cash that could have been used for reinvestment is drawn out of the firm. A firm that does not have other sources of funds is limited on the amount of investment it could undertake. This denies the firm an opportunity to undertake projects which could increase the future profitability of the firm.

1.1.1 Earnings Volatility

Earnings volatility refers to how stable, or unstable, the earnings of a corporation are. A researcher may work with annual or quarterly earnings figures. A company whose earnings fluctuate a great deal is a risky investment. Such volatile earnings make it very hard for management to plan ahead. Especially when funds must be borrowed for long-term investments, the predicted cash flow to honor debt obligations may not materialize. This can mean serious trouble, even resulting in seizure of assets by lenders, and, in extreme cases, bankruptcy. Therefore managers try not only to maximize earnings, but also to normalize them. Normalizing a variable means minimizing fluctuations and thereby reducing its volatility (Trade carview website).

Volatility in earnings also refers to the probability that actual earnings will differ from the expected earnings due to certain macro and micro economic conditions (Wolfgang, B. 2003). Such conditions may include: inflation level, social political

instability, firm policies and availability of capital to the firm. Earnings are basically the surplus or profits retained by a firm from its normal business operations. It is what the firm remains with after deducting the firm's expenses from the revenue it earns from its operations. A firm's earnings as shown from its income statement are used to indicate the profitability and viability of a business venture (Lasher, 2008). Various users of financial statements of a firm make their decisions by evaluating the performance of a firm. The firm's performance is well represented by examining the income statement which gives the balance of retained earnings of a firm at the end of a financial period. The performance as depicted by the earning ability of a firm can influence the decisions of financial statement users to invest in the firm or not.

The firm's earnings are also used for valuation of a company. The value of equity of a firm is thereby determined by multiplying the current EAIT by a suitable multiple. The current EAIT may be adjusted onto a more representative basis to take into account such things as unusual events and owner manager policies. The suitable multiple is usually the price-earning ratio of a quoted firm at the Nairobi securities exchange market (Grinblatt and Titman, 1996). Changing levels of earnings indicate some level of volatility in returns. This can be caused by risks involved in the industry as a whole or risks facing individual firms.

1.1.2 Dividend Pay-out

Dividends are the returns in form of cash or bonus shares issued to shareholders in regards to the shareholding held by the shareholder. It is the return on their

investment in the firm. Dividend payout is the percentage of earnings paid to shareholders in dividends. It is the ratio of annual dividend per share to earnings per share of the firm (Brockington, 1993).

Dividend policy regulates and guides a firm's management when issuing dividends to shareholders. Mature companies with stable cash flows and limited growth opportunities tend to return large amounts of their earnings to shareholders either by paying dividends or using the cash to repurchase common stock (Ehrhardt and Brigham, 2011). Firms that are rapidly growing with good investment opportunities invest most of their available cash flows in new projects. They are likely to pay fewer dividends or repurchase their own stock.

1.1.3 Relationship between Earnings Volatility and Dividend Pay-out

Dividends are issued out from the retained earnings of a firm. When a firm makes higher earnings in a given trading period, it's able to issue out more dividends to the shareholders. The proportion of earnings distributed is measured by the payout ratio which is cash dividend divided by earnings per share. If the dollar amount of the dividend is stable, the payout ratio will fluctuate with fluctuations in earnings. As earnings grow, the firm can increase its cash dividends.

However, a firm's management might not immediately increase the level of dividend payout unless there is certainty that the firm will continue to make good earnings in the future. This is mainly so because when a firm makes good earnings in a certain

period then declares high dividend, a time when the earnings fluctuate negatively declaring lower dividends would send mixed signals to shareholders. Some might interpret the information as possibilities of bad times ahead for the firm.

Volatility of earnings implies that the amount that is attributed to shareholders will keep on fluctuating. To avoid a scenario where by the DPS keeps on changing a firm might settle on a low dividend payout. This is usually an amount that the firm's management is sure that it is capable of paying out to shareholders. This amount can then only be increased when the management foresees a favourable future ahead for the firm (Brockington, 1993).

1.1.4 Nairobi Securities Exchange

The Nairobi Securities exchange was constituted as Nairobi stock exchange in 1954 as a voluntary association of stock brokers in the European community registered under the Societies Act. Dealing in shares and stocks started in the 1920s when the country was still a British colony. However the market was not formal as there did not exist any rules and regulations to govern stock broking activities. Trading took place on gentleman's agreement (Nairobi Securities Exchange website, June 2014).

By the end of the year December 2013, some firms listed in the NSE market reported double digit growth in profits. An analysis of the full year results showed that whereas the banking industry continued to post impressive results, firms in other service industry and those in the manufacturing are struggling to balance between

expansion, stability and shareholder returns. Some firms listed in the NSE market have expanded their boundaries to other neighbouring country regions not ventured before (Nairobi Securities Exchange website, June 2014).

As businesses grow, the management of such firms has focused on cutting costs and leverage on technology and finding cheaper distribution methods. Their main agenda is to bring down the cost to income ratio. Improved performance of firms leads to increased earnings and hence they are in a position to reward shareholders higher dividends payment compared to other trading years.

Liquidity management is a critical component of every organization. More so the firms listed at the NSE market. This is due to the fact that there is more scrutiny of the financial statements of the listed firms. The aspect of liquidity management becomes very crucial for a firm when deciding on its dividend payout. A firm's earnings provide a firm with the relevant cash flow to maintain its liquidity position. Hence a firm's management will need to consider the level of earnings to issue out as dividends in order not to pose a financial risk to the firm by being in a position where it can not meet its financial obligations.

Volatility is a key statistical concept with wide-ranging applications in finance. At the NSE investors can monitor the volatility of a stock, a stock index, or the earnings of a particular corporation. Earnings volatility is one of the key determinants of risk and of the resulting market price of a stock.

As of June 2014, the firms listed at the NSE were sixty two, representing eleven sectors of the economy including; agricultural, commercial and services, telecommunication and technology, automobiles and accessories, Banking, Insurance, Manufacturing and allied, construction and allied, energy and petroleum, investment and growth and enterprise segment.

1.2 Research Problem

The Bird in hand theory as proposed by Gordon and Lintner stated that shareholders preferred current dividends to capital gains. This is due to that shareholders viewed current dividends being more certain as compared to capital gains which are to be received in the future. Therefore the theory suggests that the more earnings a firm makes the more dividends it should give to shareholders. In addition the signaling theory suggests that when a firm issues out dividends, it has an effect on the shareholders opinion (Mayo, 2007).

It signals to shareholders that the firm has prospects of better performance in the future. The improved earnings will eventually translate to high dividend payout to the shareholders (Pandey, 2010). Earnings significantly influences dividend payout as it was found out by Fama and Blasiak (1968), in their research on dividend policy. It therefore implies that volatility in earnings will affect the dividend payout followed by a firm.

Earnings and dividends were found to influence the value of a firm's common stock based on Gordon and Myron, (1959) argument. According to their study on the relationship between dividends, earnings and stock prices, when the earnings of a firm grew, the firm issued out more dividends to shareholders. This in turn increased the price value of the firm's stock.

