# THE EFFECT OF DIVIDEND POLICY ON THE MARKET VALUE OF BANKS QUOTED ON THE NAIROBI SECURITIES EXCHANGE

BY

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UNITED STATES INTERNATIONALUNIVERSITY-AFRICA

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## STEVEN W. WAWERU

**A Research Project Report Submitted to the Chandaria School of Business in Partial Fulfillment of the Requirements for the Degree of Masters in Business Administration (MBA)**

## UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

## SUMMER 2018

# STUDENT'S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University - Africa in Nairobi for academic credit.


Signed: _____     Date: _____

**Steven W. Waweru (ID No. 653910)**


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


Signed: _____     Date: _____

**Dr. Francis M. Gatumo**


Signed: _____     Date: _____

**Dean, Chandaria School of Business**

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# ABSTRACT

This is a research report on the effect of dividend policy on the market value of banks quoted on the Nairobi Securities Exchange. The study was guided by the following research questions; Do the dividends paid by banks listed on the Nairobi Securities Exchange have an effect on their stock prices? Do the earning per share generated by banks listed on the Nairobi Securities Exchange have an effect on their stock prices? Do banks listed on the Nairobi Securities Exchange adopt a residual dividend policy?

The study assessed the effect of dividend policy on the market value of the eleven banks quoted on the Nairobi Securities Exchange. The research was guided by the epistemological position of positivism. The research design was quantitative in nature and a descriptive correlational research design was adopted to determine the relationship between the independent variables and the dependent variable. The population of the study was the Banking and Insurance sector of the NSE and the sample was all the eleven banks listed on the NSE. The statistical instruments used included descriptive statistics of mean, standard deviation, mode, median and skewness. Utilized inferential statistical tools of correlation, regression analysis, ANOVA and t-tests. The data was analysed by the use of the SPSS and Excel statistical software. The study was based on secondary data from the audited financial statements of the banks from 2013 to 2017 (5 years) and market price history from the Nairobi Securities Exchange database.

To determine whether dividends paid by banks being listed on the Nairobi Securities Exchange had an effect on their stock prices, a regression analysis was done and the results of the regression model indicated that the log of dividend per share and other variables within the model explain 33.7% of the variance of the log of market price per share of the banks. This meant that dividend policy adopted by banks may have a positive impact on its market value. However, the low coefficient indicated a weak relationship between the two.

The study sought to determine how earning per share generated by banks listed on the Nairobi Securities Exchange have an effect on their stock prices. The results of the regression model indicated that 47.9% of the variability of the dependent variable and was significant, indicating that that the model does a good job of explaining the variability of the dependent variable. This meant that on average for all the listed banks, earnings earned by banks do have a positive impact on its market value.

The study sought to establish whether banks listed on the Nairobi Securities Exchange adopt a residual dividend policy. The Standardized Free Cash Flow (SFCF) was determined for all the listed banks and the mean and standard deviation was calculated. The mean SFCF of all the eleven banks combined was 0.0685 for the five years 2013 to 2017 with a standard deviation of 0.1209. Therefore indicated that banks on average banks do not adopt a residual dividend policy.

The study concluded that the dividend policies adopted by banks listed on the NSE did not have a significant influence on the market prices of the eleven banks listed on the NSE for the period 2013 to 2017. Bank managers should adopt the dividend irrelevance philosophy and adopt a residual dividend policy as dividends do not have an impact on the bank's value. It was also concluded that management should improve operational efficiency and grow revenue to increase the bank's profitability as this will have a positive impact on the bank's share price. Lastly, dividends do not have a relationship with market price of banks listed on the NSE. Therefore, banks should adopt a residual dividend policy, noting that dividends are irrelevant, and give priority to the investment and operational policies of the bank.

This study recommends that commercials banks should consider their profitability, investment opportunities as well as capital ownership structure when in designing a dividend policy. In addition, the banks also need to make consideration before deciding on whether or not to pay cash dividends for liquidity purposes. The researcher recommends that banks need to focus on improving operational efficiency in order to grow the topline and improve profitability. It is also recommended that once earnings have been generated adopt a residual dividend policy and prioritize the investment programs of the bank to generate growth and future earnings.

# ACKNOWLEDGEMENTS

First and foremost, I would like to thank God for the gift of life and good health throughout the study period. Secondly, I would like to thank my supervisor, Dr. Francis Gatumo, for his guidance and mentorship when conducting this study. Thirdly, I would like to thank Emma Mareri and Azenath Ateka for their encouragement and valuable guidance. Finally, I thank my family and friends who supported and encouraged me throughout my studies.

# DEDICATION

To my daughter, Aisha, I hope you get encouraged to achieve all that you set out to do.

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**ANOVA**      Analysis of Variance

**DPS**          Dividend Per Share

**EPS**           Earnings Per Share

**MPS**         Market Price Per Share

**NPV**         Net Present Value

**NSE**         Nairobi Securities Exchange

**SFCF**       Standardized Free Cash Flow

**US**           United States

**CHAPTER ONE**

**1.0 INTRODUTION**

**1.1 Background of the Problem**

When companies make profit in an operating year, they are usually faced with a decision: do they distribute the profits to shareholders as dividends or should they retain profit to fund growth opportunities? Dividends are paid out of profits made during the year and positive retained earnings. Dividend payment are not obligatory, as directors determine the amount, based on their dividend policy (Kaddumi & Al-Kilani, 2015). Directors' of banks main objective is to maximise the wealth of shareholders and they need to know that the dividend policy they adopt achieves this objective (Brealy, Myers, & Allen, 2014).

Tenets of financial theory require management of banks to create value for stockholders by adopting policies that generally and specifically maximize shareholder wealth (Jensen, 2010). Despite extensive theorizing and empirical research, considerable debate exists on whether dividend policy adopted by banks plays a role in achieving this goal. Literature on dividends indicates that the debate on whether dividends affect a firm's value is yet to be settled.

Under perfect market conditions, it is the earnings power of invested assets that determine the value of a firm; capital structure and dividends are irrelevant in valuation (Miller & Modigliani, 1961). They argued that dividend policy decision is irrelevant to companies' value and value is determined by investment decisions. Their conclusions were based on the assumption of efficient markets, no transaction costs or taxes and information symmetry. Gordon (1963) nullified Miller and Modigliani (1961) argument by presenting his Bird in Hand assumption, as increase in dividends rate will influence shareholder wealth positively because of market uncertainty and imperfect information. Gordon averred that shareholders prefer dividends as future capital gains are less certain.

Partington (1985) stated that in practice companies do not follow the residual dividend policy as dividend decisions are taken independently from the investment policy. However, this contribution has been challenged by Lumby and Jones (2003) who found that companies that pay high dividends re-invest less and over time this reduces the capital gains that shareholders will earn. This reduction in capital gains due to reduced re-

investment would make the total return earned by a low dividend paying firm which has high re-investment, thus earns high capital gains, be similar.

Gordon (1963) had a different view stating that investors, in an uncertain world, assign a higher discount rate to cash flows in the future as opposed to today's cash flows. In effect, therefore, dividends received today have a higher present value than capital gains earned in the future due to a lower discount rate. In effect, Gordon (1963), was stating that dividend policy has an effect on the market value of corporations. Partington (1985) contribution to the debate was that the dividend is separate from the investment decision and thus dividend policy is not a residual issue.

Despite the fact that dividend payout policy research has captured the attention of many scholars in finance, the reasons why companies pay dividends and indeed investors seek them remains one of the important unsolved puzzles in finance (Baker, Singleton, & Veit, 2010). Basiddiq and Hussainey (2012) found a significant negative relationship between the number of analysts following firms and their inclination to pay dividends. They found information asymmetry between managers and shareholders is reduced by increased coverage by analyst reducing the need to signal through dividends. This aligns with the agency theory and pecking order theory, but counteracts the signaling theory. The catering theory states that the decision to pay dividends is a factor of what investors demand in form of dividends, managers pay dividends when investors pay a premium for dividend payers and not pay when investors put a premium to non-payers (Baker & Wurgler, 2004).

Baker and Kapoor (2015) identify earnings as the key determinant in setting dividends amongst NSE listed firms in India. Kandpa and Kavidayal (2015) found that dividend policy has a positive and significant effect on the market values of Indian banks. Their research also finds that dividend policy has an impact on value and managers should balance between returning cash to shareholders and funding growth.

In testing the catering theory, Wang, Ku, Lin and Huang (2016) found that listed firms in Taiwan pay more stock dividends when the stock dividend premium is positive and shift to other forms of dividends when the dividend premium for stock dividends is negative. Market sentiment has an influence on management action. Managers would want to be

rewarded by a higher share price and thus would be sensitive to the needs of their shareholders when determining dividend policy. Miglietta, Battisti and Garcia-Perez (2018) found only seven US companies have paid dividends in each of the past 60 years and six of them have beaten the performance of the S&P 500 over that period. When the economy is experiencing a boom and growth stocks are doing well, dividends tend to disappear only reappearing when the said stocks crash (Baker & Wurgler, 2004).

The findings of Abor and Fiador (2013) suggest that good corporate governance leading to access to low cost external funding give managers in South Africa, Kenya and Ghana, more confidence to pay higher dividends. While in Nigeria managers pay less dividends and retain earnings to reduce cost of external borrowing. A study by Baker and Jabbouri (2016) concluded that earnings determine dividend payout and that dividend policy drives value in Moroccan companies. In trying to understand what influences managers to pay dividends in Nigeria, Baker and Jabbouri (2016) conclude firms consider both current and future earnings and availability of cash. They found differences in motivation to pay between financial and non-financial firms.

Parkinson and Waweru (2010) found current year earnings and liquidity had a positive impact on dividends paid whilst growth in investment had a negative impact on dividends amongst companies listed on the NSE in Kenya. Their research did not investigate the relationship between dividend policy and value. Ndung'u (2016) asserts that dividend announcements have a positive relationship with market share price response amongst companies listed on the NSE in Kenya.

## 1.2 Statement of the Problem

Stanbic Holding's group announced a final dividend of Kshs 3.48 per share on 24th February, 2017. The share price did not change on the day of the announcement and went up by 4.48% by the 2nd day after the announcement of the dividend. The dividend yield based on the share price the day before the announcement was 5.19%. NIC announced a Kshs 1 dividend per share on 8th March, 2017, share price went down -1.01% on that day and -2.02% by the day after. Dividend yield was 4.04%. On 9th March, 2017 KCB announced a Kshs 3 per share dividend, price went up 5.56% on that day and gained

9.26% in two days; dividend yield 11.11%. Investors and bank managers would like to know if dividend policy has any effect on share price or it is irrelevant.

Despite significant theoretical and empirical work the debate on whether dividend policy affects the value of a firm is yet to be settled. In one camp scholars believe that dividend policy is irrelevant (Miller and Modgiliani, 1961, Black, 1976) while others (Williams, 1938, Litner, 1956 and Gordon 1963) believe dividends are critical to the value investors assign firms. Bank directors should adopt a dividend policy that maximizes the value of the firm, retaining earnings during the high growth phase and paying dividends when investment opportunities wane as the firm matures (DeAngelo, DeAngelo, & Stulz, 2006). Bank managers have to weigh the need to preserve capital for future growth on one hand and paying dividends to their shareholders on the other.

The optimal strategy is should be determined by which strategy maximises shareholder wealth. According to Fairchild (2010) dividends may communicate confusing signals to shareholders. An increase in dividends may indicate strengthening current and future earnings or reducing the agency problem. On the other hand Fairchild (2010) suggests an increase in dividends may signal lack or growth opportunities while a reduced dividend may communicate availability of profitable investments.

Globally, empirical work has not settled the question of whether dividends are relevant to a firm's value. Defusco, Dunham, and Geppert (2014) state that dividend increases are not a signal for improved earnings in the future as the increase is funded by reduced investment. Other empirical studies have shown dividend policies of banks are impacted by leverage only though the impact of the requirement to have more reserves due to the effects of the financial crisis may have impacted the results (Kaddumi & Al-Kilani, 2015).

Regional studies have also not settled the question of dividend relevance. Research conducted by Ozo, Arun, Kostov, and Uzonwanne (2009) had different findings in Nigeria, where earnings are what is critical to determining the intrinsic value of the company. Other factors that Nigerian investors consider in determining value are cash flows and dividend policy. Other empirical studies have had contrasting results, Baker and Kapoor (2015), Kandpa and Kavidayal (2015); Baker and Jabbouri (2016) found a positive relationship between dividend policy and the value of firms/banks. On the other

hand, Salih (2010) found that the dividend policy of banks is a residual and therefore irrelevant to the bank's market value.

In Kenya, Ndung'u (2016) recommended an investigation into the effect of dividend policies on the specific sectors of the Nairobi Securities Exchange. Given the fact that the issue of relevance is yet to be settled and that there are very few studies that look the effect of dividends on the value of banks listed on the NSE, the study is relevant and timely for bank managers and their shareholders.

## 1.3 Purpose of the Study

The purpose of the study was to determine the effects of dividend policy adopted by banks on their stock market value.

## 1.4 Research Questions

The study was guided by the following questions

1.4.1 Do the dividends paid by banks listed on the Nairobi Securities Exchange have an effect on their stock prices

1.4.2 Do the earnings generated by banks listed on the Nairobi Securities Exchange have an effect on their stock prices

1.4.3 Do banks listed on the Nairobi Securities Exchange adopt a residual dividend policy

## 1.5 Importance of the Study

The findings of a research are not only useful to the researcher but also to other group of stakeholders. This study will be important to the following stakeholders:

### 1.5.1 Listed Banks in Kenya

The management of banks are set to benefit from the results of the study as it will assist them form optimal dividend policies that maximise the value of their shareholders wealth. It is critical that all decisions made by the management and boards of listed banks are for the interest of shareholders.

### 1.5.2 Shareholders of Banks

The study will help shareholders assess the performance of their managers from a capital allocation perspective. They will determine if bank managers are utilizing capital efficiently to maximize their wealth.

### 1.5.3 Policy Makers and Government

Policy makers like the Capital Markets Authority will be guided by the results of the study as they formulate regulations that impact or address how listed firms distribute earnings.

### 1.5.4 Researchers and Academicians

The findings of the study will contribute to the theoretical and empirical debate in the area of dividends and their relevance to generating shareholder value. It will add to the empirical work done in Kenya on the subject. Academics and students alike will find the study methodology and subsequent results rich enough to guide future research. Further, the study will act as an impetus to reignite interest in this critical area of study.

### 1.6 Scope of the Study

Financial and market price performance of banks licensed by the Central Bank of Kenya that are also listed on the NSE (11 banks) for the period 2013 to 2017 (5 years). The main challenge was acquiring the financial reports for some of the bank however this was mitigated through doing follow up calls to the specific banks for guidance on the availability of the financial records.

### 1.7 Definition of Terms

### 1.7.1 Dividends

Returns of cash to shareholders from the earnings of the company, both current and accumulated, they are paid as a proportion of earnings (Brealy et al., 2014). Distribution of earnings to shareholders, pro-rated by the number of shares owned and paid in cash, stock or assets (Downes & Goodman, 2010).

### 1.7.2 Earnings

Corporate profits after tax has been paid to the government and available to be distributed to shareholders (Downes & Goodman, 2010). It is the rate of return on invested capital by the equity holders of the company (Graham, 1973).

### 1.7.3 Residual policy

A policy whereby the firm focuses on meeting its investment needs and maintain a targeted debt to equity ratio. Once these have been satisfied, the leftover earnings are distributed to shareholders as dividends (Ross et al, 2009)

### 1.7.4 Market value

The price at which willing buyers and sellers agree to trade the shares of a company and usually moves and down in any given trading day for a listed firm reflecting the demand and supply for that firm's shares on that particular day (White, 2007).

### 1.8 Chapter Summary

The chapter introduced the background of the study and the problem statement. It identified the scope under which the study will be undertaken. The research questions on which the study will be based have been identified; the effect of dividend policy on the market value of banks quoted on the Nairobi Securities Exchange. Finally, the various terminologies used were defined. Chapter two will provide a detailed review of the literature on dividend polices and the effects on market value. In chapter three, the research methodology was discussed while in chapter four data analysis results are presented. In chapter five, the discussions, conclusions and recommendations are presented.

## CHAPTER TWO

## 2.0 LITERATURE REVIEW

## 2.1 Introduction

This chapter details a review of the related literature on the subject under study by various researchers, scholars, analysts and authors. The research will draw materials from several sources which are closely related to the theme and the objectives of the study. The factors are discussed on the basis of the research questions. Firstly, it discusses effects dividends paid on market value of firms, secondly, effects of earnings on market value and thirdly, residual policy as a consequence of dividend irrelevance.

## 2.2 Effect of Dividends on Market Value of Firms

There are three major categories of corporate long term financial decisions; the capital investment decision, the capital structure decision and the dividend decision. In undertaking these decisions management aims to maximize shareholder wealth (Dobson, 1999). 'Can management affect shareholder wealth through the dividend decision?' (Lumby & Jones, 2003 p534). Bank managers and shareholders alike are looking for the ideal dividend policy that, if adopted, would increase the wealth of shareholders by the most amount. Or do banks pay dividends because their investors demand them? These questions led Black (1976) to conclude that the dividend question is a puzzle as the reasons corporations pay dividends and investors demand them are not clear.

## 2.2.1 Theoretical Framework on Dividend Theories

Miller and Modgliani (1961) early work concluded in an environment of no taxes and no transaction costs dividend policy has no impact on the value of the firm. The firm that pays dividends reduces its future profitable investments constraining capital appreciation, while the non-payer is able to compensate investors through capital gains as reinvested cash delivers additional profits. A firm would then follow a residual dividend policy where dividends are only paid after setting aside funds for positive NPV projects (Baker & Smith, 2006). While Fama (1974) noted that the investment decision is not linked to the financing decisions and therefore there is a weak link between dividends and the investment decisions.

