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Review Article

Effect of Working Capital on the Dividend Pay-Out by Firms Listed at the Nairobi Securities Exchange, Kenya

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Abstract: Managers strive to maximise shareholders wealth by making rational financing decisions regarding optimal working capital which would maximise the value of the firm. In an attempt to maximise the value of the firm managers employ sound management techniques to ensure that there is neither excess nor inadequate investment in current assets so as to strike a balance between liquidity and profitability. The determination of dividend payout is influenced by the working capital management of a firm but the extent to which working capital affects the dividend payout still remains a puzzle since most empirical studies conducted have reported inconsistent results. It is in this context that the study was set out to determine the effect of working capital on dividend payout of a firm. The objectives of the study were; to determine the effect of cash management, inventory management and account receivables on the firms' dividend payout decisions. The study employed causal research design on a target population of 61 firms listed at the NSE. Purposive sampling was used to select 30 firms which consistently paid dividends from the year 20011 to 2015. Data was collected from the audited annual reports and financial statements of individual firms sourced from the NSE. Data analysis was done using descriptive and inferential statistics. Statistical hypothesis was tested using t-test at 5% margin of error. Normality of data, homoscedasticity and autocorrelation assumptions of the regression model were tested using descriptive statistics, scatter plots and Durbin Watson test. Multiple linear regression model was used to analyse the cause-effect relationship between independent variables and dependent variable. The overall model was found to be significant with F= 60.136, P value < 0.05. The study revealed that cash management with a P value < 0.05 has a positive effect on dividend payout. Inventory management with associated P value of 0.010 have a positive effect on dividend payout decisions. Account Receivables with a P value < 0.05 has a positive effect on dividend payout decisions. The study recommends that firms should ensure that cash is well managed, implement policies that ensure debtors pay on time, and inventory is well managed so as to increase the firms' dividend payout. The results would provide information to managers to determine an optimal dividend payout that would maximise the company's stock price and thus lead to maximisation of shareholders wealth.

Keywords: Working Capital, Dividend Pay-Out, Cash Management, Account receivables, Inventory Management

1. Introduction

Working capital is the difference between current assets and current liabilities. Current assets are the most liquid assets, meaning they are cash or can be quickly converted to cash. Current liabilities are any obligations due within one year. Working capital measures what is leftover once you subtract your current liabilities from your current assets, and can be a positive or negative amount. The working capital is available to pay your company's current debts, and represents the cushion or margin of protection you can give your short-term creditors. Positive Working capital is essential for a company to meet its continuous operational needs. According to Weiner (2006) the availability of working capital influences a company's ability to meet its trade and short-term debt obligations, as well as to remain financially viable. If current

assets do not exceed current liabilities, there is a risk of being unable to pay short term creditors in a timely fashion and as a result not being able to pay dividends. Paying of dividends depends on the management of working capital.

The importance of working capital management can be traced to the solvency of the business. Adequate working capital helps in maintaining the solvency of the business by providing uninterrupted schedules of production while sufficient amount of working capital enables a firm to make prompt payment and maintaining goodwill. Sufficient working capital enables the business to pay quick and regular dividends to its investors and gain confidence of the investors which enables it to raise more funds into future while adequate working capital brings an environment of securities, confidence, high morale which results in overall efficiency in a business (Copper, 2003). Every business concern is to have adequate amount of working capital to run its business operation. It should neither have excess nor inadequate investment in working capital. Both excess and inadequate investment of working capital have a profound influence for any business negatively (Akama, 2000).

Management of working capital has profitability and liquidity implications and proposes a familiar front for profitability and liquidity of a company. To reach optimal working capital management firm managers should control the trade-off between profitability maximization and liquidity accurately. An optimal working capital management is expected to contribute positively to the creation of a firm's value (Deloof, 2006). Proper working capital management practices are vital for the success of any business. In times of economic difficulty, it is even important to ensure the inflow and outflow of cash is carefully and wisely managed. Cash management helps the business people to safeguard financial situation by preventing losses and maximising the earning potential of every shilling. Businesses need to ensure that they have sufficient levels of cash in hand to ensure that they meet the day to day expenses, taxes and dividends and also be able to take advantage of the available market opportunities (Pandey, 2010). The faster a firm collects its receivables the more it has to pay its own expenses.

Dividend payout is a portion of a company's net profits distributed by the company to a class of its stockholders. The dividend is paid in a fixed amount for each share held. Although most companies make quarterly payments in cash (cheques), dividends also may be in the form of property, scrip, or stock. Scott (2003) observed that, unlike interest on a debt, dividends must be voted on by the company's directors before each payment. Dividend payout ratio determines the amount of earnings to be distributed to the shareholders and the amount to be retained in the firm. Dividend payout is important in that retained earnings are the most significant and cheap internal source of financing, while on the other hand dividend payout is a desirable return on investment to the shareholders. According to Brealey and Myers (2002) dividend payout has been kept as the top ten puzzles in finance. The most pertinent question to be answered here is that how much cash should firms give back to their shareholders?, Should corporations pay their shareholders through dividends or by repurchasing their shares, which is the least costly form of policy from tax perspective?. Firms must take these important decisions period after period (Black & Scholes, 1974). Payment of dividends means cash outflow (Pandey, 2005). Although a firm may have adequate earnings 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 the ability to pay dividends. Firms face the problem of liquidity even though they make good profits; they continuously need funds for financing growing fixed assets and working capital. Because of the insufficient cash or pressure on liquidity, management may follow a conservative dividend payout policy.