Modigliani and Miller (1961) researched on the value of a firm. They concluded that a firm's value is determined by the riskiness of the business venture and the earning ability of the firm. They argued that dividends are irrelevant in the valuation of a firm. This was in the absence of taxes. They later reviewed this argument and included the aspect of taxes. In the presence of taxes and cost of raising capital the amount of dividend payout is relevant to the value of the firm.

Muindi (2006) studied the relationship between EPS and DPS of equities for Companies registered at the NSE market for the years 2000 to 2004. He established that there was a significant positive relationship between EPS and DPS. However his conclusions showed a negative relationship between the EPS and DPS for finance and investment sectors.

Karanja (1987) while undertaking a research regarding dividend practices argued that the dividend practice does not only involve the decision to pay dividends or not. It also entailed how much to pay and the mode of payment. The firm's earning ability and level of cash flow also influenced the changes in dividend policy. A firm's ability

to maintain a high and constant level of earnings would therefore ensure that the shareholders get dividends regularly. When earnings changed negatively, the firm's management would not be in a position to issue out dividends to shareholders as minimal funds would be available for re-investment and distribution to the owners. The management would rather retain the funds in the firm in order to guard against future cash flow problems.

Mbuki (2010) study on the factors that determine dividend payout ratio among Sacco's in Kenya. The findings suggested that firms pay dividend because of lack of investment opportunities, availability of cash to pay dividends and the sustainability of the dividend payment in the future. Studies further suggest that earnings announcements contain relevant information to investors which impacts positively on stock prices after the dividend announcements. It gives an indication to investors that the firm has a possibility of doing even better in the future and hence better returns for the investors.

Several researches have been done on determinants of dividend policy, and relationship between EPS and DPS. However a study to assess the relationship between earnings volatility and dividend payout needs to be conducted in order to assess the effect of volatility of earnings of a firm on the dividend payout. Thus this research will be useful in bridging this research gap on how earnings volatility relate to dividend payout?

1.3 Objective of the Study

The objective of the study is to assess the nature of relationship between earnings volatility and the dividend payout by firms listed at the NSE market.

1.4 Value of the Study

The study will be important to the theory of the firm in regards to achieving the firm's main objective which is profit maximization. By making use of this information, the firm will balance its liquidity and profitability objective in regards to the firm's available earnings.

The will also be of assistance to the practice of the firm in regards to maintaining a dividend payout which is consistent with the firm's objectives and leads to the satisfaction of the firms shareholders.

The study will also contribute to greater understanding to students on the relationship of earnings volatility and dividend pay-out. This will inform them on the changes in dividend payout in regard to earnings volatility. Academic researchers may use the findings of this study to stimulate further research in this area. It will therefore form a basis of good background for further research.

The study is important to managers to enable them to know the effect of some of their decisions that affect a company's earnings. This will enable them to make such decisions as to avoid unfavourable shareholders reactions which negatively affect the

dividend policies of the firm. Using the findings from this study, firms will also be able to make decisions so as to maximize the market value of their shares.

Finance managers are charged with the responsibility of identifying viable projects on behalf of the investors. Findings from the study will help them gauge the performance of the firm and hence assist in making investment and dividend decisions. The study is very important to investors to enable them to anticipate dividend movements and therefore make right investment decisions to maximize their wealth.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter will review the various theories in regards to dividends, the factors affecting the issue of dividends by a firm and the relationship between dividend policy and earnings volatility. It will also explore the empirical studies that have been carried out by various researchers elsewhere that have a bearing on this particular study and the dividend policies used by firms in the issue of dividends to shareholders.

2.2 Dividend Theories

Dividend theories are propositions put in place to explain the rationale and major arguments relating to payment of dividends by firms. Firms are often torn in between paying dividends or reinvesting their profits on the business. Even those firms which pay dividends do not appear to have a stationary formula of determining the dividend payout ratio. Dividends are periodic payments to holders of equity which together with capital gains are the returns for investing in a firm's stock. The prospect of earning periodic dividends and sustained capital appreciation are therefore the main drivers of investors' decisions to invest in equity. In this study, the researcher explores various theories which have been postulated to explain dividend payment behavior of firms (Pandey, 2010).

2.2.1 The Dividend Irrelevance Hypothesis

The theory was developed by Miller and Modigliani. They argued that a firm's value is determined only by its basic earning power and its level of business risk. Their conclusion was that a firm value depended only on the income produced by its assets and not how this income is split. In review of this theory dividend issued out to shareholders does not determine the value of a firm hence irrelevant in regards to firm valuation (Modigliani and Miller, 1961).

This theory is relevant to the study because if a firm pays higher dividend than desired by shareholder, he can use the unwanted dividend to buy additional shares of the firms stock. If he can buy and sell shares hence create his own dividend policy without incurring costs, then the firm's dividend policy is irrelevant. (Author, 2014)

2.2.2 The Bird-in-the-Hand Hypothesis

It is also referred to as dividend preference theory. Gordon and Lintner proposed this hypothesis. It is based on the uncertainty of the future hence shareholders prefer receiving dividends to not receiving them. They also prefer current dividends to future capital gains because something paid today is more certain to be received than something expected in the future (Mayo, 2007).

The proponents argued that a stock risk decreases as dividends increase. This theory is relevant to the study because a return in form of dividends is a sure thing but a

return in the form of capital gains is risky. Thus shareholders prefer dividends and are willing to accept a lower required return on equity (Author, 2014)

2.2.3 The Tax preference Hypothesis

This hypothesis states that capital gains are preferred to dividends. Individual investors pay higher ordinary income taxes on dividends but lower tax rates on long term capital gains (Brigham and Ehrhardt, 2011).

This hypothesis suggests that even if dividends and capital gains are taxed equally, the taxes paid on dividends will be far much more compared to the taxes paid on capital gains due to time value of money. A shilling worth of tax today is more in value than the shilling in the future hence capital gains in future are preferred to dividends today (Brigham and Ehrhardt, 2011).

This hypothesis is relevant to the study because, even if dividends and capital gains are taxed equally, the taxes paid on dividends will be far much more compared to the taxes paid on capital gains due to time value of money (Author, 2014)

2.2.4 The Clientele Effect Hypothesis

The hypothesis states that different shareholders of a firm prefer different dividend payout policies. Different shareholders have different income levels. Retired individuals or those with no regular source of income prefer firms that pay a high

dividend payout. Such investors are usually in zero or low tax bracket hence taxes are of no concern to them. (Petit, 1977).

However, investors with regular source of income have no urgent need for dividend issued by the firm. They prefer the firm to pay less or no dividends at all but instead offer capital gains which attracts a low tax payment as compared to the dividends. Taxes and transaction cost influence a shareholders preference for either capital gains or dividends (Petit, 1977).

This theory is relevant to the study because investors view regular dividend payout as a source of regular income to take care of their needs (Author, 2014).

2.2.5 The Information Content or Signaling Hypothesis

Investors view dividend announcement as a way of the management communicating about the firm performance. An increase in dividend is a strong message of the management confidence in the future ability of the firm to make good earnings. A reduction in dividends can be regarded by some investors as a sign of financial weakness the firm could be going through. (Grinblatt and Titman, 1996).

