# EFFECTS OF DIVIDEND POLICY ON THE VOLATILITY OF SHARE PRICE OF COMMERCIAL BANKS LISTED AT NAIROBI SECURITIES EXCHANGE

**BY**

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# DECLARATION

This Research Project is my original work and has not been presented in any other University.

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# DEDICATION

I dedicate this project to my family members, friends and class mates for the unwavering support, patience and cooperation I received from them.

# LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| AIMS | Alternate Investment Market Segment |
| FISMS | Fixed Income Securities Market Segment |
| IRR | Internal Rate of Return |
| MIMS | Main Investment Market Segment |
| MM | Modigliani and Miller |
| NSE | Nairobi Securities Exchange |
| WAN | Wide Area Network |

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# ABSTRACT

The main purpose of the study was to determine the effects of dividend policy on the volatility of share price of commercial banks listed at Nairobi Securities Exchange. The study was informed by signaling theory of dividends, Bird in Hand Theory, Walter's Model Water, and tax preference theory. The independent variables of the study were (dividend per share, earning per share, firm size, leverage, inflation and interest rates) while the dependent variable was volatility of share prices. The study adopted a descriptive research design. The population of interest for this study was 11 listed commercial banks in Kenya as at December 2016 and a census was used on all these population. This study was done using secondary data which was extracted from published financial statements of the listed commercial banks. The data collected was in a form that may not be easily consumed or processed unless data cleaning is done. For this study, the researcher made use of Statistical Package for Social Sciences (SPSS) version 23.0 for the analysis. The study applied multivariate regression and correlation analysis in estimating the extent to which share prices changes as a result of changes in the study variables. The study established that, dividend per share DPS had a Pearson correlation of negative 0.148, with p value of 0.012, Earnings per share EPS had Pearson correlation of 0.428 with p value of 0.000; hence EPS had significant effect on volatility of share prices for $p=0.000<0.05$. Leverage had Pearson correlation of -0.100 with p value of 0.297 and therefore it insignificantly affected volatility of share prices for $p=0.297>0.05$. Inflation had a Pearson correlation of 0.923 with p value of 0.000; an indication that it was significant in affecting volatility of share prices since $p=0.000<0.05$. Interest rates had a Pearson correlation of 0.853 with p value of 0.000 an indication it was significant in affecting volatility of share prices as $p=000<0.05$. The study established that 61.10% of volatility of share prices of commercial banks listed at NSE is explained by the independent variables of the study. The study recommends that commercial banks listed at NSE should strike a balance between the amount of money retained and the one paid to shareholders in form of dividends. Top management and board of directors need to invest in viable projects that earn positive returns and cash inflows so as to enhance their performance and this will strengthen their EPS. It is important for commercial banks to strike a balance between their debts and equities in the capital structure through leverage. Inflation and interest rates need to be kept at sustainable and economical levels through setting up of sound monetary and fiscal policies.

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background of Study

Globally, corporate firms have been paying out dividends to their shareholders/investors in their firms over the years and still continue to do so. This is a prudent business practice all over the world and plays a key role in determining future prospects of a firm irrespective of the nature of the industry (Nishat, 1992). Dividend has also been found to attract a certain clientele of investors as different investors have different views of dividends and the frequency of payment (Walter, 1963). The policies developed by organizations to govern their payment of dividends have information content which is always passed out to the investors so that they can make informed decision when deciding to make investments (Muhammad & Shamim, 2017). Other scholars have argued that the policies adopted by organization in dividends communicate the expectations of their company in future. It communicates whether they are optimistic or pessimistic about the unfolding in the future. This therefore means that the dividend policy has to be developed with close consideration of the kind of clientele that a company would like to attract.

This study anchors itself on a number of theories including: signaling theory of dividends, Bird in Hand Theory, Walter's Model Water, and tax preference theory. From the signaling theory perspective, dividend is believed to pass on some information which may not be publicly available as to the future prospects of the firm hence influence the changes in share prices (Miller & Rock, 1985). Bird in hand theory assumes that in

circumstances where investors are paid dividends in cash, they still reinvest their cash in the same company or other stocks (Gordon, 1963). In such cases, the payment or not payment of dividends does not affect the price of shares. According to Walter's Model, dividends are relevant in determining the share prices of a company at any one time (Walter, 1963). The tax preference theory on the other hand argues that investors have high preference for lower payout so as to avoid their tax liability in the current period. This therefore says that investors would prefer companies that do not pay dividend but reinvests them to grow the wealth of their shareholders (Litzenberger & Ramaswamy, 1979).

### 1.1.1 Dividend Policy

Dividend Policy entails rules and guidelines developed by management of a firm specifying the proportion of net outcomes from business that is to be distributed to shareholders and what proportion is to be retained by the firm for reinvestment (Baker, Powell & Veit, 2002). It defines the periodicity within which dividends is to be paid to shareholders and in what proportions with regard to net profit. The policy is developed with considerations on the type of shareholders that a company targets to attract (Allen & Rachim, 1996). Therefore a lot of thinking and consideration has to be put into deciding the policies to govern the whole process of dividend payment.

According to Pandey (2010), there exist about four dividend policies practices including: residual, constant amount per share and per extra in relation to profits made and the fourth one being constant payout ratio. The residual policy holds that dividends is only

paid in circumstances when there is a residual on investment opportunities where the profits can be reinvested in (Baker and Powell, 1999). In the constant amount per share, the policy states that the amount of dividend payable on shares from one period to another shall be maintained at a constant value. In the case of constant value per share plus extra, the amount payable shall depend on whether the company has made large profits to be in a position to finance the constant value and still have extra profits to distribute as extra dividend date (Baker & Powell, 1999).

### 1.1.2 Volatility of Share Price

Share price refers to the amount of money that a person would require to part with in order to acquire a single sellable share of a company, or other financial asset at any one time (Seitz, 1990). It presents the prevailing market value of a company shares worthy as it is determined by the forces of demand and supply on the market which means that it will vary from time to time depending on market information.

Stock price volatility refers to the relative rate at which the price of a stock or a share moves up and down as the new information arrives in the market (Allen and Rachim, 1996). The volatility in stock price is normally measured by calculating the annualized standard deviation of day to day changes in price of shares. In cases where the price of shares moves up and down in a more rapid manner within a short period of time, a stock is said to have a high volatility (Bitok, 2004). A stock is said to have less volatility if the movement in prices up and down are not much. The volatility in stock prices is normally used by investors in approximating the risks associated with a given stock in the market

(Husseman, 2010). Lower volatility makes it easier for investors to predict the future prices with certainty hence invest with confidence.

Stock prices are normally keenly watched by all investors in a market because they capture aspirations and expectations that investors hold in a company (Bitok, 2004). There is a category of investors interested with change in share prices so that they can earn capital gains as opposed to dividends which is paid periodically. For investors preferring capital gains, they are mainly interested in changes in share prices (Gharaibeh, 2015). Some investors have the ability to predict with certainty the likely changes in future for prices of shares. This gives them a chance to earn higher capital gains as they would be in a position to purchase stocks when their prices are low and sale them when their prices rise.

### 1.1.3 Dividend Policy and Stock Prices Volatility

Payment of dividends is an important aspect in the ownership of shares. This is largely because of the information content of dividend especially as a signal of compliance with the best corporate governance principles which enable it access the capital markets and source funds (Davis 2006). Payment of dividends and the policies governing dividend payment play a key role in attracting the shareholding profile (Truong and Heaney, 2007). There are investors who prefer companies with certain policy guidelines in payment of dividends while others prefer the ones that do not pay cash dividends. The policy on dividends will therefore dictate the demand for a company's stocks hence influence the prevailing stock prices.

The proportion of net profits paid out to shareholders in the form of dividend is determined by the dividend policy in existence. The policies also specify the proportion of the profits to be ploughed back into the business in the form of reinvestment. Dividends have informational value about the future prospects of an organization (Nishat, 1992). From the perspective of the signaling theory, firms withholding profits for reinvestment are seen as having noted the investment which is likely to bring on more cash as compared to paying dividends and then seeking expensive alternative sources. Other scholars believe that a continuous increase in dividend payment shows that an organization is prudently managed and is expected to maintain the same trends into the future.

### 1.1.4 Nairobi Securities Exchange (NSE)

The country started trading in stocks in the 1920's when Kenya was still under the British rule. However the market was not official due to absence of legislations to control the trading activities as there were no rules and regulations to govern stock trading activities. The Nairobi Stock Exchange (NSE) was registered under the Societies Act (1954) to bring together stockbrokers and to develop the securities market and regulate trading activities. In 2001, the trading platform was divided into the Main Investment Market Segment (MIMS), Alternate Investment Market Segment (AIMS) and the Fixed Income Securities Market Segment (FISMS).

The NSE acquired an Automated Trading Systems (ATS) for trading equities, immobilized corporate and treasury bonds. The NSE has its Wide Area Network (WAN) platform to support the ATS, therefore, brokers and investment banks can now trade remotely. In 2014, the NSE, through a successful initial public offering, listed its 194,625,000 issued and fully paid up shares on the Main Investment Market Segment (MIMS) with the intention of raisingKshs.627 million by selling 66 million new shares at a price of Kshs. 9.50 per share. From the latest annual reports of 2016, equity turnover rose by 38.5% from 2015's Kshs. 411.5 Billion to 2016's Kshs. 531.46 Billion. The NSE 20 Share Index appreciated by 3.77% from 5,926.97 in 2015 to 6,112.65 at the close of 2016 (NSE Annual Report, 2016). It has twelve counters with sixty four listed companies. The Exchange's trading hours are 9:00 am –3:00 pm.

The firms listed at NSE apply different dividend policies to attract a differentiated clientele for their shares. For instance, a majority pay cash dividends while a few issue bonus stock among other non cash dividends. For others, they pay no dividend if they have pending investment opportunities with limited cash flows.

### 1.2 Research Problem

The management of shareholders wealth is significant for any organization in terms of sustainable growth through stable dividend polices implementation. The same has been the case with researchers in the field of finance. The announcement of dividend payment in any company normally passes some key information about management's expectation on the future prospects of the organization regardless of the direction of the dividend in

relation to those declared in the previous year. Therefore the policies guiding the payment of dividends has a great bearing on the value of shares at any given time.

Statistics from the NSE (2010) indicate that the share price for CMC Holdings was positively impacted by the company's decision to increase its payout ratio from 27.9% to 28.28% between the years 2009/2010. The increase in payout ratio caused a 22.8% jump in share prices. In the same period, a change in payout ratio by CFC Stanbic Bank Limited from 32.05% to 16.16% caused a drop in share prices of more than 53.5%. These statistics indicate that changes in dividend pay outs have significant effect over the share prices at which securities are traded at any one given time.

A number of researchers have examined the interaction between dividend policy and prices at which stocks are traded at in a security exchange market. At the global level, Irandoost, Hassanzadeh and Salteh (2013) studied the effect of dividend payment guidelines on the changes in share prices and decisions on investment among Iranian firms. The findings indicated that dividend payment guidelines had little insignificant effect on the changes in prevailing stock prices especially in the long run. In another study, Al-Shawawreh (2014) examined how dividend payment policy affected share price shifts in the Jordanian Stock Market. The findings indicated significant but negative relationship between dividend payout ratios and share price changes. Renata, Jurakovaite and Galinskaitė (2017) examined how announcements of dividend payment affected stock prices companies listed on the NASDAQ OMX Baltic market for the period

between 2010 and 2015. From the findings, positive actual average returns (AAR) existed though they were not significant.

