# THE EFFECT OF STOCK LIQUIDITY ON DIVIDEND PAYOUT POLICY FOR BANKS LISTED AT THE NAIROBI SECURITIES EXCHANGE IN KENYA.

BY

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D63/82157/2015

A RESEARCH PROJECT PRESENTED IN PARTIAL FULLFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN FINANCE, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

DECEMBER, 2018

# DECLARATION

I declare that this is my original work and it has not been presented for moderation in any other university.

Signature _____ Date _____

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

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# DEDICATION

To my parents Kansas and Kiwanza, my brothers Tamseni, Abagundu and Matufi, am grateful for your sacrifices and support, I would not have reached this far were it not for you.

To my cousins, may this encourage you to pursue your dreams regardless of the obstacles you are facing right now, the future is bright, and you only need to start with a step and keep pushing. May the good Lord bless you all.

# ACKNOWLEGEMENTS

I am thankful to the Lord God for this far. His strength, favor and good health have kept me during this whole research period.

I am grateful to my supervisor Cyrus Iraya for his support during this research period.

I wish to acknowledge all past research works that I have cited in this research document, for the insight they have given me.

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ANOVA       Analysis of Variance

ADF        Augmented Dicker Fuller

CBK        Central Bank of Kenya

CMA        Capital Markets Authority

ILLIQ      Illiquidity measure

MM's       Modigliani and Miller's

NSE        Nairobi Securities Exchange

SPSS       Statistical Package for Social Sciences

# ABSTRACT

Stock liquidity is described as the propensity of a stock to be converted to cash easily and quickly. The trading of shares is usually done at the Stock Markets. Investors value shares that have higher dividend returns. A stock that is illiquid but pays higher dividends will be sought after compared to the more liquid ones. The main aim of the study was to find out the effect of stock liquidity on dividend policies for banks listed at the Nairobi Securities Exchange between 2013 and 2017. The stock turnover rate and dividend payout ratio were used as proxies for stock liquidity and dividend payout policy respectively. The research study also used some control variables of firm leverage and firm profitability which affect the firm's ability to pay dividends. Descriptive design method was used where data was pulled out from the CMA and NSE and was analyzed and the findings were that the stock turnover rate, the predictor variable was insignificant to the outcome variable dividend policy. The outcomes of the study support that stock liquidity cannot predict the banks' dividend payout policy at the NSE.

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background to the Study

A sensible dividend policy needs to serve the purpose of boosting the credence of investors. Dividends are earnings distributed to shareholders corresponding to number of shares one owns. Dividends are preferred by shareholders but that may not be the case of managers who may want to invest the company profits on projects hence bringing up the issue of agency costs which need to be factored in as per studies by La Porta, Lopez-de-Silanes and Shleifer (2000).Stock liquidity is the ability of a share to be easily sold at minimum costs and shortest period. Liquidity as investment style has been explored by a number of scholars who in their researches have confirmed that less actively traded stocks outperform actively traded ones by earning higher returns/ or dividends (Datar, Naik & Radcliffe, 1998); (Banerjee, Gatchev & Spindt, 2007).

Although stock liquidity has been advocated as a cause of dividend policy, the problem has been to establish how this is possible. Modigliani and Miller (1961) developed the irrelevance theory of dividends that has attempted to provide a solution. They proposed that in a world of no friction, dividends are irrelevant making the market perfect. Investors' wealth is deemed to be generated from investment projects and whenever a stockholder needs cash, he can sell his asset quickly as stocks are highly liquid. The real world is full of frictions making stocks less liquid and as a result investors demand a premium (dividends) for holding them. Trading quantity theory proposed by Easley and O'hara (1987) asserts that traders who are well informed would rather trade huge quantities of stock at a particular price.

Regardless of the reasons behind sudden trading of large volumes of stock, huge changes in price will be minimal because of an efficient market. However, small quantities of stock are traded at higher prices and higher transaction costs. They are considered to be less liquid but the returns; which in this case may be dividends or capital gains are to be expected to be high because of illiquidity. These theories describe the relation linking stock liquidity and dividend policy.

In spite of these impressive stock liquidity discoveries, there are still very few studies conducted on the contextual setting of Kenya. It is worth to note that the Kenyan stock market is also an emerging one. Banking institutions are governed by the Banking Act and Central Bank of Kenya. The CBK is the chief regulator of this sector. Commercial banks serve as an intermediary between two parties by transferring money from the lenders to the borrowers. The industry has grown over the years with new innovations which allow customers to transact using their phones without having to physically present themselves in banking hall. They touch on livelihoods of most citizens and as a result, the performance especially for the 11 listed banks is heavily scrutinized not only by shareholders but by customers too. In connection with all the 43 commercial banks operating in the country, the publicly traded ones are the largest with regard to asset base, profits, distribution channels and total number of accounts (CBK Annual Reports).

**1.1.1 Stock Liquidity**

Liquidity of stock is the easiness of a stock to be converted into cash, without delays and changes in the price brought about by trading costs (Damodaran, 2006). Illiquidity is the circumstance under which the sale of an asset cannot happen immediately.

Keynes (1930), in his research study on money, highlighted that an asset is termed as more liquid than another where it most certainly is able to be converted without loss. According to Crockett (2008), a liquid market is composed of four main characteristics. They are depth-ability to trade huge transactions without affecting prices unnecessarily, immediacy-ability to carry out transactions with speed, tightness-the difference between bid and offer prices and resilience-ability of underlying prices to be restored with speed after a disturbance.

Stock liquidity is of great significance in today's financial markets as it is a vital factor in stock pricing. Future cash flows of an asset can be affected by liquidity and hence the reason behind investors demanding higher returns for holding less liquid assets. There are a number of issues that should be considered when investing in a stock. These issues form the sources of illiquidity which are made up of transaction costs, asymmetric information, search frictions, demand pressure and inventory risk (Amihud, Mendelsen & Pedersen, 2005). These costs are usually reflected in stock prices and serve as the reason as to why stock holders demand compensation for holding less liquid stocks. Illiquidity has many dimensions and all cannot be measured by one proxy (Amihud, 2002). There are several measures of liquidity. Volume based measures emphasis on the association between quantities of shares per unit of time. Transaction cost measures calculate the difference between the bid and ask prices, the result reflects the trading costs. Additionally, they are the most used indicators of liquidity. Price related measures prove an asset or market liquidity from price behavior. The turnover rate was employed as a measure of liquidity, the reason being that besides it being a good proxy, the data required for analysis was accessible and widely available.

**1.1.2 Dividend Policy**

A dividend payout policy is the guideline set and implemented by managers in the declaration and issue of dividends to shareholders (Nissim & Zim, 2001). Dividends are rewards paid out of a firm's profits to its shareholders. Lease, John, Kaby, Loewenstein and Sarig (2000) describe a dividend policy as cash distribution to shareholders over time. Managers need to carefully choose their dividend policy as the decisions they make shape the proportion of equity retained by the firm. The dividend policy influences the shareholders wealth together with as the entity's value.