Dividends and working capital are intertwined and the firms paying out dividends must take into consideration the working capital position of the firm. Cash dividends distribution not only depends on the profitability of a firm but also depends on the free cash flow, which is the amount of operating cash flow left over after payment of capital expenditures (Ahmed & Javid, 2009). Firms with adequate working capital have sound cash position and thus pay higher dividends than firms with inadequate working capital. Liquidity is an important consideration for a firm making a dividend decision since most dividends are often paid in cash (Pandey, 2005). Therefore the determination of dividend payout depends on the working capital of a firm. Adequate working capital does not always mean higher dividend. Companies with adequate working capital, sometimes distribute low dividend or no dividends in order to retain more, thus results in higher growth (Besley & Brigham, 2008). This raises the question whether working capital has an impact on the dividend payout of a firm.

Nairobi Securities Exchange (NSE) is the principal stock exchange of Kenya. It began in 1954 while Kenya was still a British colony, with permission from the London Stock Exchange. The NSE is a member of the African Stock Association. It is Africa 4th largest exchange in terms of trading volumes, and 5th in terms of market capitalization as a percentage of Gross Domestic Product. NSE is licensed by Capital Market Authority (CMA) with its main obligation to regulate the security market and ensure trading of securities by bringing together borrowers and investors at low cost. Regulation of quoted firms is achieved by ensuring that firms stand by the rules and regulations set by providing their periodic performance reports. As a capital market institution, the Stock Exchange plays an important role in the process of economic development. It helps mobilize domestic savings thereby bringing about the reallocation of financial resources from dormant to active agents. Long-term investments are made liquid, as the transfer of securities between shareholders is facilitated. The Exchange has also enabled companies to engage local participation in their equity, thereby giving Kenyans a chance to own shares (NSE, 2009).

Dividend decisions are among the most important decisions made by finance managers of any firm and are in line with

shareholders wealth maximisation goal. These decisions involve determining an optimum dividend payout ratio which in turn depends on the working capital management of the firm. Firms with adequate working capital are more likely to pay higher dividends than firms with inadequate working capital. Working capital has been analysed as one of the factors affecting the dividend payout but the extent to which working capital affects the dividend payout for a firm still remains a puzzle since various empirical studies conducted have produced inconsistent results. Furthermore, no universally accepted explanation for companies with adequate working capital has observed uniform dividend payment behaviour. From the studies it is noted that researchers have focused mainly on developed markets while little attention has been paid in emerging markets like Kenya. Absence of sufficient evidence on how working capital impacts on the dividend payout would more likely lead to suboptimal dividend payout decisions. This would impact on the company's stock price and hence affect shareholders wealth maximisation goal. Therefore there was need to establish the effect of working capital on the dividend payout by firms listed at the NSE.

2. Literature Review

2.1. Working Capital

Working capital is the difference between current assets and current liabilities. Current assets are the most liquid of your assets, meaning they are cash or can be quickly converted to cash. Current liabilities are any obligations due within one year. Working capital measures what is leftover once you subtract your current liabilities from your current assets, and can be a positive or negative amount. The working capital is available to pay your company's current debts, and represents the cushion or margin of protection you can give your short-term creditors. Positive Working capital is essential for your company to meet its continuous operational needs. According to Weiner (2006) the availability of working capital influences your company's ability to meet its trade and short-term debt obligations, as well as to remain financially viable. If your current assets do not exceed your current liabilities, you run the risk of being unable to pay short term creditors in a timely fashion and as a result not being able to pay dividends. Paying of dividends depends on the management of working capital. A company can be endowed with assets and profitability but short of liquidity if its assets cannot readily be converted into cash.

Operating cycle is the time duration required to convert sales, after the conversion of resources into inventories, into cash. The operating cycle of a company involves the acquisition of resources such as raw materials, manufacture of the product and finally the sale of the product (Pandey, 2005). It equals the time in selling inventories plus the time taken in recovering cash from trade receivables. It is called operating cycle because this process of producing, purchasing inventories, selling them, recovering cash from customers, using that cash to purchase/ produce inventories and so on is repeated as long as the company is in operations. Operating cycle is a measure of the operating efficiency and working capital management of a company. A short operating cycle is good as it tells that the company's cash is tied for a shorter period. The length of the operating cycle of a firm is the sum of inventory conversion period and debtors' conversion period.

2.1.1. Inventory Management

Inventor management is essential for businesses. Improper management of the inventories leads to serious issues ever faced by the firms. For example, if the firm inventory is not managed properly, it may delay firm's production process, loss of important customers. Customer dissatisfaction, resulting in working capital curtailment (Howorth, 2003). Inventory consists of raw material, work in progress and finished goods. High inventory holding in a firm will reduce the risk of shortage and decrease the ordering cost. However, holding too much inventories on hand would cause the risk of inventory obsolescence.