Locally, Waithaka, Ngugi, Aiyabei, Itunga, and Kirago (2012) studies dividend policy and share price changes at the Nairobi Security Exchange (NSE). The variables in the study included free cash flow, trading volume and pre-tax risk adjusted returns. From the findings, dividend policy had no significant effect on all the three variables. Kibet, Jagongo and Ndede (2016) examined the effect of dividend policy on share prices for firms trading at the NSE. The period of study spanned 2001-2011. The findings support the relevance of dividend policy on firm value. Further findings indicated that increases in cash dividend increase overall share prices in a market.

The review of empirical studies indicate that existing empirical literature concentrated on different contexts in terms of countries and those that were conducted in Kenya, the focus was more of the general market and not the banking industry. This therefore leaves a researchable gap that this study sought to fill by answering one research question: How does dividend policy affect the volatility of share price of commercial banks listed at Nairobi Securities Exchange?

### 1.3 Research Objective

To determine the effects of dividend policy on the volatility of share price of commercial banks listed at Nairobi Securities Exchange.

## 1.4 Value of the Study

The results of this study would be beneficial to individuals who have invested their wealth at the NSE and others who plan to invest in stocks as it would provide them with information that would inform their decision making process on how to go about making their investment. It would inform them the dividend payment plans and policies of different firms listed which would enable them choose the companies based on their investment priorities. This argument is based on the notion that different firms target different shareholders through dividend policies.

Results of this study would be beneficial to managers of banks listed at NSE in that it will be used as a basis to formulate new dividend policies that are consistent with the current financial market dynamics. Also, the government through the capital markets authority as a regulator would find results of this study important in providing basis for review of policies and guidelines governing listed firms declaration of dividends.

Findings of this study would be important to individual wanting to conduct research in future in areas of dividend and firm performance. It was assumed that this study would act as an empirical source from which future scholars could extract information for further guidance of their studies. In addition, the study would contribute to future research by suggesting areas with gaps where future scholars can concentrate their research work on.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Introduction

This chapter presents literature as reviewed by previous scholars and researchers with the aim of furthering the understanding the concepts and contexts of the study. It specifically presents the theories offering anchorage to the study, identifies factors affecting share prices in stock markets, empirical literature from global regional to local context, research gaps and then the conceptual framework clearly indicating the independent and dependent variables.

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## 2.2 Theoretical Framework

This section examines different theories on which the study is anchored. The specific theories discussed include: signaling theory of dividends, Bird in Hand Theory, Walter's Model Water, and tax preference theory. They are presented in detail below:

### 2.2.1 Signaling Theory of Dividends

This theory was developed by Modigliani and Miller (1961) to help explain the information content of dividends considering the fact that management teams in any organization possess more information on a firm's strategy which provides them with an opportunity to forecast future company earning with certainty than any other individual not involved in the day to day administration functions. This leads to information asymmetry (Miller and Rock, 1985). The information held by management could be reflected in the form of strategies the firm employs in both short and in the long run.

Therefore, one of the ways investors can infer management teams perspective of future organizational performance is through their dividend policy and its consistency in application (Griffin, 1976). For instance, it is believed that in circumstances where a company announces an increase in dividend payout, management has more insight that the future prospects of the organization are positive and that the declared dividends can still be matched and paid in future.

Various ways of sending information to the market have been discussed by scholars at large. One of these is through establishment of costly methods that make it difficult for smaller firms and other players in the industry to imitate the methods (Easterbrook, 1994). For instance, firms may decide to increase the ratio of dividend payout to a level it understands that it can sustain into the unforeseen future. From this theory's perspective, an increase in dividends payout will increase share price while a decrease in dividend payout will cause a drop in trading share price (Jensen and Ruback, 1983). This theory is relevant for this study because it helps in explaining the theoretical relationship between dividend policy and share price which are the variables being considered.

### 2.2.2 Bird in Hand Theory

This theory was advanced by Litner in1962 and seconded by Gordon in 1963 to help bring into focus the risk-averse character of investors in preferring to receive dividend payments as opposed to capital gains. It is argued that investors give more preference to dividend payment as opposed to capital gains by comparing the saying that a "bird in the hand is worth more than two in the bush". By this, it was believed that shareholders

preferred receiving dividends as oppose to waiting on appreciation in share prices so that they can enjoy capital gains. The theory assumes that investors are risk averse and would therefore prefer near to future dividends which forms the basis for Bird in hand argument. This was expounded by Kirshman (1969) who established that stockholders were more willing to pay a premium for stocks that offered higher dividend rate as compared to those that offered a lower dividend rate. This was largely because of the uncertainty that accompanies long runs making it difficult for investors to predict with certainty the discounting rates they needed to discount future dividends on stocks in the form capital gains when they finally decided to dispose them off. From the perspective of this theory, the reaction in share prices will largely dependent on the discounting rate employed. For longer periods, the discounting rate is normally higher so as to cover the uncertainties. Therefore, a low dividend rate at the beginning as companies withhold and plough back the profits will tend to lead to a decrease in the value of shares or simply a drop in share prices. This theory is relevant for this study because it helps demystify the risk appetite of shareholders and how it affects share prices.

### 2.2.3 Walter's Model

This model was developed by Walter by arguing that shareholders choice of dividend policies 'has a significant effect on the value of an organization. This model concentrates on the internal rate of return (IRR) in relation to the cost of capital in coming up with a policy on dividends (Walter, 1963). This is all done with the aim of maximizing the value of shareholders. This model is premised on the following assumptions: no new equity can be issued by the firm, debt is not an option, the IRR and cost of capital (K) are all

constant and that earnings made by a firm are wholly distributed as dividends or ploughed back immediately (Zakaria, Muhammad and Zulkifli, 2012). Therefore, an organization has to make a decision as to whether all profits made are distributed as dividends or are reinvested in the organization.

Walter held that an organization's choice of dividend policy will always affect the share prices on the stock market hence firm value. This theory has however been criticized as its simplified nature is likely to lead to conclusions that are false but true as per the provisions of the model. This model has been criticized on its mix of investment and dividend policy by using the IRR and cost of capital (Nishat, 1992). The model is also based on the assumption that IRR and cost of capital are held constant which is not always the case in a real world setting (Miller and Rock, 1985). However, this theory is important in explaining reasons why organizations with positive Net Present value projects may decide to pay no dividend but plough back for the benefit of shareholders. This would help reduce the firm's dependence on external funding which come with constraints.

### 2.2.4 Tax Preference Theory

This theory was proposed by Litzenberger & Ramaswamy (1979) to explain the effect of taxation on investors' preference on dividend policy. According to this theory, investors have preference for firms paying out low dividends for tax based reasons. This theory was developed following lengthy observation of the American Stock market which led to discovery of three reasons as to why investors had preference for low payout on

dividends (Litzenberger & Ramaswamy, 1980). The reasons included: ability to defer tax on long term capital gains because capital gains are only realized on sale of shares. Secondly, dividends were taxed at a higher rate compared to capital gains hence investors preferred capital gains and leave retained earnings to be ploughed back into the business (Al-Malkawi, Rafferty & Pillai, 2010). The third reason was that in case of death of an investor, no capital gain tax was collected. Those inheriting could sale the shares on the death day to avoid capital gain taxes (Litzenberger & Ramaswamy, 1982).

In countries where dividends are taxed, investors may want their companies to pay out lower dividends so as to avoid current taxation (Miller and Rock, 1985). This is particularly the case where dividends are taxed at a higher rate compared to the taxation on capital gains (Miller & Scholes, 1982). The theory holds that dividend policy of an organization is relevant and will influence the share prices in a market. This theory is relevant in explaining the importance of dividend policy in explaining share price changes.

## 2.3 Factors affecting Share Prices Volatility

There are several factors affecting share prices in a stock market. Some of the factors discussed in this section include: company size, leverage, interest rates and inflation.

### 2.3.1 Company Size

The size of the Company plays an important role in share prices of a firm as indicated by Juma'h and Pacheco (2008) when they explained at times, financially strong companies

do not pay dividend and financially weak companies pay dividends. It was established that firms paying dividends were found to be larger in size and profitability. Studies on firm size originated in 1937 as Coase (1937) sought to establish how unique firm boundaries influenced the distribution of resources. Vijh and Yang (2012) identified a number of proxies for firm size as including: total assets, firm turnover, and number of employees.

According to Ling, Mutalip, Shahrin and Othman (2008), indicated that many companies paying dividends were large and mature hence less risky compared to those who did not pay dividends. Allen and Rachim (1996) indicated that a positive relationship existed between stock prices and organization size. These findings were also supported by Ho (2003) who established that dividend policy was positively related to organization size.

### 2.3.2 Leverage

Capital structure of a firm plays an important role in determining the price of its stock prices. Modigliani and Miller (MM) 1958, Miller 1977) argued that capital composition has no influence on the value of a firm by indicating that a company's expected rate of return portrayed a linear relationship with leverage. According to Pani (2008) established that debt to equity ratio has negative relationship with firm size. Ahmed & Javaid (2009) established a negative relationship between the size of a firm and payouts. Debt may come with restrictions in dividends payments which mean that the level of debt to equity ratio determines the dividend payment policy and the share prices.

The current error where management and ownership of firms is separated has presented serious agency problems that if not well monitored could affect the performance of the organization. Baxter (1967) argues that continued use of debt within the capital structure of the organization could lead to increased chances of firm bankruptcy. This is largely because of the periodic commitment by the firm to pay principal and interests. The trade off theory holds that profitable firms ought to borrow more in order to take more tax advantages (Ahmed & Javaid, 2009).

### 2.3.3 Interest Rates

Interest rates represent the cost that an individual pays for using another person's money. It is normally determined by the forces of demand and supply in the market. Interest rates have been found to have an impact on the cost of doing business because many deficient households get the money they need for investment from surplus households who are ready to be paid something on top of their balances in return for lending out. Empirical studies that have established the relationship between interest rates and share prices include: Ishfaq, Ramiz and Raoof (2010) and Gazi, Uddin and Mahmudul (2009).

Higher interest rates make investment alternatives for investors that more compelling compared to stocks. This means that the demand for shares will be lower in circumstances where interest rates are lower. Higher interest rates make borrowing less accessible as many people in the economy may have no means of repaying the principal amount together with interest (Gazi *et al.*, 2009). In times of higher interest rates, companies planning to borrow huge amounts pay more to do so which in turn hurts their

returns on investment and hurt stock prices. For individuals, higher rates mean the more they will be required to spend more on servicing debt which makes the availability of capital to invest limited (Ling et al. 2008). The long-term influence of interest rate on stock prices is derived directly from time value of money which involves computation of current value of future returns.