The firm's value is driven by its capacity to generate consistent and growing earnings, and the dividend is only a way of distributing these earnings to shareholders (Fama,

1974). On the other hand, in applying fundamental valuation techniques a firm's value or indeed its cost of capital is related to its dividend rate (Gordon, 1959). The scholarly debate on whether dividends has an impact on market value has been going on for a while. "Thus, dividend policy remains a controversial area in finance that still poses challenges to managers who are faced with making dividend policy decisions and to researchers trying to explain dividend policy" (Baker & Weigand, 2015). This debate has resulted in the development of various theories to try and explain the dividend phenomenon. Some are discussed here

## 2.2.2 Dividend Irrelevance Theory

Developed by Miller and Modigliani (1961) summarised that investment policy alone affects value. In a world of no transaction costs and taxes, information symmetry the split of earnings between what to retain and what to pay out has no impact on the firm's value. Black and Scholes (1974) reasoned that a firm targeting to increase its share price by increasing its dividend payout would not be sustainable as many other firms would ape the strategy flooding the market with high dividend payers. Subsequent increases in payout will not have an effect on the share price due to a high supply of high dividend payers. An empirical study by Abdullah, Parvez and Tooheen (2017) found that companies in Bangladesh do not favour investment policy over dividend policy, therefore do not follow a residual dividend policy as suggested by Miller and Modigliani.

Researchers have studied the effects of the assumptions of the Dividend Irrelevance Theory by relaxing them. Litzenberger and Ramaswamy (1979) proposed the Tax Preference Theory by relaxing the assumption on tax. The theory holds that investors in the high tax bracket prefer low to no dividends whilst low tax bracket investors prefer current dividends to capital gains. Taxation has a direct impact on the dividend policy but the preference of the shareholders would diminish its effect. A reduction on the tax rate on dividends reduces the firm's cost of capital and thus increases value (Poterba, 2004).

The agency theory Ross (1973) does not support the assumption of perfect asymmetry of information between insiders and outsiders made by Miller and Modigliani (1961). Given the agency problem shareholders would have preference for current dividends to reduce the resource's available for managers to utilise on perks and invest in negative NPV

projects to increase the firm's size.   The subsequent theories collectively fall under the 'dividend relevance' school of thought.

## 2.2.3 Bird in Hand Theory

To counter Miller and Modigliani (1961), Gordon (1963) framed the bird-in-hand theory, asserting investor prefer cash dividends to future capital gains as they are more certain. Thus, they assign a higher discount rate to distant cash flows resulting in a higher present value for current dividend payers. In the UK, share prices respond positively to changes in the dividend yield and negatively to the dividend payout ratio (Hussainey, Oscar Mgbame, & Chijoke☐Mgbame, 2011). This suggests investors prefer current cash inflows to promised future gains offering support to the bird in hand theory. The bird-in-hand theory postulates that even when the firm's return on equity is the same as its cost of capital, dividends have a positive impact on the value of the firm (Rohov & Solesvik, 2016).

## 2.2.4 Catering Theory

Baker and Wurgler (2003) developed the catering theory where the decision to pay dividends is informed by investor demand for dividends. When the stock price premium for dividend payers is high, they pay dividends; when the premium is high for non-payers, they reduce or stop the dividends. Choi, Kang and Lee (2015) found companies in Korea employ differentiated dividends; paying a higher dividend to small shareholders to cater for their consumption needs and lower dividends to larger shareholders. Further afield, Hauser and Thornton Jr (2017) determined that firms on the fringes of the life-cycle model have the strongest motivation to cater to shareholders needs as well as firms of intermediate maturity.

Wang, Ku, Lin, and Huang (2016) indicate that when the dividend premium is positive firm's in Taiwan distribute more dividends and reduce the payments when the dividend premium is negative. The firm's managers take a que from the what investors needs are from the dividend premium.

## 2.2.5 Signaling Theory

Bhattacharya (1979) in countering the bird in hand theory developed the signaling theory of dividends. He asserts that dividends serve as a signal to the insiders view of anticipated future profits. Increasing dividends when they want to signal rosier prospects and cutting when opportunities wane. In Saudi Arabia firms have the flexibility to reduce or stop dividend payments when earnings fall and even discontinue them all together when losses are reported (Al□Ajmi & Abo Hussain, 2011). In an attempt to address Black's (1976) puzzle, Fairchild (2010) developed a signaling model which postulates that dividends may be confusing to investors. An increase may be viewed positively as an indication of better earnings in the future and a mitigation against agency problems but also negatively that the firm has exhausted profitable investment opportunities.

Chowdhury, Maung and Zhang (2014) study found that cash dividends are not a signal of future financial performance of Chinese firms but an indicator of good corporate governance. In the long run dividend increases have a negative impact on the earnings capacity of firms, dividends do a poor job of signaling the future performance of a corporation (Defusco et al., 2014).

## 2.2.6 The Walter Model

In concluding that dividend policy affects the value of an enterprise, Walter (1963) developed a model to guide when to pay dividends. He proposed that firms with a higher return on equity than the cost of capital should retain all profits for reinvestment into profitable projects. Firms with a higher cost of capital than its return on equity should pay out all profits as dividend to shareholders to reinvest on their own. When cost of capital is equal to return on equity the firm is indifferent between retaining profits and paying dividends.

## 2.2.7 Do Dividends Impact Market Value?

Following the seminal paper by Miller and Modigliani (1961) that asserted no rational investor would have a preference to dividends over capital gains, a significant amount of research has been done to prove or disprove the irrelevance theory. Their work concluded that the dividend policy is a residual of the investment policy. Gordon (1963) averred that investors prefer current cash dividends as they are more certain and therefore should command a lower discount rate and hence a higher value than distant capital gains. Given

the differential in the tax rate for dividends and capital gains investors should always prefer re-investment of income leading to future capital gains that are taxed a lower rate (Black & Scholes, 1974). Arguing against the irreverence theory Partington (1985) demonstrated that the dividend policy is independent of the investment policy and thud does have an effect on the wealth of shareholders.

Emeni and Ogbulu (2015) found a negative and insignificant relationship between dividends and market values of financial services companies listed in the Nigerian Stock Exchange. Counterintuitively, they also found that retained earnings (investment policy) had no impact on the market values of these firms. The study by Emeni and Ogbulu (2015) concluded that dividend policy is irrelevant for financial firms in Nigeria. A study of firms in Indonesia Hutagaol-Martowidjojo and Valentincic (2016) showed that dividends are considered by investors when valuing firms. Dividends displace net earnings in determining valuation as well as a predictor of future earnings. Earlier work by Rees and Valentincic (2013) showed that with a sub-sample there is a positive relationship between dividend and value of firms in the United Kingdom. They also demonstrated that core earnings have a significant influence on the value investors assign to a firm.

Salih (2010) demonstrated that dividend policy does impact the market value of firms in the United Kingdom. While proving that the irrelevance theory doesn't apply he noted that the banking sector showed different results. The study by Salih (2010) demonstrated that the irrelevance theory applies for banks. In a study in Indonesia, Baker and Powell (2012) found that managers of listed firms believe that the dividend policy they adopt influences the market value of these firms. A survey of the managers indicate that they have varied beliefs as to the drivers of this value including signaling, catering and life cycle expectations. Al-Najjar and Kilincarslan (2017) determined firms in Turkey developed their dividend policy based on Lintner (1956) guided by a need to smooth the dividends adopting a stable policy thus indicating that there is no optimal policy; dividend policy doesn't matter.

While attempting to show that founders can create a 'home-made' dividend. Dennis and Smith (2014) as specified by Miller and Modigliani (1961) concluded that act can lower the value of the firm as funds are diverted from investments to perks. Booth and Zhou (2015) determined there is a relationship between a dominant market

position and the ability to pay dividends. Smaller firms with low market power, are perceived to be riskier and thus have a diminished ability to pay dividends compared to market leaders who can pay regular and higher dividends. Adopting an investor's perspective Clemens (2013) found a strategy of overweighting high dividend-paying firms will generate above average returns across investment horizons in both the United States and world indices. Good corporate governance as a result of a higher payout which reduces agency problems allows the firms to command a lower discount rate and higher valuations.

Banks in countries with high creditor protection tend to pay low dividends retaining more funds for growth through issuance of more loans indicating the vital role creditor protection plays in development of capital markets (Ashraf & Zheng, 2015). The study indicates that there is a relationship between the dividend policy and investment policy, supporting irrelevance. Arko, Abor, Adjasi and Amidu (2014) in study on dividend polices in sub-Saharan Africa showed managers are guided by current earnings, growth opportunities, taxation, level of borrowing and perception of risk. In selected countries, firms change the dividends to reflect expectations about future earnings i.e. signaling to investors. Bae and Elhusseiny (2017) in support of the dividend relevancy school of thought showed that firms with fantastic financial performance tend to pay high and consistent dividends, information investors can use to assign risk to firms. Better performers will be assigned lower discount rates and thus higher value.

During the global financial crisis starting in 2008 firms reduced their dividend payments as they become concerned about future growth and the need to conserve cash (Hauser, 2013). It is not clear whether the cash was being retained for defensive purposes or to take advantage of falling prices in the market to invest for growth. Although the study did not determine that high dividends are indicative of high earnings quality in Indonesia, Sirait and Siregar (2014), however, found firms paying high consistent dividends are indicative of higher earnings quality. These firms tend to be perceived as having lower risk and thus should command higher valuations. Large and stable professional investors like pension funds usually favour firms that pay consistent dividends (Jory, Ngo, & Sakaki, 2017).

## 2.3 Effect of Earnings on Market Value

"It is well established in the theory of finance that, the economic value of an asset can be determined by discounting the expected benefits to the owner over the holding period at the opportunity cost of capital" (Pirie & Smith, 2009 pp 110). The theory of valuation was developed by Williams (1938) where he set the foundation of deriving the present value of a stream of cash flows to evaluate projects. When valuing the firm as a whole the sources of inputs are many; dividends, earnings, cash flows, book value etc. Barth, Elliott, and Finn (1999) show investors assign higher price earnings (P/E) multiples to firms that have demonstrated sustainable growth in earnings. Several valuation models have emerged over the years, summarise the keys ones below;

### 2.3.1 Dividend Discount Model

The model provides a way to determine the value of the firm as well as the market in aggregate and helps one determine the relative attractiveness of a stock or market in a portfolio setting (Farrell, 1985). Dividend valuation models are grounded on the principle that the value of a firm is the sum of the expected dividends an investor is to receive from a firm discounted back to their present value (Anorld, 2013). Gordon and Shapiro (1956) developed the first dividend based valuation model that simplified the model for valuing dividends to infinity to

$$P^{\circ} \quad \frac{1}{-}$$

Where Po is the market price, $D_1$ is next year's dividend, r is the discount rate and g is the growth rate. The researcher will adopt the ex-post dividend, $D_0$, as opposed to $D_1$, as it is available and objective as opposed to the subjectively computed $D_1$.

A necessary assumption of the model is that r is always greater than g. Damodaran (2012) was able to generate a variation of the model that splits the life of the firm into various stages. This is a more realistic pattern but doesn't lessen the burden of forecasting dividends since they are discretionary. Indeed, firms with high-growth opportunities may pay no dividends at all. Miller and Modigliani (1961) argue that in perfect capital markets the value of the firm is unaffected by dividend payments. This gives rise to what Penman (1992) calls the "dividend conundrum". Share prices depend on expected dividend

stream, but the pattern of dividends actually paid provides no useful information because it is largely discretionary.

One argument against the dividend model is that dividends cannot be reliably forecasted as they are discretionary. Pirie and Smith (2009) found that current earnings and book values have a strong positive explanatory power for changes in the stock prices of firms in Malaysia. The implication for investors is that they should analyse both the income statement as well as balance sheet. While agreeing with Pirie and Smith (2009); Kadri, (2015) found that current earnings and book value are relevant in determining value of Islamic banks in Malaysia. The coefficients, however, exhibited weaker explanatory power than the conventional banks. Differing slightly with the above two studies, Mostafa (2016) determined as individual variables both book value and earnings have an effect on stock prices but jointly earnings has more explanatory power.

### 2.3.2 Free Cash Flow Models

Similar to the dividend models, these models assume that a firm's value is the summation of future cash flows that are available to shareholders, whether they are distributed or not. The firm's cash flows attributed to equity holders are forecasted and then discounted at the appropriate cost of equity (Brealy *et al*., 2014). A firm is created to maximise its value and this is achieved through strategies that are aligned to manage risk and uncertainty (Michalski, 2008). It is slightly easier to forecast cash flows than dividends, as the discretionary element is eliminated (Hutagaol-Martowidjojo & Valentincic, 2016).

Modigliani and Miller (1958) asserted that in a perfect world there is no link between cash flows and investments and hence value. Myers and Majluf (1984) countered by demonstrating due to information asymmetry the cost of equity increases for external sources of funds leading to firms having a preference to internally generated cash flows.

### 2.3.3 Residual Income Models

Stark (1997) posed the question as to whether the abnormal earnings, earnings after deducting an appropriate cost of equity, drive value of the firm or it is the aggregated earnings reported in the financial statements. Ohlson (1999) countered by showing that aggregated earnings have an influence on a firm's value especially if you factor in the

agency problem. He further stated that aggregated earnings from the financial statements drive value. There are commonalities in the link between prices, book values, earning and dividends (Ashton & Wang, 2015). The study also found that accounting policies adopted that generate conservative earnings have no distinguishable impact on this relationship.

### 2.3.4 The Ohlson Model

Although the residual model is theoretically elegant and simple to use, it still requires one to forecast distant earnings just like in the case of the cash flow models. Ohlson (1995) accepting the fact that earnings cannot grow into perpetuity because of competition, developed an auto regressive model of earnings to determine value. Ohlson shows the residual income model is a linear regression of current equity value, current residual earnings and other relevant information. Liu and Ohlson (2000) supported the Ohlson model by demonstrating that the market value of a firm is influenced by change in operating earnings and the expected operating earnings. This supports the hypothesis that accounting earnings do have an influence on the value of the firm. By studying accruals, Barth, Clinch, and Israeli (2016) found evidence that accounting information increases one's ability to forecast future earnings and cash flows and thus can better determine the firm's value.

Ota (2002) studying firms in Japan found support for the Ohlson (1995) model and demonstrated that it can be improved by not specifying the other variable. Fiordelisi and Molyneux (2010) whilst supporting Ohlson (1995) concluded that banks in Europe are able to improve their valuation through efficiency initiatives that reduce the cost to income ration and thus increase earnings. Ohlson and Johannesson (2016) found evidence suggesting that the earnings and earnings growth model has significant influence on valuation based on residual income in terms of explaining prices. .

### 2.3.5 Do earnings affect value

In world with no taxes, bankruptcy risk and endless arbitrage opportunities (Modigliani & Miller, 1958) a firm's capital structure, split between debt and equity, has no impact on the firm's value. The firm's value is driven not by how you fund the business but from the outcome of the business operations themselves i.e. earnings. Scott (1976) added to the debate on firm value by showing in imperfect markets for real assets the value of the firm

was driven by expected future earnings and the cash value of their assets. Scott relaxed the tax assumption to demonstrate that the tax allow ability of interest costs positively impacts value the more debt one assumes to a certain limit. In the search for a value enhancing capital structure, managers of firms have to weigh the benefits of interest tax advantages against the risks of bankruptcy. While supporting the view that capital structure matters in an environment of taxes, Bradley, Jarrell and Kim (1983) showed that the level of debt a firm can assume is inversely related to the variability of current earnings. This suggests a firm with stable earnings can assume more debt and will have a higher value due to the tax deductibility of interest.

Gregory, Whittaker and Yan (2016) while showing the impact of corporate social responsibility on valuation of firms, where able to demonstrate that firms with a higher earnings persistence have higher valuations. The regression coefficient for earnings were positive and significant. Industrywide factors drive the persistence of earnings and has an influence on the discount rate that investors assign to firm's within an industry (Hui, Nelson, & Yeung, 2016). Investors, however, assign the same weight to industrywide factors and firm specific factors, undervaluing the industry driven factors. Scholarly accounting literature suggests that earnings are better predictors of future earnings than current cash flows. Misund, Asche and Osmundsen (2008), however, found less predictive power of earnings in oil companies in the US following merger activity in the 1990s. Cash flows had less predictive power than book value in their study, suggesting that current earnings have little impact on valuation.

The importance of earnings to analysts and investors is its ability to predict the future cash flows that a firm will receive (Misund, 2018). Volatile earnings that get affected by fair value adjustments have less predictive power than the pre-adjusted earnings (Misund, 2018). This indicates that persistent earnings have an effect on the valuation investors assign firms and thus the market price, investors deem volatile earnings of low quality and assign them a higher discount rate. Following a significant price rally in Salmon stocks in Norway in the 5 years to 2017 Misund (2017) found that the market price increase was influenced, to a certain extent, by growth in profitability of the Salmon companies.

One weakness of using earnings to predict future cash flows is that they can be manipulated by management. The desire by management to beat analysts expectations may push them to inflate earnings so as to command a higher market price (Chu, Dechow, Hui, & Wang, 2018). In a study at variance to suggested solutions to the agency problem, Petrou and Procopiou (2016) found that increasing shareholding to managers actually increases their willingness to manipulate earnings. This is even more prevalent with chief executives who have power over their boards. The character of bank CEOs and their compensation levels have an influence on the propensity to manage earnings (Chou & Chan, 2018). This behavioural trait of managers tends to limit the predictive power of earnings and investors would assign a risk factor to provide for the possibility of earnings manipulation.

## 2.4 Dividends as a Residual Policy

### 2.4.1 Residual Dividend Policy

When firms are constrained financially they are at a dilemma on whether to payout profits as dividends or re-invest for the future. There are two types of dividend polices; a managed policy and a residual policy (Kanwal & Hameed, 2017). Lintner (1956) suggested a managed policy where by managers consider moderating factors affecting the firm like funding, riskiness of investments and the need to avoid a volatile dividend policy. Firms should adopt a consistent dividend payout. Firms are driven by the investment opportunities they have, dividends should be a residual of investment financing (Walter, 1956). Partington (1985) asserted that firms can adopt a residual dividend policy where by dividends are only paid after all profitable investment opportunities have been funded.

In their seminal paper Miller and Modigliani (1961) asserted that investment policy is the key driver of firm value and dividends are only distributed as a residual after profitable projects have been funded. Others argue that dividends have an impact on market value as cash flows generated by investment activities are realized in the future and thus uncertain and deserve a higher discount rate than current dividends (Gordon, 1963). Black and Scholes (1974) argue that the dividend policy is not independent of the investment policy and thus is a residual policy. This suggests that managers should not develop a dividend policy but distributions should be made after positive NPV projects have been funded.