A dividend policy is critical to finance in that it is anticipated to have an influence on an entity's market value. This was admitted by Modigliani and Miller (1966) who acknowledged the importance of dividend despite being the champions of the dividend irrelevance theory. The board of directors normally drafts the dividend policy to be implemented. A firm that has no stable policy causes shareholders to lose interest to hold their capital in such firms resulting to a fall in share prices. The shareholders may further sell off their shares because of dissatisfaction. Stock price is an indicator for the financial health of a company. A persistent drop in stock prices indicates poor performance of the company that waits to fall. Dividend policies vary from one firm to another, studies by Lintner (1956) observed that companies first set out payment ratios but over time adjust slowly the payment of actual dividends.

It is also vital to note that dividend policies may be influenced by a variety of factors ranging from uncertain economic and business conditions to factors like shareholders expectations. Dividend policy measures are the proceedings taken by a firm when paying of dividends.

Dividend yield indicates the returns made by a shareholder emanating from dividend only. It is determined by getting the dividends per share and dividing it by the stock price. Dividend payout is the portion of earnings that is distributed as dividends, where earnings are negative then it is meaningless. It is evaluated by figuring out the dividend per share of a company and dividing it by its earnings per share. Dividend cover measures the safety margin of payments of dividend as a result of an earnings drop and is worked out by finding the earnings for each share of the company and dividing it by its dividend per share (Menamin, 2000).

### 1.1.3 Relationship between Stock Liquidity and Dividend Policy

Modigliani and Miller (1961) developed the Irrelevance Theory of Dividends which assumed that investors had no partiality for or against receiving dividends or capital gains in the future. This master theory of finance assumes that the markets are efficient and thus frictionless. The assumptions of this theory may not be true because of the existence of trading friction in financial markets which are the sources of illiquidity. This leads to the belief that managers prefer stocks that are more liquid because the expected dividends by stockholders are lower compared to illiquid stocks whose expected dividends are higher since individual investors tend to shun from holding such stocks and require compensation in order to hold them.

Previous studies have shown that there may be a relationship linking liquidity with dividend policy. Botoc and Pirtea (2014) concluded that a firm's dividend policy may indeed be influenced by stock liquidity in the developing markets. Banerjee et al. (2007) also found a relation linking stock liquidity and dividends. They used control variables of growth, size and profitability of firms in their tests.

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Their conclusion was that entities with stocks that had low liquidity are more certain to pay out dividends and the opposite was also true. However, studies by Jiang, Ma and Shi (2017) came to the conclusion that there existed a relationship linking share liquidity and dividends policy and it is positive. Given the differing conclusions from previous studies, it was important to carry out this research so as to establish the effect of stock liquidity on dividend policy.

### 1.1.4 Banks Listed at NSE

The Nairobi Securities Exchange was registered under the Societies Act (1954). The banking sector is one of the largest sectors and a major indicator of the economy with 11 listed banks out of the 40 operating commercial banks in Kenya. This has led to scrutinizing of performance of the banks by the public. Listing is done mainly to enhance capital base for future expansion projects and services for the ever growing needs of Kenya. This concurs with studies by Ngugi and Njiru (2005) who observed that firms go public mainly to raise capital.

The NSE 20 share index, the NSE 25 share index and the NSE all share index are measures of performance of the NSE. The average of the top 20 best performing counters in terms of weighted market performance forms the The NSE 20 share index whereas the NSE 25 share index is structured to depict the performance of Kenyan firms quoted on the NSE in terms of the market capitalization weighted index. An NSE all share index indicates the overall market performance. Of the 11 listed banks in Kenya, 6 are included in the NSE 20 share index while 9 are contained in the NSE 25 share index, (NSE Press Release, 2018).

There are currently 43 banking institutions in Kenya where 40 are privately owned while the government has a majority ownership in the other 3 institutions as per the CBK Annual Report (2017). Although the banking institution has undergone a number of dynamics in the recent years, it has still managed to record a growth for the first quarter of this year as per the CBK Credit Survey Report (2018). The growth stability is attributed to the government efforts for a competitive financial sector in line with Vision 2030.

## 1.2 Research Problem

Studies on the liquidity and stock returns relationship have increased since the days of Amihud and Mendelsen (1986), whose findings were that stocks that are lowly liquid outshine the highly liquid ones in the securities market of the United States. Liquidity ought to be included as a determinant of expected returns, just like other determinants such as size, book value and momentum which have been included in previously conducted studies (Subrahmanyam, 2010).Liquidity as an investment style tends to reward a stock holder who holds his assets for longer period and who does not actively trade his assets. This is because he is to be compensated by earning higher returns (Hu, 2013), and returns could be dividends or capital appreciation. These observations that liquidity can be adopted as an investment style, and have different liquidity proxies employed prompted the necessity to research on the effects of stock liquidity on dividends policy for quoted banks in Kenya.

This study strived to improve on earlier findings on the association between liquidity and stock returns and specifically focuses on stock liquidity effect on dividend policy. Many changes have been experienced by listed banks and the whole financial market in Kenya since the introduction of the NSE live trading (NSE, 2011), the movement of the CMA to a statutory regulatory work, the interest rate capping law in 2016, the introduction of the Central Depository System and many other regulations. As explained by previous researches, these adjustments could perhaps have an effect on the performance of banks which could in turn be affecting the stock liquidity-dividend return computations thus creating a gap for the study.

Akhtar (2018) conducted his study for non-financial firms listed in Pakistan Stock Exchange on the impact of stock liquidity on dividend payouts. Regressions together with correlation analyses were applied to assess the relationships of the study variables. Logit regression model together with OLS regression models were employed to obtain the impact of stock liquidity on dividend payout. The findings were that there existed a relationship between stock liquidity and dividend payout that was positive. The study was limited to non-financial companies, prompting a gap for a similar study to be conducted on financial firms and specifically on listed banks. Na'ura (2016) studied the quoted Jordanian banks to establish presence of a relation linking a firm's stock liquidity and its dividend policy. The agents of liquidity used were the turnover rate and bid-ask spread. The study had some firm control variables; growth, size and profitability. The Logit and OLS regression models were adopted for analysis and a negative relationship was established between the variables.

The study recommended that dividend ratio could be predicted by stock liquidity, prompting the gap as to whether stock liquidity can be substituted for dividends. Kahuthu (2017) carried out a study for listed firms in Kenya on the impact of stock market liquidity on stock return. Panel analysis of data was applied. Bid-ask spread had a negative relation to stock returns while turnover rate was insignificant. The study was limited to only two measures and only 56% of questionnaires distributed were filled in creating a research gap that can be factored in in future research works. Koech (2012) conducted a study at the NSE on liquidity and its relationship with stock returns. Simple regression model was employed and his findings were that a weak correlation existed between the variables. The market was deemed to be inefficient during the study period 2007 to 2011, prompting a research gap for a related study to be conducted in the most recent period, in the current financial market conditions.