### 2.3.4 Inflation

Inflation is a representation of general increase in consumer prices. In circumstances surrounded by general increases in price of goods and services, individual income is reduced as individuals will be required to spend more if they are to access the same amount of goods and services they have been accessing at the existing prices. This was well illustrated by Fama (1981) in their seminal work where it was established that there exists a negative correlation between inflation and anticipated activity in a stock market. It is argued that high inflation rates send signals of an economic downturn which prompts investors to start selling off their stocks.

According to Bhattacharya and Mukherjee (2002), there exists two way causation between share price and inflation in that whenever inflation rises, the general price of commodities in an economy increase. Inflation has a bearing on the risk factor as it increases the amount of money required for individuals to maintain their current level of consumption. Therefore, the amount of savings which is later used in investments through purchase of stocks falls hence the fall in demand for shares and a drop in share prices (Bhattacharya & Mukherjee, 2002).

## 2.4 Empirical Review

This section presents empirical literature as carried out by other scholars and researchers on the subject of dividend policy and share prices. The section is organized into global and local studies to help establish the variables and contextual importance to the findings.

### 2.4.1 International Studies

Muhammad and Shamim (2017) conducted an analysis of dividend payment patterns on sector by sector basis at the Karachi Stock exchange over the period of 2009 to 2013. The study conducted a census of all the 32 existing sectors through a descriptive research design. To test the data collected, the study applied unit root test and pooled ordinary lest square (POLS). The study established that free cash flows were positively related to dividend payment in certain sectors and negative in others.

Zheng, Moudud-Ul-Huq, Rahman and Ashraf (2017) examined dividend policy effects on stock price synchronicity using empirical evidence from emerging market. The case studies were drawn from India covering a period of ten years 2002-2012. The study focused on the extent to which stock prices co-move with the market. It was expected that firms experiencing higher synchronicity were to have lower information asymmetries as opposed to those with a lower synchronicity. The findings indicated a parabolic relationship between stock price synchronicity and dividend payout ratio.

Suwannaa (2012) studied stock returns and how it responded to dividend announcements. The study argues that firms applied dividend policy to signal to the market about their

future prospects and how they are likely to impact on the performance. The changes in future performance as espoused in the dividend announcements are likely to affect the price of shares hence the source volatility in share prices following announcement of dividend policy. The study applied event study methodology surrounding forty days of dividend announcement. The focus of the study was sixty firms in the financial industry listed on Thailand Stock Exchange. The period of the study was 2005-2010. The findings indicated that stock prices responded to announcements in dividend payment significantly. Using the market model, Abnormal return (AR) and cumulative abnormal return (CAR) were found to be statistically significant. The findings confirmed the dividend signaling theory as the level of changes in stock prices was significant.

Allen and Rachim (2010) studied stock price volatility and how it is affected by dividend payment policy using Australian dividend. The study acknowledges the debate on the linkage between stock price risks and the policies, guidelines and rules governing the payment of dividends. The work applied a cross-sectional regression analysis for a period of thirteen years between 1972 and 1985. The study finds no evidence of the correlation between dividend yield and stock price volatility. Additionally, a significant positive correlation was established between stock price volatility and organizational earnings volatility and leverage. Payout ratio posted a negative but significant correlation.

Zakaria, Muhammad and Zulkifli (2012) examined how changes in share prices were affected by the policy on payment of dividends among construction firms in Malaysia for the period 2005 to 2010. The study applied the least square regression method to estimate

the relationship after taking control for debt, firm size, investment growth and earnings' volatility. It was established that policies governing payment of dividends formed a major component of returns to shareholders. This was carried in the information content of dividend which communicated the future aspects of organizational performance. It also communicated something on the level of corporate governance and the future prospects of the organization.

### 2.4.2 Local Studies

Chelimo and Kiprop (2017) studied the performance of share prices following dividend policy variations among insurance firms in Kenya. The study hinged on establishing the effect of payout, dividend yield, earnings per share and general changes in the consumer prices. The study adopted a mixture of descriptive design and historical research design with a target population of six insurance companies. The study applied secondary data and analyzed using dynamic regression analysis. The findings indicated that dividend payout, dividend yield, earnings per share and inflation are jointly significant in predicting the value of share price.

Njeru (2015) examined the effect of dividend policy on share prices of companies quoted at the NSE between the period 2004 and 2014. The study applied a census study where all the sixty one listed companies were included. However, the study further selected firms that had been in existence for the entire period under study to avoid including incomplete data. To estimate the extent that dividend policy affected share prices, the study used regression analysis. The variables included: earnings per share, dividend

payout ratio and debt equity ratio. The findings indicated the existence of a positive relationship between dividend policy and share prices.

Tuigong et al. (2015) studied the effects dividend payment decisions on share price of firms listed at the NSE. The main focus of the study included cash dividend and share dividend and share prices. The study sample comprised fifty five listed companies covering several sectors. The study covered a period of ten years spanning 2001 to 2011. From the findings, a statistically significant positive relationship was established between cash dividend and share prices. Further findings indicated that a statistically insignificantly negative relationship existed between share dividend and share prices at the NSE.

Waithaka, Ngugi and Kirago (2012) studied share prices and how they reacted to dividend policy among companies quoted at the NSE. The study acknowledges the importance of various determinants of the amount paid out as dividends in the maximization of shareholders' wealth objective. From the findings, it was established that higher pre-tax risk adjusted returns were associated with higher dividend yield. This helped in compensating investors for the tax disadvantages. Other determinants of share price volatility were changes in the trading volume. An increase in volume traded was found to increase share prices. Further findings indicated that free cash flows increased the level of conflict between management and shareholders. The conflicts between shareholders and management affected share price. The study recommended that firms to

seriously consider the information content of their dividend declaration so as to protect the interests of their shareholders.

Matoke and Marangu (2014) studied how share value of companies listed at the NSE was affected by dividend payments for a period of ten (10) years spanning 2003-2012. The focus of the study was on listed companies that paid dividends regularly as opposed to all firms. The study adopted a descriptive research design using secondary data. The study applied both linear and multiple regression analysis to estimate the relationship. The findings indicated that firms that regularly paid dividends posted a positive impact on share values. However, a positive and significant relationship was established between dividends per share and share values. The study recommended that firm be paying dividends consistently in order to improve their share values.

### 2.5 Summary of the Literature Review

Various studies have been examined in the empirical literature above. The studies presented a global perspective on how changes in share prices varied with dividend policy changes. Muhammad and Shamim (2017) conducted an analysis of dividend payment patterns on sector by sector basis at the Karachi Stock exchange. This study was undertaken in Karachi and hence its findings may not be applicable in Kenya. Zheng et al. (2017) examined dividend policy effects on stock price synchronicity using empirical evidence from emerging market. The study focused on the extent to which stock prices co-move with the market and not share price fluctuations. Suwannaa (2012) studied stock returns and how it responded to dividend announcements in a developed country and

market where there is little information asymmetry. This limits application of its findings to the Kenyan NSE scenario.

Allen and Rachim (2010) studied stock price volatility and how it is affected by dividend payment policy using Australian dividend. This study concentrated on Australian market with different market dynamics from those of NSE. , Muhammad and Zulkifli (2012) examined how changes in share prices were affected by the policy on payment of dividends among construction firms in Malaysia. Malaysian context is different from the Kenyan NSE context because of the number of firms and the level of efficient. The global context is different from the local context especially on the rate that information diffuses to be reflected in the share price and extent of information content affecting the share prices. For the local studies, the periods and the scope of the studies is different from the current study as the businesses are experiencing different operating environment as the microenvironment changes.

On the local scene, Chelimo and Kiprop (2017) studied the performance of share prices following dividend policy variations among insurance firms in Kenya. The study only concentrated on insurance firms which are different from commercial banks. Njeru (2015) examined the effect of dividend policy on share prices of companies quoted at the NSE between the period 2004 and 2014. The study period is different and the changes in dividend policies have been witnessed on the market after the study period. Waithaka, Ngugi and Kirago (2012) studied share prices and how they reacted to dividend policy

among companies quoted at the NSE. There is a time lapse since this study was conducted and the current study period.

Matoke and Marangu (2014) studied how share value of companies listed at the NSE was affected by dividend payments for a period of ten (10) years spanning 2003-2012. The study concentrated on market capitalization and not shares volatility. This therefore invalidates the application of previous study finding as the capped interest rate environment has witnessed a decrease in profitability levels across all banks. This study therefore sought to fill the following gap in research: To determine the effects of dividend policy on the share price volatility among commercial banks listed at NSE.

**2.6 Conceptual Framework**

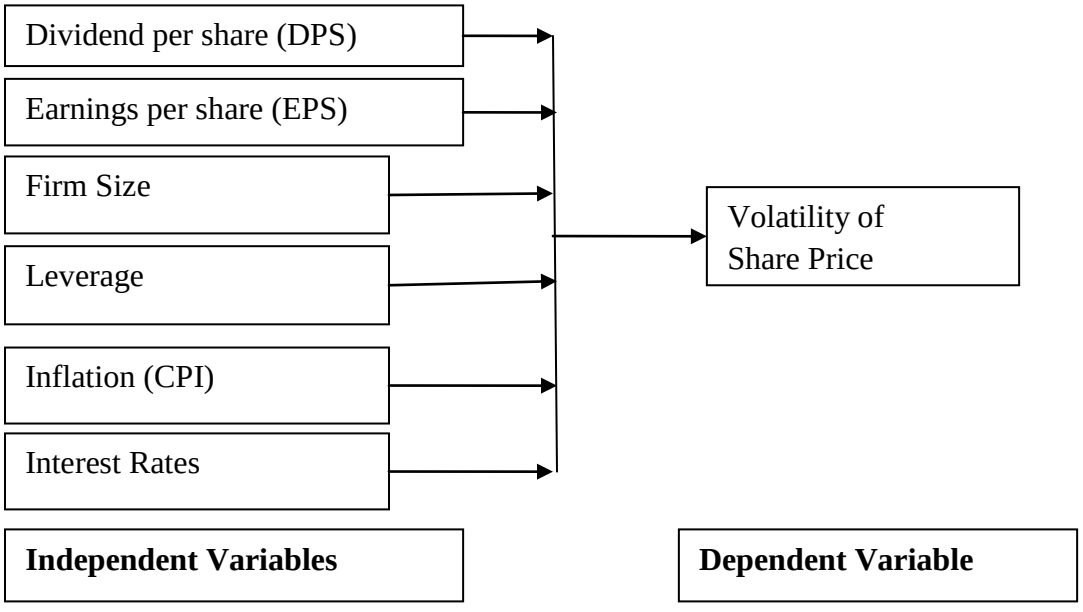


**Figure 2.1: Conceptual framework**

**Source: (Author, 2017)**

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

Research methodology deals with identification of steps that a researcher wishes to adopt to ensure accurate and reliable data is collected to enable completion of the study (Kothari, 2004). It specifically covers the research design, population of the study, data collection and analysis.

## 3.2 Research Design

The study adopted a descriptive research design. This design was concerned with the establishment of issues relating to what, where and how of a phenomenon. It helped in building a profile of a phenomenon under study. The choice of the descriptive survey research design was informed by the fact that this study was interested on the state of affairs as they already existed and no variable was manipulated. This promoted generalization of study findings to a larger population. The study sought to establish the effects of dividend policy on the volatility of share price of commercial banks listed at Nairobi Securities Exchange.