Funds that a firm generates should go towards funding growth opportunities and dividends only paid from any excess. This is known as the residual dividend policy (Brealy *et al.,* 2014). Firms should have a preference for investment policy over dividend policy as dividends are irrelevant to creating shareholder wealth (Fama, 1974). When a firm pays out dividends independently from the investment policy it has to raise funds through issuance of additional capital, diluting current shareholders, the dividends they receive cancelled out by lower returns in the future. Fama and French (2002) demonstrated that firms with more investments have lower dividends over the long term while profitable firms with low investments tend to pay higher dividends in the long term. In the short run, any discrepancy between earnings and investments is funded by debt.

In the exploratory study Horne and McDonald (1971) established that firms that pay dividends and have to raise capital to fund investments show reduction in share returns as the cost of raising new equity cancels out the preference for current dividends. Firms adopting a residual policy follow the capital investment rule, allocating funds to profitable projects first then distribute the excess. Baker and Smith (2006) found firms adopt a modified residual policy over the medium term, endeavouring to maintain consistency in the payouts whilst holding low free cash flow. Shortfalls are funded by debt allowing the firm to maintain consistency in payouts to shareholders. By resulting in a low free cash flows, residual policy addresses the agency problem. This is in line with Lintner (1956) model where managers should aim to determine long term payouts that are consistent with the long term projects that they intend to undertake.

Cash flow consideration for deployment to investment opportunities are independent of the firms dividend policy supporting the view in perfect capital markets investment and dividend polices are independent (Elston, 1996). The residual dividend policy may run counter to the signaling theory (Bhattacharya, 1979) due to the fact that dividends will be reduced when profitable investments are available under the residual model but the signal to investors is that future earnings are expected to reduce. Managers adopting the residual policy will need to communicate effectively with shareholders to reduce the confusion. The residual policy is supportive of reducing the agency problem Ross (1973) notes that by ensuring that all excess cash is paid back to shareholders limiting the resources that managers have to expend on perks and empire building.

The life cycle theory by Mueller (1972) is supportive of the residual policy, as young firms with many investment and growth opportunities re-invest a bulk of earnings paying little dividends. Mature firms with limited growth opportunities will re-invest less and pay higher dividends. Mature firms with low NPV opportunities that re-invest earnings may have agency issues. The residual policy is at variance with the bird in hand hypothesis by Myron (1963) which avers that dividends have an influence on shareholder wealth as future capital gains are distant and uncertain. Dividend policy is thus independent of the investment policy. The residual policy is also not consistent with the catering theory (Baker & Wurgler, 2004). Where managers seek to provide to the liquidity needs of their shareholders. A residual policy wouldn't satisfy these needs as it as a result of the investment needs of the firm and available free cash flow.

### 2.4.2 Investment as a Residual

When firms adopt a consistent dividend policy the investment decision tends to be a residual of the dividend policy. According to Meyer and Glauber (1964), investment is considered as residual when the company's capacity utilization is at 100%, then investments should not exceed funds available after the payment of dividends. Managers who apply the signaling theory Bhattacharya (1979) stated that the study do not apply the investment policy as a residual as investment considerations determine the level of dividends to be paid after they have been catered for. On the other hand the catering theory Baker and Wurgler (2004) supports the notion of investment policy as a residual as managers seek to cater to the cash flow needs of the shareholders first before sourcing for funds to fund future investments.

### 2.4.3 Empirical Studies: Residual Dividend Policy

Salih (2010) found quoted firms in the United Kingdom do not generally follow a residual dividend policy apart from the banking sector where the hypothesis for a residual policy could not be rejected. He used the Standardized Free Cash Flow (SFCF) to test whether firms in the United Kingdom adopt a residual dividend policy. Bremberger, Cambini, Gugler and Rondi (2016) found that sub-optimal dividend policies by regulated European utility companies may result in under investment in energy infrastructure which may

result in demand outstripping supply of energy. A residual policy is ideal for regulated industries to enable the firms invest in modernizing and growing the network. Firms in Latin America assess profitability levels then provide funds for investment opportunities after factoring the debt levels before paying dividends (Benavides, Preciado, & Perafan, 2016). They found evidence of the pecking order theory amongst firms in Latin America.

Abdullah *et al.*, (2017) found in a study of Bangladesh companies that the residual policy is not adopted and concluded that firms do not prioritize the investment policy over the dividend policy. The findings are at variance with the work of Baker and Smith (2006) which found companies in the 1990s adopted a modified residual policy. Bangladesh banks are influenced by current profitability and availability of free cash flow to determine dividend policy (Abu, 2012). The inference from their study is that they do not adopt a residual policy and dividend policy is independent. Undertaking a study of the entire stock market Mollah (2011) found evidence that firms in Bangladesh correlate leverage and size to the amount of dividends they pay. He found no evidence that they adopt a residual dividend policy.

Managers in Morocco consider the agency, catering, signaling and life cycle theories in setting up their dividend policies (Baker & Jabbouri, 2016). The study determined level of profitability, stability of earnings and catering to the needs of shareholders as the key drivers of policy. In the Middle East and North Africa regions the size of the firm, current earnings and availability of free cash positively influences the level of dividends paid (Jabbouri, 2016). Free cash flow has a negative influence on dividends paid which might suggest presence of agency problems in the region. Baker, Kilincarslan and Arsal (2018) found no evidence of agency theory, tax effect on dividends, substitution effect or presence of residual dividend policies in firms in Turkey.

Kajola, Desu and Agbanike (2015) revealed that Nigerian firms are guided by size, earnings and concern for adverse changes in the payout in forming their dividend policy. They did not find evidence of adoption of residual dividend policy, their study supporting the agency and signaling theories. Firms employ dividend policies at variance with the residual theory to mitigate agency problem and also to set a certain reputation amongst investors to access external funds (He, Ng, Zaiats, & Zhang, 2017). The researchers also found earnings management is less prevalent when firms issue new equity following dividend payments. Firms in Nigerian develop their dividend policy after taking into

consideration profitability, stabililty of profits and free cash flow (Ozo, Arun, Kostov, & Uzonwanne, 2015). In a departure from previous studies, the researchers found that firms do not aim for a target payout ratio, but aim for a dividend per share number. They also did not find evidence of a residual dividend policy.

Banks in Nigeria adopt a managed dividend payout policy as suggested by Lintner (1956) in the long-run, dividends being influenced by past dividends, tax, earnings and capital (Olarewaju, Sibanda, & Migiro, 2017). The study found that managers in Nigerian banks follow information content hypothesis as suggested by Lintner's model. Surveying non-financial firms listed on the Casablanca Stock Exchange (CSE) between 2004 and 2015 Jabbouri and Attar (2018) found that Morrocan firms consider profits, leverage, cash availability, growth and shareholder profile when setting their dividend policy. Future earnings and past dividends have no relationship to the policy adopted. In a study of Kenyan Insurance companies, Wanjohi (2017), observed that firms that pay regular dividends had a higher earnings per share and that retained profits tends to impact shareholder wealth negatively. The researcher did not test which variable had a causal effect on the other.

In another study of Nigerian banks, there was a significant and positive relationship between earnings and the market value and recommended banks set up a predictable dividend policy (Adesina, U. Uwuigbe, O. Uwuigbe, & Oriabe, 2017).  Ghanaian firms exhibit a positive relationship between dividends and market value but a high dividend yield is negative on shareholder wealth (Ofori-Sasu, Abor, & Osei, 2017). The researchers recommend adoption of investment policies that maximize shareholder value in the long term. In Kenya dividend payout ratio does not significantly affect profitability of firms and the study recommends a study on individual firms in the same sector to ascertain the results. (John, Okelo, & Chesang, 2017).

Non-financial firms listed on the Bucharest Stock Exchange determine their dividend policies based on profitability and available cash, while debt levels, size, growth opportunities and a booming economy tend to reduce the amount of dividends paid (Cristea & Cristea, 2017). The positive relationship to available cash and the negative relationship to growth may be indicative of some form of managed residual policy. Dividend polices in countries other than the US are influenced by institutional structure,

the financial market structure, legal and regulatory protections, culture, and industrial organization, as opposed to the US where transaction costs, taxes and the legal system are key (Booth & Zhou, 2017). Latin American firms exhibit very flexible dividend policies as postulated by Lintner (1956) but the speed of adjustment is high and they take time to form consistent policies as compared to their counterparts in the United States (von Eije, Goyal, & Muckley, 2017). However, Benavides *et al.*, (2016), showed that in well governed economies of Latin America firms tend to manage dividends more and they show evidence of application of the pecking order and trade-off theories.

Hussain and Ahmad (2015) found firms in Karachi allocate current earnings to paying dividends as opposed to funding investment opportunities, which are funded by external debt. They note that in the long term the level of investment ultimately determines the level of profits and dividends paid out. While finding evidence amongst Tunisian listed firms that investments have an influence on dividends, there was a marked difference between industrial firms and financial firms (Kouki, 2017). Industrial firms exhibit independence of the dividend decisions while financial firms, including banks, have a residual policy. Louton and Domian (1995) by taking a longer time series had earlier found evidence of interdependence of the investment and dividend polices. Dividend policy is a significant factor in determining firm value (Murekefu & Ouma, 2012).

## 2.5 Chapter Summary

This chapter has reviewed the literature review on studies carried out on the effects of dividend policy on market values of firms in general and banks in particular. The theoretical framework on dividends was discussed including the main dividend theories. The literature survey dwelt on the three research questions firstly, looking at how dividends affect the market price and the two schools of thought, dividend relevance and irrelevance. Secondly, discussed the effects of earnings on the market value of firms and banks, looking at the various models and empirical evidence. Finally, explored the question of residual dividend policy and the independence or dependence of the dividend policy on the investment policy. The next chapter discusses the research methodology.

<center>**CHAPTER THREE**</center>

## 3.0 RESEARCH METHODOLOGY

### 3.1 Introduction

This chapter discusses the research methodology that was used for the study. It describes the research design, population and sampling design, data collection methods, research procedures, data analysis methods and ethical considerations that were considered.

### 3.2 Research Design

The research was guided by epistemological position of positivism. A positivist philosophy promotes the application of scientific methods to the area of social sciences (Bryman & Bell, 2011). It postulates the essence of business study is to develop hypothesis that can be tested to assess the robustness of theory. A positivism approach aims to imitate the ways and rigor of scientific study as the basis of evaluating natural and social phenomena with an aim of determining relationships amongst them.

According to Cooper and Schindler (2014) research design is the roadmap for the collection, measurement and analysis of data to support the study. It supports the researcher to select the appropriate research methodology in an effort to allocate resources efficiently. It is an outline of what the researcher will do from developing objectives and hypotheses to their implications as the researcher forms conclusions. It generates the evidence the researcher needs to support or disclaim his beliefs. There are three types of research designs namely; exploratory, descriptive and causal (Saunders, Lewis, & Thornhill, 2016). Exploratory research design is undertaken when a research problem has few or no earlier studies to refer to; descriptive research design is undertaken to determine and describe variable characteristics in a situation whereas, causal research design is undertaken to determine the nature of relationship between cause and effect variables. This study adopted a descriptive research design

According to Saunders, Lewis, and Thornhill (2016) there are four types of descriptive research design which include; correlation, survey, evaluative and Meta analysis. The study employed a descriptive correlational design as it is used to measure two or more relevant variables and assess the relationship between them. It was apt to use it for this study as it defines the relationship between the dependent variable and independent variable(s).

The independent variables for the study were dividend per share and earnings per share for the banks and the dependent variable was market price per share. Dividend per share was derived from the published annual financial statements of the banks same for the earnings per share. The market price per share was observed from the price history from the Nairobi securities exchange. Moderating variable of size was introduced to cater for the fact that size has an influence on ability to pay dividends and raise external funding. The data collected was the dividend per share, market price per share, earnings per share, number of outstanding shares, market capitalization, profit for the year, depreciation charge, income tax charge, cash dividends and capital expenditure for each bank, for each of the financial years 2013 to 2017.

For the residual income policy question, the study adopted the same methodology used by Baker and Smith (2006) where standardized free cash flow  was estimated for each bank, an average for the eleven banks was determined and a t-test conducted. The standazided free cash flow was calculated based on the methodology proposed by Lehn and Poulsen (1988).

### 3.3 Population and Sampling Design

Population and sampling designs describe what the target population comprises of and how individual samples are selected from the total target population.

### 3.3.1 Population

A population is the people, events or records that hold data of the researcher's interest that will aid in making conclusions about the research questions (Cooper & Schindler, 2014). The population for this study consisted of all the eleven banks that are licensed by the Central Bank of Kenya as deposit taking institutions and are also listed on the Nairobi Securities Exchange for the period 2013 to 2017.

**Table 3.1: Listed Banks on the NSE**

| Name of Bank | Par Value per Share in Kes |
|---|---|
| Barclays Bank | 0.50 |
| Stanbic Holdings Plc | 5.00 |
| I&M Holdings | 1.00 |
| Diamond Trust Bank Kenya | 4.00 |
| HF Group | 5.00 |
| KCB Group | 1.00 |
| National Bank of Kenya | 5.00 |
| NIC Group | 5.00 |
| Standard Chartered Bank | 5.00 |
| Equity Group Holdings | 0.50 |
| The Co-operative Bank of Kenya | 1.00 |

**Source:( NSE, 2018)**

### 3.3.2 Sampling Design

The sampling design consists of sampling frame, sampling technique and the sample size adopted for the study.

### 3.3.2.1 Sampling Frame

A sampling frame is a representation of the elements of the population from where the sample is derived (Saunders et al., 2016). The sampling frame for this study was all the 11 banks that are licensed by the Central Bank of Kenya and also listed on the Nairobi Securities Exchange. The study limited the scope to those banks that are listed as they have independently determined market values through continuous trading.

### 3.3.2.2 Sampling Technique

Sampling technique is the way a researcher uses to select a sample (Cooper & Schindler, 2014). The selection of the sampling method will be guided by the nature of the population and the acceptable sampling error the researcher wants to accommodate (Bryman & Bell, 2011). The main types of sampling techniques are; probability sampling and non-probability sampling. Probability sampling technique is used in quantitative

studies where subjects of are from a known population. There are various types of probability sampling including simple random, stratified random, cluster and systematic random sampling. It is possible to make inferences about a population from a sample generated from a probability sampling method (Bryman & Bell, 2011). Non-probability sampling is mainly used in qualitative studies where the elements are selected in a biased nonrandom fashion, they methods include convenience, judgmental, quota and snowball (Bryman & Bell, 2011).

This study employed a census sampling technique. A census is a listing of all elements in a population and although prohibitive costs make this untenable for big populations, a census is attractive for small populations (Cooper & Schindler, 2014). The study sampled using census approach due to the fact that the size of the population was small and the time requirement to count all the elements of the population was not onerous. A census eliminates sampling error and provides data on all the individuals in the population. For small populations, all the elements of the population will have to be sampled to obtain the desired precision (Israel, 1992).

### 3.3.2.3 Sample Size

A sample size is defined as the number of elements in a population that are selected for investigation (Bryman & Bell, 2011). According to Cooper and Schindler (2014) a sample size is a function of the dispersion in the population parameters and how accurate the researcher needs to be. The greater the dispersion and the higher the accuracy needed the larger the sample size needs to be. The ideal sample size takes into consideration a number of factors including the nature of the targeted population, type of sample, resources available and level of accuracy needed when inference is made (Zikmund, Babin, Carr, & Griffin, 2010). A census was suitable for selecting the sample for this study since the population was known. The sample size was all the eleven banks listed on the Nairobi Securities Exchange.

### 3.4 Data Collection Methods

A researcher can use either primary or secondary data for his research (Saunders et al., 2016). In selecting to utilise secondary data, data collected and recorded by someone else and for purposes other than current study, the researcher considers; if the data is

consistent with the research problem, applies to the population and period of interest, is in the correct unit of measurement and has adequate detail (Zikmund et al., 2010). Secondary data was collected through the use of the checklists as shown in appendix 1. The data was obtained from the published audited annual reports of the banks and the price date from the trading database of the NSE. The data collected for each bank for each of the financial years from 2013 to 2017 (5 years) included, earnings per share, dividend per share, no. of outstanding shares, market price per share on the respective dividend announcement dates, market capitalization on those dates, profit for the year, depreciation and amortization, income tax, cash dividends and capital expenditure. The data collected is shown on Appendix 3.

## 3.5 Research Procedures

The research procedure utilized the checklist on Appendix 1 to collect and test the data collection tool for the 11 banks. An introductory letter aided in obtaining the information from the Nairobi Securities Exchange, the Central Bank of Kenya and the banks themselves as necessary. The data collection was done in the month of May 2018 and data analysis in the month of June 2018.

## 3.6 Data Analysis Methods

Data analysis involves describing, summarizing and presenting the data in a way that meaningful conclusions about the population can be made. Both descriptive and inferential statistical methods were conducted to summarise and present the findings of the study. Descriptive statistics summarise the data in simple and understandable manner while inferential statistics involves making conclusions about the population from the sample through estimation of population parameters and hypotheses testing (Saunders et al., 2016). For the questions on the effect of dividends and earnings on the market value, descriptive statistics techniques used are the computation of the mean, median, standard deviation and skewness of each variable and for the inferential statistics employed the use of One way Analysis of Variance (ANOVA) and multiple linear regression. To help guide researchers on the ideal set of explanatory variables for a regression model, stepwise regression is used to determine the best set of variables for a regression model. There are two methods available for stepwise regression: either stepwise forward regression or stepwise backward regression (Gujarati & Porter, 2009). Multiple regression was used as

it was able to show the relationship between the independent variables and the dependent variable and the significance of each coefficient. The power of the model was tested through the coefficient of determination ($R^2$).

The expected research model, with the introduction of a control variable, Asset, representing size, the relationship between the variables can be written as a function as shown below:

MPS = $f$(DPS, EPS, Assets)

Where:

MPS is the Market Price per Share

DPS is the Dividend Per Share

EPS is the Earnings per Share

Assets is the total assets of the bank representing size

The resultant equation is shown below

$$MPS_{it} = b_0 + b_1 DPS_{it} + b_2 EPS_{it} + b_3 Assets_{it} + error\ term$$

For the residual dividend policy question The Standardized Free Cash Flow (SFCF) was calculated for all banks and thereafter a t-test conducted to determine if the SFCF is statistically different from zero. The data was analysed using the Statistical Package for the Social Sciences (SPSS) and MS Excel software packages.