Over the last years, there has been growth in shares investments, the main goal of the investor being a profitable investment. Earlier academic works that have been carried out in the developed markets have made the observations that stock liquidity may probably have an influence on dividend policy (Botoc & Pirtea, 2014). The critical role stock liquidity plays on dividend policy prompted the knowledge gap on the distinct dimensions of stock liquidity, the various determinants of dividend policies, and the commercial banks context in this current study period, the mixed evidence from past similar studies and the emerging Stock Market in Kenya. Hence, there was need to investigate the link between these variables. The paper therefore, sought to study; what is the effect of stock liquidity on the dividend payout policies of listed banks in Kenya?

## 1.3 Research Objectives

To determine the relationship between stock liquidity and dividend policies for listed banks at the Nairobi Securities Exchange.

## 1.4 Value of the Study

For the academicians, the findings of the research can be used to offer a basis of further research on the theories that explain the relation linking stock liquidity and dividends policy. The research could be used as a reference for other emerging stock markets too. Additionally, the study helps to conclude the association joining stock liquidity and dividend policy and understand the correlation between firm's profitability and leverage and dividend payouts.

For the investors, the findings will enable them to make informed decisions while trading, based on the stock liquidity of a firm in order to achieve maximum returns. They shall also give an insight to shareholders on the implications stock liquidity has on their expected dividends.

For organizations such as banks, this study will help them factor in the importance of stock liquidity when trading their assets. They may use the findings to formulate better dividend policies to attract investors. For consultant firms, this study will boost their knowledge in the areas of stock liquidity and help them offer better agency services to their clients.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Introduction

Literature review is a summary of prior research studies done on a particular topic. Theoretical and empirical literatures are expounded in this chapter in the following format. The theoretical literature is introduced in Section 2.2, Section 2.3 explores the determinants of dividend policy, empirical literature is reviewed in Section 2.4, the conceptual framework is covered in Section 2.5, while the last section a summarizes the whole literature review.

## 2.2 Theoretical Literature

Theories of all kinds have been discovered to interpret the origin of stock liquidity and the puzzle of dividends. This section first presents two theories on stock liquidity and later on discusses the three main theories of dividends.

### 2.2.1 Trading Quantity Theory

This theory was developed by Easley and O'hara (1987) and it focuses on the volume of a trade at a particular price. They were of the opinion that informed traders preferred trading large volumes of stocks at any given price. A similar study on the quantity theory was conducted by Hu (1997) and his findings were in support of the transaction frequency hypothesis and transaction cost model by Amihud and Mendelson (1986). In contrast, Schultz (2000) established that execution costs for larger quantities of stock are lower in the over-the-counter market that is trading corporate bonds.

Dealers in securities suggest that pricing strategies depend on trade volume where large volumes are executed at less fair prices for the traders. Under the trading quantity theory, demand pressure of an asset is one major source of liquidity. It is also known as price impact and is defined as the possibility of an investor to trade large volumes of stocks in the least possible time without causing an increase or decrease in price change in the market (Sloman & Kelvin, 2007).

Demand pressure may partly be caused by information asymmetry where an investor who abruptly buys or sells huge stocks will be perceived to be having crucial information that others do not have causing pressure on stock price. These changes may however not last long in an efficient market because of the demand and supply forces (Hubbard & Obrien, 2009).This theory therefore explains that if a share has been traded at low volumes (low liquidity), regardless of the reasons behind this event, the investor may expect a return premium (dividends) for possessing a share that doesn't trade actively. The trading quantity theory is important to this research as it explores market depth as an aspect of liquidity and further evaluates its relationship with stock returns.

### 2.2.2 Transaction Cost Theory

Amihud and Mendelson (1986) developed this theory as they sought to find out trading costs associated with trading costs. Process order fees, transaction taxes, brokerage fees, transaction taxes, and process among others make up the transaction costs. Current financial markets encounter frictions which affect the prices of stock. These frictions being a source of illiquidity tend to affect the future cash flows (capital gains and dividends) of a stock. Additionally, they found out that assets that had bigger bid-ask spreads earned higher returns.

Amihud et al. (2005) also established that stock holders who held their assets for a longer time get compensation arising out of illiquidity that surpasses the expected execution costs for processing assets with bigger spreads. One major determinant of transaction costs is information asymmetry. An efficient market assumes information symmetry to all market participants. This is however different in practice because market players transform information differently. Asymmetric information, being a liquidity cost can used by traders to make big profits by buying an undervalued  stock and selling it when it appreciates, therefore  higher returns of both capital gains and dividends are expected (Morck, Benard & Wayne, 2007).

Additionally, transaction costs affect directly the profits of a stock buyer. Markets are considered less liquid where there are huge transaction costs as compared to those with lower trading costs (Atkins & Dyl, 2007). Huge transactions costs further translate to less stock returns earned and specifically less expected dividends to be received. This theory is significant to this study as it reveals how trading costs, elements of stock liquidity, affect stock returns.

### 2.2.3 Dividend Irrelevance Theory

This theory suggests that dividends are irrelevant. It was introduced by Modigliani and Miller (1961). The theory views a firm's value as being independent of the dividend policy set. It suggests that stockholders are indifferent between retention generated capital appreciation and dividends. It is also based on assumptions that investors are rational in a perfect market setting. A perfect market consists of participants with equal information regarding share characteristics, no existence of taxes, transaction costs, brokerage fees or even floatation costs.

In a real world, the MM's hypothesis does not hold because of market imperfections. The investors are believed to be irrational, information asymmetry exists and taxes and other transaction costs are present and should therefore be included in dividend relevancy (Lease, 2000).

The theory explains how the share price is dependent on the company's future activities and earning abilities and that a shareowner can formulate his dividend policy by buying and disposing of shares. This is not factual as investors who are not well informed about a company's performance use payments of dividend as a signal (Frankfurter & Wood, 1997). These market imperfections reflect frictions which signify illiquidity where less liquid stocks are not being liked better than more liquid ones as stock holders may have a partiality for dividends gained from stock liquidity. In other words, a company with more liquid shares (shares with low frictions) is less likely to pay dividends in comparison to less liquid shares- an inference known as liquidity hypothesis of dividends (Modigliani & Miller, 1986)

### 2.2.4 Bird in the Hand Theory

This theory was developed by Gordon (1959) and Lintner (1962). It argues that dividends are relevant. It suggests that there exists an association linking dividend payout and a company's value. It states that investors consider dividends as less risky compared to prospective future capital gains thus they prefer dividends. The investors tend to value high dividend payout firms more highly and hence companies need to have a higher payout ratio of dividends to maximize the stock price (Robinson, 2006).