## 3.3 Target Population

Target population refers to elements or institutions bearing identical characteristics which are of interest to the researcher. The population of interest for this study was 11 listed commercial banks in Kenya as at December 2016. Since the target population was small

and easily accessible from Nairobi, all the banks were included in the study hence a census.

### 3.4 Data Collection

This study was done using secondary data which was extracted from published financial statements of the listed commercial banks. The statements were accessed from company websites, bank supervision reports from the Central Bank of Kenya and other publications at the Banks. Data on share prices was collected from handbook manuals published by the NSE and NSE website. The study collected data from listed Banks for a period of 10 years spanning from 2007 to 2016.

### 3.5 Data Analysis

Data analysis is the processing of raw data collected from the field so as to make sense of the data collected. The data collected was in a form that may not be easily consumed or processed unless data cleaning is done. Various software applications existed to assist with the data analysis processes. For this study, the researcher made use of Statistical Package for Social Sciences (SPSS) version 23.0 for the analysis. In order to ensure that the findings portray the right picture, the study checked data for completeness and consistencies. In cases where data was incomplete, the researcher re-visited financial statements to ensure that the right data was collected (Katebire, 2007).

### 3.5.1. Analytical Model

The study applied multivariate regression analysis in estimating the extent to which share prices changes as a result of changes in the study variables. The model assumed the following format:

$$\mathbf{Y= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + Ee}$$

Where

Y = Volatility of Share Price (Standard Deviation of share prices)

$X_1$ = Dividends Per share (Dividend amount declared divide by Total Shares Outstanding)

$X_2$ = Earnings per share (Total Earnings divided by Total outstanding Shares)

$X_3$ = Firm Size (measured by Natural logarithm of Total assets)

$X_4$ = Leverage (Measured by Debt to Equity Ratio)

$X_5$ = Inflation (Measured using Consumer Price Index)

X6 = Interest Rates (Using Lending Rates)

$\beta 0$ = Constant

### 3.5.2 Test of Significance

This study made use of the F test and Analysis of variance to test the significance of the model in predicting the relationship between dividend policy and changes in share prices for commercial banks listed at the NSE.

# CHAPTER FOUR

# RESEARCH FINDINGS AND DISCUSSIONS

## 4.1 Introduction

This chapter presents the findings of the analysis of the collected research data. The researcher used secondary data collected by means of data collection sheets. The collected data was coded and analyzed using SPSS software. The findings are presented in subsequent sections through descriptive and inferential statistics.

## 4.2 Descriptive Analysis

The researcher sought to determine effects of dividend policy on the volatility of share price of commercial banks listed at Nairobi Securities Exchange. To achieve this objective, means, standard deviation and graphs were used. See subsequent sections.

**Table 4.1: Descriptive Analysis**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Dividend Per Share | 110 | .00 | 30.80 | 2.3441 | 5.23800 |
| Earnings per Share | 110 | .00 | 79.19 | 11.2053 | 15.92498 |
| Firm Size | 110 | 5.76 | 9.36 | 8.4201 | .80578 |
| Leverage | 110 | .00 | 9.52 | 1.1472 | 1.79890 |
| Inflation | 110 | 3.88 | 26.20 | 9.9110 | 6.10587 |
| Interest Rates | 110 | 13.33 | 19.65 | 15.7763 | 1.77496 |
| Share Prices Volatility | 110 | .32 | 93.66 | 12.9716 | 17.22119 |

From Table 4.1, dividend per share DPS had a maximum of 30.80, with mean of 2.34 and standard deviation of 5.23. This shows that the dividends per share figures were widely spread as different banks paid differing amounts of dividends for every share held. EPS had maximum of 79.19, with mean of 11.20 and standard deviation of 15.92. This shows that the EPS had a very wide variation in the figures. Different banks therefore had varying EPS. Firm size had a maximum value of 9.36 minimum of 5.76, mean of 8.42 and standard deviation of 0.80. This shows that the firm size did not post wide variations.

Leverage had a maximum figure of 9.52, mean of 1.14 and standard deviation of 1.79; inflation had a maximum of 26.20, minimum of 3.88, mean of 9.91 and standard deviation of 6.10; interest rates had a maximum value of 19.65, with minimum of 13.33, mean of 15.73 and standard deviation of 1.77 while volatility of share prices had a maximum value of 93.65, with a minimum value of 0.32, the mean was 12.9716 and standard deviation was 17.22. This shows that the level of variations in share price volatility was the largest of all the study variables.

From the above findings; interest rates seemed to be the most significant determinant of volatility of share prices having the highest mean while leverage seemed to have least significance on affecting volatility of share prices. On the other hand, earning per share is the most variable component among listed banks as signified by the highest standard deviation. The spread of size of commercial banks listed on NSE has least significance on volatility of their share prices.

### 4.2.1 Trend Analysis

The researcher sought to describe the movement of the study variables over a ten year period of consideration. The findings are indicated in Figure 4.1, 4.2. 4.3, 4.4, 4.5, 4.6 and 4.7 respectively

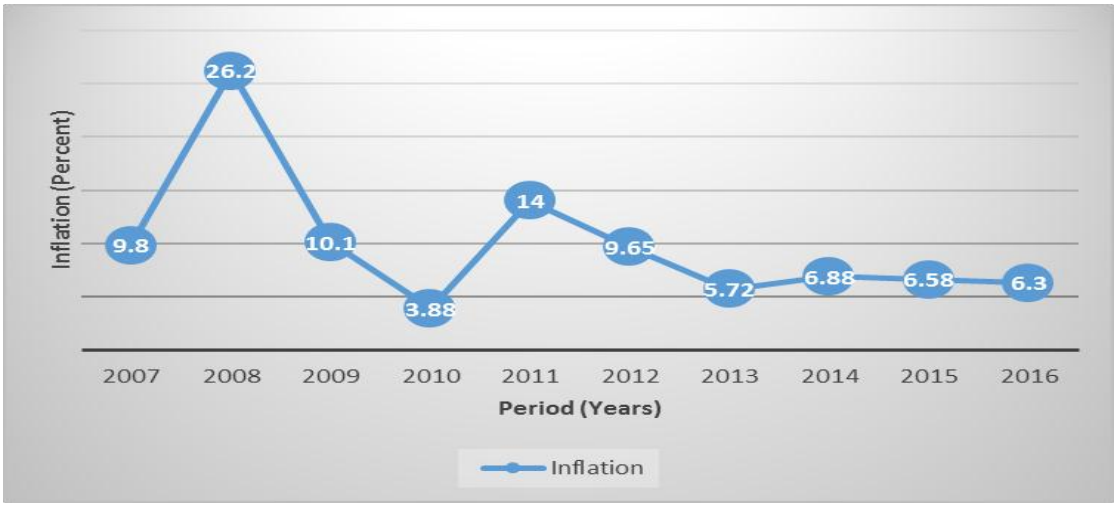


**Figure 4.1: Trend Analysis for Inflation**

From the findings in Figure 4.1, the year 2008 witnessed the highest rise in inflationary pressure to 26.2% possibly explained by post election violence while 2010 had the least and most favorable inflationary pressure at 3.88%. The level of inflation stabilized at around 2012 to 2016. From the trend above, the level of interest rate in the country has been stable under the period of consideration (2007-2016).

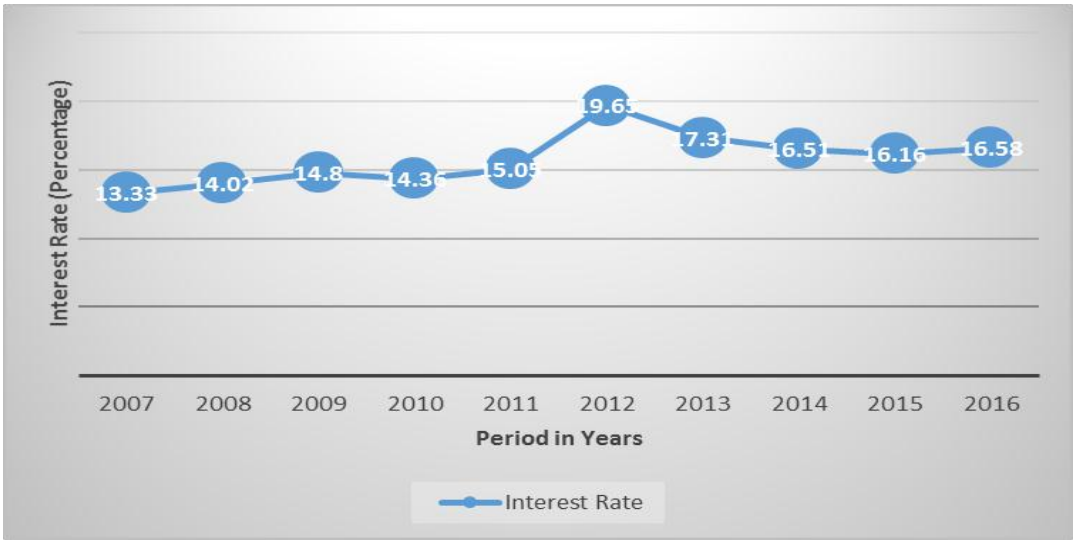


**Figure 4.2: Trend Analysis for Interest Rate**

From Figure 4.2, interest rates in the country have been on a upward trend over the period of consideration (2007-2016); starting with the least rate of 13.33% in 2007 reaching a peak of 19.65% in 2012. In general, there has been stability in interest rates which creates conducive environment for banking operations.

The finding of trend analysis for Dividend per Share DPS is illustrated in Figure 4.3.

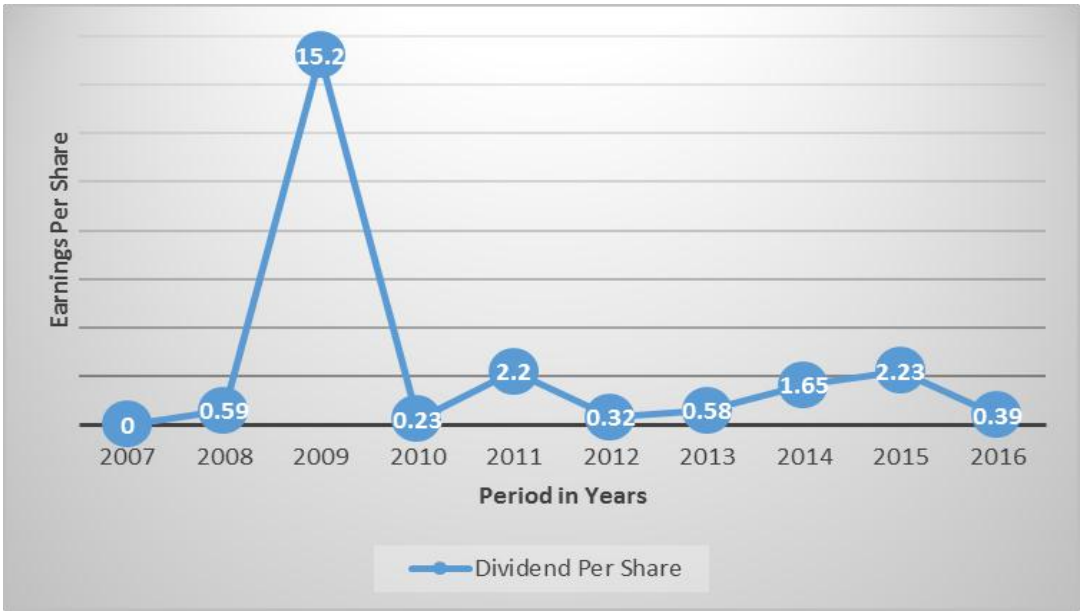


**Figure 4.3: Trend Analysis for Dividend per Share DPS**

From the findings, there has been erratic trend in dividend per share among listed banks in Kenya; where in 2009, generally banks paid out larger amount of dividends to their shareholders.