## 3.7 Chapter Summary

This chapter described the methodology used to carry out the study on the effect of dividend and earnings on market prices of banks listed on the Nairobi Securities Exchange and also the test designed to determine if the banks adopt a residual dividend policy. It discussed the research design, population, sampling design, data collection, research procedures and data analysis methods. Chapter four presents the research results and findings.

**CHAPTER FOUR**

## 4.0 RESULTS AND FINDINGS

## 4.1 Introduction

This chapter presents the results and findings of the analyzed data on the effect of dividend policy on the market value of banks listed on the Nairobi Securities Exchange. It also summarises the results of data collected to test if the listed banks adopt a residual dividend policy. Descriptive statistics, Correlation and Regression analysis results were presented in tables, charts and graphs with interpretations provided.

### 4.1.1 Data Collected

The data used to analyze the effect of dividend policies of the eleven banks quoted on the Nairobi Securities Exchange was collected from price and market data provided by the Nairobi Securities Exchange and annual reports of the listed banks from 2013 to 2017 (5 years). The researcher collected data on the eleven bank's earnings per share, dividend per share, dividend announcement date, market price on the announcement date, total assets, outstanding number of shares, profit before tax, tax expense, depreciation and amortization, capital expenditure, cash dividends and the market value of the banks on the respective dividend announcement date, the data collected is summarised on Appendix 3.

### 4.2 Descriptive Statistics

### 4.2.1 Market Price per Share

The mean, mode, median, standard deviation and skewness of the market price per share of the eleven banks is summarized in the sections below.

### 4.2.1.1 Individual Bank's Descriptive Statistics

The individual statistics for the each of the quoted banks for the variable market price per share is analysed below and summarised in the table below.

Barclays bank had a mean market price per share of Kshs 13.09 for the reference dates for the period 2013 to 2017. There was no modal price but the median was Kshs 12.15 with a standard deviation of 3.54. The skewness is zero suggesting that Barclay's market price per share has a normal distribution. Stanbic Holdings had a mean market price per share of Kshs 96.00 for the reference dates for the period 2013 to 2017. There was no modal

price but the median was Kshs 85.00 with a standard deviation of 27.75. The skewness was 1.03 implying that Stanbic's market price per share has a distribution with a long right sided tail. I&M Bank Holding had a mean market price per share of Kshs 113.70 for the reference dates for the period 2013 to 2017. The modal price was Kshs 125.00 with a median of Kshs 85.00 with a standard deviation of 15.64. The skewness was -0.71 implying that I&M Bank's market price per share has a distribution with a long left sided tail.

Diamond Trust bank had a mean market price per share of Kshs 187.73 for the reference dates for the period 2013 to 2017. There was no modal price but the median was Kshs 205.87 with a standard deviation of 48.97. The skewness was -1.90 suggesting that Diamond Trust's market price per share has a distribution with a long left sided tail. HF Group had a mean market price per share of Kshs 19.95 for the reference dates for the period 2013 to 2017. There was no modal price but the median was Kshs 18.18 with a standard deviation of 10.68. The skewness was 0.56 implying that HF's market price per share has a distribution with a slightly long right sided tail. KCB Group had a mean market price per share of Kshs 44.10 for the reference dates for the period 2013 to 2017. There was no modal price but the median was Kshs 43.75 with a standard deviation of 11.89. The skewness was -0.31 implying that KCB's market price per share has a slight negative skew.

National Bank of Kenya had a mean market price per share of Kshs 14.69 for the reference dates for the period 2013 to 2017. There was no modal price but the median was Kshs 11.91 with a standard deviation of 8.33. The skewness was 0.32 suggesting that National Bank's market price per share has a distribution with a long right sided tail. NIC Group had a mean market price per share of Kshs 40.45 for the reference dates for the period 2013 to 2017. There was no modal price but the median was Kshs 37.27 with a standard deviation of 13.59. The skewness was -0.09 implying that NIC's market price per share had an approximate normal distribution. Standard Chartered Bank had a mean market price per share of Kshs 239.46 for the reference dates for the period 2013 to 2017. There was no modal price but the median was Kshs 216.00 with a standard deviation of 50.80. The skewness was 0.81 implying that Stanchart's market price per share has a long right sided tail.

Equity Bank had a mean market price per share of Kshs 40.05 for the reference dates for the period 2013 to 2017. There was no modal price but the median was Kshs 40.75 with a standard deviation of 10.23. The skewness was -0.09 suggesting that Equity's market price per share has a distribution approximating a normal distribution. The Cooperative Bank had a mean market price per share of Kshs 15.75 for the reference dates for the period 2013 to 2017. There was no modal price but the median was Kshs 17.08 with a standard deviation of 3.26. The skewness was -1.06 implying that Cooperative's market price per share had a long left sided tail.

**Table 4.1: Descriptive Statistics for Market Price per Share**

| Name of Bank | Mean | Mode | Median | Std Dev | Skewness |
|---|---|---|---|---|---|
| Barclays Bank | 13.09 | None | 12.15 | 3.54 | (0.00) |
| Stanbic Holding | 96.00 | None | 85.00 | 27.75 | 1.03 |
| I & M | 113.7 | 125 | 125.00 | 15.64 | 0.71 |
| Diamond Trust Bank | 187.74 | None | 205.87 | 48.97 | (1.90) |
| HF Group | 19.95 | None | 18.18 | 10.68 | 0.56 |
| KCB Group | 44.10 | None | 43.75 | 11.89 | (0.31) |
| National Bank Kenya | 14.69 | None | 11.91 | 8.33 | 0.32 |
| NIC Group | 40.45 | None | 37.27 | 13.59 | 0.09 |
| Standard Chartered Bank | 239.46 | None | 216.00 | 50.8 | 0.81 |
| Equity Group | 40.05 | None | 40.75 | 10.23 | 0.09 |
| The Co-operative Bank | 15.75 | None | 17.08 | 3.26 | (1.06) |

**4.2.1.2 Combined Descriptive Statistics for Market Price per Share**

The descriptive statistics of mean, mode, median, standard deviation and skewness of the market price per share of all the eleven banks is summarised below.

Taken together, the average market price for the reference dates from 2013 to 2017 was Kshs 75, mode of Kshs 125 and a median of Kshs 41.00. The standard deviation was Kshs 77.21. The skewness was 1.38 implying the data for all the market price of the banks taken together has a long right sided tail and thus was not normally distributed.

**Table 4.2: Combined Descriptive Statistics for all Banks**

| | |
|---|---|
| Mean | 75.00 |
| Mode | 125.00 |
| Median | 41.00 |
| Standard Deviation | 77.21 |
| Skewness | 1.38 |

### 4.2.1.3 Relative Standard Deviation of Market Price per Share

To assess the variability of the market price of each of the eleven banks, the relative standard deviation is computed by dividing the standard deviation by the mean of each bank. The results are summarised in the table below

The relative standard deviation of I&M Bank Holding is the lowest at 14% followed by The Co-operative Bank at 21%. The two banks have the lowest relative standard deviation and thus the lowest variability meaning they have the least risk as the share prices cluster around the mean. The relative standard deviation of National Bank of Kenya is the highest at 57% followed by HF Group's 54%. These two banks have the highest variability and would be considered the riskiest amongst the eleven banks.

**Table 4.3: Relative Standard Deviation MPS**

| Name of Bank | Relative Std Dev |
|---|---|
| Barclays Bank | 27% |
| Stanbic Holding | 29% |
| I & M | 14% |
| Diamond Trust Bank | 26% |
| HF Group | 54% |
| KCB Group | 27% |
| National Bank Kenya | 57% |
| NIC Group | 34% |
| Standard Chartered Bank | 21% |
| Equity Group | 26% |
| The Co-operative Bank | 21% |

### 4.2.2 Dividend per Share

The mean, mode, median, standard deviation and skewness of the dividend per share of the eleven banks is summarised in the sections below.

### 4.2.2.1 Individual Bank's Descriptive Statistics

The individual statistics for the each of the quoted banks for the variable dividend per share is summarised below.

Barclays bank had a mean dividend per share of Kshs 0.94 for each of the years 2013 to 2017. The most occurring dividend was Kshs 1.00 per share with a median of Kshs 1.00 with a standard deviation of 0.13. The skewness was -2.24 indicating that Barclay's dividend per share's distribution has a long left sided tail. Stanbic Holdings had a mean dividend per share of Kshs 4.99 for each of the years 2013 to 2017. The modal dividend was Kshs 6.15 with a median of Kshs 5.25 with a standard deviation of 1.65. The skewness was -1.02 implying that Stanbic's dividend per share has a distribution with a long left sided tail. I&M Bank Holding had a mean dividend per share of Kshs 3.18 for each of the years 2013 to 2017. The modal dividend was Kshs 3.50 with a median of Kshs 3.50 with a standard deviation of 0.46. The skewness was -1.02 implying that I&M Bank's dividend per share has a distribution with a long left sided tail.

Diamond Trust bank had a mean dividend per share of Kshs 2.44 for each of the years 2013 to 2017. The modal dividend was Kshs 2.60 and the median was Kshs 2.50 with a standard deviation of 0.21. The skewness was -1.45 suggesting that Diamond Trust's dividend per share has a distribution with a long left sided tail. HF Group had a mean dividend per share of Kshs 1.08 for each of the years 2013 to 2017. There was no modal dividend but the median was Kshs 1.30 with a standard deviation of 0.62. The skewness was -0.35 implying that HF's dividend per share has a distribution with a slightly long left sided tail. KCB Group had a mean dividend per share of Kshs 2.40 for each of the years 2013 to 2017. The modal dividend was Kshs 2.00 which was also the median dividend with a standard deviation of 0.55. The skewness was 0.61 implying that KCB's dividend per share has a slight positive skew.

National Bank of Kenya did not pay any dividend for the period 2013 to 2017 and therefore no descriptive statistics for dividend per share can be computed. NIC Group had a mean dividend per share of Kshs 1.10 for each of the years 2013 to 2017. The modal dividend was Kshs 1.00 which was the same as the median with a standard deviation of 0.14. The skewness was 0.61 implying that NIC's dividend per share had a distribution with a long right sided tail. Standard Chartered Bank had a mean dividend per share of Kshs 17.10 for each of the years 2013 to 2017. The mode and median were Kshs 17.00 with a standard deviation of 1.95. The skewness was 0.38 implying that Stanchart's dividend per share had a longer right sided tail than the left one.

Equity Bank had a mean dividend per share of Kshs 1.86 for each of the years 2013 to 2017. The mode and median were Kshs 2.00 with a standard deviation of 0.22. The skewness was -1.53 suggesting that Equity's dividend per share has a distribution with a long left sided tail. The Cooperative Bank had a mean dividend per share of Kshs 0.68 for each of the years 2013 to 2017. The mode equaled the median at Kshs 0.80 with a standard deviation of 0.16. The skewness was -0.61 implying that Cooperative's dividend per share had a long left sided tail.

**Table 4.4: Descriptive Statistics for Dividend per Share**

| Name of Bank | Mean | Mode | Median | Std Dev | Skewness |
|---|---|---|---|---|---|
| Barclays Bank | 0.94 | 1.0 | 1.0 | 0.13 | (2.24) |

| | | | | | |
|---|---|---|---|---|---|
| Stanbic Holding | 4.99 | 6.15 | 5.25 | 1.65 | (1.83) |
| I & M | 3.18 | 3.50 | 3.5 | 0.46 | (1.02) |
| Diamond Trust Bank | 2.44 | 2.60 | 2.50 | 0.21 | (1.45) |
| HF Group | 1.08 | None | 1.30 | 0.62 | (0.35) |
| KCB Group | 2.40 | 2.00 | 2.00 | 0.55 | 0.61 |
| National Bank Kenya | - | - | - | - | - |
| NIC Group | 1.10 | 1.00 | 1.00 | 0.14 | 0.61 |
| Standard Chartered Bank | 17.10 | 17.0 | 17.00 | 1.95 | 0.38 |
| Equity Group | 1.86 | 2.00 | 2.00 | 0.22 | (1.53) |
| The Co-operative Bank | 0.68 | 0.8 | 0.8 | 0.16 | (0.61) |

### 4.2.2.2 Combined Descriptive Statistics for Dividend per Share

The descriptive statistics of mean, mode, median, standard deviation and skewness of the dividend per share of all the eleven banks is summarised in the table below. Taken together, the average dividend for the reference dates from 2013 to 2017 was Kshs 3.25 per share, mode of Kshs 1.00 and a median of Kshs 2.00. The standard deviation was Kshs 4.68. The skewness was 2.54 implying the data for all the dividend of the bank's taken together has a long right sided tail and thus was not normally distributed.

**Table 4.5: Combined Descriptive Statistics for DPS**

| | |
|---|---|
| Mean | 3.25 |
| Mode | 1.00 |
| Median | 2.00 |
| Standard Deviation | 4.68 |
| Skewness | 2.54 |

### 4.2.2.3 Relative Standard Deviation of Dividend per Share

To assess the variability of the dividend of each of the eleven banks, the relative standard deviation is computed by dividing the standard deviation by the mean of each bank.
The relative standard deviation of dividends of Diamond Trust Bank is the lowest at 8% followed by Standard Chartered Bank at 11%. The two banks have the lowest relative standard deviation and thus the lowest variability meaning they have maintained the

highest stability in the absolute amount of dividends they pay their shareholders. The relative standard deviation of HF Group's dividends is the highest at 58% followed by Stanbic Holding's 33%. These two banks have the highest variability and thus had the highest range in the absolute dividend per share for the period under research.

**Table 4.6: Relative Standard Deviation for DPS**

| Name of Bank | Mean |
|---|:---:|
| Barclays Bank | 14% |
| Stanbic Holding | 33% |
| I & M | 14% |
| Diamond Trust Bank | 8% |
| HF Group | 58% |
| KCB Group | 23% |
| National Bank Kenya | 0% |
| NIC Group | 12% |
| Standard Chartered Bank | 11% |
| Equity Group | 12% |
| The Co-operative Bank | 24% |

### 4.2.3 Earnings per Share

The mean, mode, median, standard deviation and skewness of the earnings per share of the eleven banks is summarised in the sections below.

### 4.2.3.1 Individual Bank's Descriptive Statistics

The individual statistics for the each of the quoted banks for the variable earnings per share. Barclays bank had a mean earnings per share of Kshs 1.43 for the reference dates for the period 2013 to 2017. There was no modal earnings per share but the median was Kshs 1.40 with a standard deviation of 0.12. The skewness was -0.09 suggesting that Barclay's earnings per share has an approximate normal distribution. Stanbic Holdings had a mean earnings per share of Kshs 12.37 for the reference dates for the period 2013 to 2017. There was no modal earnings per share but the median was Kshs 12.41 with a

standard deviation of 1.41. The skewness was 0.52 implying that Stanbic's earnings per share has a distribution with a long right sided tail. I&M Bank Holding had a mean earnings per share of Kshs 15.50 for the reference dates for the period 2013 to 2017. There was no mode but the median was Kshs 16.47 with a standard deviation of 2.77. The skewness was -0.49 implying that I&M Bank's earnings per share has a distribution with a long left sided tail.

Diamond Trust bank had a mean earnings per share of Kshs 23.72 for the reference dates for the period 2013 to 2017. There was no modal earnings per share but the median was Kshs 23.73 with a standard deviation of 2.15. The skewness was 0.76 suggesting that Diamond Trust's earnings per share has a distribution with a long right sided tail. HF Group had a mean earnings per share of Kshs 2.98 for the reference dates for the period 2013 to 2017. There was no modal earnings per share but the median was Kshs 3.43 with a standard deviation of 1.62. The skewness was -1.35 implying that HF's earnings per share has a distribution with a long left sided tail. KCB Group had a mean earnings per share of Kshs 5.96 for the reference dates for the period 2013 to 2017. There was no modal earnings per share but the median was Kshs 6.43 with a standard deviation of 0.73. The skewness was -1.25 implying that KCB's earnings per share has a distribution with a negative skew.

National Bank of Kenya had a mean earnings per share of Kshs 0.61 for the reference dates for the period 2013 to 2017. There was no modal earnings per share but the median was Kshs 1.26 with a standard deviation of 2.73. The skewness was -1.41 suggesting that National Bank's earnings per share has a distribution with a long left sided tail. NIC Group had a mean earnings per share of Kshs 6.69 for the reference dates for the period 2013 to 2017. There was no modal earnings per share but the median was Kshs 6.77 with a standard deviation of 0.39. The skewness was -0.71 implying that NIC's earnings per share had a distribution with a negative skew. Standard Chartered Bank had a mean earnings per share of Kshs 23.97 for the reference dates for the period 2013 to 2017. There was no modal earnings per share but the median was Kshs 25.85 with a standard deviation of 4.99. The skewness was -0.22 implying that Stanchart's earnings per share has a long left sided tail.

Equity Bank had a mean earnings per share of Kshs 4.44 for the reference dates for the period 2013 to 2017. There was no modal earnings per share but the median was Kshs 4.59 with a standard deviation of 0.53. The skewness was -1.23 suggesting that Equity's

earnings per share has a distribution with a negative skew. The Cooperative Bank had a mean earnings per share of Kshs 2.01 for the reference dates for the period 2013 to 2017. There was no modal earnings per share but the median was Kshs 1.99 with a standard deviation of 0.29. The skewness was 0.12 implying that Cooperative's earnings per share's distribution is approximately normal.

**Table 4.7: Descriptive Statistics for EPS**

| Name of Bank | Mean | Mode | Median | Std Dev | Skewness |
|---|---|---|---|---|---|
| Barclays Bank | 1.43 | None | 1.4 | 0.12 | (0.09) |
| Stanbic Holding | 12.37 | None | 12.41 | 1.41 | 0.52 |
| I & M | 15.5 | None | 16.47 | 2.77 | (0.49) |
| Diamond Trust Bank | 23.72 | None | 23.73 | 2.15 | 0.76 |
| HF Group | 2.98 | None | 3.43 | 1.62 | (1.35) |
| KCB Group | 5.96 | None | 6.43 | 0.73 | (1.25) |
| National Bank Kenya | 0.61 | None | 1.26 | 2.73 | (1.41) |
| NIC Group | 6.69 | None | 6.77 | 0.39 | (0.71) |
| Standard Chartered Bank | 23.97 | None | 25.85 | 4.99 | (0.22) |
| Equity Group | 4.44 | None | 4.59 | 0.53 | (1.23) |
| The Co-operative Bank | 2.01 | None | 1.99 | 0.29 | 0.12 |

**4.2.3.2 Combined Descriptive Statistics for Earnings per Share**

 The descriptive statistics of mean, mode, median, standard deviation and skewness of the earnings per share of all the eleven banks is summarised in the table below.