This idea is condensed by the saying that says "A bird in the hand is worth two in the bush." It assumes that in an inefficient market, where there is information asymmetry, capital gains-expected future stock price appreciation, are to be evaluated differently from dividends-the bird in the hand. However, the risk of a company cannot be minimized by increasing its dividend payout ratio but rather be determined by cash flows from its investments (Bhattacharya, 1979). Although dividends are preferred, they are subject to market conditions of an inefficient market, frictions are generated bringing about liquidity costs. The less liquid a stock is, in this case, the more the great liking of a stock dividend and not its future capital appreciation.

## 2.2.5 Tax Preference Theory

This theory supports the relevancy of dividends. It was developed by Litzenberger and Ramaswamy (1979). This theory explains that shareholders opt for a lower income or capital gain on financial securities they own than a dividend income. This is because capital gains are taxed lowly in the long term than dividends. Taxes are usually paid at the time of share resale while taxes on dividends are paid on the same year the dividends are paid. The favorable capital appreciation treatment, nevertheless, may cause the stock holders to opt for a lower dividend payout against a higher payout (Gordon, 1963).

In actuality, taxes have an effect on dividend payments. Taxes are trading costs incurred during execution of orders. In this theory, the more the stock is liquid, the more tax fees it will incur and the fewer dividends it shall earn since investors will shun it. Stock holders pay taxes at different rates, thus companies with dividend payout ratios that are high are in position to attract investors with marginal rate of taxes that are low, and this shall only be favorable where the stocks are not actively traded (Dhaliwal, Krull, Li & Mosez,

2005). The relevance of this theory to the study is that a lower ratio of dividend payout will maximize an entity's value; this is effective in a highly liquid market since those investors usually view a firm as a place where their money can grow temporarily tax free.

## 2.3 Determinants of Dividend Policies.

### 2.3.1 Financial Leverage

The financial framework of an entity is made up of debt and equity. Leverage is the percentage of debt acquired by an entity. Leverage comes with risk as the debt acquired has to be cleared through payment of interests and principal amount. Any default in payment of the debt loan may cause the company to be liquidated (Al-Maklawi, 2008). Companies with great leverage are anticipated to pay lower dividends (Rozeff, 1982). All equity firms are probable to disburse greater dividends than financial leveraged ones to minimize problems associated with agency that may come about because of free cash flows.

Differing studies argue that a high financial leverage for a firm increases the risk of bankruptcy costs. The stockholders may likely push to be rewarded with higher dividends because of the exposure to level of risk that is high (Mahadwatha & Jogiyanto, 2002). Financial leverage is equally a determining factor of dividend policy and it should be included in making the dividend decisions.

### 2.3.2 Profitability

Dividends are proportions of profits earned by a company. A company operating in losses is unlikely to pay out dividends. A company's profit is one vital factor that has an impact on dividend policy (Lintner, 1956).

Additionally, studies by Fama and French (2002) conclude that the association between profitability of an entity and its dividend policy is a positive one. They further argue that a firm will first exhaust its internal funds in financing its projects, before settling on debt. Issuing equity is usually the last resort in order to minimize financing costs and asymmetric information.

Dividends need not be paid out of profits. Firms may as well pay dividends when their performance is not good. On the other hand, managers may limit the paying out of dividends when the company is actually performing very well. This is to win the attention of investors (Fudenberg & Tirole, 1995). These discussions have proved that profitability is equally a sole factor in determining the firms' dividend payout policies.

### 2.3.3 Growth

Growth of the firm affects the dividend policies chosen by the management. The association between growth opportunities and dividend payouts can be viewed from two different sides. The first angle is that dividend payments reduce the earnings available for investments. Secondly, issuing of dividends means that the company has forgone the net earnings which are the most inexpensive source of finance. The dividends and investment seem to be in competition for cheap internal funds (Elston, 1996). Firms with high growth require funds to support their projects. They therefore trigger the payment of very low or no dividends. However, entities with poor development opportunities may pay out greater dividends so as to restrict managers of wasting available cash flows (Jensen, 1986). A firm in its maturity stage tends to have a shrink in its growth opportunities, and thus it increases its dividend payout ratio. This is as a result of more funds available and a low systematic risk, (Grullon, Michaely & Swaminathan, 2002).

Furthermore, they explain that increasing the dividends of a firm may relay information to the stockholder that the managers are dedicated not to over-invest. This factor is critical in making dividend decisions of firms.

## 2.3.4 Firm Size

It is one of the major points that have an effect on the choice of dividend policies implemented by managers. Research showed that 49% of small firms paid out dividends compared to 87% of big-sized companies (Mozes & Rapaciolli, 1995). Bigger firms are perceived to be more mature and therefore have a better chance of accessing cheap capital finance .This translates to less usage of internal funds for financing, more profits are available and the possibility of higher dividend payout is almost certain. Smaller firms on the other hand, need to re-invest their profits so as to grow. This may lead to declaration of a low dividend payout by such firms (Ingram & Lee, 1997).

Contrary to this, another study in Indonesia found out that larger firms paid less dividends to their stockholders. This was attributed to the fact that a lot of cash was available and the mangers could squander it without the knowledge of shareholders, who are the owners of the firms with no direct control of these entities (Mahadwartha, 2002). These studies have given differing conclusions on the association between size and dividend policy, with others indicating a positive relationship while others a negative relationship.

## 2.4 Empirical Literature

### 2.4.1 Global Studies

Amihud (2002) carried out a study in the New York Securities Exchange on the proposition that stock expected returns should increase with illiquidity. A new liquidity level measure was employed known as ILLIQ measure which computed the daily price response per dollar of trading volume having adjusted the size, systematic risk, share price volatility and momentum effects. He found out that the market expected illiquidity affected potential share excess return. It provided compensation for low stock liquidity in comparison with that of treasury securities. Anticipated share returns that were in excess were not steady but varied over the period as a result of alterations in market illiquidity. However, the results are purported to be weightier for stocks from small firms.

Omran and Pointon (2004) conducted a research in Egypt on whether there exists an association linking dividends and a company's liquidity and profitability. Multiple regression and logistic regression was performed on the financial statistics. They examined that for shares that are active in terms of trading; retentions are more notable than dividends. For shares that are not-actively traded, the accounting book value was to be the greatest significant factor influencing the price of the share and not the earnings or dividends. The findings suggested the retaining more of the earnings and reducing of dividends to fund investment projects. In order to fund investment projects, companies whose stocks have low liquidity had the trend of not paying dividends from smaller portion of their earnings. Current ratio was nevertheless used to measure liquidity and hence the study outcome could have been different perhaps if stock liquidity measures would have been adopted.