The trend analysis for Earnings per Share EPS is shown in Figure 4.4.

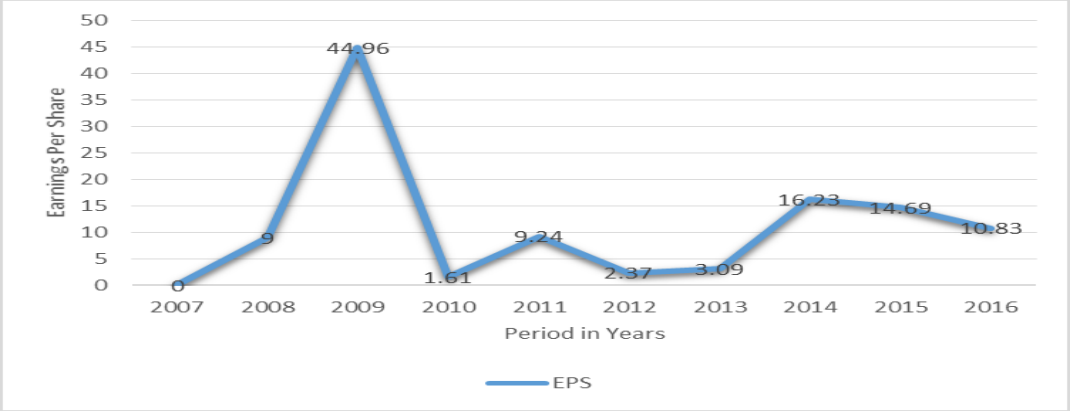


**Figure 4.4: Trend Analysis for Earnings per Share EPS**

From the findings, there has been unstable movement in EPS of listed banks in Kenya over a ten year consideration reaching peak in the year 2009 immediately after the post-election violence.

The trend analysis for Firm size of the listed banks over a ten year period is illustrated by Figure 4.5.

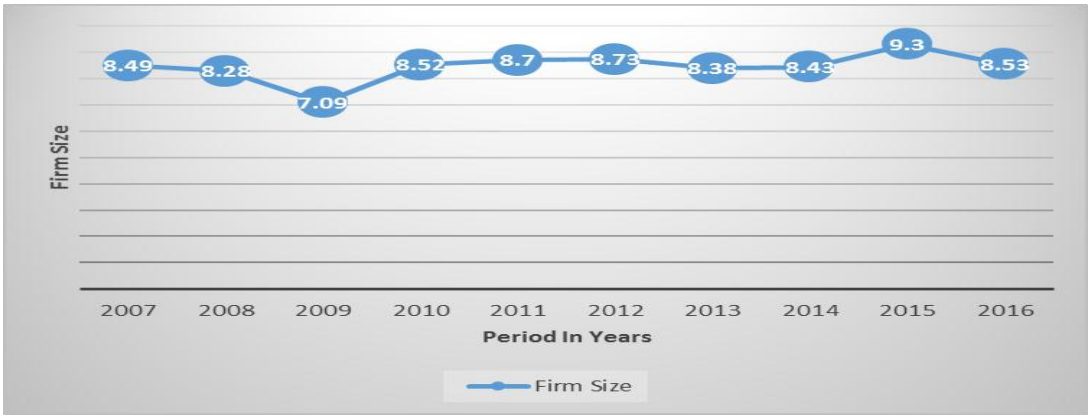


**Figure 4. 5: Trend Analysis for Firm Size**

From the findings, there has been general growth in the size of listed commercial banks in Kenya over a ten year period of consideration. This is coupled by increased competition in the industry which forces these companies to open up new branches in other markets.

Figure 4.6 illustrates the trend analysis findings of leverage as one of the variables of the study.

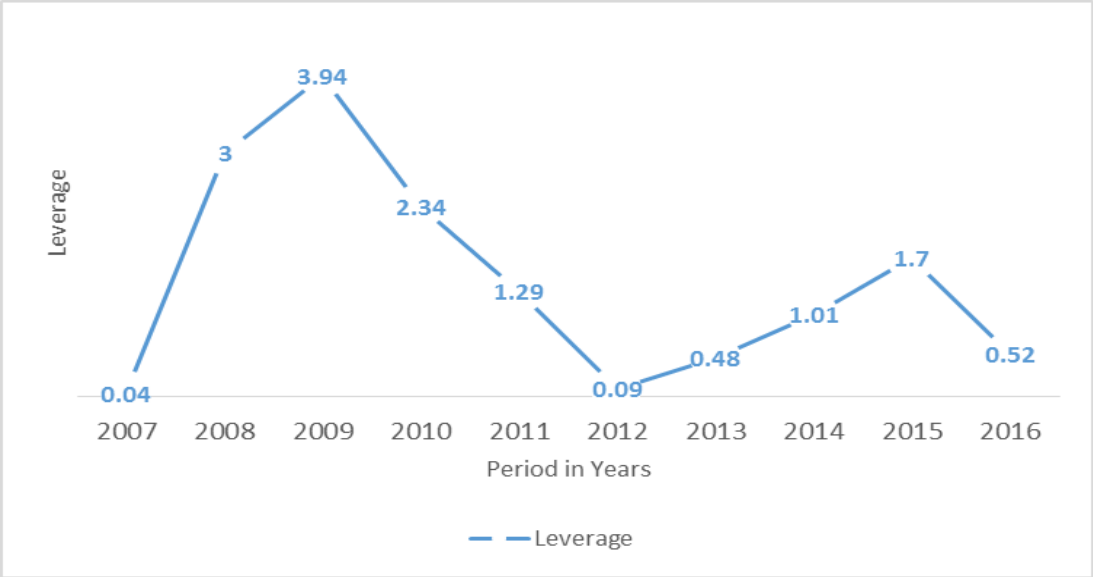


**Figure 4.6: Trend Analysis for Leverage**

From the findings, leverage among listed commercial banks over a period of consideration has generally been low; an indication of low amounts of debts in their capital structures as compared to equities. This further indicates that most listed commercial banks prefer equity as opposed to debts financing.

The trend analysis for volatility of share prices among listed commercial banks is shown in Figure 4.7.


**Figure 4.7: Trend Analysis for Volatility of Share Prices**

From the findings, volatility of share prices of listed commercial banks has generally been stable although with high volatility in year 2007 and 2008.

### 4.3 Diagnostic Tests

Before conducting inferential analysis, the researcher tested the validity of the data set by use of Multicollinearity, Normality, Heteroscedasticity Test and Autocorrelation. The Variance inflation Factor VIF was used to detect Multicollinearity, Normality was detected by Skewness and Kurtosis, Test Glejser was used to detect Heteroscedasticity while autocorrelation was detected by Dubin Watson Test. The findings are indicated in subsequent sections.

#### 4.3.1 Normality Test

Regression analysis assumes that data was collected from normal population (Moriya, 2008). Violation of this assumption would therefore invalidate regression analysis. In this

study, Kurtosis and Skewness were used to test for normality. Data analysis proceeds if the kurtosis and skewness is between +3 and -3 as this will be an indicator that the data has a normal distribution (Cooper and Schindler, 2008).

**Table 4.2: Normality Test**

| | Skewness | | Kurtosis | |
|---|---|---|---|---|
| | **Statistic** | **Std. Error** | **Statistic** | **Std. Error** |
| Dividend Per Share DPS | 2.51 | .23 | 2.26 | .45 |
| Earnings per Share EPS | 2.34 | .23 | 1.76 | .45 |
| Firm Size | -2.31 | .23 | 2.18 | .45 |
| Leverage | 2.07 | .23 | 1.98 | .45 |
| Inflation | 1.80 | .23 | 2.49 | .45 |
| Interest Rates | .706 | .23 | -.06 | .45 |
| Volatility of Share Prices | 1.09 | .23 | -.16 | .45 |

From the findings, DPS had 2.51 as Skewness and 2.26 as Kurtosis, EPS had 2.34 and 1.76; firm size had -2.31 and 2.18, leverage had 2.07 and 1.98, inflation had 1.80 and 2.49, interest rates had 0.706 and -0.06 while volatility of share prices had 1.09 and -0.16 respectively. The statistics indicate that the data was normally distributed since the kurtosis values were below 3.

### 4.3.2 Multicollinearity Test

Multicollinearity refers to a situation where predictor variables in the multiple regression models are highly correlated (Willis & Perlack, 1978). The researcher used the Variance

Inflation Factor VIF to determine Multicollinearity. VIF indicates how much the variance of estimated regression coefficients is increased due to Collinearity (Wooldridge, 2000). If VIF lies between 1-10, then there is no multicollinearity while VIF less than 1 or greater then 10 indicates presence of multicollinearity (Cohen, Cohen, West & Aiken, 2013).

**Table 4.3: Multicollinearity Test**

| **Model** | **Collinearity Statistics** | |
|---|---|---|
| | **Tolerance** | **VIF** |
| Dividend Per Share DPS | .313 | 2.43 |
| Earnings per Share EPS | .342 | 2.92 |
| Firm Size | .733 | 1.36 |
| Leverage | .889 | 1.12 |
| Inflation | .785 | 1.27 |
| Interest Rates | .812 | 1.23 |

The findings of the study indicate that DPS had VIF of 2.42, EPS had 2.92, firm size had 1.36, leverage had 1.12, inflation had 1.27 and interest rates had 1.23. Since the VIF lies from 1 to 10, this shows that the data set did not suffer from Multicollinearity symptoms.

### 4.3.3 Heteroscedasticity Test

Heteroscedasticity is useful in examining whether there is difference in residual variance of the observation period to another period of observation (Godfrey, 2008). The

researcher conducted Test Glejser by regressing absolute residual value of the independent variable with the regression equation (Godfrey, 1996).

**Table 4.4: Heteroscedasticity**

| | **Sig.** |
|---|---|
| Dividend Per Share DPS | .088 |
| Earnings per Share EPS | .164 |
| Firm Size | .065 |
| Leverage | .353 |
| Inflation | .073 |
| Interest Rates | .091 |

According to White (1980), significance of independent variables play an important role while conducting Test Glejser in that if significance is greater than 0.05, then there is no Heteroscedasticity otherwise the converse is true. From the findings, DPS had significance of 0.088, EPS had 0.164, firm size had 0.065, leverage had 0.353, inflation had 0.073 and interest rates had 0.091. The findings suggest absence of any Heteroscedasticity in the data set.