This hypothesis is relevant to the study because Investors view dividend announcement as a way of the management communicating about the firm performance (Author, 2014).

2.3 Volatility Theories

Volatility as described in this study refers to the actual current volatility of a financial instrument for a specified period. It is the volatility of a financial instrument based on historical prices over the specified period with the last observation the most recent price. This phrase is used particularly when it is wished to distinguish between the actual current volatility of an instrument. (www.wikipedia.org, October 2014)

2.3.1 Random Walk Hypothesis

The random walk hypothesis is a financial theory stating that stock market prices evolve according to a random walk and thus cannot be predicted. It is consistent with the efficient-market hypothesis. This theory provides that information released or to be released to the market will have an impact on the value of financial asset (Regnault, 1863).

The hypothesis is relevant to the study because the information released or to be released to the market will have an impact on the value of financial asset and hence the need for information by the existing and potential investors to make investment decisions and for the firms to determine the value of financial assets (Author, 2014)

2.3.2 Non - Random Walk Hypothesis

There are other economists, professors, and investors who believe that the market is predictable to some degree. These people believe that prices may move in trends and that the study of past prices can be used to forecast future price direction. There have

been some economic studies that support this view, and tries to prove the random walk hypothesis wrong. Weber *et al*, () observed the stock market for ten years. Throughout that period, he looked at the market prices for noticeable trends and found that stocks with high price increases in the first five years tended to become under-performers in the following five years. Weber and other believers in the non-random walk hypothesis cite this as a key contributor and contradictor to the random walk hypothesis (www.wikipedia.org, October 2014)

Another test that Weber ran that contradicts the random walk hypothesis, was finding stocks that have had an upward revision for earnings outperform other stocks in the following six months. With this knowledge, investors can have an edge in predicting what stocks to pull out of the market and which stocks — the stocks with the upward revision — to leave in. Martin Weber's studies detract from the random walk hypothesis, because according to Weber, there are trends and other tips to predicting the stock market. (www.wikipedia.org, October 2014)

This theory is therefore relevant for the study because, with this knowledge, investors can have an edge in predicting what stocks to pull out of the market and which stocks — the stocks with the upward revision — to leave in (Author, 2014).

2.4 Determinants of Dividend Pay-Out

2.4.1 Inflation

The inflation in a country can act as a constraint in paying dividends. Since accounting system in Kenya for calculating depreciation is based on historical costs, depreciation is charged on the basis of original costs at which assets were acquired. As a result, when prices rise, funds equal to depreciation set aside would not be adequate to replace assets or to maintain the capital intact. Consequently, to maintain the capital intact and preserve their earnings power, firm's management may avoid paying dividends. On the contrary, some companies may follow a policy of paying more dividends during high inflation in order to protect shareholders from the real value of dividends (Pandey, 2010).

When a country's economy experiences periods of recession, uncertain economic and business conditions, a firm's management may opt to retain earnings as opposed to issuing them out in order to absorb future financial shocks for the firm. The dividends issued to shareholders would reduce and hence the dividend payout ratio of the firm would be affected negatively. In periods of prosperity the management may issue a high dividend payout if there are no profitable investment opportunities available (Pandey, 2010).

2.4.2 Access to the Capital Market

A company that is not sufficiently liquid can still pay dividends if it is able to raise debt or equity in the capital markets. If a company is sure of raising funds through the capital market with ease, it can adopt a high dividend payout ratio since it can easily

raise finances from the market. If it is well established and has a record of profitability, it will not find much difficulty in raising funds in the capital markets. Easy accessibility to the capital markets provides flexibility to the management in paying dividends as well as in meeting the corporate obligations (Pandey, 2010).

There will not be an immediate need to retain earnings hence more dividends can be issued out to shareholders while the company raises funds for investment via the capital markets. Existence of an unfavourable capital market forces the firm management to adopt a Conservative dividend payout. This is because the firm can not raise enough finances via the capital market and prefers to retain more of its earnings and issue out fewer dividends to shareholders (Pandey, 2010).

2.4.3 Legal Restrictions

The Companies Act has laid down various restrictions regarding the declaration of dividend. Dividends can only be paid out of the Current or past profits of the company after providing for depreciation. However, the government is empowered to allow any company to pay dividend for any financial year out of the profits of the company without providing for depreciation. A firm that continuously makes losses cannot issue out dividends (Pandey, 2010).

The payment of dividend out of capital is illegal as it leads to impairment of capital. The legal rules act as boundaries within which a company can operate in terms of paying dividends. Acting within these boundaries, a company will have to consider

many financial variables and constraints in deciding the amount of earnings to be distributed as dividends. Hence the management has to make consideration on the legal restrictions before issuing out dividends to shareholder (Pandey, 2010).

2.4.4 Restrictions in loan agreements

Lenders may generally put restrictions on the dividend payments to protect their interests especially when the firm is experiencing low liquidity or low profitability. As such the firm agrees, as part of a contract with a lender, to restrict dividend payments. For example, a loan agreement may prohibit payment of dividends as long as the firm's debt-equity ratio is in excess of , say, 1.5:1 or when the liquidity ratio is less than , say, 2:1 (Pandey, 2010).

It may also require the firm to pay dividends only when some amount of current earnings has been transferred to a sinking fund established to retire debt. If there exists legal restrictions on payment of dividends put by lenders, a firm will be forced to retain earnings and have a low payout by only issuing dividends which will conform to the restrictions provided for in the contract. Thus the firm may not issue dividends in spite of making good earnings (Pandey, 2010).

2.4.5 Control of the Shareholders

Maintaining control over the company by the existing management group or the body of shareholders is an important variable in influencing the company's dividend policy. When a company pays dividends, its cash position is affected. As a result, the

company will have to issue new shares to raise funds to finance its investment programmes. The control of the existing shareholders will be diluted if they do not want or cannot buy additional shares (Pandey, 2010).

Though the directors decide the rate of dividend, it is always at the interest of the shareholders. Shareholders expect two types of returns which are Capital Gains and Dividends. Cautious investors look for dividends because it reduces uncertainty and it is also an indication of financial strength of the company. Some investors may also need regular income hence the preference of dividends to capital gains that occur at the future (Pandey, 2010).

2.4.6. Liquidity Position

The Payment of dividend means cash outflow. Although a company may have adequate earning to declare dividends, it may not have sufficient cash to pay dividends. Thus, the cash position of the firm is an important consideration in paying dividends; the greater the cash position and overall liquidity of a company, the greater will be its ability to pay dividends (Pandey, 2010).

A mature company is generally liquid and is able to pay dividends. Such a company does not have much investments opportunity; much of its funds are not tied up in working capital and, therefore, it has a sound cash position. On the other hand, growing firms face the problem of liquidity. The management has to consider the effect of paying out dividends on its liquidity position. If it impacts negatively on the

liquidity position, the management may opt to retain earnings rather than issue out dividends by following a conservative dividend policy (Pandey, 2010).