2.1.2. Cash Management

Cash management involves managing the monies of the firm in order to maximize cash availability. It includes policies and procedures adopted by the management of a firm to assist in achieving the management policies, laws and regulations of cash, the prevention and detection of fraud and error, promoting orderly and efficient operations. Cash is the money that a firm can disburse without any restrictions (Pandey, 2002). Cash management is concerned with the management of cash flows into and out of the firms, cashflow within the firm and cash balances lent by the firm at the time of financing deficit surplus cash.

2.1.3. Receivables Management

Receivables management entails managing the firms' inventory and receivables in order to achieve a balance between risk and returns and thereby contribute positively to the creation of a firm's value. Excessive investment in inventory and receivables reduces the profit, where as too little investment increases the risk of not being able to meet commitments as and when they become due (Mealik, 2000).

2.2. Working Capital Theories

Merton Miller and Daniel Orr assumed that the distribution of daily net cash flows is approximately normal. Each day, the net cash flow could be the expected value of some higher or lower value drawn from a normal distribution. Thus, the daily net cash follows a trendless random walk. Miller-Orr Model sets higher and lower control units, H and L respectively, and a target cash balance, Z. When the cash balance reaches the higher limit, then the difference between higher limit and target cash balance is used for investment purpose. Similarly, when the cash balance hits lower limit, then the difference between the target cash balance and the lower limit is transferred from investment to cash (Pandey, 2010).

In conservative approach, stock and cash levels will

generally be kept high to avoid stock out and liquidity costs. There is also likely to be a sizeable investment in short term bank deposit and other short term liquid investment. At one extreme, a company may finance its entire current asset requirement with long term funds including its peak temporary requirements. In operating conservative policy short term funding may only be called upon as a fall back or emergency source of funding (Almajali, 2012)

2.3. Dividend Payout

Dividend refers to the distribution of a portion of a company's earnings to ordinary shareholders decided by the board of directors. Distributions to shareholders may be in the form of cash dividend, stock dividend and property dividend. Cash dividend is the distribution of cash to its common stockholders (Nikolai, Bazley & Jones, 2010). Stock dividends refers to payment made in the form of additional shares, rather than a cash policy These distributions are generally acknowledged in the form of fractions paid per existing share (Schneeman, 2010). Property dividends refer to the distribution of non cash asset such as land, inventories and equipment to shareholders (Banarjee, 2008). Dividends are commonly defined as the distribution of earnings (past or present) in real assets among the shareholders of the firm in proportion to their ownership.

Dividends are not just an outcome of a firm payout policy; they reflect a complicated combination of investment strategy, financial decisions and private information (Miller & Rock, 1985). From managerial perspective, dividend can serve as a tool to mitigate agency problems by digesting extra free cash flows or to signal to the market that only good quality firms afford to pay dividends (Bhattacharya, 1979). On the other hand from the investor's perspective, dividends are beneficial since they represent a regular income stream which will enhance self control by avoiding any irrational trades (Shefrin & Statma, 1984).

Payout decisions have an impact but are also affected by the shareholders. Most straightforwardly distributing cash to shareholders increase their cash balance and hence relaxes their liquidity constraints. Most interestingly the decision to distribute cash may have a dynamic relationship with the properties of the stock prices and hence the liquidity of the stock in the market place (Gordon, 1963). Lintner (1956) suggested that dividend depends in part on the firm's current earnings and in part on the dividend for the previous year. He found that major changes in earnings with existing dividend rates are the most important determinants of the firm's dividend payout policy. He also found that firms tend to make periodic partial adjustments toward a target policy ratio rather than dramatic changes in policy. Fama and Babiak (1968) support Lintner's argument that managers increase dividends only after they are reasonably sure that they can permanently maintain them at the new level.

2.4. Dividend Theories

The theories explaining dividend policy are divergent. Some theories argue that dividends are irrelevant while others argue that dividends are relevant. Many dividend theories have been propounded to give the explanation on how the dividend payout decisions are being undertaken and whether it has an influence on the value of the firm. There are three different approaches in this regard. On the right, there is a conservative group that believes an increase in dividend payout increases the value of the firm. On the left, there is a radical group that believes a higher dividend payout reduces the value of the firm. And, in the centre, there is a middle of the road party, founded in 1961 by Modigliani and Miller (MM), which claims that the payout policy makes no difference (Meyers & Allen 2010).

2.4.1. Dividend Irrelevance Theories

The propagators of this theory Modigliani and Miller (1961) stated that the dividend policy employed by a firm does not affect the value of the firm. They argue that the value of the firm is dependent on the firm's earnings which result from its investment policy, such that when the policy is given the dividend payout policy is of no consequence. MM's dividend-irrelevance theory says that investors can affect their return on a stock regardless of the stock's dividend. For example, suppose, from an investor's perspective, that a company's dividend is too big. That investor could then buy more stock with the dividend that is over the investor's expectations. Likewise, if, from an investor's perspective, a company's dividend is too small, an investor could sell some of the company's stock to replicate the cash flow he or she expects (Baker & Wurgler, 2004). As such, the dividend is irrelevant to investors, meaning investors care little about a company's dividend policy since they can simulate their own.