### 4.3.4 Autocorrelation

Autocorrelation is a characteristic of data in which the correlation between the values of the same variables is based on related objects (Box & Jenkins, 1976). Since d is approximately equal to 2(1 − r), where r is the sample autocorrelation of the residuals, d = 2 indicates no autocorrelation. The value of d always lies between 0 and 4. If

the Durbin–Watson statistic is substantially less than 2, there is evidence of positive serial correlation.

**Table 4.5: Durbin–Watson Test**

| Model | Durbin-Watson |
|---|---|
| 1 | .465 |

From the study findings, the Durbin-Watson value was 0.465, which lies between 0 and 4. As the Durbin–Watson statistic is substantially less than 2, there is evidence of positive serial correlation in the data set. In order to achieve the objective of the study, the researcher utilized both correlation and regression analysis. The findings are indicated in subsequent sections.

### 4.4 Correlation Analysis

The researcher conducted Pearson correlation analysis to determine the direction, strength and nature of relationship between the variables of the study. Pearson's Product Moment Correlation (r) is a measure of the linear dependence (correlation) between two variables and can give a positive or negative value of their relationship (Huber, 2004). In the interpretation of results for the linear relationships in the study, Shirley et al., (2005) indicates that for a weak correlation, "r" ranges from ± 0.10 to± 0.29; in a moderate correlation, "r" ranges between ±0.30 and ±0.49; while in a strong correlation, "r" ranges from ±0.5 and ± 0.9. The positive or negative sign points to the direction of the relationship.

**Table 4.6: Correlation Analysis**

| | | Volatility of Share Prices | DPS | EPS | Firm Size | Leverage | Inflation | Interest Rates |
|---|---|---|---|---|---|---|---|---|
| Volatility of Share Prices | Pearson Correlation | 1 | | | | | | |
| | Sig. (2-tailed) | | | | | | | |
| | N | 110 | | | | | | |
| DPS | Pearson Correlation | -.148 | 1 | | | | | |
| | Sig. (2-tailed) | .012 | | | | | | |
| | N | 110 | 110 | | | | | |
| EPS | Pearson Correlation | .428** | .021 | 1 | | | | |
| | Sig. (2-tailed) | .000 | .825 | | | | | |
| | N | 110 | 110 | 110 | | | | |
| Firm Size | Pearson Correlation | .159 | -.420** | -.125 | 1 | | | |
| | Sig. (2-tailed) | .096 | .000 | .192 | | | | |
| | N | 110 | 110 | 110 | 110 | | | |
| Leverage | Pearson Correlation | -.100 | .048 | -.071 | -.041 | 1 | | |
| | Sig. (2-tailed) | .297 | .621 | .464 | .674 | | | |
| | N | 110 | 110 | 110 | 110 | 110 | | |
| Inflation | Pearson Correlation | .923** | -.155 | -.529** | .162 | -.114 | 1 | |
| | Sig. (2-tailed) | .000 | .106 | .000 | .091 | .234 | | |
| | N | 110 | 110 | 110 | 110 | 110 | | |
| Interest Rates | Pearson Correlation | .853** | -.191* | -.698** | .217* | -.131 | .950** | 1 |
| | Sig. (2-tailed) | .000 | .046 | .000 | .023 | .174 | .000 | |
| | N | 110 | 110 | 110 | 110 | 110 | 110 | 110 |

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

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

From the findings in Table 4.2, dividend per share DPS had a Pearson correlation of negative 0.148, with p value of 0.0.012; an indication that DPS was a significant factor affecting volatility of share prices as $p=0.000<0.05$. However, the correlation was weak and negative.

Earnings per share EPS had Pearson correlation of 0.428 with p value of 0.000; hence EPS had significant effect on volatility of share prices for $p=0.000<0.05$. This finding concurs with Allen and Rachim (2010) who established a ssignificant positive correlation was established between stock price volatility and organizational earnings volatility and leverage. Payout ratio posted a negative but significant correlation.

For Firm size, the value of Pearson correlation was 0.159 with p value of 0.096 and therefore firm size was insignificant in explaining the volatility of share prices as $p=0.096>0.05$. The finding is consistent with Allen and Rachim (1996) who indicated that a positive relationship existed between stock prices and organization size. Leverage had Pearson correlation of -0.100 with p value of 0.297 and therefore it insignificantly affect volatility of share prices for $p=0.297>0.05$. This contradicts the finding by Pani (2008), who established that debt to equity ratio has positive relationship with firm size.

Inflation had a Pearson correlation of 0.923 with p value of 0.000; an indication that it was significant in affecting volatility of share prices since $p=0.000<0.05$. Fama (1981) established that there exists a negative correlation between inflation and anticipated activity in a stock market.

Interest rates had a Pearson correlation of 0.853 with p value of 0.000 an indication it was significant in affecting volatility of share prices as p=000<0.05. Empirical studies that have established the relationship between interest rates and share prices include: Ishfaq, Ramiz and Raoof (2010) and Gazi, Uddin and Mahmudul (2009).

### 4.5 Multiple Regression Analysis

The researcher conducted a multiple regression analysis to establish relationship between the study variables. The findings are shown in subsequent sections.

**Table 4.7: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .782 | .611 | .608 | 2.4562 |

From Model Summary Table above, coefficient of correlation R is 0.782 indicating strong positive correlations between the study variables; R square is 0.611 an indication 61.10% of volatility of share prices of commercial banks listed at NSE is explained by the independent variables of the study (dividend per share, earning per share, firm size, leverage, inflation and interest rates). This therefore means that there exist some other variables responsible for about 38.90% of volatility in shares prices of commercial banks in Kenya. This lays ground for future research to examine these factors not examined in this study.

**Table 4.8: ANOVA**

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | 14410.2 | 6 | 2401.71 | 26.96 | .000[b] |
| Residual | 9176.87 | 103 | 89.10 | | |
| Total | 23587.1 | 109 | | | |

a. Dependent Variable: Volatility of Share Prices

b. Predictors: (Constant), Interest Rates, Leverage, Dividend Per Share DPS, Firm Size, Earning per Share EPS, Inflation

The ANOVA Table shows an F calculated value of 26.96 while F critical is 2.19. As the value of F calculated is greater than F critical; that is 26.96>2.19, this shows that the overall regression model was significant in predicting the relationship between the study variable. The p value is 0.000<0.05 and therefore significance of the variables of the study.

**Table 4.9: Regression Coefficients**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 15.980 | 16.168 | | .988 | .325 |
| Dividend Per Share DPS | -.102 | .219 | -.031 | -.466 | .042 |
| Earnings per Share EPS | .031 | .069 | .029 | .455 | .030 |
| Firm Size | .472 | .895 | .022 | .528 | .599 |
| Leverage | -.047 | .376 | -.005 | -.126 | .900 |
| Inflation | 3.267 | .338 | 1.158 | 9.655 | .000 |
| Interest Rates | -2.499 | 1.179 | -.258 | -2.118 | .037 |

a. Dependent Variable: Volatility of Share Prices

The established equation becomes:

$$\mathbf{Y=15.980 -0.102X_1 + 0.031X_2 + 0.472X_3 - 0.047X_4 +3.267X_5 – 2.499X_6}$$

Where;

Y = Volatility of Share Price

$X_1$ = Dividend Per Share DPS

$X_2$ = Earnings per Share EPS

$X_3$= Firm Size

$X_4$ = Leverage

$X_5$ = Inflation

$X_6$ = Interest Rates

Therefore, when all the variables of the study are held in constant, volatility of share prices would be at 15.980, a unit increase in dividend per share holding other variables constant would significantly lead to 0.102 decline in volatility of share prices; one unit increase in earnings per share would lead to 0.031 increase in volatility of share prices, one unit increase in firm size would lead to 0.472 increase in volatility of share prices, one unit increase in leverage would lead to 0.047 decline in volatility of share prices, a one unit increase in inflation would result into 2.499 decline in the volatility of share prices.

Regarding the significance of individual variables, the study documents that DPS, EPS, Inflation and Interest rates were significant factor affecting volatility of share prices among banks listed at NSE $p=0.000<0.05$. In view of this finding, Chelimo and Kiprop (2017) indicated that dividend payout, dividend yield, earnings per share and inflation are

jointly significant in predicting the value of share price. Firm size and Leverage had insignificant effect on volatility of share prices with p=0.599>0.05 and p=0.900>0.05 respectively.

### 4.6 Discussion of the Findings

From correlation analysis, the study established a positive relationship between size, EPS, interest rate and inflation in relations to volatility of share prices. This shows that increase in any of these variables increases volatility of share prices. This is practically true in that when inflation is high, the level of business activities drop leading to reduction in share prices and hence volatility. Inflation is also reflected in the amount of taxes that people pay and this is consistent with the Tax Preference Theory set forth by Litzenberger and Ramaswamy (1979) to explain the effect of taxation on investors' preference on dividend policy.

Both correlation analysis and regression analysis concurred that DPS, EPS, inflation and interest rates significantly affected volatility of share prices. According to Ling et al (2008), higher interest rates for individuals mean the more they will be required to spend more on servicing debt which makes the availability of capital to invest limited. The long-term influence of interest rate on stock prices is derived directly from time value of money which involves computation of current value of future returns.

The findings of regression analysis indicate that DPS, EPS, Inflation and Interest rates were significant factors affecting volatility of share prices among banks listed at NSE p=0.000<0.05. In view of this finding, Chelimo and Kiprop (2017) indicated that

dividend payout, dividend yield, earnings per share and inflation are jointly significant in predicting the value of share price.

Firm size and Leverage had insignificant effect on volatility of share prices $p=0.420>0.05$. This finding contradicts Allen and Rachim (2010) who established a significant positive correlation was established between stock price volatility and organizational size volatility and leverage. Payout ratio posted a negative but significant correlation. It however agrees with the findings of Muhammad and Shamim (2017) who established that large firms enjoyed economies of scale and levered firms enjoyed tax shields.

Inflation significantly affected volatility of share prices $p=0.000<0.05$. According to Bhattacharya and Mukherjee (2002), inflation has a bearing on the risk factor as it increases the amount of money required for individuals to maintain their current level of consumption. These findings contradict those of Suwannaa (2012) who argues that inflation affects all firms equally and thus it may not be important in determining the performance of commercial banks on a standalone basis. Leverage had insignificant effect on volatility of share prices of listed commercial banks. Interest rates had significant effect on volatility of share prices $p=0.900<0.05$. According to Gazi *et al.*, (2009), higher interest rates make borrowing less accessible as many people in the economy may have no means of repaying the principal amount together with interest. Additionally, Ling et al. (2008) posits that in times of higher interest rates, companies planning to borrow huge amounts pay more to do so which in turn hurts their returns on investment and hurt stock prices.

# CHAPTER FIVE

# SUMMARY, CONCLUSION AND RECOMMENDATIONS

## 5.1 Introduction

The researcher summarizes the key findings based on specific objectives of the study. The conclusions of the study are based on these key findings summarized. The recommendations for further studies have relevant implication on theory, policy and practice. The chapter further presents recommendations for further studies to other future scholars and academicians.

## 5.2 Summary of the Findings

The study sought to establish effect of dividend policy on the volatility of share price of commercial banks listed at Nairobi Securities Exchange. The independent variables which formed specific objectives of the study were dividend per share, earning per share, firm size, leverage, inflation and interest rates. This section summarizes the findings on each of these variables.