Banerjee, Gatchev and Spindt (2007) in the United States studied on the relationship between payout policy and market liquidity .In their study they used some control variables which were size, growth opportunities and profitability of the firms, reasons being that these variables are determinants of dividend policies and that they have a relationship with stock liquidity. They adopted the trading volume, illiquidity ratio and proportion of days with no trading as measures of liquidity and previous policies of dividends of firms in their analysis. The findings were that in markets that were liquid, shareholders have a less call for dividends from shares they own since they can make home-brewed cheap dividends easily. Consequently, entities with highly liquid stocks tend to have a lower incentive to payout cash dividends to stockholders. Although the study provided proof of substitution of liquidity with dividends, there many other countries with varying institutional arrangements as compared to the United States in which this relationship may fail to exist.

Griffin (2010) carried out her study in the international markets of Australia, Canada, United Kingdom, Hong Kong, Mexico, Brazil and Argentina. Linear regression analysis was performed with dividend per share and turnover being the predicted and the predictor variable respectively. She discovered that the there was a negative and inverse association linking stock liquidity and dividend payout policy. She observed that dividends are used to reward stock owners for lower stock liquidity. She further established that where shares are receiving dividends, then the demand for liquidity shall be done away with since shareholders need not be compelled to wait for long for buyers or make a sacrifice to accept low prices to attract purchasers; hence dividends will furnish owners of stocks with revenue needed.

In contrast, liquid stocks can sell a portion of the portfolio at low cost hence creating quick dividends. The findings of existence of an inverse relationship may however not hold in emerging countries since liquidity tends to be lower than in the developed countries.

Ahmad and Wardani (2014) conducted their study at the Indonesia Securities Exchange and examined the impact of fundamental factor on dividend policy for 98 quoted firms for the period 2006 to 2009. Logit regression was applied to evaluate the link between the independent and dependent variables. Acid test ratio was used as a test for liquidity. A positive correlation between profitability and dividend policy was found and similar results were gotten for firm size on dividend policy, correlation between growth opportunities and dividend policy was not significant and the correlation between dividend policy for both liquidity and leverage was negative. The liquidity test used was different from the known stock liquidity measures; hence the outcomes may have been different with adoption of stock liquidity measures.

**2.4.2 Local Studies**

Ayako (2005) carried out his study at the Nairobi Securities Exchange, and investigated the role of trading volume in forecasting future share prices for quoted companies. He used the ANOVA tests for his analysis. The findings were that no relationship existed between trading volume and stock returns as the stock market seemed to be efficient. He further argued that his outcome was based on the Fama Random Walk Theory which inferred that a series of changes in prices of shares at the Stock Market has no memory.

This research paper was done when automation of trading had not been introduced in the NSE. A similar study may give different findings if done currently under the present automation conditions.

Odongo (2008) conducted a research study at the NSE on impact of liquidity level on stock returns and revealed that there existed no association linking share returns and liquidity. He adopted the regression and ANOVA tests for his analysis and his conclusion was that liquidity premium did not exist at the stock market.

Kibet (2012) carried out an investigation at the Nairobi Securities Exchange on impact of firm (corporate tax, profitability, sales growth, liquidity, cash flow, sales growth, earnings per share and leverage) on dividend payout for quoted firms. He adopted the liquidity ratios as the liquidity measure and his findings were that a positive relationship existed between liquidity and dividend payout. The conclusion was that the entities which kept high levels of liquidity to pay dividends when they fall due. Despite these findings, the liquidity level of a firm is a fairly a different concept from stock liquidity which focuses majorly on the liquidity of stocks at the Stock Market, and which employs different liquidity measures in analysis. Therefore, the results of this paper may have been different if stock liquidity measures were used to analyze liquidity.

Kahuthu (2017) conducted a study at the Nairobi Securities Exchange and revealed that the effect of stock market liquidity on stock returns for listed companies had no impact on stock returns. Purposive sampling was employed and panel regression method was adopted for analysis. The turnover ratio and the bid-ask price were adopted as proxies for liquidity.

The market depth results showed that there was existence of a weak correlation however the turnover rate, which is considered a more accurate liquidity measure, gave the results that the turnover rate was statistically insignificant to the stock returns. The results established that liquidity was a vital factor but not the chief predictor of stock returns. This study restricted itself to two measures of study and generalized the findings to represent the whole market.