According to Besley and Brigham (2008) dividend policy is irrelevant because the firm's value should be determined by the basic earning power and business risk of the firm. Profitability does not always mean higher dividend. Companies with high profit, sometimes distribute low dividend to retain more, that results in higher growth. An increase in current dividend must lead to a reduction in the terminal value of the existing shares because the dividend stream on the existing shares must be diverted to attract outside capital from which higher future dividends are paid. Although this theory is one of the most central theories of finance, the theory assumed that markets are frictionless and there would be no direct or indirect cost of trading.

Banarjee (2008) the fact that the trading friction is pervasive in financial markets leads one to believe that the more liquid a stock is, the better, and investors do indeed have a dividend preference based on the liquidity of the stock. Albercht and Stice (2008) advocate for retained earnings over dividends. Retained earnings are profits generated by a company that are not distributed to stockholders (shareholders) as dividends but are either reinvested in the business or kept as a reserve for specific objectives (such as to pay off a debt or purchase a capital asset). Theoretically a company that does not pay dividends should be able to reinvest its earnings in assets that would enable it to grow.

In residual dividend theory a firm will pay dividends from residual earnings i.e. earnings remaining after all suitable projects with positive NPV has been financed. It assumes that retained earnings are the best source of long term capital since it is readily available and cheap. This is because no floatation cash are involved in use of retained earnings to finance new investments. Therefore, the first claim on earnings after tax and preference dividends will be a reserve for financing investments. Dividend policy is irrelevant and treated as passive variable. It will not affect the value of the firm. However, investment decisions will.

Agency Cost and Free Cash Flow Theory by Rozeff (1982) holds that payment of dividend reduces free cash flow available for management to pursue their personal opportunistic consumption and suboptimal investments. Payment of dividend may force management to go to the capital market in order to raise needed capital for investment hence ensuring that only viable projects are undertaken. The company should pay the shareholders profits that rightly belongs to them and let them make their own investment decisions. When a company is controlled by a majority of insiders; there is less need to pay dividends to reduce agency costs. On the contrary, agency cost will become higher when the shareholding structure of a company is dispersed and hence higher dividend policy.

Tax Preference Theory by Litzenberger and Ramaswamy (1979) holds that the tax rate on dividend is higher than the rate on capital gain. A firm that pays dividend will therefore have a lower value since shareholders will pay taxes on this dividend. Under this theory, investors prefer companies that retain earnings and thus provide returns in the form of lower-taxed capital gains rather than higher-taxed dividends. When the effective rate of tax on dividend income is higher than the tax on capital gains, some shareholders, because of their personal tax positions, may prefer a high retention/low payout policy. Therefore a firm that pays no dividend has the highest value.

2.4.2. Dividend Relevance Theories

These are theories whose propagators argue that the dividend policy of a firm affects the value of the firm. Gordon (1963) in his Bird-in-Hand theory contends that dividend policy affects the value of the firm. He argues that shareholders are risk averse and prefer certainty. Dividends payments are more certain than capital gains which rely on demand and supply forces to determine share prices. Therefore, one bird in hand (certain dividends) is better than two birds in the bush (uncertain capital gains). In this theory "the bird in the hand' is referring to dividends and "the bush" is referring to capital gains. According to this theory, a firm that pays high dividends (certain) will have higher value since shareholders will require using a lower discounting rate. Walter (1963) argues that the choice of dividend policies almost affects the value of the firm. According to this theory, the dividend policy should be determined solely by the profitability of investments. Besley and Brigham (2008) argue that if the main aim of the manager is to maximise the value of the firm, then investors should prefer the firm to pay dividends if investments opportunities do exist.

Ross (1977) in his information signalling effect theory argued that in an inefficient market, management can use dividend policy to signal important information to the market which is only known to them. If the management pays high dividends, it signals high expected profits in future to maintain the high dividend level. This would increase the share price or value and vice verse, Thus dividend decisions are relevant in an inefficient market and the higher the dividends, the higher the value of the firm.

Tax differential theory by Litzenberger and Ramaswamy (1979) argued that tax rate on dividends is higher than tax rate on capital gains. Therefore, a firm that pays high dividends have lower value since shareholders pay more tax on dividends thus dividend decisions are relevant and the lower the dividend the higher the value of the firm and vice versa. Pettit (1977) in his clientele effect theory stated that different groups of shareholders (clientele) have different preferences for dividends depending on their level of income from other sources. Low income earners prefer high dividends to meet their daily consumption while high income earners prefer low dividends to avoid payment of more tax. Investors tend to prefer stocks of companies that satisfy a particular need. This is because investors face different tax treatments for dividends and capital gains and also face some transaction costs when they trade in securities. Modigliani and Miller (1961) argued that for these costs to be minimized, investors tend to prefer firms that would give them those desired benefits. Likewise, firms would attract different clientele based on their dividend policies. Though they argued that even though clientele effect may change a firm's dividend policy, one clientele is as good as another, therefore, dividend policy remains irrelevant.