For dividend per share DPS had a maximum of 30.80, with mean of 2.34 and standard deviation of 5.23. From trend analysis, there has been erratic trend in dividend per share among listed banks in Kenya; where in 2009, generally banks paid out larger amount of dividends to their shareholders. From correlation analysis, dividend per share DPS had a Pearson correlation of -0.148, with p value of 0.012. The findings of regression analysis similarly indicated P value of $p=0.000<0.05$.These finding show that DPS has an impact on the level of volatility registered in share prices.

EPS had maximum of 79.19, with mean of 11.20 and standard deviation of 15.92, firm size had a maximum value of 9.36 minimum of 5.76, mean of 8.42 and standard deviation of 0.80. The trend analysis findings indicated that there has been unstable movement in EPS of listed banks in Kenya over a ten year consideration reaching peak in the year 2009 immediately after the post-election violence. The finding of correlation analysis indicated a Pearson correlation of 0.428 with p value of 0.000. Regression analysis however contradicted correlation analysis where the p value $p=0.000<0.05$.

Firm size had a maximum value of 9.36 minimum of 5.76, mean of 8.42 and standard deviation of 0.80. The trend analysis indicates that there has been general growth in the size of listed commercial banks in Kenya over a ten year period of consideration. From correlation analysis, the value of Pearson correlation was 0.159 with p value of 0.096. The finding was further supported by regression analysis where the p value $p=0.095>0.05$.

Leverage had a maximum figure of 9.52, mean of 1.14 and standard deviation of 1.79. In view of the trend analysis, the study documents that leverage among listed commercial banks over a period of consideration have generally been low; an indication of low amounts of debts in their capital structures as compared to equities. On basis of correlation analysis, Pearson correlation was -0.100 with p value of 0.297. Regression analysis established a p value $p=0.297$ and this contradicts the correlation analysis results.

Inflation had a maximum of 26.20, minimum of 3.88, mean of 9.91 and standard deviation of 6.10. The year 2008 witnessed the highest rise in inflationary pressure to 26.2% possibly explained by post-election violence while 2010 had the least and most

favorable inflationary pressure at 3.88%. The level of inflation stabilized at around 2012 to 2016. From correlation analysis, Pearson correlation was 0.923 with p value of 0.000; an indication that it was significant in affecting volatility of share prices since p=0.000<0.05. From regression analysis, inflation significantly affected volatility of share prices p=0.000<0.05

Interest rates had a maximum value of 19.65, with minimum of 13.33, mean of 15.73 and standard deviation of 1.77. Interest rates in the country have been on an upward trend over the period of consideration (2007-2016); starting with the least rate of 13.33% in 2007 reaching a peak of 19.65% in 2012. From correlation analysis, Pearson correlation was 0.853 with p value of 0.000; an indication it was significant in affecting volatility of share prices as p=000<0.05. The findings of regression analysis established that interest rates had significant effect on volatility of share prices p=0.000<0.05.

**5.3 Conclusion**

Dividend per share had significant effect on volatility of share prices among commercial banks. There was a moderate negative correlation between DPS and volatility of share prices of commercial banks.

Earnings per Share EPS were a significant predictor of volatility of share prices among commercial banks. There was a moderate positive correlation between EPS and volatility in share prices of commercial banks. Firm size had insignificant effect on volatility of share prices of commercial banks. There was a weak positive correlation between firm size and volatility in share prices of commercial banks.

Leverage had insignificant effect on volatility of share returns of commercial banks. There was weak negative correlation between leverage and volatility of share prices. Inflation is a significant predictor of volatility of share prices among commercial banks. There is a strong positive correlation between inflation and volatility of share prices.

Interest rate is a significant determinant of volatility of share prices among commercial banks. There was a strong positive correlation between interest rate and volatility of share prices of commercial banks.

### 5.4 Recommendations of the Study

Commercial banks listed at NSE need to strike a balance between the amount of money retained and the one paid to shareholders in form of dividends. This will go a long way to strengthening their dividend policy and the level of volatility registered in their share prices.

The top management and board of directors should invest in viable projects that earn positive returns and cash inflows so as to enhance their performance and this will strengthen their EPS. Commercial banks and all firms generally listed at NSE should set up aggressive growth and expansion strategies so as to increase their sizes in the industry. One of the expansion strategies is market entry and penetration where firms may choose to enter new markets that have not been tapped.

It is important for commercial banks to strike a balance between their debts and equities in the capital structure through leverage. Too much debt should not be encouraged in capital structures as this may easily result into bankruptcy. The national treasury should work hand in hand with the central bank in regulation of the amount of inflation and interest rates in the country. Inflation and interest rates should be kept at sustainable and

economical levels through setting up of sound monetary and fiscal policies. This also calls for strengthening of the regulatory framework of the entire banking and security exchange market under Central Bank of Kenya and the Capital Market Authority CMA.

### 5.5 Limitations of the Study

This study experienced a number of challenges that may have hindered the findings in one way or another. First, the data used in analysis is secondary data that related to the past period. This may limit its application to the current business environment because of increased development sin information communication and technology, globalization and internationalization of firms.

The data collected is also subject to some factors like depression, post-election violence among other which may have influenced the data. However, the study does not cater for this variations and factors which may invalidate the results if the circumstances under which the study is carried out changes.

### 5.6 Suggestions for Further Studies

The current study sought to determine how dividend policy affected volatility of share price of commercial banks listed at Nairobi Securities Exchange; future studies should be carried out in other segments of listed firms at NSE for example the insurance sector, non-financial firms, agriculture firms, service firms, telecommunication firms and energy firms. Future scholars should also conduct similar studies but with specific emphasis on listed foreign commercial banks or cross listed commercial banks on the East Africa Security Exchange EASE. Future scholars should assess how dividend policy affect volatility of share returns instead of share prices.