2.5 Empirical Studies

Lintner (1956) conducted an empirical research on dividend pattern of 28 firms for the period of 1947-1953. He used regression analysis upon which he concluded that a major portion of dividend of a firm would be expressed in terms of a firm's desired dividend payment and target payout ratio (Howells and Bain, 2000).

Fama and Blacomb (1968) conducted an empirical analysis on dividend policy. They sampled some US firms and used regression analysis to analyse current dividends and earnings of the firm. The conclusion was that a firm's earnings significantly determined the dividend policy of a firm. Other factors such as investment opportunities and constraints on dividend policy fairly affected the dividend policy of a firm.

Black and Scholes (1974) conducted a test on a number of companies in Europe in regards to the effects of dividend yield and dividend policy on common stock and return of a firm. The study concluded that it was difficult to evaluate the effects of dividend policy and dividend yield on common stock and return of a firm.

Kuria (2001) conducted a study on dividend policies, growth in assets and return on assets and equity for companies at NSE. Using linear regression, he found a positive correlation between dividend paid and return on both equity and assets.

Muindi (2006), in his research on the relationship between earning per share and dividend per share of equities for companies quoted at the NSE for the years 2000 to 2004 analyzed data from published financial statements of a sample of companies. Using SPSS with focus on regression model for data analysis, he presented the findings which showed a significant positive relationship between EPS and DPS. However his conclusion showed a negative relationship between the EPS and DPS for finance and investment sectors.

Thiong'o (2011) carried out and research on the relationship between dividend payment and share price for companies listed at NSE. He used stratified sampling technique to arrive at 17 firms out of the firms that were listed at the NSE market from the period 2006-2010. He used linear regression and SPSS to analyze the relationship between the two variables using a sample of companies. In his study of Rea Vipingo, the company declared a dividend payment of 43% in 2006; the share price was kshs 37. Dividend payout in 2007 was 42% while the share price dropped to kshs 30 while in 2008 the share value dropped further to shs 22 as the dividend payout was 7%. In 2010, the share price rose to kshs 14 after dividend payout of 7%. He concluded the relationship between stock prices and dividend payout is weak.

Nyumba (2011) examined the clientele effects in dividends distributions for companies quoted at the NSE. His study used regression and correlation analysis to come up with the model expressing relationship between dividend distribution, tax

and capital needs. His study concluded that capital needs and tax (individual) are the main determinants of dividend distribution amongst companies. He further found out there is a direct relationship between individual tax and dividend distribution and an inverse relationship between capital needs and dividend distribution.

Mutiso (2011) evaluated the relationship between shareholders dispersion, firm size and dividend policy of firms quoted at NSE. He used regression analysis where by dividend payout was related to shareholder dispersion. This was consistent with the agency theory and supports Rozeffs (1982) hypothesis that stockholders seek greater dividend payout as they perceive their level of control to diminish.

Mutie (2011) conducted a research on the relationship between prior period dividend and financial performance of firms listed at the NSE for the period 2006-2010. He used the Spearman's Rank correlation coefficient and the Pearson product moment correlation coefficient to test for linear dependence between the two variables and how well they could be described by a monotonic function. He found that both a linear and a monotonic relationship between prior period DPS and EPS exist. The strength was medium, which could mean that prior period DPS is one among many other factors that affect subsequent period EPS.

Kihara (2011) studied the relationship between dividend announcement and return on investment. The analysis was carried out from the period 2006-2010 on the firms listed at the NSE that had issued dividends in the years 2006-2010. She used

regression analysis to examine the relationship between the two variables. Her conclusion was that there was an insignificant relationship between the two variables.

Kinyua (2013) conducted a similar study the relationship between income changeability and dividend payoff. The analysis was carried out from the period 2008-2012 on the firms listed at the NSE that had issued dividends in the years 2008-2012. She used regression analysis to examine the relationship between the two variables. Her conclusion was that there was a weak positive relationship indicated that earning volatility influenced dividend payout in the same direction but not to a statistically significant level.

2.6 Summary of Literature Review

Earnings volatility has been observed to impact on the dividend payout of firms. High earnings are likely to induce a firm's management to offer a higher dividend payout to shareholders. A low earnings in a certain year period reduces the cash flow available for a firm to maintain its liquidity. Several researches have been done on the area of dividend policy, determinants of dividend payout, relationship between DPS and EPS and the relationship between shareholders dispersion, firm size and dividend policy of firms quoted at NSE. However these researches have not addressed the relationship between earnings volatility and dividend payout. They have failed to show the impact of volatility in earnings on the dividend payout ratio of a company. Hence this research will be useful to show the relationship between earnings volatility and dividend payout.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter contains information on the study including the research design, the target population of the study, data collection method and analysis techniques, sampling method to be applied in the research and measures of key variables.

3.2 Research Design

This research involved the use of cross-sectional correlation study. Correlation study involves collecting and analysing data in order to determine whether a relationship exists between two or more quantifiable variables and the strength of the relationship. This design permits a researcher to analyse the inter-relationship among a large number of variables in a single a study. Additionally, a correlation study also allows a researcher to analyse how several variables either singly or in combination might affect a particular phenomenon being studied (Cooper and Schindler, 2003).

3.3 Target Population of the Study

The population of this study composed of all companies listed at the Nairobi Securities Exchange. The population of all the listed companies as at December 31, 2013, stood at 61as listed in appendix 1 (www.nse.co.ke, October, 2014). Quoted companies were used because of easy availability, credible and authentic data and

information useful for analyzing the research hypothesis due to the disclosure requirements by the Capital Markets Authority (CMA).

3.4 Data Collection

This research was based on secondary data. Data on a firms' dividend payout comprised of the dividend paid out by company to its shareholders divided by the earnings per share of the company. These figures were obtained from the published financial statements of companies, specifically the income statements and the statements of financial position. Further more the notes and explanations that accompany the published financial statements assisted in understanding of the dividend payout the firm utilized year in year out. To collect data on earnings volatility, earnings of a company were first obtained through the published income statements of companies.

3.5 Data Analysis

The data analysis involved correlation analysis using a multiple linear regression model. Data analysis was done using computer software, SPSS, to run the regression model. SPSS was preferred because it has the ability to cover a wide range of the most common statistical and graphical analysis and is very systematic. The regression model used was of the form:

$$PO_{it} = \beta_0 + \beta_1 EVO_{it} + \beta_2 LEV_{it} + \beta_3 SIZ_{it} + \beta_4 GRO_{it} +$$

Where: PO_{it-1} = Pay-out for firm i in year $t-1$.

EVO_{it-1} = Earnings Volatility for firm i in year $t-1$.

LEV_{it-1} = Financial leverage for firm i at the end of year $t-1$.

SIZ_{it-1} = Company size for firm i at the end of year $t-1$.

GRO_{it-1} = Growth rate for i in year $t-1$.

β_0 = regression constant.

= random error term which represents the combined effect of omitted variables.

β_1 , β_2 , β_3 , and β_4 are regression coefficients.

Financial leverage, firm size and company growth rate were used as control variables since they have been shown to be factors affecting dividend pay-out.