Taken together, the average earnings for the reference dates from 2013 to 2017 was Kshs 9.06 and a median of Kshs 6.12. The standard deviation was Kshs 8.51. The skewness was 0.93 implying the data for all the earnings of the bank's taken together has a long right sided tail and thus was not normally distributed.

**Table 4.8: Combined Descriptive Statistics for EPS**

| | |
|---|---|
| Mean | 9.06 |
| Mode | None |
| Median | 6.12 |
| Standard Deviation | 8.51 |
| Skewness | 0.93 |

**4.2.3.3 Relative Standard Deviation of Earnings per Share**

To assess the variability of the earnings of each of the eleven banks, the relative standard deviation is computed by dividing the standard deviation by the mean of each bank. The relative standard deviation of NIC Group is the lowest at 6% followed by Diamond Trust Bank at 9%. The two banks have the lowest relative standard deviation and thus the lowest variability meaning they have generated the most stable earnings per share from 2013 to 2017. The relative standard deviation of National Bank of Kenya is the highest at 445% followed by HF Group's 54%. These two banks have the highest variability and their earnings per share would be considered the riskiest amongst the eleven banks.
The results are summarised in the Table 4.9 below

**Table 4.9: Relative Standard Deviation for EPS**

| Name of Bank | Mean |
|---|---|
| Barclays Bank | 8% |
| Stanbic Holding | 11% |
| I & M | 18% |
| Diamond Trust Bank | 9% |
| HF Group | 54% |
| KCB Group | 12% |
| National Bank Kenya | 44% |
| NIC Group | 6% |
| Standard Chartered Bank | 21% |
| Equity Group | 12% |
| The Co-operative Bank | 14% |

### 4.2.4 The Control Variable – Size, represented by Assets

There is an understanding that the size of a bank gives it an advantage in raising and pricing deposits as well as being choosy in the quality of loans it gives. This may have an influence on how the market perceives the bank and assign it a higher valuation. This variable will be introduced to remove its effects, if any, on the dependent variable from the model. The mean, mode, median, standard deviation and skewness of the total assets of the eleven banks is summarised in the section below.

### 4.2.4.1 Individual Bank's Descriptive Statistics

The individual statistics for the each of the quoted banks for the variable Assets is shown on the table below. The data is sorted from the largest bank, KCB Group, to the smallest bank, HF Group, as measured by total assets in the bank's balance sheet. KCB's asset size is 8.4 times the size of HF's assets. Theory suggests that given KCB's size, it has certain competitive advantages and perception of stability that result in higher valuation for KCB relative to HF. This relative advantage of KCB would reduce as you move from the smallest bank, HF, to the second largest bank, Equity Group. To control for this perceived impact of size, the variable 'Asset' will be introduced in the regression model to remove its effects and improve the analysis.

**Table 4.10: Descriptive Statistics for Assets**

| Name of Bank | Mean | Mode | Median | Std Dev | Relative Std | Skewness |
|---|---|---|---|---|---|---|
| KCB Group | 536.239 | None | 558.094 | 99.244 | 19% | (0.69) |
| Equity Group | 409.708 | None | 428.063 | 99.076 | 24% | (0.34) |
| The Co-operative Bank | 319.569 | None | 342.518 | 61.382 | 19% | (0.68) |
| Diamond Trust Bank | 268.203 | None | 271.609 | 80.912 | 30% | (0.12) |
| Standard Chartered Bank | 242.612 | None | 233.965 | 26.897 | 11% | 1.3 |
| Barclays Bank | 240.866 | None | 240.877 | 25.805 | 11% | (0.21) |
| Stanbic Holding | 206.677 | None | 208.452 | 28.198 | 14% | 0.75 |
| I & M | 191.995 | None | 191.657 | 37.015 | 19% | (0.14) |
| NIC Group | 161.653 | None | 165.722 | 1.462 | 19% | 0.24 |
| National Bank Kenya | 113.259 | None | 115.292 | 13.127 | 12% | (1.13) |
| HF Group | 63.896 | None | 67.541 | 10.237 | 16% | (1.35) |

## 4.3 Inferential Statistics

### 4.3.1 Test of Normality

To be able to conduct inferential statistical tests, a test of normality on the dependent and independent variables needs to be undertaken first. Using the SPSS "Explore" function the researcher tested whether the market price per share, dividend per share, earnings per share and Assets were normally distributed. The results are summarised in the graphs below:

### 4.3.1.1 Market Price per Share

From the histogram below and collaborated with the skewness of 1.38, market price per share's distribution has a long right sided tail and is thus not normally distributed.
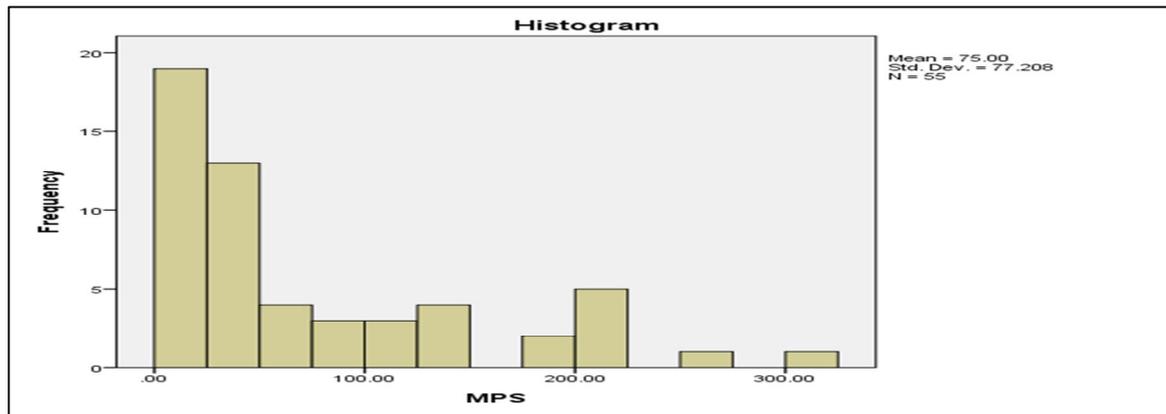
**Figure 4.1: Histogram MPS**

## 4.3.1.2 Dividend per Share

From the histogram below and collaborated with the skewness of 2.54, dividend per share's distribution has a long right sided tail and is thus not normally distributed.
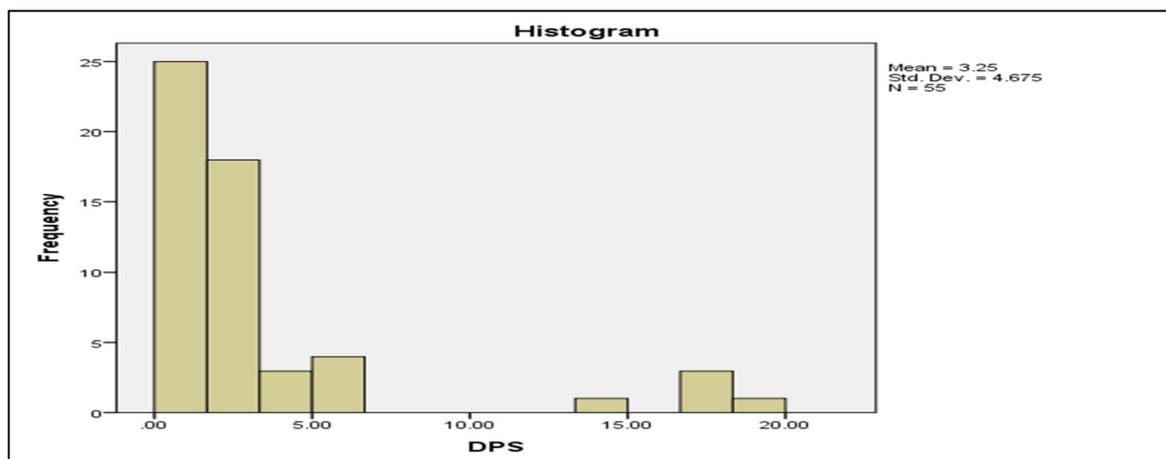


**Figure 4.2: Histogram DPS**

## 4.3.1.3 Earnings per Share

From the histogram below and collaborated with the skewness of 0.93, dividend per share's distribution has a long right sided tail and is thus not normally distributed.
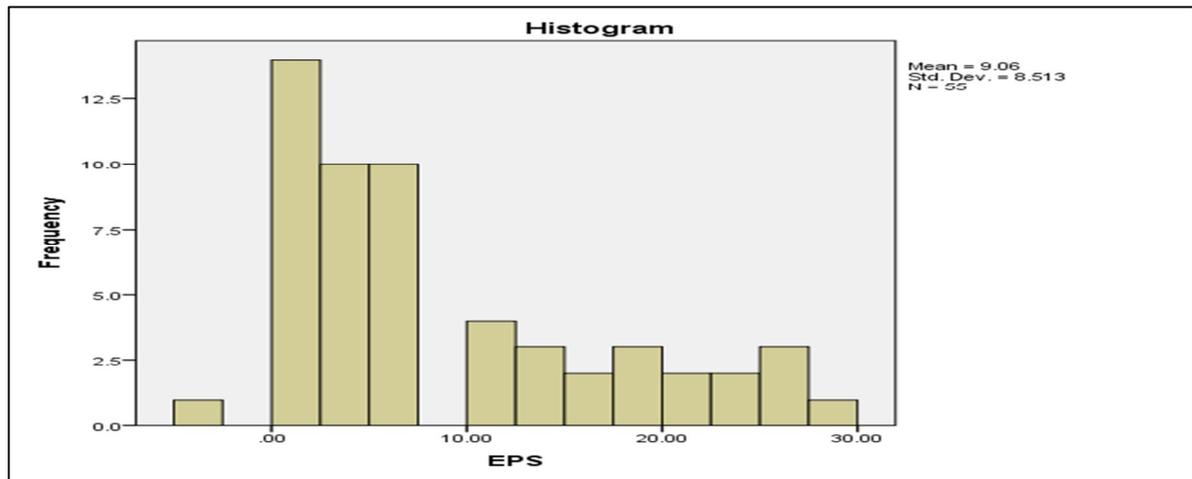
**Figure 4.3: Histogram EPS**

### 4.3.1.3 Assets

From the histogram below and collaborated with the skewness of 1.01, Asset's distribution has a long right sided tail and but the distribution looks approximately normal.
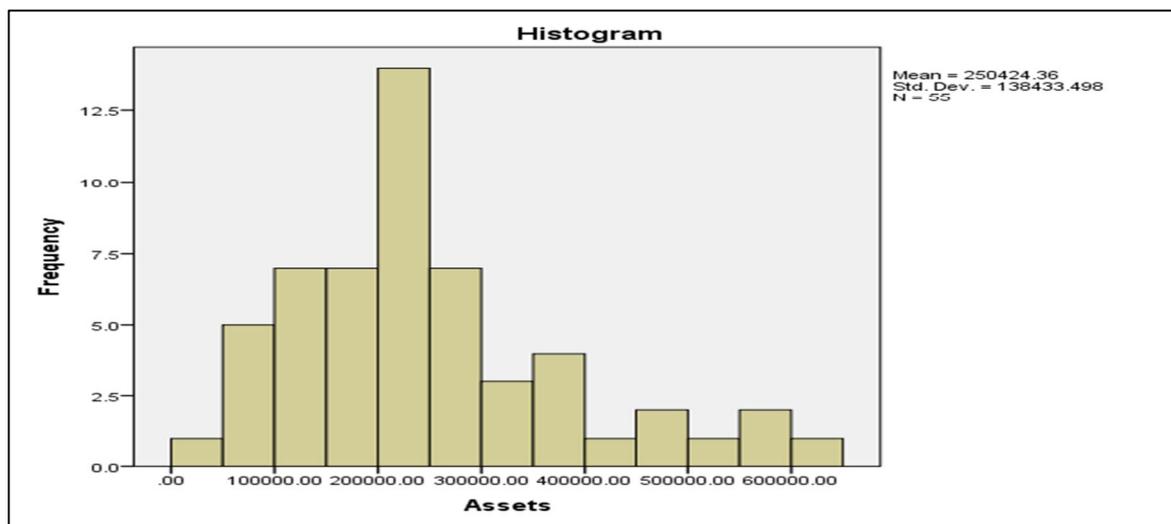


**Figure 4.4: Histogram Assets**

### 4.3.1.4 Conversion to Natural Logarithms

Since the variables MPS, DPS and EPS were not normal the researcher converted the variables by obtaining the natural logarithms of the variables and ran the normality test on these converted variables. The results are shown below:
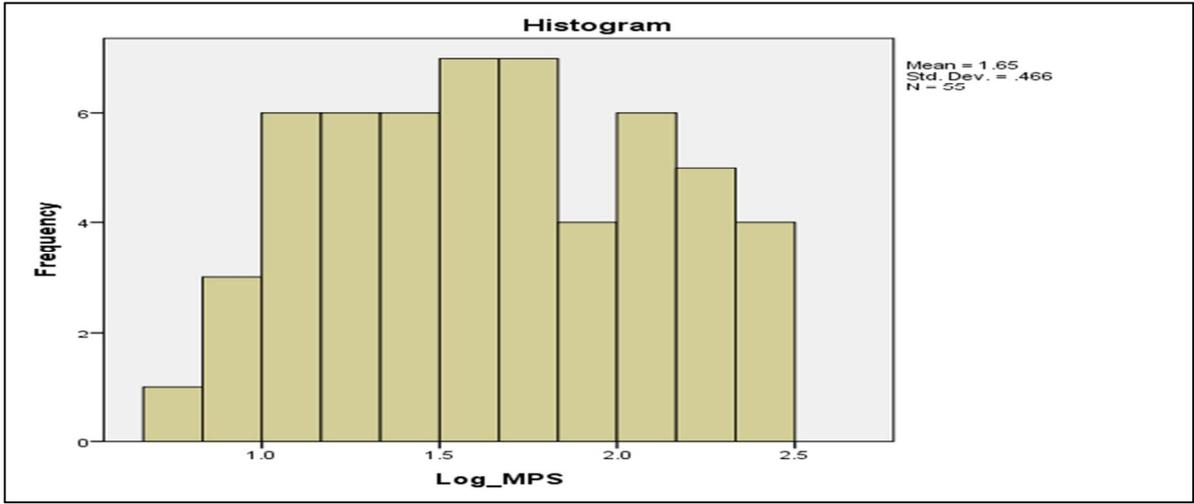
**Figure 4.5: Histogram Log_MPS**
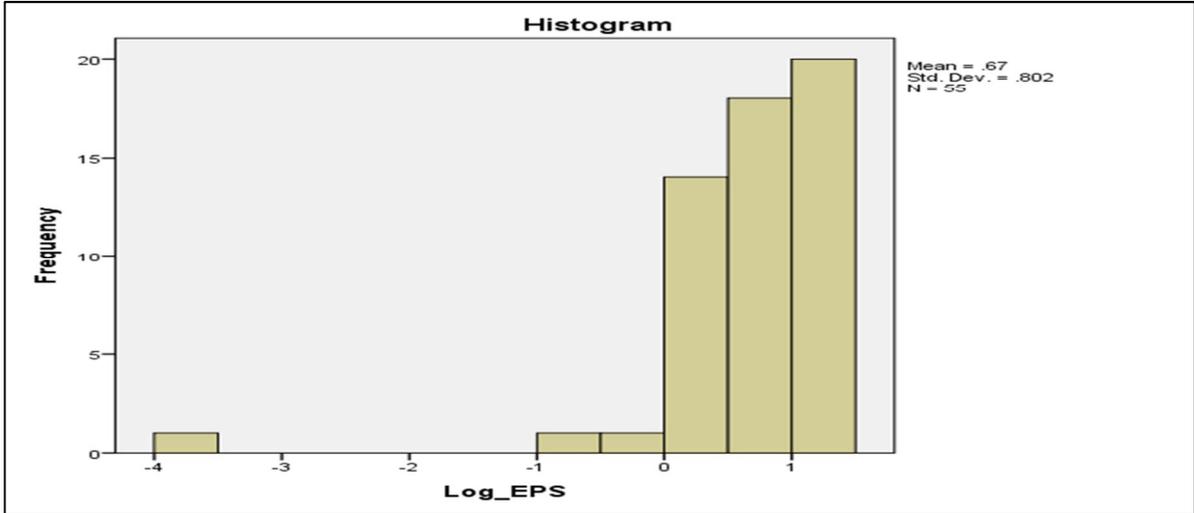