## 2.5 Conceptual Framework.

**Independent Variable**                                             **Dependent Variable**

```
┌─────────────────────────┐                    ┌─────────────────────────┐
│                         │                    │                         │
│  Stock Liquidity        │                    │  Dividend Payout Policy │
│                         │                    │                         │
│   ( Stock Turnover rate)│                    │  (Dividend Payout)      │
│                         │  ══════════►       │                         │
│  Measured as quantity   │                    │  Measured as dividend   │
│  of traded shares for   │                    │  per share divided by   │
│  a period divided by    │                    │  earnings per share     │
│  outstanding shares     │                    │                         │
│  for that period.       │                    │                         │
└─────────────────────────┘                    └─────────────────────────┘
                                                          ▲
                                                          ║
                                               ┌─────────────────────────┐
                                               │                         │
                                               │  1.Profitability        │
                                               │  (measured as  return   │
                                               │  on assets)             │
                                               │                         │
                                               │  2.Leverage             │
                                               │  (measured by finding   │
                                               │  ratio of debt to total │
                                               │  assets)                │
                                               │                         │
                                               └─────────────────────────┘
```
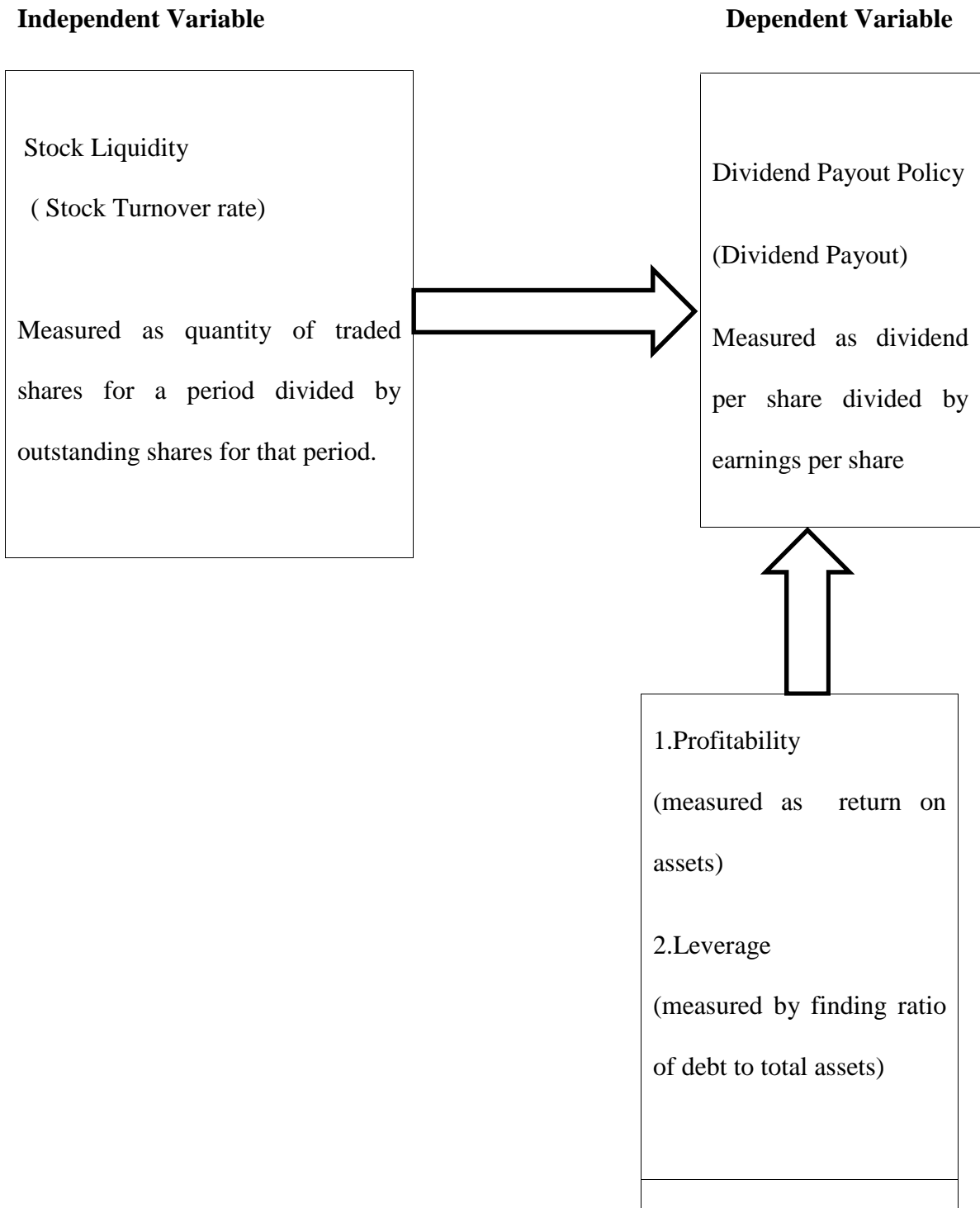
**Figure 2.1. Conceptual Framework**

## 2.6 Summary of Literature Review

In summary, this chapter began by reviewing the theoretical literature. The theories of trading quantity, trading cost, tax preference theory, dividend irrelevance theory and the bird in the hand theory are discussed in detail as they serve as the foundation of the study. Trading quantity theory explains how shareholders who transact large volumes of stocks expect lower dividends while trading cost theory describes how huge transaction costs may make stocks to be less liquid and may cause the owners to hold them for a longer time translating to a demand for higher returns. According to the dividend theories, dividends may be irrelevant and relevant to an entity. They further explain how non-actively traded stocks are more likely to pay dividends than actively traded ones. This discussion is followed by examining the determinants of dividends and later the empirical literature.

A good number of research studies have been carried out on this area in search for the relationship between stock liquidity and dividend payout. Supporters of a negative relationship include Na'ura (2016) while there are those studies whose findings are that the relationship is positive (Jiang et al, 2017).No search study has been carried out in Kenya so far. Majority of these academic studies have been carried out in international markets with well-structured markets (Banerjee et al, 2007). However, most African markets are highly illiquid, small and under-developed. They are characterized by low trading volumes and isolation from the international markets. They are shielded from competition by local regulations and face challenges to mobility of capital originating from high costs of communication and travel (Sheehan & Zavala, 2005).

It is worth therefore to find out the effect of stock liquidity on dividend payout policy in the Kenyan market. This research was conducted on the financial sector, specifically banks, listed in the local securities exchange. The share turnover rate was used as proxy of liquidity measure. Control variables of profitability and leverage were employed as they have an influence the firm's dividend policy. Anova tests and the t-value criteria were performed on the data. Lastly, the study was conducted in the contextual setting of Kenya and the study period was from the years 2013 to 2017; no similar one had been researched in this region.

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

Research methodology is covered in this chapter. Section 3.2 explores the research design; Section 3.3 studies the population and sample; Section3.4 reviews the data and data collection instruments, whereas the last section discusses the data analysis.

## 3.2 Research Design

The study used a descriptive design to be able to show the relationship between stock liquidity and dividend payout policy for listed banks at the NSE. Descriptive design was carried out so as to be in a position to discuss the variables of interest in terms of their characteristics in a situation. The study adopted this design so as to have a better comprehension of the characteristics of stock liquidity and dividend policy in the listed banks setting. It provided a structured way of collecting data, analysis of data and reporting of the results. This approach was preferred because it allowed one to think systematically about the study thus enabled the examination of the effects of stock liquidity on dividend payout policy.

## 3.3 Population and Sample

A population is an entire group of things, events or persons of interest that a researcher wishes to study (Mugenda & Mugenda, 2003). The study population consisted of quoted banks that have their stocks trading at the NSE.

The listed banks were suitable because of the reliability and availability of their data and the checks and regulations stipulated by the Capital Markets Authority. The study adopted the total population of all the 11 listed banks for the research.

## 3.4 Data Collection

Secondary data was extracted from the annual audited financial statements and reports of individual banks collected from the CMA and the NSE. The income statement and statement of financial position sourced from the CMA provided data regarding the assets, debt, equity of a company at a given date and summary of revenues, over the period of time.

Monthly values of trading volume of shares, monthly outstanding numbers of shares were extracted from the NSE. The study sought to determine the impact of stock liquidity on dividend payout policy of quoted banks for the years 2013 to 2017.

## 3.5 Diagnostic Tests

The following diagnostic tests were carried out;

### 3.5.1 Normality Test

A normal distribution was expected for regression models. The study used the Shapiro and Wilk (1965) test to assess for the existence of normality. This test was chosen due to its good characteristics. Value 'W' lied between 0 and 1 where a value of one signified normality while values closer to zero indicated rejection of normality.

### 3.5.2 Homoscedasticity Test

The presence of homoscedasticity indicates that the error terms have a constant variance for each observation (Berenson, Levine & Krehbiel, 2009). The Breush-Pagan/Cook-Wesberg was used to check for homoscedasticity. At 95%Confidence level, where the null hypothesis has a constant variance, then values of $p > 0.05$ would cause the null hypothesis not to be rejected.