The model used was based on a similar methodology used by Kalama (2013) to study the relationship between earnings and share prices of firms listed at the Nairobi securities exchange. He analysed his data involved using a multiple linear regression model and the results revealed that there is a significant relationship between earnings and share prices. The study also showed that earnings and dividends are among the strongest predictors of share price. He also found that there were other variables that were significantly correlated with share price.

The direction and strength of the relationship was determined by the multiple correlation coefficient (r). The coefficient of multiple determination (r^2) was used to determine the explanatory power of the regression model. It gives the proportion of total variation of outcomes explained by the model. It is a measure that allows

researcher to determine how certain one can be in making predictions from a certain model. Analysis of variance (ANOVA) table from SPSS regression output will be used to determine the significance of the model using the F-statistic at 0.01 significance level. The t statistic was also determined to give the impact of each predictor variable – a big absolute t value and small p value will suggest that a predictor variable is having a large impact on the criterion variable (Kothari, 1990).

3.6 Description of Variables used in the Study

This section gives the key variables that were used in this study and shows how the variables were determined or calculated.

3.6.1 Earnings Volatility

For the purpose of statistical analysis the firm's Dividend pay-out was taken as the dependent variable while Earnings volatility as the independent variable. To explain pay-out in the year 't', data used to calculate the values of explanatory variables related to the year (t-1), that is preceding the year 't' (t refers to the year the dividend pay-out of which is being explained). This was based on the assumption that earnings volatility of a company in a given year as well as other variables are likely to affect its dividend pay-out in the following year when the data is publicly made available. For calculation of earnings volatility, firstly, the ratio of operating income to total asset was calculated for each year and then the results are geometric mean for seven years. For earning volatility calculation taking the standard deviation of ratio earnings

before interest and taxes or operating profit to total asset was calculated and considered as earnings volatility.

$$EVO_{it-1} = \sqrt{\frac{(R_{it-1} - R_i)^2}{n - 1}}$$

Where: EVO_{it-1} = Earnings volatility for firm i in year t-1.

R_{it-1} = the ratio of operating income to total asset for firm i in year t-1.

R_i = geometric mean ratio of operating income to total asset for firm i the entire study period

n = number of periods

The model used was based on a similar methodology used by Lashgari and Ahmadi (2014) to study the impact of dividend policy on share price volatility in Tehran Stock exchange. They analysed the data using a multivariable regression model and the result's indicated that at the error level on 5%, earning volatility had insignificantly effect on stock price volatility..

3.6.2 Leverage

This variable is one of the control variables of this study. The dividend pay-out of the firm could affect the choice of capital in financing growth. Generally, firms with low dividend pay-out are able to retain more profits for investments. Such firms would therefore depend more on internally generated funds and less on debt finance. On the other hand, firms with high dividend pay-out will be expected to rely more on debt in order to finance their growth opportunities. For calculating this variable, the ratio of total long-term debt (obligations of firm with maturity greater than one year) to total asset was computed for each year.

$$LEV_{it-1} = \frac{LD_{it-1}}{ASSET_{it-1}}$$

Where; LEV_{it-1} = Financial leverage for firm i at the end of year $t-1$.

LD_{it-1} = Long-term debt for firm i at the end of year $t-1$.

$ASSET_{it-1}$ = Total asset for firm i at the end of year $t-1$.

The model used was based on a similar methodology used by Lashgari and Ahmadi (2014) to study the impact of dividend policy on share price volatility in Tehran Stock exchange. They analysed the data using a multivariable regression model and the result's indicated that at the error level on 5%, leverage had insignificantly effect on stock price volatility.

3.6.3 Firm Size

This variable is one of the control variables of this study. Larger firms are more diversified and hence have lower variance of earnings thus they are able to give high dividend pay-out. Smaller firms, on the other hand, have higher variance of earnings thus they are able to give low dividend pay-out. Therefore, larger firm will have higher dividend pay-outs. Size is one of the control variable measured by using the natural logarithm of total asset.

$$SIZ_{it-1} = \ln(ASSET_{it-1})$$

Where; SIZ_{it-1} = Company size for firm i at the end of year t-1.

$ASSET_{it-1}$ = Total asset for firm i at the end of year t-1.

The model used was based on a similar methodology used by Lashgari and Ahmadi (2014) to study the impact of dividend policy on share price volatility in Tehran Stock exchange. They analysed the data using a multivariable regression model and the result's indicated that at the error level on 5%, company size had insignificantly n effect on stock price volatility.

3.6.4 Firm Growth

This variable is one of the control variables of this study. Growth is likely to place a greater demand on internally generated funds and push the firm into borrowing (Hall et al., 2004). According to Mash (1982), firms with high growth will capture relatively higher debt ratios. For calculation, the ratio of change in total asset at the end of the year to total asset at the beginning of the year is computed for each year.

$$GRO_{it-1} = \frac{\Delta ASSET_{it-1}}{\Delta ASSET_{it-2}}$$

$$\Delta ASSET_{it-1} = ASSET_{it-1} - ASSET_{it-2}$$

Where: GRO_{it-1} = Growth rate for firm i in year t-1.

$ASSET_{it-1}$ = Total asset for firm i at the end of year t-1

$ASSET_{it-2}$ = Total asset for firm i in year t-2

The model used was based on a similar methodology used by Lashgari and Ahmadi (2014) to study the impact of dividend policy on share price volatility in Tehran Stock exchange. They analysed the data using a multivariable regression model and the result's indicated that at the error level on 5%, asset growth rate had a significantly positive effect on stock price volatility

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This section contains data analysis that was done in the study. It also gives the findings and the discussion of the results. The research aimed at finding out the relationship between earnings and dividend pay-out of firms listed at the NSE. Multiple regression analysis was performed using SPSS to establish this relationship. The analysis involved correlation analysis, model test, test for autocorrelation and determining the significance of the model and the predictor variables.

4.3 Regression Analysis

A multiple linear regression analysis was conducted with Dividend pay-out (PO) as the dependent variable while earnings volatility (EVO), Financial leverage (LEV), company size (SIZ), and growth rate (GRO) were independent variables. The hierarchical multiple regression was used to control Financial leverage (LEV), company size (SIZ), and growth rate (GRO) so as to measure the independent effect of earnings volatility (EVO). The enter method in SPSS was used and all the variables were entered and there was no variable removed. The minimum ratio of valid cases to independent variables for multiple regression is 4 to 1. With 210 valid cases and 4 independent variables, the ratio for this analysis was 42 to 1, which satisfied the minimum requirement. In addition, the ratio of 42 to 1 satisfied the preferred ratio of 15 to 1 (Kothari, 1990).