**Figure 4.6: Histogram Log_EPS**
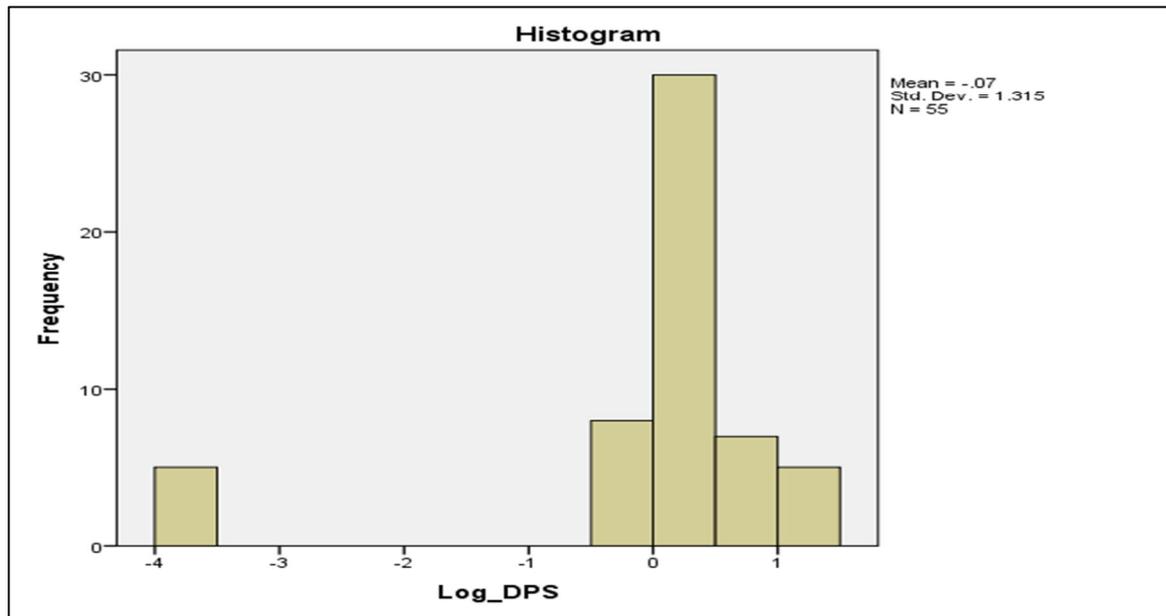
**Figure 4.7: Histogram Log_DPS**
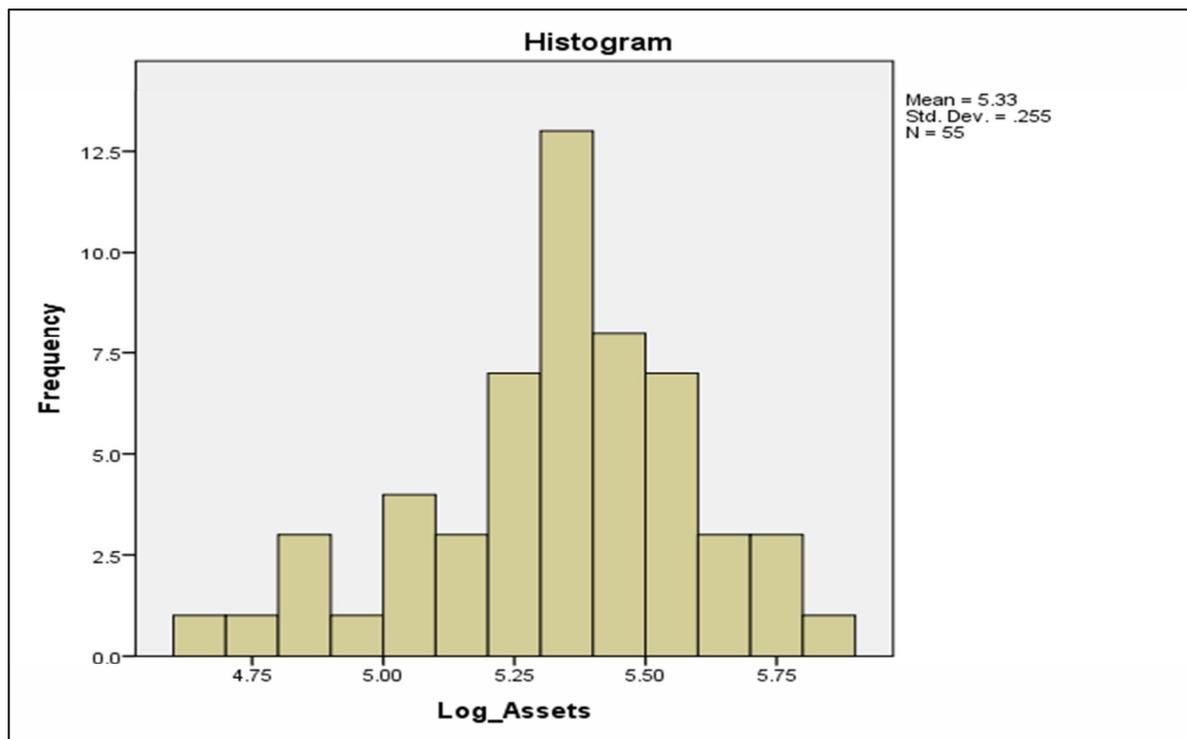


**Figure 4.8: Histogram Log_Assets**

From the histograms above, Log MPS, Log DPS and Log Assets are normally distributed. Log EPS doesn't seem to be normally distributed. The outlier could be having an impact on the distribution. Given that most of the logs of the variables satisfy the assumption of normality necessary for most inferential statistics, the model is reviewed to:

*Log* MPS = *f(Log* DPS, *Log* EPS, *Log* Assets)

Where:

Log MPS is the Natural Logarithm of Market Price per Share

Log DPS is the Natural Logarithm of Dividend Per Share

Log EPS is the Natural Logarithm of Earnings per Share

Log Assets is the Natural Logarithm of total assets of the bank representing size

The resultant equation is shown below

$$Log\_MPS_{it} = b_0 + b_1 Log\_DPS_{it} + b_2 Log\_EPS_{it} + b_3 Log\_Assets_{it} + \text{error term}$$

The relationships between the logs of the variables are analysed in the next sections.

## 4.3.2 Effect of Dividend on the Bank's Market Value

Of the eleven banks under consideration, all but one, National Bank of Kenya, paid dividends in each of the five years from 2013 to 2017. National Bank of Kenya is included in the study because a zero dividend is still a dividend policy. The average Earnings per Share (EPS) its standard deviation and the average Dividend Per Share (DPS) and its standard deviation for each bank is shown on Table 4.11.

Apart from Barclays and Stanbic Holdings, the variability of EPS for the other banks is more than the variability of DPS for the period 2013 to 2017. This indicates that the dividend policies of these banks may not be related to the current year's earnings. The standard deviation of EPS for Barclays and Stanbic Holdings is slightly lower than the standard deviation of DPS suggesting a link between dividend policy and current year's earnings for the two banks.

**Table 4.11: Mean and Standard Deviation of EPS and MPS of each Bank (2013 to 2017)**

| Name of Bank | Mean EPS | Std Dev EPS | Mean DPS | Std Dev DPS |
|---|---|---|---|---|
| Barclays Bank | 1.43 | 12% | 0.94 | 13% |
| Stanbic Holding | 12.37 | 141% | 4.99 | 165% |
| I & M | 15.50 | 277% | 3.18 | 46% |
| Diamond Trust Bank | 23.72 | 215% | 2.44 | 21% |
| HF Group | 2.98 | 162% | 1.08 | 62% |
| KCB Group | 5.96 | 73% | 2.4 | 55% |
| National Bank Kenya | 0.61 | 273% | - | 0% |
| NIC Group | 6.69 | 39% | 1.10 | 14% |
| Standard Chartered Bank | 23.97 | 499% | 17.10 | 195% |
| Equity Group | 4.44 | 53% | 1.86 | 22% |
| The Co-operative Bank | 2.01 | 29% | 0.68 | 16% |

### 4.3.2.1 Regression of Log_DPS on Log_MPS

The results of the regression model with Log_MPS as the dependent variable and Log_DPS as the independent variable to test the effect of dividends on market value of banks is summarised herein. The effect of the independent variables on the dependent variable is tested through the value of coefficient of determination ($R^2$). The computed $R^2$ is 33.7%, which means that the independent variable explains 33.7% of the variability of the dependent variable. This indicates that the log of dividend per share and other variables within the model explain 33.7% of the variance of the log of market price per share of the banks.

**Table 4.12: Model Summary of Log_DPS and Log_MPS**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | 0.581[a] | 0.337 | 0.325 | 0.38251 |

The researcher tested the model's ability to explain the variability in the dependent variable, Log_MPS, by conducting an ANOVA test. The model's computed *p* value of 0.000 is less than the level of significance of 0.05 indicating that the model does a good

job of explaining the variability of the dependent variable. For the banks, dividends explain the variability in market prices for the period 2013 to 2017.

**Table 4.13: ANOVA Analysis Log_DPS and Log_MPS**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 3.949 | 1 | 3.949 | 26.986 | .000[b] |
| | Residual | 7.755 | 53 | .146 | | |
| | Total | 11.703 | 54 | | | |

a. Dependent Variable: Log_MPS

b. Predictors: (Constant), Log_DPS

The results of the regression model, $\text{Log\_MPS} = b_0 + b\text{DPS} + \text{error term}$ is shown below. The model results show the regression as $\text{Log\_MPS} = 1.66 + 0.206\text{Log\_DPS}$ with the Log_DPS coefficient being statistically significant with the coefficient's p value of 0.000 being less than the significance level of 0.05. This means on average for all the listed banks, every change in Log_DPS by 1, results in a change in Log_MPS by 0.206. This provides some evidence that the dividend policy adopted by banks may have a positive impact on its market value. However, the low coefficient of determination, $R^2$, of 33.7% indicates a weak relationship between the two.

**Table 4.14: Coefficients for Log_DPS and Log_MPS**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.660 | 0.052 | | 32.141 | 0.000 |
| | Log_DPS | 0.206 | 0.040 | 0.581 | 5.195 | 0.000 |

### 4.3.3 Effect of earnings on the bank's market value

The results of the regression model with Log_MPS and the dependent variable and Log_EPS as the independent variable to test the effect of earnings on market value of banks is summarised herein. The effect of the independent variables on the dependent

variable is tested through the value of $R^2$. The $R^2$ is 47.9%, which means that the independent variables explain 47.9% of the variability of the dependent variable. This indicates that the log of earnings and other variables within the model explain 47.9% of the log of market value of the banks.

**Table 4.15*: Model Summary of Log_EPS and Log_MPS**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | 0.692[a] | 0.479 | 0.469 | 0.33911 |

The researcher tested the model's ability to explain the variability in the dependent variable, log_MPS, by conducting an ANOVA test. The model's computed $p$ value of 0.000 is less than the level of significance of 0.05 indicating that the model does a good job of explaining the variability of the dependent variable. For the banks, earnings explains the variability in market prices for the period 2013 to 2017.

**Table 4.16*: ANOVA Analysis for Log_EPS and Log_MPS**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| | Regression | 5.609 | 1 | 5.609 | 48.774 | 0.000[b] |
| 1 | Residual | 6.095 | 53 | 0.115 | | |
| | Total | 11.703 | 54 | | | |

The results of the regression model, $log\_MPS = b_0 + bEPS + error$ term is as follows. The model results show the regression as $Log\_MPS = 1.378 + 0.402Log\_EPS$ with the Log_EPS coefficient being statistically significant with the model's p value of 0.000 being less than the significance level of 0.05. This means on average for all the listed banks, every change in Log_EPS by 1, results in a change in Log_MPS by 0.402. This provides some evidence that the earnings earned by banks do have a positive impact on its market value.

**Table 4.17: Coefficients[a] of Log_EPS and Log_MPS**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | (Constant) | 1.378 | 0.060 | | 23.103 | 0.000 |
| | Log_EPS | 0.402 | 0.058 | 0.692 | 6.984 | 0.000 |

**4.3.4 Effect of Earnings and Dividends on the Market Value of Banks**

Log_DPS explains 33.7% of the variability in Log_MPS and Log_EPS explains 47.9% of the variability of Log_MPS. The researcher modelled the two independent variables to test the combined effect in a multiple regression model. The results of the regression model with Log_MPS and the dependent variable and Log_EPS and Log_DPS as the independent variables to test the effect of earnings and dividends on market value of banks is summarised herein. The effect of the independent variables on the dependent variable is tested through the value of $R^2$. The $R^2$ is 50.6%, which means that the independent variables explain 50.6% of the variability of the dependent variable. This indicates that log of earnings, log of dividends and other variables within the model explain 50.6% of the log of market value of the banks.

**Table 4.18: Model Summary of Log_DPS, Log_EPS and Log_MPS**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | 0.712[a] | 0.506 | 0.487 | 0.33336 |

The researcher tested the model's ability to explain the variability in the dependent variable, log_MPS, by conducting an ANOVA test. The model's computed *p* value of 0.000 is less than the level of significance of 0.05 indicating that the model does a good job of explaining the variability of the dependent variable. For the banks, earnings and dividends explain the variability in market prices for the period 2013 to 2017.

**Table 4.19: ANOVA Analysis Log_DPS and Log_EPS with Log_MPS**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| | Regression | 5.925 | 2 | 2.962 | 26.657 | 0.000[b] |
| 1 | Residual | 5.779 | 52 | 0.111 | | |
| | Total | 11.703 | 54 | | | |

The results of the regression model, $Log\_MPS = b_0 + b_1 Log\_EPS + b_2 log\_DPS +$ error term is shown. The model results show the regression as $Log\_MPS = 1.440 + 0.077 Log\_DPS + 0.318 Log\_DPS$ with the log_EPS coefficient being statistically significant with the model's p value of 0.000 being less than the significance level of 0.05. The coefficient of Log_DPS is not statistically significant with the model's p value of 0.098 being higher than the significance level of 0.05. This means on average for all the listed banks, every change in log_EPS by 1, results in a change in Log_MPS by 0.318. This provides evidence that the earnings earned by banks do have a positive impact on its market value and dividends have no effect on market value.

**Table 4.20: Coefficients of Log_DPS and Log_EPS with Log_MPS**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| | (Constant) | 1.440 | 0.069 | | 20.845 | 0.000 |
| 1 | Log_DPS | 0.077 | 0.046 | 0.219 | 1.686 | 0.098 |
| | Log_EPS | 0.318 | 0.075 | 0.548 | 4.217 | 0.000 |

**4.3.5 Effect of Adding Control Variable, Size**

It is said that the size of the bank has an impact on the market price of banks as larger banks are able to attract cheaper and larger deposits and thus able to earn higher profits. The researcher introduces a control variable 'Log_Assets' representing the total assets of the banks to determine if it will impact the model and if size does have an impact on value. The results of the regression are summarised below;

The results of the regression model with Log_MPS and the dependent variable and Log_EPS, Log_DPS and Log_Assets as the independent variables to test the effect of

earnings, dividends and the control variable Assets on market value of banks is summarised herein. The effect of the independent variables on the dependent variable is tested through the value of $R^2$. The $R^2$ is 50.6%, which means that the independent variables explain 50.6% of the variability of the dependent variable. This indicates that log_earnings, log_dividends, log_Assets and other variables within the model explain 50.6% of the market value of the banks. The $R^2$ including log_Assets is the same as the $R^2$ with log_EPS and log_DPS as independent variables, indicating log_Assets do not explain the variability in log_MPS and thus indicating size has no effect on market value.

**Table 4.21: Model Summary of Log_DPS, Log_EPS, Log_Assets and Log_MPS**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | 0.712[a] | 0.506 | 0.477 | 0.33661 |

The researcher tested the model's ability to explain the variability in the dependent variable, log_MPS, by conducting an ANOVA test. The model's computed $p$ value of 0.000 is less than the level of significance of 0.05 indicating that the model does a good job of explaining the variability of the dependent variable. For the banks earnings and dividends explain the variability in market prices for the period 2013 to 2017.

**Table 4.22:ANOVA Analysis of Log_DPS, Log_EPS and Log_Assets with Log_MPS**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| | Regression | 5.925 | 3 | 1.975 | 17.429 | 0.000[b] |
| 1 | Residual | 5.779 | 51 | 0.113 | | |
| | Total | 11.703 | 54 | | | |

The results of the regression model, Log_MPS = b0 + $b_1$*Log*_EPS + $b_2$Log_DPS + $b_3$Log_Assets + error term is shown. The model results show the regression as Log_MPS = 1.439 + 0.077Log_DPS + 0.318Log_DPS. This is the same results as the one regressing log_EPS and log_DPS without log_Assets indicating that log_Assets has no influence on log_MPS. Again it is only the coefficient of log_EPS that is statistically significant with the model's p value of 0.000, being less than the significance level of 0.05. The coefficient for log_DPS and log_Assets are not statistically significant with the computed

p value of 0.120 and 0.999 respectively being higher than the significance level of 0.05. This provides evidence that DPS and size does not have an impact on banks market value.

**Table 4.23: Coefficientsa for Log_DPS, Log_EPS and Log_Assets with Log_MPS**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.439 | 1.042 | | 1.380 | 0.174 |
| | Log_DPS | 0.077 | 0.049 | 0.219 | 1.582 | 0.120 |
| | Log_EPS | 0.318 | 0.076 | 0.548 | 4.173 | 0.000 |
| | Log_Assets | 0.000 | 0.195 | 0.000 | 0.001 | 0.999 |

## 4.4 Banks Adopting a Residual Dividend Policy

The residual dividend policy postulates that banks tends to direct all available funds to investment opportunities. If there are surplus funds after exhausting all opportunities for investment, then the bank will consider paying dividends, but if there are no surplus funds then there no dividend will be distributed (Baker, 2009). This is different from a managed dividend policy suggested by Litner (1956) where managers try to smooth the annual dividends by obtaining long term investment programs and develop a dividend policy that averages out the annual payments.

This section explores whether or not banks listed on the NSE followed a residual dividend policy in the period 2013 to 2017 by using Baker and Smith (2006) methodology by calculating the Standardized Free Cash Flow (SFCF) as per the Lehn and Poulsen (1989) definition, as the mean and standard deviation for standardized free cash flow for the companies that follow a residual dividends policy the SFCF is not statistically different from zero.

The computation of the SFCF was conducted as follows:

**The Free Cash Flow = EBITDA – Gross Interest Expenses – Cash Dividends – Capital Expenditure**

**SFCF = Free Cash Flow/Market Value of the Bank**

The average SCFC for each bank for the period 2013 to 2017 is as follows:

I&M Holdings has the highest SFCF at 0.1827 followed by NIC Group's 0.1412. The lowest absolute SFCF is for The Co-operative Bank at an absolute value of 0.0045 followed by Standard Chartered Bank's 0.0378. Barclays Bank has the most stable SFCF for the five years by having the lowest standard deviation of 0.0079 followed by Equity Bank's 0.0132. The highest variability of SFCF was witnessed at National Bank of Kenya with a standard deviation of 0.3206 followed by I&M Bank's standard deviation of 0.1760.

The Standardized Free Cash Flow (SFCF) was determined for all the listed banks and the mean and standard deviation was calculated. The mean SFCF of all the eleven banks combined was 0.0685 for the five years 2013 to 2017 with a standard deviation of 0.1209. The mean was tested for significance by a t – test at the 95% confidence level to find if the SFCF for the listed banks was statistically different from zero.