### 3.5.3 Linearity Test

It shows the relationship between independent and dependent variables through the mathematical function $y = bx + c$, in which c is a constant number. Anova test of linearity that calculated both non-linear and linear constituents of a pair of variables was performed. For the non-linear constituent, where the F significance value was below 0.05, non-linearity was significant (Zhang, Maloney, Juslin, Winman & Olsson, 2011)

### 3.5.4 Test of Stationarity

Stationarity occurs when the mean and variance of a data series are constant over time and the covariance computed between two periods of time does not rely on the actual time whereupon the covariance is calculated, but depends solely on lag or distance across two periods of time (Gujarati, 2003). The Augmented Dicker Fuller (ADF) test was applied to find out the presence of stationarity in the variables. The null hypothesis, which was $H_0$: $=0$ (non-stationary) was tested.

### 3.5.5 Auto correlation Test

It occurs where for successive time periods, there is a correlation of error terms of the regression variables. The Durbin and Watson (1951) test was employed to check for autocorrelation in the data, where the Watson statistic $1.5 < d < 2.5$, suggested that the error terms were independent (Garson, 2012).

## 3.6 Data Analysis

Data was collected, sorted and arranged in a tabular form for easy analysis. Descriptive and inferential statistics was used to analyze the data. The Statistical Package for Social Sciences program was employed to analyze the descriptive statistics about variables and the regression and correlation analyses of variables. The study computed descriptive statistics such as mode, median, standard deviation and mean. Inferential statistics applied regression analysis to find relationships among the set of variables, that is, stock liquidity variable and dividend payout variable.

### 3.6.1 Analytical Model

This was the algebraic expression of the study. It was composed of the constant term, the coefficients and the error term. Its illustration was as below;

$Y = \ + \ _1X_1 + \ _2X_2 + \ _3X_3 + $

Dividend Payout = $\ _{it} + \ _1$ Turnover rate + $\ _2$ Leverage + $\ _3$ Profitability + $\ _{it}$

Where;

Y= Dividend payout

$X_1$= Turnover rate

$X_2$= Leverage

$X_3$= Profitability

= Constant

$_1, _2, _3,$ represent the regression coefficients

= Error term, which described the model's unexplained variations

The variables were defined and measured as below.

Dividend Payout: It is represented as the percentage of net income distributed as dividends. It was measured by dividing dividend per share by earnings per share.

Turnover Rate: It was measured by dividing the traded volume of shares over a time period by number of outstanding shares for that period.

Profitability: It is described as the ability of a company to generate a financial profit. It was measured by computing the return on assets.

Leverage: It is the use of debt to fund a company. It was measured by getting the ratio of debt to total assets of the company.

### 3.6.2 Tests of Significance

The study carried out a statistical test referred to as significance testing. T-tests and Analysis of variance (ANOVA) tests were employed in the analyses. The research study further used the null hypothesis, $H_0$: X=0, and $H_1$: X 0 as the alternative hypothesis. The null hypothesis stated that the predictor variable had no effect on the predicted variable. The data shall was analyzed at confidence level of 95% at 5% level of significance. The research study rejected the null hypothesis where /t/ 2.228. For the Anova tests, F tests were computed at a 5% level of significance, where 'F critical' was less than 'F calculated', it signified an existence of a relationship between the predictor and predicted variables.

# CHAPTER FOUR

# DATA ANALYSIS AND RESULTS

## 4.1 Introduction

In this chapter, the study presents the descriptive statistics of the model variables, the results of diagnostic tests, the estimated parameters of the model, and the model significance tests.

## 4.2 Descriptive Statistics

The table below shows the descriptive statistics of the variables of interest.

**Table 4.1: Descriptive Statistics**

| STATISTIC | LEVERAGE | PROFITABILITY | TURNOVER RATE | DIVIDEND PAYOUT |
|---|---|---|---|---|
| Mean | 0.08262 | 0.02631 | 0.00036 | 0.39220 |
| Standard Error | 0.00511 | 0.00047 | 0.00002 | 0.01134 |
| Median | 0.04426 | 0.02775 | 0.00020 | 0.37736 |
| Mode | 0.01666 | 0.01968 | 0.00000 | 0.00000 |
| Standard Deviation | 0.13120 | 0.01204 | 0.00056 | 0.29122 |
| Sample Variance | 0.01721 | 0.00014 | 0.00000 | 0.08481 |
| Kurtosis | 25.10217 | 0.40506 | 53.68100 | -0.45504 |
| Skewness | 4.62676 | -0.68621 | 6.07150 | 0.64704 |
| Range | 0.90029 | 0.05705 | 0.00716 | 1.00000 |
| Minimum | 0.00000 | -0.00958 | 0.00000 | 0.00000 |
| Maximum | 0.90029 | 0.04747 | 0.00716 | 1.00000 |
| Sum | 54.53109 | 17.36499 | 0.23813 | 258.85237 |
| Count | 660.00000 | 660.00000 | 660.00000 | 660.00000 |

There were a total of 660 observations for each variable. The mean leverage was 0.08262 while the mean payout was 0.39220.The minimum profitability was found to be -0.00958 meaning that there was an observed negative profit in one of the banks under consideration. The distribution of the profitability was found to be negatively skewed while the distributions of leverage, dividend payout and turnover rate were positively skewed.

The maximum leverage was 0.90029 meaning that none of the companies had debt more than or equal to its assets during the period of study. The mode leverage was discovered to be 1.666% meaning that most companies had a leverage of 0.01666. The mode dividend payout was 0.0000 meaning that most banks paid dividends of close to zero during the period.

## 4.3 Diagnostic Tests

The following diagnostic tests were performed on the data.

### 4.3.1 Normality Test

**Table 4.2: Test for Normality**

| Test | w | p-value |
|------|---|---------|
| Shapiro-Wilk normality test | 0.9085 | 0 .0000 |

Normality test was performed using Shapiro-Wilk normality test. The p-value was 0.0000 which was less than 0.05 thus the study rejected the null hypothesis ($H_0$ assumed that the population is normally distributed). The findings were that the distribution of errors was significantly different from the normal distribution; this data was not normally distributed.

### 4.3.2 Homoscedasticity Test

Homoscedasticity was performed using studentized Breusch-Pagan test. The p-value of 0.07 was found to be more than 0.05 thus the research paper did not reject the null hypothesis $H_0$ and concluded that there was presence of homoscedasticity, meaning presence of a constant variance.

**Table 4.3: Test for Homoscedasticity**

| Test | BP | df | p-value |
|------|------|------|---------|
| Studentized Breusch-Pagan test | 6.7904 | 3 | 0.07889 |

### 4.3.3 Linearity Test

The global start p-value was found to be 0.0000 which was less than 0.05 thus the study did not reject the null hypothesis and conclusion was non-linearity was present between the dependent and independent variables.