4.3.1 Regression Coefficients

Table 4.3 Coefficients

| Coefficients ^a | | | | | | |
|---------------------------|------------|-----------------------------|------------|---------------------------|--------|------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 61.351 | 5.272 | | 11.638 | .000 |
| | EVO | 2.172 | .425 | 2.170 | 5.112 | .000 |
| | LEV | -1.166 | .437 | -1.167 | -2.670 | .008 |
| | SIZ | -.068 | .099 | -.069 | -.692 | .490 |
| | GRO | .035 | .031 | .040 | 1.111 | .268 |

a. Dependent Variable: PO

Source: author (2014)

From the unstandardised regression coefficients in table 4.3 above, the following regression equation was obtained:

$$PO_{it} = 61.351 + 2.172EVO_{it} - 1.1661LEV_{it} - 0.068SIZ_{it} + 0.035GRO_{it} +$$

The unstandardised coefficient associated with EVO (2.172) was positive, indicating a direct relationship in which higher numeric values for EVO were associated with higher numeric values for dividend payout. Controlling for other variables, if EVO increased by 1 unit dividend payout would increase by 2.172 units. All other independent variables had an indirect relationship with dividend payout. EVO had a beta of 2.170 showing that a change of one standard deviation in the predictor variable (EVO) would result in a change of 2.170 standard deviations in the criterion variable (dividend payout). LEV had the greatest influence on the dependent variable as shown by its beta value of -1.167 while SIZ had the lowest negative influence with a beta value of -0.069. EVO also had

high partial and part correlations showing that it had high correlation with dividend payout independent of the other predictors in the model.

4.3.2 Test of Significance of Predictor Variables

The null and alternative hypotheses for EVO were stated as: $H_0: \beta_1 = 0$ (EVO was not a significant predictor of dividend pay-out) and $H_A: \beta_1 \neq 0$ (EVO was a significant predictor of dividend payout). Significance level: $\alpha = 0.01$. The rejection region: reject the null hypothesis if $p\text{-value} \leq 0.01$. Since $p\text{-value} < 0.01$, the null hypothesis was rejected at the 0.01 level of significance. At the $\alpha = 0.01$ level of significance, there existed enough evidence to conclude that the slope associated with the EVO variable was not zero and hence EVO was a significant predictor of dividend payout.

Similarly the significance tests for other predictor variables were done using the following null and alternative hypotheses: $H_0: \beta_1 = 0$ (The independent variable was not a significant predictor of dividend pay-out) and $H_A: \beta_1 \neq 0$ (The independent variable was a significant predictor of dividend payout). Significance level: $\alpha = 0.01$. The rejection region: reject the null hypothesis if $p\text{-value} \leq 0.01$. Given the p-values in table 4.3 the predictor variables EVO, LEV, SIZ and GRO were significant at 0.01 level. The null hypotheses were rejected that the slopes associated with EVO, LEV, SIZ and GRO were equal to zero ($\beta = 0$). It could be concluded that there was a statistically significant relationship between each of the independent variables: EVO, LEV, SIZ and GRO and the dependent variable (dividend payout) at 0.01 level of significance.

4.3.3 Test of Significance of Model

Table 4.3: Model summary

| Model Summary | | | | |
|---|-------------------|----------|-------------------|----------------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .972 ^a | .945 | .944 | 71.988 |
| a. Predictors: (Constant), GRO, EVO, SIZ, LEV | | | | |

Source: author (2014)

Hierarchical regression model was used in which GRO, EVO, SIZ, and LEV were used as control variables. The SPSS regression output gave one model results, containing control variables so as to test the independent effect of variables (GRO, EVO, SIZ, and LEV) in the model. The Model of table 4.3 with the control variables LEV, SIZ, GRO and EVO gave multiple regression coefficients of correlation (r) of 0.972^a and r² of 0.945. Since from table 4.3 above F statistic had p-value < 0.01 there was a strong positive relationship between dividend payout and the set of the independent variables LEV, SIZ, EVO and GRO which was significant at 0.01 levels.

For the R square change on addition of the independent variable EVO the null and alternative hypotheses were stated as: Ho: R² change = 0 (there was no significant improvement in the relationship between the set of independent variables and the dependent variable) and HA: R² change ≠ 0 (there was a significant improvement in the relationship between the set of independent variables and the dependent variable).

Significance level: $\alpha = 0.01$. The rejection region: reject the null hypothesis if p-value ≤ 0.01. Since p-value < 0.01, the null hypothesis (R² change = 0) was rejected at 0.01 level

of significance. The R Square Change statistic for the increase in R^2 associated with the added variable (EVO) was 0.945. Using a proportional reduction in error interpretation for R^2 , information provided by the added variable reduced the error in predicting dividend payout by 94.5%. The probability of the F statistic for the change in R^2 associated with the addition of the predictor variable (EVO) to the regression analysis containing the control variables was significant at 0.01 level. There was significant improvement in the relationship between the set of independent variables (GRO, SIZ, and LEV) and the dependent variable (PO) when the predictor (EVO) was added. This shows that there was a significant relationship between earnings volatility and the dividend payout at 0.01 level of significance.

Table 4.3 ANOVA

| ANOVA ^a | | | | | | |
|---|------------|----------------|-----|-------------|---------|-------------------|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 18568793.027 | 4 | 4642198.257 | 895.790 | .000 ^b |
| | Residual | 1077905.447 | 208 | 5182.238 | | |
| | Total | 19646698.474 | 212 | | | |
| a. Dependent Variable: PO | | | | | | |
| b. Predictors: (Constant), GRO, EVO, SIZ, LEV | | | | | | |

Source: author (2014)

The null and alternative hypotheses were stated as: $H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$ (none of the independent variables were significant predictors of the dependent variable) and H_A : at least one $\beta_i \neq 0$ (at least one of the independent variables was a significant Predictor of the dependent variable). Significance level $\alpha = 0.01$. Rejection region: reject the null hypothesis if $p\text{-value} \leq 0.01$. Since from table 4.3 above $F(4, 208) =$

895.790, p-value < 0.01, the null hypothesis was rejected. It could be concluded that at least one of the independent variables was a significant predictor of dividend pay-out. The model was therefore significant at 0.01 level. There was a significant relationship between dividend pay-out and the set of independent variables: EVO, LEV, SIZ, and GRO.

4.4 Correlation Analysis

Table 4.4

| Correlations | | | | | | |
|--------------|---------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | | PO | EVO | LEV | SIZ | GRO |
| PO | Pearson Correlation | 1 | .971 ^{**} | .968 ^{**} | .949 ^{**} | .831 ^{**} |
| | Sig. (2-tailed) | | .000 | .000 | .000 | .000 |
| | N | 213 | 213 | 213 | 213 | 213 |
| EVO | Pearson Correlation | .971 ^{**} | 1 | .999 ^{**} | .980 ^{**} | .849 ^{**} |
| | Sig. (2-tailed) | .000 | | .000 | .000 | .000 |
| | N | 213 | 213 | 213 | 213 | 213 |
| LEV | Pearson Correlation | .968 ^{**} | .999 ^{**} | 1 | .981 ^{**} | .850 ^{**} |
| | Sig. (2-tailed) | .000 | .000 | | .000 | .000 |
| | N | 213 | 213 | 213 | 213 | 213 |
| SIZ | Pearson Correlation | .949 ^{**} | .980 ^{**} | .981 ^{**} | 1 | .887 ^{**} |
| | Sig. (2-tailed) | .000 | .000 | .000 | | .000 |
| | N | 213 | 213 | 213 | 213 | 213 |
| GRO | Pearson Correlation | .831 ^{**} | .849 ^{**} | .850 ^{**} | .887 ^{**} | 1 |
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 | |
| | N | 213 | 213 | 213 | 213 | 213 |

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

Source: author (2014)

Bivariate correlation analysis was done on the variables. Table 4.4 shows the bivariate correlations among the variables: dividend pay-out (PO), earnings volatility (EVO),

financial leverage (LEV), firm size (SIZ), and company growth rate (GRO). The results showed a negative correlation among all the variables. EVO, LEV, SIZ and GRO had significant correlation with dividend pay-out at 0.01 level. LEV and EVO were positively correlated with a correlation coefficient of 0.999** significant at 0.01 level. GRO and SIZ also had a positive correlation coefficient of 0.887** significant at 0.01 level.