Al-Malkawi (2007) affirms that firms in their growth stage, which tend to pay lower dividends, would attract clientele that desire capital appreciation, while firms in their maturity stage, which pay higher dividends, attract clientele that require immediate income in the form of dividends. Al-Malkawi (2007) grouped the clientele effect into two groups, those that are driven by tax effects and those driven by transaction cost. He argued that investors in higher tax brackets would prefer firms that pay little or no dividends, to get reward in the form of share price appreciation, and vice versa. Transaction cost-induced clientele, on the other hand, arises when small investors depend on dividend payments for their needs; this clientele prefers companies who satisfy this need because they cannot afford the high transaction cost of selling securities. Therefore, when a firm sets a dividend policy, there'll be shifting of investors into and out of the firm until equilibrium is achieved. Low, income shareholders will shift to firms paying high dividends and high income shareholders to firms paying low dividends.

Agency theory by Ross, Westerfield and Jordan (2011) argued that the agency problem between shareholders and managers can be resolved by paying high dividends. If retention is low, managers are required to raise additional equity capital to finance investment. Each fresh equity issue

will expose the managers financing decision to providers of capital e.g. bankers, investors, suppliers etc. Managers will thus engage in activities that are consistent with maximization of shareholders wealth by making full disclosure of their activities. This is because they know the firm will be exposed to external parties through external borrowing. Consequently, Agency costs will be reduced since the firm becomes self-regulating. Baker (2009), Dividend payout policy will have a beneficial effect on the value of the firm. This is because dividend payout policy can be used to reduce agency problem by reducing agency costs. The theory implies that firms adopting high dividend payout ratio will have a higher value due to reduced agency costs.

2.5. Empirical Review on Liquidity and Dividend Payout

There have been a significant number of empirical tests showing that dividend payout is affected by some factors mostly liquidity and profitability of the firm. An increase in liquidity effectively expands the set of positive Net Present Value projects a firm may undertake because it reduces the cost of capital (Baker & Wurgler, 2004). This would also tend to confirm an inverse relationship between liquidity and dividends because the more liquid a firm's stock, the more a company would be able to invest in positive NPV projects, thus decreasing the amount paid out in dividends. Dividend-paying firms are significantly larger and more profitable than non-dividend-paying firms, thus have greater cash reserves and fewer growth opportunities (Baker, 2009).

Graham (2014) investigated the effect of working capital management on the performance of non-financial firms listed in Pakistan stock exchange for the period 2007 to 2010. They concluded that working capital has a negative effect on performance.

Waithaka (2012) carried a study on the relationship working capital management practices and financial performance on the companies listed at the NSE. The findings of the study were that there was a strong positive relationship between components of working capital management practices and financial performance.

Mathura (2010) conducted a study on the effect of working capital management on profitability of listed firms in Kenya. The study revealed that there was a negative relationship between account collection periods, inventory conversion on profitability.

Wainaina (2010) conducted a study on the relationship between profitability and working capital. The study revealed that there exists a positive relationship between account receivables turnover, account payable turnover and inventory management and the profitability of small and medium term enterprises.

Mutingi (2010) studied the relationship between working capital management and financial performance of all marketing firms in Kenya. The study revealed that working capital has a positive effect on financial performance. This study concentrated on account receivables and inventory management as the variables of working capital and return to equity as a measure of performance.

Chatraji(2010) carried out a study on the impact of working capital management on profitability of companies listed in the London stock exchange between 2006 and 2008. The results indicated a negative relationship between working capital management and profitability. It therefore means that an increase in cash transformational cycle would result in reduction in profitability.

Karanja (1987) investigated the dividend payout and corporate governance in Poland. The study revealed that corporate governance is an important determinant of dividend payout. Also, larger corporations with greater liquidity and higher profitability that don't have good investment opportunities paid more dividends and corporations with higher debt ratio paid fewer dividends. Al-Kuwari (2009), investigated the determinants of dividend policies for firms listed on Gulf Cooperation Council (GCC) country stock exchanges. The results suggested that the main characteristics of firm dividend payout policy were that dividend payments related strongly and directly to government ownership, firm size and firm profitability, but negatively to the leverage ratio and liquidity. These results, taken as a whole, indicate that firms pay dividends with the intention of reducing the agency problem and maintaining firm reputation, since the legal protection for outside shareholders was limited.

Pandey (2005) investigated the dividend payment behaviour in Malaysia. The results indicated that working capital, firm's size and investment opportunities affect dividend payments. This indicated that well managed companies with optimum working capital pay higher dividends. Okpara (2010) observed that earnings, current ratio (liquidity) and previous years dividends exerts a negative influence on the dividend pay-out ratio in Nigeria's firms.