**Table 4.24: Average Standardized Free Cash Flow for listed banks (2013 – 2017)**

| Name of Bank | 2013 | 2014 | 2015 | 2016 | 2017 | Aversge | Std dev |
|---|---|---|---|---|---|---|---|
| Barclays Bank | 0.0476 | 0.0358 | 0.0454 | 0.0547 | 0.0367 | 0.0440 | 0.0079 |
| Stanbic Holding | 0.0938 | 0.0509 | 0.0485 | 0.0538 | 0.0404 | 0.0575 | 0.0209 |
| I & M | 0.4913 | 0.0870 | 0.1388 | 0.1381 | 0.0580 | 0.1826 | 0.1760 |
| Diamond Trust | 0.0643 | 0.0868 | 0.1207 | 0.2315 | 0.1070 | 0.1221 | 0.0648 |
| HF Group | (0.0214) | 0.0749 | (0.0692) | 0.0112 | (0.0540) | (0.0117) | 0.0575 |
| KCB Group | 0.0601 | 0.0545 | 0.0610 | 0.1023 | 0.0526 | 0.0661 | 0.0206 |
| National Bank | 0.1099 | 0.0713 | (0.4717) | 0.1848 | 0.3920 | 0.0573 | 0.3206 |
| NIC Group | 0.0657 | 0.0823 | 0.1639 | 0.2465 | 0.1274 | 0.1372 | 0.0723 |
| Standard Chartered Bank | 0.0252 | 0.0779 | 0.0213 | 0.0434 | 0.0214 | 0.0378 | 0.0242 |
| Equity Group | 0.0504 | 0.0712 | 0.0441 | 0.07340 | 0.0680 | 0.0614 | 0.0133 |
| The Co-operative | (0.0635 | (0.0472) | (0.0267) | 0.1267 | 0.0079 | -0.0006 | 0.0760 |
| Total | 0.9234 | 0.6454 | 0.0761 | 1.2664 | 0.8574 | 0.75374 | 0.8538 |

The mean of the SFCFs for the banks for the five year period 2013 to 2017 was 0.0685 with a standard deviation of 0.1209.

**Table 4.25: Descriptive Statistics for SFCF**

| | N | Mean | Std. Deviation |
|---|---|---|---|
| FCF | 55 | 0.06852364 | 0.120944032 |
| Valid N (listwise) | 55 | | |

The t-test results show that the mean of SFCF of 0.0685 is statistically different from zero as the p value from the test of 0.000 is less than the significance level of 0.05. The confidence interval for the SFCF at the 95% confidence interval was determined to be from 0.0358 to 0.1012. This interval does not bracket zero indicating that the average SFCF is different from zero. The conclusion is therefore that banks on average do not adopt a residual dividend policy.

**Table 4.26: One Sample t-test for SFCF**

|  | Test Value = 0 | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
|  | t | Df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference | |
|  |  |  |  |  | Lower | Upper |
| FCF | 4.202 | 54 | 0.000 | 0.068523636 | 0.03582788 | 0.10121939 |

## 4.5 Chapter Summary

This chapter summarizes the research findings on the research questions. The analysis of the data on the dividend and earnings effect on market value indicated there is a positive and significant relationship between earnings and market value. The analysis indicated that there is no statistically significant relationship between dividends and market value. The variability of earnings of banks for the period of the study was higher than the variability of dividends. A test of the standardized free cash flow indicated that it is statistically different from zero for an average of all the banks listed on the NSE. Chapter five will provide discussions, conclusions and recommendations of the study.

# CHAPTER FIVE

## 5.0 DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

### 5.1 Introduction

This section, the final chapter in the study is going to present the summary, discussions and conclusions based on the research questions, then close with recommendations for improvement and future research.

### 5.2 Summary

The purpose of the study was to determine the effects of dividend policy adopted by banks listed on the Nairobi Securities Exchange on their stock market value. The study was guided by three research questions: Do the dividends paid by banks listed on the Nairobi Securities Exchange have an effect on their stock prices? Do the earnings generated by banks listed on the Nairobi Securities Exchange have an effect on their stock prices? Do banks listed on the Nairobi Securities Exchange adopt a residual dividend policy? This study was descriptive research and had a target population of all the eleven listed commercial banks in Kenya as at December 31, 2017, with the study period being 2013 to 2017. Secondary data was collected from the market data of the NSE and the annual reports of the eleven banks from 2013 to 2017. The data analysis used both descriptive and inferential statistics which utilized software application Statistical Package for Social Sciences, SPSS version 24.

Descriptive statistics used included means, standard deviation, median and skewness. Inferential statistics were utilized which included correlation and regression analysis, to examine the effect of the independent variables, EPS, DPS and Assets on the market value of listed banks as measured by MPS. The variability of EPS of the listed banks, as measured by standard deviation, was higher than the variability of DPS, indicating dividends tend to be more stable for the listed banks than earnings.

To determine whether dividends paid by banks being listed on the Nairobi Securities Exchange had an effect on their stock prices, a regression analysis was done and the results of the regression model indicated that the log of dividend per share and other

variables within the model explain 33.7% of the variance of the log of market price per share of the banks. The researcher tested the model's ability to explain the variability in the dependent variable by conducting an ANOVA test. The model's computed $p$ value of 0.000 was significance indicating that the model does a good job of explaining the variability of the dependent variable. This meant that dividend policy adopted by banks may have a positive impact on its market value. However, the low coefficient indicated a weak relationship between the two.

The study sought to determine how earning per share generated by banks listed on the Nairobi Securities Exchange have an effect on their stock prices. The results of the regression model indicated that 47.9% of the variability of the dependent variable and was significant, indicating that that the model does a good job of explaining the variability of the dependent variable. This meant that on average for all the listed banks, earnings earned by banks do have a positive impact on its market value.

The study sought to establish whether banks listed on the Nairobi Securities Exchange adopt a residual dividend policy. The Standardized Free Cash Flow (SFCF) was determined for all the listed banks and the mean and standard deviation was calculated. The mean SFCF of all the eleven banks combined was 0.0685 for the five years 2013 to 2017 with a standard deviation of 0.1209. The mean was tested for significance by a t – test at the 95% confidence level to find if the SFCF for the listed banks was statistically different from zero. Therefore indicated that banks on average banks do not adopt a residual dividend policy.

## 5.3 Discussions

This section discusses the findings of the study in relation to the literature review.

### 5.3.1 Effect of Dividends on Market Value of Banks

The correlation analysis results on the effect of log_DPS on log_MPS indicate there is a weak positive relationship between dividends and the market value of banks listed on the NSE. The regression analysis results show that the coefficient of log_DPS does not have a significant relationship with MPS at the 95% confidence level.

The results of this study agree with Miller & Modigliani (1961) irrelevance theory that asserts it's the earning capacity of a firm that drives value and not how the earnings are

distributed. The results of this study does not agree with the findings of Rees and Valentincic (2013) that showed that there is a positive relationship between dividend and value of firms in the United Kingdom. It is also inconsistent with the work of Salih (2010) that demonstrated that dividend policy impacts the value of firms in the United Kingdom. However, while the study proved that the irrelevance theory doesn't apply to non-financial firms, he noted that the banking sector showed different results. The study (Salih, 2010) demonstrated that the irrelevance theory applies for banks, a finding that does agree with the findings of this study.

In another study in Indonesia, Baker and Powell (2012) found that directors of listed firms consider that the dividend policy they embrace impacts the market value of these firms. A survey of the managers indicated that they have varied beliefs as to the drivers of this value including signaling, catering and life cycle expectations. Clemens (2013) found investors adopting a strategy of having a portfolio heavily weighted to high dividend-paying firms generates superior returns in different times across all world indices. Good corporate governance resulting from a high dividend payout reduces the agency problem allowing such firms to be assigned a low discount rate and high valuations. This agrees with a study done by Hussainey et al., (2011) that found dividends are relevant in driving stock price changes for a sample of firms listed in the London Stock Exchange.

Although their study did not determine that high dividends are indicative of high earnings quality in Indonesia, Sirait and Siregar (2014), however, found firms paying high consistent dividends are indicative of higher earnings quality. These firms tend to be perceived as having lower risk and thus should command higher valuations. This study found evidence that dividends impact market values of banks, which is at variance to the findings of this study. One of the explanations could be that large and stable professional investors like pension funds usually favour firms that pay consistent dividends (Jory et al., 2017).

These studies do not support the findings of this research by finding evidence against the dividend irrelevance theory by Miller and Modigliani (1961), which stated that it is the earnings power of a firm that determines its value and not how those are earnings are distributed to shareholders. The study's results are consistent with numerous other studies that support the irrelevance theory of dividends. However, there

are also many studies that have found evidence of the relevance theory and thus the dividend debate is yet to be settled and continues to be an area in finance where more work needs to be done to settle the issue.

## 5.3.2 Effect of Earnings on Market Value of Banks

The correlation analysis results on the effect of log_EPS on log_MPS indicate there is a positive relationship between earnings and the market value of banks listed on the NSE. The regression analysis results show that the coefficient of EPS has a positive and significant relationship with log_MPS at the 95% confidence level.

The study supports the findings by Barth, Elliott, and Finn (1999) that indicated shareholders assign higher price earnings (P/E) multiples to firms that have demonstrated sustainable growth in earnings. The study further agrees with the findings of Modigliani and Miller (1958) who asserted in world with no taxes, bankruptcy risk and endless arbitrage opportunities  a firm's capital structure, split between debt and equity, has no impact on the firm's value. The firm's value is driven not by how you fund the business but from the outcome of the business operations themselves i.e. earnings, consistent with the findings of this study. Scott (1976) added to the debate on firm value by showing in imperfect markets for real assets the value of the firm was driven by expected future earnings and the cash value of their assets.

While supporting the view that capital structure matters in an environment of taxes, Bradley, Jarrell and Kim (1983) showed that the level of debt a firm can assume is inversely related to the variability of current earnings. In findings similar to this study, they suggested a firm with stable earnings can assume more debt and will have a higher value due to the tax deductibility of interest. This finding agrees with the finding of this study that earnings have a positive and significant effect on market value of banks. Gregory, Whittaker and Yan (2016) while showing the impact of corporate social responsibility on valuation of firms, where able to demonstrate that firms with a higher earnings persistence have higher valuations. The regression coefficient for earnings were positive and significant. Scholarly accounting literature suggests that earnings are better predictors of future earnings than current cash flows.

Misund, Asche and Osmundsen (2008), however, found less predictive power of earnings in oil companies in the US following merger activity in the 1990s. Cash flows had less

predictive power than book value in their study, suggesting that current earnings have little impact on valuation, a finding at variance to the findings of this study. The importance of earnings to analysts and investors is its ability to predict the future cash flows that a firm will receive (Misund, 2018). Volatile earnings that get affected by fair value adjustments have less predictive power than the pre-adjusted earnings (Misund, 2018).

This indicates that persistent earnings have an effect on the valuation investors assign firms and thus the market price, investors deem volatile earnings of low quality and assign them a higher discount rate. Following a significant price rally in Salmon stocks in Norway in the 5 years to 2017 (Misund, 2017) found that the market price increase was influenced, to a certain extent, by growth in profitability of the Salmon companies. One weakness of using earnings to predict future cash flows is that they can be manipulated by management. The desire by management to beat analysts expectations may push them to inflate earnings so as to command a higher market price (Chu et al., 2018).

### 5.3.3 Residual Dividend Policy and Banks

The study found that the SFCF of banks is statistically different from zero, indicating that banks do not adopt a residual dividend policy and have active policies supporting dividend relevance. Funds that a firm generates should go towards funding growth opportunities and dividends only paid from any excess. This is known as the residual dividend policy (Brealy et al., 2014).

In a study at variance with the results of this study, Baker and Smith (2006) found firms adopt a modified residual policy over the medium term, endeavouring to maintain consistency in the payouts whilst holding low free cash flow. Shortfalls are funded by debt allowing the firm to maintain consistency in payouts to shareholders. In resulting in a low free cash flows, residual policy addresses the agency problem. Their study was in line with Lintner (1956) model where he proposed managers should aim to determine long term payouts that are consistent with the long term projects that they intend to undertake. Salih (2010) found quoted firms in the United Kingdom do not generally follow a residual dividend policy apart from the banking sector where the hypothesis for a residual policy could not be rejected. His study, to the extent of the banking sector, found results different from the results of this study. Bremberger, Cambini, Gugler and Rondi

(2016) found that sub-optimal dividend policies by regulated European utility companies may result in under investment in energy infrastructure which may result in demand outstripping supply of energy. Firms in Latin America assess profitability levels then provide funds for investment opportunities after factoring the debt levels before paying dividends (Benavides et al., 2016). This finding is at variance to the results of this study.

In a study with results similar to this study, Abdullah et al., (2017) found in a study of Bangladesh companies that the residual policy is not adopted and concluded that firms do not prioritize the investment policy over the dividend policy. The findings are at variance with the work of Baker and Smith (2006) which found companies in the 1990s adopted a modified residual policy. Bangladesh banks are influenced by current profitability and availability of free cash flow to determine dividend policy (Abu, 2012). The inference from their study is that they do not adopt a residual policy and dividend policy is independent, in line with the conclusions of this study. Undertaking a study of the entire stock market Mollah (2011) found evidence that firms in Bangladesh correlate leverage and size to the amount of dividends they pay. He found no evidence that they adopt a residual dividend policy.

Managers in Morocco consider the agency, catering, signaling and life cycle theories in setting up their dividend policies (Baker & Jabbouri, 2016). The study determined level of profitability, stability of earnings and catering to the needs of shareholders as the key drivers of policy. In the Middle East and North Africa regions the size of the firm, current earnings and availability of free cash positively influences the level of dividends paid (Jabbouri, 2016). Free cash flow has a negative influence on dividends paid which might suggest presence of agency problems in the region. Baker, Kilincarslan and Arsal (2018) found no evidence of agency theory, tax effect on dividends, substitution effect or presence of residual dividend policies in firms in Turkey.

Kajola, Desu and Agbanike (2015) revealed that Nigerian firms are guided by size, earnings and concern for adverse changes in the payout in forming their dividend policy. They did not find evidence of adoption of residual dividend policy, their study supporting the agency and signaling theories. Firms employ dividend policies at variance with the residual theory to mitigate agency problem and also to set a certain reputation amongst investors to access external funds (He et al., 2017). The researchers also found earnings management is less prevalent when firms issue new equity following dividend payments.

Firms in Nigerian develop their dividend policy after taking into consideration profitability, stabililty of profits and free cash flow (Ozo et al., 2015). In a departure from previous studies, the researchers found that firms do not aim for a tartget payout ratio, but aim for a dividend per share number. They also did not find evidence of a residual dividend policy.

Surveying non-financial firms listed on the Casablanca Stock Exchange (CSE) between 2004 and 2015 Jabbouri and Attar (2018) found that Morrocan firms consider profits, leverage, cash availability, growth and shareholder profile when setting their dividend policy. Future earnings and past dividends have no relationship to the policy adopted. In a study of Kenyan Insurance companies, Wanjohi (2017), observed that firms that pay regular dividends had a higher earnings per share and that retained profits tends to impact shareholder wealth negatively. The researcher did not test which variable had a causal effect on the other.

In another study of Nigerian banks, there was a significant and positive relationship between earnings and the market value and recommended banks set up a predictable dividend policy (Adesina, U. Uwuigbe, O. Uwuigbe, & Oriabe, 2017). Ghanaian firms exhibit a positive relationship between dividends and market value but a high dividend yield is negative on shareholder wealth (Ofori-Sasu et al., 2017). The researchers recommend adoption of investment policies that maximise shareholder value in the long term.

## 5.4 Conclusions

The study makes the following conclusions on the basis of the research questions.

### 5.4.1 Effect of Dividends on Market Value of Banks

The correlational and regression studies established that the effect of log_DPS on log_MPS is positive but weak ($R^2$ = 33.7%) and not significant (p value of 0.098) for listed banks on the NSE. An increase in dividends has no relationship with the increase in the bank's stock price. This positive and insignificant relationship was confirmed at the 95% confidence level, with the coefficient of log_DPS (p value of 0.098) confirmed not to be significant. The dividend policies adopted by banks listed on the NSE did not have a significant influence on the market prices of the eleven banks listed on the NSE for the

period 2013 to 2017. Bank managers should adopt the dividend irrelevance philosophy and adopt a residual dividend policy as dividends do not have an impact on the bank's value.

### 5.4.2 Effect of Earnings on Market Value of Banks

The study found that earnings have a positive correlation ($R^2 = 47.9\%$) to market prices of banks listed on the NSE. Growth in earnings leads to an increase in the bank's share price and vice versa. This positive and significant relationship is confirmed at the 95% confidence level, with the coefficient of log_EPS confirmed to be significant (p value of 0.000). In a market with over 40 banks winning the competitive market place by acquiring customers and having efficient systems that converts those customers to profit is key. Management should improve operational efficiency and grow revenue to increase the bank's profitability as this will have a positive impact on the bank's share price.

### 5.4.3 Residual Dividend Policy and Banks

The study found that banks do not adopt a residual dividend policy (SFCF of 0.0685, p value of 0.000) and this indicate that managers of listed banks in Kenya believe that dividends are relevant in determining a bank's value. The banks dividend policy adopted could be informed by the dividend relevancy theories including the catering theory, signaling theory, bird in hand theory or any of the other dividend relevance theories. The finding of the first research question on dividend and market value brings to question this belief. The findings of this study shows that dividends do not have a relationship with market price of banks listed on the NSE. Therefore, banks should adopt a residual dividend policy, noting that dividends are irrelevant, and give priority to the investment and operational policies of the bank.

### 5.5 Recommendations

This section of the study provides recommendations for improvement and future studies.

### 5.5.1 Recommendations for Improvement

### 5.5.1.1 Effect of Dividends on Market Value of Banks

This study recommends that commercials banks should consider their profitability, pattern of past dividends, investment opportunities as well as capital ownership structure when in designing a dividend policy. The study further recommends that commercial banks also ought to review the financial needs of the firms when designing the dividend payout policy while at the same time consider the retaining of earnings as means of financing the investment decisions of the firms. In addition, the banks also need to make consideration before deciding on whether or not to pay cash dividends for liquidity purposes.

### 5.5.1.2 Effect of Earnings on Market Value of Banks

The study also found that there exists a positive and significant relationship between earnings with the market price of banks listed on the NSE. The researcher recommends that banks need to focus on improving operational efficiency in order to grow the topline and improve profitability.

### 5.5.1.3 Residual Dividend Policy and Banks

The study also found that banks do not adopt a residual dividend policy it is therefore recommended that once earnings have been generated adopt a residual dividend policy and prioritize the investment programs of the bank to generate growth and future earnings.

### 5.5.2 Recommendations for Future Research

This study suggests that further research should be conducted to investigate the impact of dividend policies on the market values of non-bank companies listed on the Nairobi Securities Exchange. Further studies should also be done to assess the motivations of listed banks board of directors in setting up their dividend policies.