Table 4.5 Collinearity Statistics

| Coefficients ^a | | | | | | | | |
|---------------------------|------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|---------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 61.351 | 5.272 | | 11.638 | .000 | | |
| | EVO | 2.172 | .425 | 2.170 | 5.112 | .000 | .001 | 683.157 |
| | LEV | -1.166 | .437 | -1.167 | -2.670 | .008 | .001 | 723.993 |
| | SIZ | -.068 | .099 | -.069 | -.692 | .490 | .026 | 37.831 |
| | GRO | .035 | .031 | .040 | 1.111 | .268 | .200 | 4.995 |
| a. Dependent Variable: PO | | | | | | | | |

Source: author (2014)

There was no problem of collinearity among the independent variables as indicated by the collinearity statistics (table 4.5). Presence of collinearity was also indicated by the correlation coefficients (table 4.4) between the variables. Collinearity is likely to exist when there is a correlation coefficient (r) above 0.8 between the independent variables

(Fox, 1991). The highest correlation was observed between LEV and EVO with correlation coefficient of 0.999**significant at 0.01 level which was high enough to indicate presence of collinearity. If VIF value of a variable is greater than 5, means that there is collinearity associated with the variable. From table 4.5 VIF indicates that there was collinearity among the independent variables; LEV with value 723.993, GRO with value 4.995, SIZ with value 37.831 and EVO with value 683.157. To avoid collinearity the VIF values should be less than five and tolerance above 0.2 (Cohen et al., 2003).

4.6 Discussion of Findings

The objective of the study was to find out if there is a relationship between earnings volatility and dividend pay-out of firms quoted at the NSE. Empirical results from the study revealed that there is a significant negative relationship between earnings volatility and dividend pay-out. The results of a hierarchical multiple regression analysis gave a regression model with correlation coefficients of 0.972^a and R square of 0.945 significant at 0.01 level. The R square change of the model on addition of EVO as a predictor variable after controlling for the LEV, SIZ, SIZ and GRO was significant at 0.01 level. The t-statistic for the predictor EVO of value 5.112 from table 4.3 also showed it was significant at 0.01 level.

The empirical results of the study agree with the hypothesis in that changes in EVO are related with changes in the dividend pay-out. The findings also uphold the signalling hypothesis which states that there is information asymmetry between investors and firm managers. The investors use information released by the company, such as earnings

information, as a signal of the financial health and future prospects of the company (Al-Malkawi, 2007). As a result earnings volatility results in change in dividend pay-out of firms. The findings have revealed that LEV has a stronger significant negative correlation with dividend pay-out than EVO.

Gordon (1959) asserted that investors invest in shares either for dividends or earnings or for both dividends and earnings. Current period earnings provide information to predict future periods' earnings. The future periods' earnings provide information to develop expectations about dividends in future periods. The future period's earnings volatility in turn provides information to determine share value and hence the dividends pay-out (Beaver, 1998). This explains the strong negative relationship between EVO and dividend pay-out.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section contains the summary of the study, conclusion, recommendations, limitations of the study and suggestions for further research

5.2 Summary of the Study

The study was done to find out if there is a relationship between earnings volatility and dividend pay-out of firms listed at the NSE. Empirical results from the study revealed that there is a significant negative relationship between earnings volatility and dividend pay-out of firms listed at the NSE. Bivariate correlation analysis was done and it revealed that there was a significant and strong negative relationship between earnings volatility and dividend pay-out.

However there was found to be correlations between EVO and the control variables LEV, SIZ, and GRO which were also correlated with dividend pay-out. Hierarchical multiple linear regression was done so as to isolate the individual impact of earnings volatility on dividend pay-out independent of the other predictor variables. The resulting regression model had a multiple correlation coefficient of 0.972^a. This showed that there was a strong positive correlation between the dependent variable (dividend pay-out) and the set of independent variables EVO, LEV, SIZ, and GRO. The model had a coefficient of multiple determination (R^2) of 0.945 and adjusted R

square of 0.944 which indicate the proportion of the variance in the criterion variable which was accounted for by the model. This showed that the model accounted for 94.4% of the variance in the dependent variable (dividend pay-out). The F-statistic showed that the change in R square associated with the addition of the variable to the model containing the control variables was significant at 0.01 level. There was significant improvement in the relationship between the set of independent variables and the dependent variable when the variable EVO was added. The following regression was obtained from the regression results:

$$PO_{it} = 61.351 + 2.172EVO_{it} - 1.1661LEV_{it} - 0.068SIZ_{it} + 0.035GRO_{it} +$$

Using the p-values obtained from the regression output the predictor variable EVO was found to be significant at 0.01 level. There was a statistically significant relationship between EVO and dividend pay-out at 0.01 level. From table 4.3 Unstandardized coefficient associated with EVO (2.172) was positive implying that controlling for other variables constant, if EVO increased by 1 unit dividend pay-out would increase by 2.172 units. EVO had a beta of 2.170 showing that a change of one standard deviation in the predictor variable (EVO) would result in a change of 2.170 standard deviations in the criterion variable (dividend pay-out).

EVO also had high partial and part correlations showing that it had high correlation with dividend pay-out independent of the other predictors in the model. GRO had the greatest influence on the dependent variable as shown by its beta value of 0.040 and its high part and partial correlations while LEV had the lowest negative influence of -1.167.

5.3 Conclusion

The present study was undertaken to examine the relationship between earnings volatility and dividend pay-out of firms listed at the NSE. The results revealed that there is a significant relationship between earnings volatility and dividend pay-out. The study also showed that earnings volatility and growth rate is among the strongest predictors of dividend pay-out. It was also found that there were other variables that were significantly correlated with dividend pay-out. These included LEV and SIZ which were used as control variables in the study.

5.4 Recommendations

Since earnings volatility is a strong predictor of dividend pay-out investors need to consider change in earnings volatility when making investment decisions in order to maximize their returns. It is important that company managers make decisions that enhance increase in earnings which will be accompanied by rise in dividend pay-outs so as to maximise the value of the firm. Results of the study also showed that earnings volatility is a strong predictor of dividend pay-out. Liberal dividend policy is recommended and it is suggested that companies pay regular dividends.

5.5 Limitations of the Study

The research only examined data for six years. The period could potentially be too short and therefore capable of yielding biased results.

Industry effect was not taken into consideration. Since it is known that different firms may operate in different environments that affect earnings volatility and dividend pay-outs differently.

The study did not control for some factors such as inflation, legal restrictions, liquidity position and control of shareholders that may affect dividend pay-outs.