Njuguna (2006) in a study of firms which had maintained a positive average EPS as quoted at NSE for over eight years observed that working capital management played a critical role among others in determining dividend payout policy. Karanja (1987) examined dividend decision in relation to firm's working capital and cash flow position, the data collected showed that working capital was one of the major factors influencing dividend policy by firms listed at NSE. Njiru (2003) in a study of factors influencing dividend policy among the SACCO's in Kenya observed that working capital was a moderate consideration in determining the dividend policy

3. Methodology

Causal research design was used because it attempts to determine the cause effect relationship between the independent variables and dependent variable. According to Copper and Schindler (2006) this design was used to explain how the independent variables produce change in the dependent variable therefore determining the cause effect relationship that exists among variables. Purposive sampling was used to select a sample size of 30 companies who met the fulfilment of consistently paying dividends for five years in the period of 2011 to 2015 Secondary data was extracted from

the audited annual reports and financial statements of individual companies sourced from the NSE and the Capital Market Authority. Data was analysed using descriptive and inferential statistics. Tests for linearity, normality, homoscedasticity and Collinearity were done to ensure that the assumptions of the regression model holds

The regression model was used to determine the cause-effect relationship between dividend payout of a firm and working capital management. The model is as shown below:

Where:-

DPO = Dividend payout

$C_{i,t}$ = Cash management in time t

$I_{i,t}$ = Inventory Management in time t

$AC_{i,t}$ = Account Receivable in time t

β_0 =Fixed individual effect. The variable that absorbs the independent variable

β_1, β_2, β_3, = Regression Co-efficient of Independent Variables

$\varepsilon_{i,t}$ = Error Term

i = Firms

t = years

The relationship between dividend payout and liquidity is shown after the definition of the notations:

$$DPO_{i,t} = \beta_\circ + \beta_1 C_{i,t} + \beta_2 I_{i,t} + \beta_3 AC_{i,t} + \varepsilon_{i,t}$$

4. Results and Discussions

4.1. Descriptive Analysis

Descriptive statistics of the variables used in research was done by the normality test to predict whether the data is normally distributed or not. Normality tests are used to determine whether a data set is well-modeled by a normal distribution to compute how likely an underlying random variable is to be normally distributed. The descriptive statistics is presented in Table 1.

Table 1. *Descriptive Statistics.*

Variables	Minimum	Maximum	Mean	Std. Deviation
DPO	0.040	0.949	0.400	0.263
Cash levels	0.047	0.593	0.235	0.154
Inventory	0.337	9.853	2.446	2.719
Receivables	8.201	13.276	10.323	1.888

The mean represents a generalization of the data. It suggests that for any given state the data values were on average. The mean for all the explanatory variables are within the maximum and minimum range. A set of data having extremely high or low data values, the mean tends to be pulled in the direction of outliers and therefore can misrepresent the data central tendency. From Table 1 the mean of dividend payout ratio (DPO) is 0.400 which represents the average DPO for all the firms at the NSE. Cash level has a mean of 0.235 which indicates the average cash level of all firms at the NSE. Inventory level has a mean of 2.446 which represents the average inventory level for all firms under study. Account receivables had a mean of 10.323 which indicates the average account receivables for all firms listed at the NSE. The mean values from Table 1 are not extremely high or low thus representation of the data central tendency. Standard deviation is a measure of dispersion and gives us a way to describe where any given data is located with respect to the mean. To determine the concentration of data around the mean the following bounds were created ± 1, ±2, ±3 standard deviation. From Table 1 most of the data falls within these bounds which suggest that the data are concentrated around the mean thus the less spread or dispersion a data is likely to be.

4.2. Tests for the Assumptions of the Linear Regression Model

Linear regression model was tested to ensure that the model is applicable and that the assumptions of the ordinary least square hold. The model requires; the data to be normal, the error term to be zero and the independent variables should not be highly correlated and this was achieved by conducting the following tests.

4.2.1. Multi-collinearity Test

Multi-Collinearity was measured by variance inflation factor (VIF) or using tolerance. Multi-Collinearity refers to a situation where two or more independent variables are highly correlated. According to Besley 1980 as sighted in (Jingyu, 2003) researchers use a VIF=10 as critical value of thumb to determine whether there is too much correlation. The VIF values as shown in table 2 below are less than 10 so there was no Multi-Collinearity problem.

Table 2. *Collinearity Statistics.*

Independent Variables	Tolerance	VIF
Cash level	0.380	2.628
Inventory	0.580	1.724
Account Receivables	0.654	1.529

4.2.2. Test for Heteroscedasticity

A test for heteroscedasticity is made to test for variances in residuals in the model used. Heteroscedasticity does not cause ordinary least squares coefficients estimates to be biased, although it can cause ordinary least square estimates of the variance of the coefficients to be biased, thus regression analysis using heteroscedasticity data will provide an unbiased estimate for the relationship between the predictor variable and the outcome but the standard errors will be biased leading to biased inference. In this study heteroscedasticity was checked with visual comparisons. Figure 1 indicates that there was no heteroscedasticity observed in the regression analysis. The heteroscedasticity scatter shows a clear scatter plot and this means that the standard deviations of the residuals are reliable. It can therefore be concluded that since heteroscedasticity is not apparent then the model represent a realistic view of working capital on dividend payout.