**Table 4.4: Test for Linearity**

| Test | W | p-value | Decision |
|------|------|---------|----------|
| Global Stat | 172.175 | 0.0000 | Assumptions not satisfied! |
| Skewness | 99.617 | 0.0000 | Assumptions not satisfied! |
| Kurtosis | 2.032 | 0.0000 | Assumptions acceptable |
| Link Function | 1.32 | 0.0000 | Assumptions acceptable |

### 4.3.4 Test of Stationarity

The p-value of 0.01 was less than 0.05 hence the study rejected the null hypothesis and concluded that there was presence of stationarity.

**Table 4.5: Stationarity Test**

| Test | Dickey-Fuller | Lag order | p-value |
|------|---------------|-----------|---------|
| Augmented Dickey-Fuller Test | -8.9532 | 8 | 0.01 |

## 4.3.5 Auto Correlation Test

The p-value was found to be 0.2711 which was more than 0.05 hence the null hypothesis

was rejected and the conclusion was that there was presence of autocorrelation.

**Table 4.6: Test of Autocorrelation**

| Test | DW | p-value |
|------|-----|---------|
| Durbin-Watson test | 1.9518 | 0.2711 |

## 4.4 Modeling and Parameter Estimation

This study utilized the liner regression model in parameter estimation.

Dividend payout was regressed on profitability, leverage and turnover rate.

The estimated model was as below;

$Y = 0.18741 - 4.64341X_1 - 0.06112X_2 + 7.81 X_3$

 which was further expressed as

$DividendPayout = 0.18741 - 4.64341 * TurnoverRate - 0.06112 * Leverage +$

$$7.81 * Profitability$$

The Anova tests and the T-test were carried out as tests of significance.

### 4.4.1 Significance of Coefficients

**Table 4.7: Regression Modeling**

| Variable | Estimate | Standard error | t value | p-values |
|----------|----------|----------------|---------|----------|
| Intercept | 0.18471 | 0.02696 | 6.851 | 0.0000 |
| TURNOVERRATE | -4.64341 | 19.42349 | -0.239 | 0.811 |
| LEVERAGE | -0.06112 | 0.08196 | -0.746 | 0.456 |
| PROFITABILITY | 7.81 | 0.85182 | 9.169 | 0.0000 |

The absolute t-value of the stock turnover rate was found to be 0.239 which was less than the t critical value 2.228 thus the study failed to reject the null hypothesis. The turnover rate p-value of 0.811 was greater than 0.05 and thus the concluded that the coefficient was not significant in the model and cannot be used to estimate the predicted variable.

The absolute t-value of the coefficient of leverage was 0.746 which is less than the critical value 2.228 thus the null hypothesis was not rejected. The p-value of this coefficient was 0.456 which is greater than 0.05 signifying that the coefficient was not significant in the model.

The coefficient of profitability had an absolute t-value of 9.169 and hence was more than the critical value 2.228 thus the paper rejected the null hypothesis. The coefficient's p-value was 0.0000 a value less than 0.05 and the interpretation was that the coefficient was significant in the model.

The intercept had an absolute t-value of 6.851 which was more than t critical value 2.228 thus the study rejected the null hypothesis. The p-value of the intercept was 0.0000 which was less than 0.05 and thus concluded that the intercept was significant statistically in the model.

**4.4.2 Goodness of Fit of the Model**

**Table 4.8: Test for Model Significance**

| Statistic | Value | df | p-value |
|---|---|---|---|
| Multiple R-squared | 0.1176 | | |
| Adjusted R-squared | 0.1136 | | |
| F-statistic | 29.14 | 3 and 656 | 0.0000 |

The F statistic was found to be 29.14 and the F critical was a lesser value of 2.6049 hence this is defined as being significant statistically. The p-value was found to be 0.0000 which was less than 0.05. The conclusion was that the model was a good fit to the data. The predictor variable, stock liquidity, explained only 11.36% variations of the dependent variable, dividend payout policy. This shows that other elements, other than those of this research paper could describe the 88.64% variations of the predicted variable.

# CHAPTER FIVE

# CONCLUSION AND RECOMMENDATION

## 5.1 Introduction

This chapter outlines the conclusion, recommendations and limitations of this study.

## 5.2 Conclusion

The research findings were that stock liquidity was not significant in the model. This therefore means that it cannot be used to predict the dividend payouts of listed banks at the NSE. The study had two control variables, namely; firm size and firm leverage. Leverage of the firm was also not significant to dividend policy thus indicating that there is no relationship between the two variables. Profitability of the firm was however significant in the model, hence can be used as a predictor of dividend payout policies. The positive relationship between profitability and dividend payout is as per previous studies (Al-Najjar and Hussainey, 2009). The conclusion is that less profitable firms are more likely to pay lower dividends in comparison to more profitable ones. This implies that this factor needs to be examined by firm managers when making decisions on dividend payouts.

The average turnover rate was 0.036%, which was very low signifying that the stocks of listed banks were highly illiquid and the trading volumes of those shares were also very low. This could mean that the investors had less information on the banks operations too. The results that turnover rate is insignificant to the model have been the supported by few past researches on relationship between stock market liquidity and stock returns ,where turnover rate was used as a proxy of liquidity (Kahuthu, 2017).

Na'ura (2016) established contradictory findings of existence of a negative relationship between stock liquidity and dividend policy, where turnover rate being employed as a proxy.

## 5.3 Recommendations

The study sought to examine the relationship between stock liquidity and dividend policy. The study used secondary data on listed firms from the NSE and audited financial reports of the individual banks.  The results have given enough evidence of an insignificant relationship between these two variables. The study proposes that the sample population be all the listed firms at the Kenyan stock market as the findings may have perhaps been different if the sample was different.

The turnover rate was employed as a measure of liquidity. It was found to be insignificant to the model. Future research work on this area should focus on other proxies of stock liquidity as they may give contradictory results. The findings of the same may also be explained by the fact that Kenya is a developing country with an emerging stock market unlike in the developed markets where similar research was conducted and had a different conclusion mainly because their markets are large and highly efficient.

The government needs to provide conducive conditions for more firms to operate in the NSE through relaxation of the rules by the CMA. Also, there is need to increase the minimum quantity of shares traded at the market as it shall encourage individual investors to trade at the market through the institutional investors like banks thus making gains since such institutional investors have more expertise knowledge.

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# APPENDICES

## Appendix 1: Listed Banks at the Nairobi Securities Exchange.

Barclays Bank of Kenya

CFC Stanbic Holdings Ltd

Diamond Trust Bank

Equity Group Holdings Ltd

Housing Finance Company of Kenya

I&M Holdings Ltd

Kenya Commercial Bank

National Bank of Kenya

National Industrial Credit Bank

Standard Chartered Bank

The Co-operative Bank of Kenya