The study was to examine the relationship of earnings volatility and dividend payout of the listed firms at the NSE market. The research relied on data from firms that had been continually listed in the period under survey. However it was impossible to gather data on all the financial statements of the 61 firms that had been continually listed from the year 2008 to 2013. The data that was obtained was for 42 companies which was used to analyze and conclude on the research problem. The data was however thought to be enough to give a conclusive relationship between earnings volatility and dividend payout.

The other limitation was the end of year accounting activities which some firms undertook after issuing the financial statements in a certain period. These activities being the end of year balance sheet activities ended up distorting the previous information regarding earnings, DPS and EPS declared by a firm before. However, the study made use of the audited financial information, specifically income statement and statements of financial position that was provided by a firm for the six years under review.

5.6 Suggestions for Further Research

The study was based on the Kenyan market, NSE. More research should be done covering a larger region and more capital markets to establish whether similar results will be obtained.

The study was confined to the period from January 2008 to December 2013. More research needs to be done covering a longer period. The research study covered only six years between 2008 and 2013. Further research can be done on similar study for an extended period of time to ensure that more information is gathered to adequately find the relationship between the two variables under research.

The study was confined to only companies quoted in the NSE. Firms that are not listed under the NSE market should also be researched on in regards to earning volatility and dividend payout in order to also understand the relationship between the two variables among firms not listed on the NSE market.

The research studied companies from all market segments without distinguishing between them. Further research is recommended in which the companies are segmented according to industries. This will reveal any industry effect on the relationship between earnings volatility and dividend pay-out.

More research is also suggested to investigate other factors affecting dividend pay-out. More study should also be done on the effect of earnings volatility on dividend pay-out while controlling for some other factors like inflation, legal restrictions, liquidity position and control of shareholders which may also affect dividend pay-outs.

REFERENCES

- Al-Malkawi, H. N. (2007). Determinants of corporate dividend policy in Jordan: an application of the Tobit model. *Journal of Applied Accounting Research*, 23:44-70
- Beaver, W. (1968). The information content of annual earnings announcements. *Journal of Accounting Research*, 24: 67-92.
- Bhat, (1996). Determinants of dividend policy. *Unpublished MBA project*, University of Nairobi.
- Black, F. & Scholes, M (1974). The effect of dividend yield and dividend policy on common stock and return. *Journal of financial economics*. 1.1 (1974):1-22.
- Brigham, E. F. & Ehrhardt, M. C. (2011). Financial management theory and practice (13 Edition). South Western Cengage Learning Graphic World, Inc. London
- Brockington, R. (1993). Financial management (6th Edition). DP publishers: London
- Cohen, J., Cohen, P., West, S.G., Aiken, L.S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences*. Lawrence Erlbaum Associates: London.
- Cooper, R., & Schindler, S. (2004). Business research methods. New York: Mc Graw-Correlation analysis for the behavioural sciences. Lawrence Erlbaum Associates: London

- Fama, .E. & Blac, H. (1968). Dividend policy, an empirical analysis. *Journal of the American Statistical Association*, 88:75-94
- Fox, J. (1991). Regression diagnostics. quantitative applications in the social sciences. Sage: London.
- Gordon, B. & Myron, J. (1959). Dividends, earnings and stock prices. *Review of economics and statistics*. 41(2), 99-105.
- Grinblatt, M. & Titman, S. (1996). Financial markets and corporate strategy (2nd Edition) MC Graw-Hill Irwin publishers: Hill Irwin.
- Howells, .P. & Bain, K. (2007). Financial Markets and Institution (5th Edition) Prentice Hall: Person Education limited publishers.
- Kalama, D.J. (2013). The relationship between earning and share prices of firms listed at the NSE. *Unpublished MBA project*, University of Nairobi.
- Karanja, J. (1987). An investigation on the determinants of dividend practices of a publicly quoted company. *Unpublished MBA project*, University of Nairobi
- Kihara, D. G. (2011). The relationship between dividend announcement and return on investment. *Unpublished MBA project*, University of Nairobi.
- Kothari, R., (1990). Research methodology: methods and techniques (2nd Ed.) Wishira: Praksam.
- Kuria, J. N. (2001). A study on dividend policies, growth in assets, return on assets and return on equity at the NSE. *Unpublished MBA project*, University of Nairobi.
- Lasher, R.W. (2008). Financial management a practical approach' (5th Edition) Thomson. South Western Cengage Learning Graphic World, Inc.: London.

- Lashgari, .Z. & Ahmadi, M. (2014). The impact of dividend policy on stock price volatility in Tehran stock exchange. *Kuwait Chapter of Arabian Journal of Business Management Review*, 10 (3), 21-38.
- Lumby, S. & Jones, S. (2003). Corporate finance theory and practice 7th Edition. South Western Cengage Learning Graphic world, Inc.: London
- Mayo, B. H. (2007). An introduction to financial institutions, investments and management basic finance (9th Edition). Thomson South Western Cengage Learning Graphic World, Inc.: London
- Mbuki, P. (2010). The factors that determine dividend payout ratio among Sacco's in Kenya. *Unpublished MBA project*, University of Nairobi
- Modigliani, .F. & Miller, H.M. (1961). Dividend policy and the valuation of shares. *Journal of Business*. 1.1 (1961):1-22.
- Muindi, H. M. (2006). The relationship between earning per share and dividend per share of equities for companies quoted at the NSE. *Unpublished MBA project*, University of Nairobi.
- Mulwa, K. K. (2006). The relationship between dividend changes and future profitability of companies at the NSE. *Unpublished MBA project*, University of Nairobi
- Mutie, P. K. (2011). Relationship between prior period dividend and financial performance. *Unpublished MBA project*, University of Nairobi.
- Mutiso, F.K. (2011). The relationship between shareholders dispersion, firm size and dividend policy of firms quoted at NSE. *Unpublished MBA project*, University of Nairobi.

Nairobi Securities Exchange (2014). *NSE website*: Retrieved from www.nse.co.ke

Nyumba, A. G. (2011). An investigation of clientele effects in dividends distribution for companies quoted at NSE. *Unpublished MBA project*, University of Nairobi.

Pandey, I. M. (2010). Financial management (10th Edition). Vikas Publishing House, PVT Ltd.

Petit, R. R. (1977). Taxes, transaction costs and clientele effects of dividends. *Journal of Financial Economics* 60, 187-243.

Regnault, J. (1863), The Theory of speculation (5th Edition) South Western Cengage Learning Graphic World, Inc. London

Sherfrin, H.M & Statman, M. J. (1984). Explaining investor's preference for cash dividends. *Journal of financial economics*.41, 561-576

Thiong'o , J. G. (2011). An investigation of the dividend practices of publicly quoted companies. *Unpublished MBA project*, University of Nairobi.

Wikipedia website (2014): Retrieve from www.wikipedia.org

Wolfgang, B. (2003). Macroeconomic factors and stock returns in Germany. Centre for Finance and Banking, Justus Liebig University.

Zinkmund, W. G. (2003). Business research methods. Oklahoma State University, Thomson South Western. Oklahoma