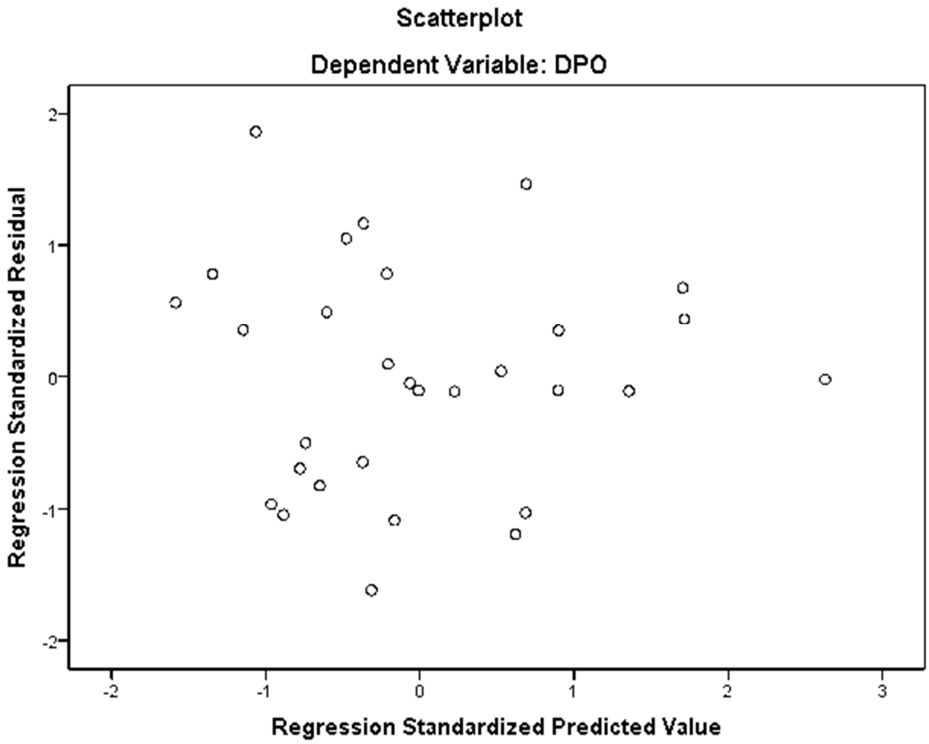

Figure 1. *Test for Heteroscedasticity.*

4.3. Correlation

Correlation determines whether and to what degree a relationship exists between two or more quantifiable variables. The degree of the relationship is expressed as a coefficient of correlation.

Table 3. *Summary of Correlations.*

		DPO	Cash	Inventory	Receivables
DPO	Pearson Correlation	1	0.556*	0.717*	0.892*
	Sig. (2-tailed)		0.004	0.000	0.000
	N	30	30	30	30
Cash	Pearson Correlation	0.556*	1	0.331	0.366
	Sig. (2-tailed)	0.004		0.106	0.072
	N	30	30	30	30
Inventory	Pearson Correlation	0.717*	0.331	1	0.592*
	Sig. (2-tailed)	.000	.106		0.002
	N	30	30	30	30
Receivables	Pearson Correlation	0.892*	0.366	0.592*	1
	Sig. (2-tailed)	.000	.072	0.002	
	N	30	30	30	30

Correlation is significant at the 0.05 level (2-tailed).

The results in Table 3 above shows that cash levels has a positive relationship with the dividend payout (DPO) and is significant at 95% confidence level. The statistic is 0.556 and the P value is 0.004 which is less than 0.05 thus significant at 95% confidence level. Receivables has a positive relationship with the DPO and are significant at 95% confidence. The test statistic is 0.892 and the P value is 0.000 which is less than 0.05. Lastly, inventory has a positive relationship with the dividend payout (DPO) and is significant at 95% confidence level. Test statistic is 0.717 and the P value is 0.000 which is less than 0.05 thus an increase in inventory will consequently lead to an increase in dividend payout.

4.4. Test for the Significance of the Regression Coefficients

Coefficients of the independent variables were tested using student t- test to determine whether they are significant at 5%. A summary of the significance of the regression coefficients is provided in Table 4.

Table 4. *Significance of the Coefficients.*

Model		Unstandardized Coefficients		Standardized Coefficients	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta		Lower Bound	Upper Bound
1	(Constant)	-0.700	0.116		0.000	-0.942	-0.458
	Cash	0.397	0.131	0.232	0.006	0.124	0.670
	Inventory	0.024	0.009	0.250	0.010	-0.006	0.042
	Receivables	0.092	0.012	.659	0.000	0.066	0.118

Standardized coefficients are the estimates resulting from an analysis performed on variables that have been standardized so that they have variances of 1. Unstandardized coefficients indicate the average change in the independent variable associated with a one unit change in the dependent variable, statistically controlling for the other independent variable, thus the unstandardized coefficients from Table 4 was used in this study.