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# APPENDICIES

## APPENDIX 1: Data Collection Checklist

**Data Collection Checklist**

| Name of Bank | 2016 | | | | 2015 | | | |
|---|---|---|---|---|---|---|---|---|
| | EPS | DPS | Share price | Size | EPS | DPS | Share price | Size |
| Barclays Bank | | | | | | | | |
| Stanbic Holdings | | | | | | | | |
| I&M Bank Holding | | | | | | | | |
| Diamond Trust Bank | | | | | | | | |
| HF Group | | | | | | | | |
| KCB Group | | | | | | | | |
| National Bank of Kenya | | | | | | | | |
| NIC Group | | | | | | | | |
| Standard Chartered Bank | | | | | | | | |
| Equity Group | | | | | | | | |
| The Co-operative Bank | | | | | | | | |

**Data Collection Checklist**

| Name of Bank | 2014 | | | | 2013 | | | |
|---|---|---|---|---|---|---|---|---|
| | EPS | DPS | Share price | Size | EPS | DPS | Share price | Size |
| Barclays Bank | | | | | | | | |
| Stanbic Holdings | | | | | | | | |
| I&M Bank Holding | | | | | | | | |
| Diamond Trust Bank | | | | | | | | |
| HF Group | | | | | | | | |
| KCB Group | | | | | | | | |
| National Bank of Kenya | | | | | | | | |
| NIC Group | | | | | | | | |
| Standard Chartered Bank | | | | | | | | |
| Equity Group | | | | | | | | |
| The Co-operative Bank | | | | | | | | |

## Data Collection Checklist

| Name of Bank | 2012 | | | |
|---|---|---|---|---|
| | EPS | DPS | Share price | Size |
| Barclays Bank | | | | |
| Stanbic Holdings | | | | |
| I&M Bank Holding | | | | |
| Diamond Trust Bank | | | | |
| HF Group | | | | |
| KCB Group | | | | |
| National Bank of Kenya | | | | |
| NIC Group | | | | |
| Standard Chartered Bank | | | | |
| Equity Group | | | | |
| The Co-operative Bank | | | | |

**Standadized Free Cash Flow Data Collection (for each of the years from 2012 to 2016)**

| Name of Bank | Profit plus depr | Income taxes | Cash dividends | Capital Expenditure | Free Cash Flow | Market Value | SCFC |
|---|---|---|---|---|---|---|---|
| Barclays Bank | | | | | | | |
| Stanbic Holdings | | | | | | | |
| I&M Bank Holding | | | | | | | |
| Diamond Trust Bank | | | | | | | |
| HF Group | | | | | | | |
| KCB Group | | | | | | | |
| National Bank of Kenya | | | | | | | |
| NIC Group | | | | | | | |
| Standard Chartered Bank | | | | | | | |
| Equity Group | | | | | | | |
| The Co-operative Bank | | | | | | | |

# APPENDIX 2: Data Collected

**Standadized Free Cash Flow Data Collection (for each of the years from 2013 to 2017)**

### 2017

| Name of Bank | Profit plus depr | Depreciation | Income taxes | Cash dividends | Capital Expenditure | Free Cash Flow | Total Assets | Outstanding no of shares | Market Value | SFCF |
|---|---|---|---|---|---|---|---|---|---|---|
| Barclays Bank | 8,158 | 1,232 | 3,435 | 5,432 | 482 | 2,245 | 271,177 | 5,432 | 61,105 | 0.0367 |
| Stanbic Holdings | 4,309 | - | 1,092 | 2,075 | 908 | 1,326 | 248,739 | 395 | 32,812 | 0.0404 |
| I&M Bank Holding | 7,826 | 562 | 2,630 | 1,447 | 3,382 | 2,997 | 240,111 | 413 | 51,675 | 0.0580 |
| Diamond Trust Bank | 8,262 | 1,337 | 3,173 | 692 | 1,358 | 6,212 | 363,303 | 266 | 58,058 | 0.1070 |
| HF Group | 477 | 351 | 185 | 123 | 537 | (183) | 67,541 | 352 | 3,397 | (0.0540) |
| KCB Group | 22,495 | 2,790 | 9,409 | 9,198 | 5,351 | 7,946 | 646,669 | 3,066 | 151,003 | 0.0526 |
| National Bank of Kenya | 1,516 | 1,106 | 374 | - | 512 | 1,004 | 109,873 | 280 | 2,562 | 0.3920 |
| NIC Group | 4,642 | 497 | 1,457 | 640 | 1,111 | 2,890 | 206,172 | 640 | 22,686 | 0.1274 |
| Standard Chartered Bank | 7,796 | 882 | 3,157 | 5,840 | 370 | 1,586 | 285,724 | 344 | 74,198 | 0.0214 |
| Equity Group | 23,739 | 4,822 | 7,964 | 7,547 | 3,943 | 12,249 | 524,466 | 3,774 | 180,193 | 0.0680 |
| The Co-operative Bank | 13,906 | 2,501 | 4,994 | 4,694 | 8,327 | 885 | 386,858 | 5,867 | 111,476 | 0.0079 |
| **Mean** | | | | | | | | | | |

### 2016

| Name of Bank | Profit plus depr | Depreciation | Income taxes | Cash dividends | Capital Expenditure | Free Cash Flow | Total Assets | Outstanding no of shares | Market Value | SFCF |
|---|---|---|---|---|---|---|---|---|---|---|
| Barclays Bank | 8,591 | 1,191 | 3,453 | 5,432 | 591 | 2,568 | 259,692 | 5,432 | 46,983 | 0.0547 |
| Stanbic Holdings | 4,419 | - | 1,630 | 2,075 | 917 | 1,426 | 214,683 | 395 | 26,487 | 0.0538 |
| I&M Bank Holding | 8,249 | 489 | 3,011 | 1,373 | 1,808 | 5,068 | 210,542 | 392 | 36,686 | 0.1381 |
| Diamond Trust Bank | 8,881 | 1,153 | 3,268 | 692 | 1,838 | 6,350 | 328,045 | 266 | 27,431 | 0.2315 |
| HF Group | 1,232 | 327 | 460 | 176 | 1,014 | 42 | 71,930 | 352 | 3,781 | 0.0112 |
| KCB Group | 22,151 | 2,428 | 9,369 | 9,198 | 4,481 | 8,472 | 595,240 | 3,066 | 82,784 | 0.1023 |
| National Bank of Kenya | 974 | 812 | 20 | - | 687 | 287 | 115,292 | 280 | 1,554 | 0.1848 |
| NIC Group | 4,830 | 500 | 1,837 | 800 | 518 | 3,512 | 169,459 | 640 | 14,252 | 0.2465 |
| Standard Chartered Bank | 9,956 | 906 | 4,239 | 6,870 | 89 | 2,996 | 250,482 | 344 | 69,046 | 0.0434 |
| Equity Group | 21,341 | 4,739 | 8,324 | 7,547 | 6,103 | 7,691 | 473,713 | 3,774 | 104,719 | 0.0734 |
| The Co-operative Bank | 15,099 | 2,423 | 5,047 | 4,694 | 2,445 | 7,960 | 351,856 | 5,867 | 62,837 | 0.1267 |

### 2015

| Name of Bank | Profit plus depr | Depreciation | Income taxes | Cash dividends | Capital Expenditure | Free Cash Flow | Total Assets | Outstanding no of shares | Market Value | SFCF |
|---|---|---|---|---|---|---|---|---|---|---|
| Barclays Bank | 9,454 | 1,054 | 3,673 | 5,432 | 1,029 | 2,994 | 240,877 | 5,432 | 65,993 | 0.0454 |
| Stanbic Holdings | 4,906 | - | 2,454 | 2,431 | 844 | 1,631 | 208,452 | 395 | 33,602 | 0.0485 |
| I&M Bank Holding | 7,644 | 501 | 2,909 | 1,373 | 824 | 5,447 | 191,657 | 392 | 39,236 | 0.1388 |
| Diamond Trust Bank | 7,586 | 986 | 2,965 | 605 | 1,429 | 5,552 | 271,609 | 242 | 46,001 | 0.1207 |
| HF Group | 1,302 | 105 | 557 | 458 | 1,287 | (443) | 71,659 | 352 | 6,407 | (0.0692) |
| KCB Group | 22,059 | 2,435 | 6,915 | 6,050 | 8,446 | 7,562 | 558,094 | 3,025 | 124,034 | 0.0610 |
| National Bank of Kenya | (496) | 657 | (485) | - | 1,077 | (1,573) | 125,440 | 280 | 3,335 | (0.4717) |
| NIC Group | 4,978 | 492 | 1,912 | 800 | 269 | 3,909 | 165,788 | 640 | 23,851 | 0.1639 |
| Standard Chartered Bank | 7,312 | 969 | 2,818 | 5,840 | 44 | 1,428 | 233,965 | 344 | 67,088 | 0.0213 |
| Equity Group | 21,267 | 3,940 | 6,631 | 7,547 | 6,931 | 6,789 | 428,063 | 3,774 | 153,777 | 0.0441 |
| The Co-operative Bank | 14,063 | 2,358 | 3,678 | 3,911 | 12,439 | (2,287) | 342,518 | 4,889 | 85,563 | (0.0267) |

### 2014

| Name of Bank | Profit plus depr | Depreciation | Income taxes | Cash dividends | Capital Expenditure | Free Cash Flow | Total Assets | Outstanding no of shares | Market Value | SFCF |
|---|---|---|---|---|---|---|---|---|---|---|
| Barclays Bank | 9,457 | 1,070 | 3,906 | 5,432 | 763 | 3,263 | 225,845 | 5,432 | 91,250 | 0.0358 |
| Stanbic Holdings | 5,687 | - | 2,014 | 2,431 | 461 | 2,794 | 180,999 | 395 | 54,950 | 0.0509 |
| I&M Bank Holding | 6,153 | 419 | 2,496 | 1,138 | 749 | 4,266 | 176,464 | 392 | 49,045 | 0.0870 |
| Diamond Trust Bank | 6,619 | 911 | 2,813 | 581 | 1,376 | 4,662 | 211,539 | 242 | 53,705 | 0.0868 |
| HF Group | 1,066 | 91 | 425 | 354 | 98 | 614 | 60,962 | 236 | 8,197 | 0.0749 |
| KCB Group | 19,237 | 2,388 | 6,939 | 5,968 | 1,794 | 11,474 | 490,338 | 2,984 | 177,562 | 0.0646 |
| National Bank of Kenya | 1,522 | 651 | 432 | - | 1,077 | 445 | 123,092 | 280 | 6,236 | 0.0713 |
| NIC Group | 4,621 | 505 | 2,114 | 640 | 964 | 3,017 | 145,781 | 640 | 36,650 | 0.0823 |
| Standard Chartered Bank | 11,427 | 991 | 3,910 | 5,256 | (1,329) | 7,501 | 222,496 | 309 | 96,272 | 0.0779 |
| Equity Group | 20,336 | 3,184 | 5,213 | 6,665 | 5,236 | 8,435 | 344,572 | 3,703 | 118,489 | 0.0712 |
| The Co-operative Bank | 10,311 | 2,296 | 2,901 | 2,445 | 11,806 | (3,940) | 285,396 | 4,889 | 83,510 | (0.0472) |

### 2013

| Name of Bank | Profit plus depr | Depreciation | Income taxes | Cash dividends | Capital Expenditure | Free Cash Flow | Total Assets | Outstanding no of shares | Market Value | SFCF |
|---|---|---|---|---|---|---|---|---|---|---|
| Barclays Bank | 8,771 | 1,148 | 3,511 | 3,802 | 673 | 4,296 | 206,737 | 5,432 | 90,163 | 0.0476 |
| Stanbic Holdings | 5,127 | - | 2,097 | 850 | 348 | 3,929 | 180,512 | 395 | 41,904 | 0.0938 |
| I&M Bank Holding | 5,426 | 445 | 2,440 | 981 | (19,651) | 24,096 | 141,201 | 392 | 49,045 | 0.4913 |
| Diamond Trust Bank | 5,845 | 615 | 2,004 | 462 | 2,924 | 2,459 | 166,520 | 220 | 45,312 | 0.0543 |
| HF Group | 1,075 | 80 | 485 | 413 | 796 | (134) | 47,389 | 236 | 6,236 | (0.0214) |
| KCB Group | 17,021 | 2,679 | 5,782 | 5,968 | 3,202 | 7,850 | 390,852 | 2,984 | 130,560 | 0.0601 |
| National Bank of Kenya | 1,678 | 565 | 699 | - | 921 | 757 | 92,556 | 280 | 6,885 | 0.1099 |
| NIC Group | 3,683 | 446 | 1,772 | 543 | 815 | 2,325 | 121,063 | 543 | 27,133 | 0.0857 |
| Standard Chartered Bank | 10,246 | 983 | 4,092 | 4,483 | 214 | 5,550 | 220,391 | 309 | 220,391 | 0.0252 |
| Equity Group | 15,804 | 2,526 | 5,727 | 5,554 | 4,274 | 5,976 | 277,729 | 3,703 | 118,489 | 0.0504 |
| The Co-operative Bank | 10,816 | 1,708 | 1,764 | 2,445 | 14,272 | (5,901) | 231,215 | 4,889 | 70,700 | (0.0835) |

# APPENDIX 3: Dividend policy data collection

| Name of Bank | 2017 | | | | | 2016 | | | | | 2015 | | | | | 2014 | | | | | 2013 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EPS | DPS | Final Div Announcement date | Share price | Total Assets | EPS | DPS | Final Div Announcement date | Share price | Total Assets | EPS | DPS | Final Div Announcement date | Share price | Total Assets | EPS | DPS | Final Div Announcement date | Share price | Total Assets | EPS | DPS | Final Div Announcement date | Share price | Total Assets |
| Barclays Bank | 1.28 | 1.00 | 01-03-18 | 11.25 | 271,177 | 1.36 | 1.00 | 23-02-17 | 8.65 | 259,692 | 1.55 | 1.00 | 05-03-16 | 12.15 | 240,877 | 1.54 | 1.00 | 06-03-15 | 16.80 | 225,845 | 1.40 | 0.70 | 06-02-14 | 16.60 | 206,737 |
| Stanbic Holdings | 10.90 | 5.25 | 03-03-18 | 83.00 | 248,739 | 11.18 | 5.25 | 24-02-17 | 67.00 | 214,683 | 12.41 | 6.15 | 03-03-16 | 85.00 | 208,452 | 14.38 | 6.15 | 25-02-15 | 139.00 | 180,999 | 12.97 | 2.15 | 28-02-14 | 106.00 | 180,512 |
| I&M Bank Holding | 16.47 | 3.50 | 27-03-18 | 125.00 | 240,111 | 18.56 | 3.50 | 27-03-17 | 93.50 | 210,542 | 17.12 | 3.50 | 24-03-16 | 100.00 | 191,657 | 13.56 | 2.90 | 27-03-15 | 125.00 | 176,464 | 11.77 | 2.50 | 09-04-14 | 125.00 | 141,201 |
| Diamond Trust Bank | 23.73 | 2.60 | 23-03-18 | 218.00 | 363,303 | 26.94 | 2.60 | 21-03-17 | 103.00 | 328,045 | 24.42 | 2.50 | 09-03-16 | 190.00 | 271,609 | 21.92 | 2.40 | 11-03-15 | 221.82 | 211,539 | 21.61 | 2.10 | 03-03-14 | 205.87 | 166,520 |
| HF Group | 0.36 | 0.35 | 28-03-18 | 9.64 | 67,541 | 2.59 | 0.50 | 27-03-17 | 10.73 | 71,930 | 3.43 | 1.30 | 24-02-16 | 18.18 | 71,659 | 4.21 | 1.50 | 26-03-15 | 34.77 | 60,962 | 4.31 | 1.75 | 18-02-14 | 26.45 | 47,389 |
| KCB Group | 6.43 | 3.00 | 07-03-18 | 49.25 | 646,669 | 6.43 | 3.00 | 08-03-17 | 27.00 | 595,240 | 6.49 | 2.00 | 09-03-16 | 41.00 | 558,094 | 5.63 | 2.00 | 25-02-15 | 59.50 | 490,338 | 4.82 | 2.00 | 26-02-14 | 43.75 | 390,852 |
| National Bank of Kenya | 1.26 | - | 30-03-18 | 9.15 | 109,873 | 0.23 | - | 30-03-17 | 5.55 | 115,292 | (3.86) | - | 30-03-16 | 11.91 | 125,440 | 3.11 | - | 30-03-15 | 22.27 | 123,092 | 2.32 | - | 30-03-14 | 24.59 | 92,556 |
| NIC Group | 6.48 | 1.00 | 21-03-18 | 35.45 | 206,172 | 6.77 | 1.25 | 08-03-17 | 22.27 | 169,459 | 7.01 | 1.25 | 02-03-16 | 37.27 | 165,788 | 7.07 | 1.00 | 09-03-15 | 57.27 | 145,781 | 6.12 | 1.00 | 07-03-14 | 49.97 | 121,063 |
| Standard Chartered Bank | 19.64 | 17.00 | 22-03-08 | 216.00 | 285,724 | 25.85 | 20.00 | 22-03-17 | 201.00 | 250,482 | 17.97 | 17.00 | 23-03-16 | 195.30 | 233,965 | 29.89 | 17.00 | 24-03-15 | 311.40 | 222,496 | 26.48 | 14.50 | 03-03-14 | 273.60 | 220,391 |
| Equity Group | 5.00 | 2.00 | 09-03-18 | 47.75 | 524,466 | 4.38 | 2.00 | 15-03-17 | 27.75 | 473,713 | 4.59 | 2.00 | 08-03-16 | 40.75 | 428,063 | 4.63 | 1.80 | 10-03-15 | 52.00 | 344,572 | 3.59 | 1.50 | 27-02-14 | 32.00 | 277,729 |
| The Co-operative Bank | 1.99 | 0.80 | 15-03-18 | 19.00 | 386,858 | 2.16 | 0.80 | 15-03-17 | 10.71 | 351,856 | 2.39 | 0.80 | 16-03-16 | 17.50 | 342,518 | 1.64 | 0.50 | 17-03-15 | 17.08 | 285,396 | 1.86 | 0.50 | 19-03-14 | 14.46 | 231,215 |