4.4.1. Effect of Cash Levels on the Dividend Payout

Hypothesis was tested using t- test to determine the acceptance or rejection of the hypothesis stipulated. A unit increase in cash level result in 0.397 increase in dividend payout ratio. Cash level has a P value of 0.006 which is less than 0.05 and thus statistically significant at 5%. This resulted to the failure to accept the null hypothesis that cash level has no significant effect on the firms' dividend payout decisions.

4.4.2. Effect of Account Receivables on the Dividend Payout

Hypothesis was tested using t- test to determine the acceptance or rejection of the hypothesis stipulated. The results indicate that account receivables have a positive effect on the firms' dividend payout as depicted in Table 4. A unit increase in account receivables result in 0.092 increase in dividend payout ratio. Account receivables has a P value of 0.010 which is less than 0.05 and thus statistically significant at 5%. This resulted to the failure to accept the null hypothesis that cash flows have no significant effect on the firms' dividend payout decisions.

4.4.3. Effect of Inventory Management on the Dividend Payout

Hypothesis was also tested using t- test to determine the acceptance or rejection of the hypothesis stipulated. The results showed that inventory management has a positive effect on the firms' dividend payout as depicted in Table 4. A unit increase in inventory management result in 0.024 increase in dividend payout ratio. Inventory has a P value of 0.000 which is less than 0.05 and thus statistically significant at 5%. This resulted to the failure to accept the null hypothesis that inventory has no significant effect on the firms' dividend payout decisions

4.5. Model Specification

This was used to identify the cause-effect relationship between independent and dependent variables. Table 5 provides a summary of the model specification.

Table 5. *Model Summary.*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.946[a]	0.896	0.881	0.091	0.899

a. Predictors: (Constant), ln EVA, ROE, Cr
b. Dependent Variable: DPO

Table 5 is the model summary with the value of R square as 0.896 implying that about 89.6% of variation can be explained by the independent variable or can be accounted for in the dependent variable DPO and 10.4% can be accounted for by other factors that are not within the control of the researcher. The regression results indicates that all the independent variables are significant in affecting the dividend payout of firms listed on NSE. Adjusted R squared is the coefficient of determination which explains the variation in the dependent variable due to changes in the independent variable, from the findings in the above table the value of adjusted R square was 0.881 an indication that there was variation of 88.1% on the dividend payout ratio of companies listed at the NSE due to changes in the independent variable. According to the Durbin Watson table the dl (lower limit) for three regressors with a sample size of 30 is 1.214 and the du (upper limit) is 1.650 and the calculated value is 0.899 which is lower than the t critical in the Durbin Watson thus it is statistically significant. From Table 5 the Durbin Watson value is 0.899 hence there is no autocorrelation problem on the regression model.

4.6. Regression Equation

The variables of the study are related using a stochastic multiple linear regression equation of the form below:

$$DPO = -0.7 + 0.397C + 0.024I + 0.092AC + \varepsilon_{i,t}$$

The regression equation above reveals that holding cash, inventory and account receivables to a constant zero, dividend payout ratio for the firms listed at the NSE would stand at -0.700, thus a unit increase in cash would lead to an increase in the dividend payout ratio of the company by a factor of 0.397, a unit increase in inventory of the company would lead to an increase in the dividend payout ratio of the company by factors of 0.024, a unit increase in account receivables would lead to an increase in the dividend payout ratio of the firm by factors of 0.092. The coefficients of the independent variables were tested using t-test to determine their significance level.

The P values calculated for cash, inventory and account receivables are less than 0.05 and thus significant at 5%. The intervals of the independent variable coefficients are not crossing zero both in the upper and lower bound thus statistically significant for the model. The expected value of the error term was equal to zero hence the error term was not included in the regression equation.

5. Findings and Conclusions

The study found out that there exists a positive effect of working capital management on dividend payout. The study found the existence of a positive effect between cash levels and dividend pay-out which was significant at 5%. since the P value was 0.06 which was less than 0.05 thus a unit increase in cash levels resulted in 0.397 increase in dividend pay-out. Account receivables were found to have a positive effect on dividend pay-out which were significant at 5% since the P value was 0.10 which is less than 0.05 thus a unit increase in account receivables resulted in 0.092 increase in dividend pay-out. Inventory also had a positive effect on dividend pay-out and significant at 5% since the P value was 0.000 which is less than 0.05 thus a unit increase in inventory resulted in 0.024 increase in dividend pay-out. As the level of working capital increases, the dividends paid out level also increases and vice versa. The study found out that there exists a positive effect of working capital management on dividend payout. As the level of working capital increases, the dividends paid out level do also increase and vice versa. From the data collected, analyzed and conclusion made thereof showed that, firms maintain optimum working capital in order to mitigate a likelihood of financial distress and they do this by embracing the best business practices. It also showed that firms maintain optimum working capital in order to settle dividends as they fall due. The study also revealed that cash levels plays a major role in dividend payout and consequently the companies which posted optimal cash levels translated this to higher dividends paid out to investors. Firms should maintain optimum cash levels, inventory levels to avert frequent operational stand offs and unnecessary costs. They should also monitor and control inventory and account receivables using effective credit policies to minimise bad debts and ensure continuous provision of services.

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