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# APPENDICES

## APPENDIX 1: DATA SET

| | Year | Assets | Size | Debt | Equity | Leverage | Inflation | Interest Rate | EPS | Share prices | DPS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Barclays Bank - Kenya Ltd | 2007 | 157927 | 5.198456386 | 2526 | 2715 | 0.930387 | 9.8 | 13.332 | 1.23 | 10.3 | 0 |
| CFC Stanbic Holding Ltd | 2007 | 65708 | 4.817618248 | 384 | 2856 | 0.134454 | 9.8 | 13.332 | 6.2 | 21.5 | 0 |
| Diamond Trust Bank DTB | 2007 | 10429 | 4.018242667 | 447 | 500 | 0.894 | 9.8 | 13.332 | 9.2 | 73.3 | 2.5 |
| Equity Group Bank Ltd | 2007 | 120479 | 5.080911354 | 263 | 1996 | 0.131764 | 9.8 | 13.332 | 0.97 | 9.5 | 0.1 |
| Housing Finance Group | 2007 | 42010 | 4.623352682 | 165 | 2257 | 0.073106 | 9.8 | 13.332 | 0.91 | 2.13 | 5.7 |
| I & M Bank Ltd | 2007 | 13861 | 4.141794564 | 30 | 550 | 0.054545 | 9.8 | 13.332 | 117 | 127.1 | 1.1 |
| Kenya Commercial Bank KCB | 2007 | 223024 | 5.348351601 | 59 | 2950 | 0.02 | 9.8 | 13.332 | 2.9 | 13.7 | 0.95 |
| National Bank of Kenya | 2007 | 4130 | 3.615950052 | 28 | 399 | 0.070175 | 9.8 | 13.332 | 1.01 | 17.2 | 4.3 |
| NIC Bank | 2007 | 34463 | 4.53735308 | 175 | 2441 | 0.071692 | 9.8 | 13.332 | 2.61 | 8.31 | 2.3 |
| Standard Chartetered Bank | 2007 | 91121 | 4.959618477 | 194 | 1639 | 0.118365 | 9.8 | 13.332 | 7.11 | 139 | 6.3 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| Cooperative Bank | 2007 | 31281 | 4.495280628 | 202 | 1483 | 0.13621 | 9.8 | 13.332 | 1.23 | 11.97 | 0.7 |
| Barclays Bank - Kenya Ltd | 2008 | 168510 | 5.226625679 | 1770 | 2715 | 0.651934 | 26.2 | 14.017 | 0.99 | 9.5 | 0 |
| CFC Stanbic Holding Ltd | 2008 | 83870 | 4.923606643 | 595 | 3492 | 0.170389 | 26.2 | 14.017 | 7.9 | 27 | 0 |
| Diamond Trust Bank DTB | 2008 | 14294 | 4.155153778 | 480 | 1150 | 0.417391 | 26.2 | 14.017 | 10 | 81.3 | 1.5 |
| Equity Group Bank Ltd | 2008 | 191211 | 5.281512873 | 371 | 2217 | 0.167343 | 26.2 | 14.017 | 1.79 | 10.4 | 1.1 |
| Housing Finance Group | 2008 | 55201 | 4.741946945 | 222 | 2257 | 0.098361 | 26.2 | 14.017 | 1.64 | 1.7 | 0.7 |
| I & M Bank Ltd | 2008 | 19944 | 4.299812265 | 50 | 1000 | 0.05 | 26.2 | 14.017 | 111 | 130 | 0 |
| Kenya Commercial Bank KCB | 2008 | 168223 | 5.225885374 | 86 | 2217 | 0.038791 | 26.2 | 14.017 | 1.9 | 9.85 | 0.75 |
| National Bank of Kenya | 2008 | 4460 | 3.649334859 | 34 | 399 | 0.085213 | 26.2 | 14.017 | 1.12 | 15.25 | 1.3 |
| NIC Bank | 2008 | 83166 | 4.919945814 | 422 | 2441 | 0.17288 | 26.2 | 14.017 | 4.36 | 7.21 | 3 |
| Standard Chartetered Bank | 2008 | 99019 | 4.995718536 | 191 | 1639 | 0.116534 | 26.2 | 14.017 | 9.18 | 143 | 7.3 |
| Cooperative Bank | 2008 | 42619 | 4.629603255 | 284 | 1483 | 0.191504 | 26.2 | 14.017 | 0.99 | 13.85 | 1.7 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| Barclays Bank - Kenya Ltd | 2009 | 164875 | 5.217154809 | 631 | 2715 | 0.232413 | 10.1 | 14.804 | 1.49 | 13.5 | 1.5 |
| CFC Stanbic Holding Ltd | 2009 | 23697 | 4.374693369 | 313 | 1200 | 0.260833 | 10.1 | 14.804 | 9.9 | 40 | 0 |
| Diamond Trust Bank DTB | 2009 | 44655 | 4.649870094 | 286 | 1631 | 0.175353 | 10.1 | 14.804 | 15.3 | 90.5 | 0.5 |
| Equity Group Bank Ltd | 2009 | 100811 | 5.003507923 | 449 | 1851 | 0.242572 | 10.1 | 14.804 | 2.79 | 16.4 | 0.1 |
| Housing Finance Group | 2009 | 57628 | 4.760633548 | 276 | 4515 | 0.06113 | 10.1 | 14.804 | 2.64 | 1.2 | 2.7 |
| I & M Bank Ltd | 2009 | 62558 | 4.796282856 | 87 | 2870 | 0.030314 | 10.1 | 14.804 | 108 | 113 | 32 |
| Kenya Commercial Bank KCB | 2009 | 78836 | 4.896724581 | 308 | 1851 | 0.166397 | 10.1 | 14.804 | 2.9 | 11.85 | 0.75 |
| National Bank of Kenya | 2009 | 60026 | 4.778339404 | 204 | 7075 | 0.028834 | 10.1 | 14.804 | 3.12 | 17.25 | 1.5 |
| NIC Bank | 2009 | 54776 | 4.738590315 | 366 | 1794 | 0.204013 | 10.1 | 14.804 | 4.16 | 21 | 3.7 |
| Standard Chartetered Bank | 2009 | 123909 | 5.093102852 | 179 | 1639 | 0.109213 | 10.1 | 14.804 | 12.2 | 153 | 8 |
| Cooperative Bank | 2009 | 110531 | 5.043484099 | 203 | 3492 | 0.058133 | 10.1 | 14.804 | 1.17 | 11.25 | 1.1 |
| Barclays Bank - Kenya Ltd | 2010 | 172690 | 5.23726719 | 278 | 2715 | 0.102394 | 3.88 | 14.359 | 1.17 | 11.5 | 3.5 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| CFC Stanbic Holding Ltd | 2010 | 107138 | 5.029943535 | 440 | 2441 | 0.180254 | 3.88 | 14.359 | 7.9 | 33 | 0 |
| Diamond Trust Bank DTB | 2010 | 58602 | 4.767912438 | 115 | 652 | 0.17638 | 3.88 | 14.359 | 9.32 | 81.5 | 1.5 |
| Equity Group Bank Ltd | 2010 | 133889 | 5.126744898 | 382 | 1851 | 0.206375 | 3.88 | 14.359 | 1.79 | 13.4 | 0.1 |
| Housing Finance Group | 2010 | 29325 | 4.467238021 | 502 | 1150 | 0.436522 | 3.88 | 14.359 | 0.64 | 3.2 | 1.7 |
| I & M Bank Ltd | 2010 | 62558 | 4.796282856 | 101 | 2870 | 0.035192 | 3.88 | 14.359 | 115 | 129.3 | 22 |
| Kenya Commercial Bank KCB | 2010 | 53129 | 4.725331642 | 252 | 1811 | 0.13915 | 3.88 | 14.359 | 3.7 | 16.85 | 1.75 |
| National Bank of Kenya | 2010 | 50026 | 4.699195779 | 204 | 7075 | 0.028834 | 3.88 | 14.359 | 5.52 | 20.25 | 0.5 |
| NIC Bank | 2010 | 54776 | 4.738590315 | 366 | 1794 | 0.204013 | 3.88 | 14.359 | 6.86 | 24 | 0.7 |
| Standard Chartetered Bank | 2010 | 142880 | 5.154971442 | 259 | 1715 | 0.15102 | 3.88 | 14.359 | 19.3 | 160 | 9 |
| Cooperative Bank | 2010 | 153983 | 5.187472777 | 204 | 3492 | 0.058419 | 3.88 | 14.359 | 1.54 | 12.25 | 0.1 |
| Barclays Bank - Kenya Ltd | 2011 | 167029 | 5.222791881 | 727 | 2716 | 0.267673 | 14 | 15.049 | 1.49 | 13.05 | 1.5 |
| CFC Stanbic Holding Ltd | 2011 | 143212 | 5.15597941 | 381 | 1976 | 0.192814 | 14 | 15.049 | 6.72 | 40 | 0 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| Diamond Trust Bank DTB | 2011 | 107765 | 5.032477733 | 560 | 8E+05 | 0.000716 | 14 | 15.049 | 15.3 | 90.5 | 1.7 |
| Equity Group Bank Ltd | 2011 | 196293 | 5.292904813 | 798 | 1851 | 0.431118 | 14 | 15.049 | 2.79 | 16.4 | 0.8 |
| Housing Finance Group | 2011 | 31870 | 4.503382063 | 847 | 1152 | 0.735243 | 14 | 15.049 | 2.64 | 1.2 | 1.2 |
| I & M Bank Ltd | 2011 | 108063 | 5.03367702 | 121 | 2880 | 0.042014 | 14 | 15.049 | 118 | 113 | 26 |
| Kenya Commercial Bank KCB | 2011 | 330716 | 5.519455207 | 151 | 2968 | 0.050876 | 14 | 15.049 | 3.7 | 11.85 | 1.85 |
| National Bank of Kenya | 2011 | 68664 | 4.8367291 | 203 | 7075 | 0.028693 | 14 | 15.049 | 5.52 | 20.25 | 0.4 |
| NIC Bank | 2011 | 78984 | 4.897539124 | 320 | 1974 | 0.162107 | 14 | 15.049 | 6.86 | 24 | 0.5 |
| Standard Chartetered Bank | 2011 | 164046 | 5.214965645 | 778 | 1715 | 0.453644 | 14 | 15.049 | 19.3 | 160 | 11 |
| Cooperative Bank | 2011 | 168312 | 5.226115081 | 985 | 3492 | 0.282073 | 14 | 15.049 | 1.54 | 12.25 | 0.4 |
| Barclays Bank - Kenya Ltd | 2012 | 184826 | 5.266763065 | 777 | 2716 | 0.286082 | 9.65 | 19.648 | 1.61 | 15.7 | 1 |
| CFC Stanbic Holding Ltd | 2012 | 180511 | 5.256503672 | 371 | 1976 | 0.187753 | 9.65 | 19.648 | 13 | 41.5 | 0.73 |
| Diamond Trust Bank DTB | 2012 | 135461 | 5.131814277 | 510 | 9E+05 | 0.000579 | 9.65 | 19.648 | 18.5 | 115 | 1.9 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| Equity Group Bank Ltd | 2012 | 243170 | 5.385909995 | 778 | 1851 | 0.420313 | 9.65 | 19.648 | 3.26 | 23.75 | 1.25 |
| Housing Finance Group | 2012 | 40956 | 4.612317534 | 509 | 1152 | 0.44184 | 9.65 | 19.648 | 3.15 | 1.4 | 1.4 |
| I & M Bank Ltd | 2012 | 144725 | 5.160543558 | 475 | 2880 | 0.164931 | 9.65 | 19.648 | 134 | 117 | 26 |
| Kenya Commercial Bank KCB | 2012 | 367379 | 5.565114328 | 131 | 2984 | 0.043901 | 9.65 | 19.648 | 4.11 | 29.75 | 1.9 |
| National Bank of Kenya | 2012 | 67154 | 4.827071886 | 293 | 7075 | 0.041413 | 9.65 | 19.648 | 2.63 | 17.25 | 0.2 |
| NIC Bank | 2012 | 108348 | 5.034820899 | 380 | 2714 | 0.140015 | 9.65 | 19.648 | 5.59 | 38.25 | 1 |
| Standard Chartetered Bank | 2012 | 195352 | 5.290817862 | 718 | 1825 | 0.393425 | 9.65 | 19.648 | 26.6 | 235 | 12.5 |
| Cooperative Bank | 2012 | 200588 | 5.302304948 | 935 | 4190 | 0.22315 | 9.65 | 19.648 | 1.84 | 12.6 | 0.5 |
| Barclays Bank - Kenya Ltd | 2013 | 206739 | 5.315422411 | 477 | 2716 | 0.175626 | 5.72 | 17.309 | 1.4 | 17.6 | 0.7 |
| CFC Stanbic Holding Ltd | 2013 | 180511 | 5.256503672 | 971 | 1976 | 0.491397 | 5.72 | 17.309 | 13 | 89 | 2.15 |
| Diamond Trust Bank DTB | 2013 | 166520 | 5.221466402 | 610 | 9E+05 | 0.000693 | 5.72 | 17.309 | 23.8 | 192 | 2.4 |
| Equity Group Bank Ltd | 2013 | 277728 | 5.443619667 | 178 | 1851 | 0.096164 | 5.72 | 17.309 | 4.63 | 30.75 | 1.5 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| Housing Finance Group | 2013 | 47389 | 4.675677544 | 309 | 1152 | 0.268229 | 5.72 | 17.309 | 4.22 | 1.75 | 1.75 |
| I & M Bank Ltd | 2013 | 141200 | 5.149834697 | 775 | 292 | 2.65411 | 5.72 | 17.309 | 11.8 | 120 | 35 |
| Kenya Commercial Bank KCB | 2013 | 390851 | 5.592011227 | 531 | 2984 | 0.177949 | 5.72 | 17.309 | 4.16 | 47.25 | 2 |
| National Bank of Kenya | 2013 | 92555 | 4.966399885 | 393 | 7075 | 0.055548 | 5.72 | 17.309 | 3.97 | 28.75 | 0.3 |
| NIC Bank | 2013 | 121062 | 5.083007844 | 680 | 2714 | 0.250553 | 5.72 | 17.309 | 5.96 | 60 | 0.75 |
| Standard Chartetered Bank | 2013 | 220391 | 5.343193855 | 118 | 1825 | 0.064658 | 5.72 | 17.309 | 29.4 | 304 | 14.5 |
| Cooperative Bank | 2013 | 231215 | 5.364016005 | 835 | 4190 | 0.199284 | 5.72 | 17.309 | 2.2 | 17.75 | 0.5 |
| Barclays Bank - Kenya Ltd | 2014 | 225841 | 5.353802788 | 417 | 2716 | 0.153535 | 6.88 | 16.514 | 1.54 | 16.6 | 1.1 |
| CFC Stanbic Holding Ltd | 2014 | 180998 | 5.257673776 | 991 | 1979 | 0.500758 | 6.88 | 16.514 | 14.4 | 125 | 5.2 |
| Diamond Trust Bank DTB | 2014 | 211539 | 5.325390447 | 620 | 1E+06 | 0.00064 | 6.88 | 16.514 | 23.6 | 235 | 2.4 |
| Equity Group Bank Ltd | 2014 | 344571 | 5.537278723 | 148 | 1851 | 0.079957 | 6.88 | 16.514 | 4.63 | 50 | 1.8 |
| Housing Finance Group | 2014 | 60961 | 4.785052083 | 319 | 1157 | 0.275713 | 6.88 | 16.514 | 4.14 | 1.5 | 1.5 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| I & M Bank Ltd | 2014 | 176464 | 5.246656119 | 785 | 292 | 2.688356 | 6.88 | 16.514 | 13.6 | 123 | 45 |
| Kenya Commercial Bank KCB | 2014 | 490338 | 5.690495551 | 511 | 3025 | 0.168926 | 6.88 | 16.514 | 5.25 | 57 | 2 |
| National Bank of Kenya | 2014 | 123091 | 5.0902263 | 303 | 7075 | 0.042827 | 6.88 | 16.514 | 3.11 | 24.75 | 0.3 |
| NIC Bank | 2014 | 145780 | 5.163697946 | 680 | 3199 | 0.212566 | 6.88 | 16.514 | 6.43 | 57.5 | 1 |
| Standard Chartetered Bank | 2014 | 222495 | 5.347320256 | 158 | 1825 | 0.086575 | 6.88 | 16.514 | 33.2 | 334 | 17 |
| Cooperative Bank | 2014 | 285396 | 5.455447882 | 825 | 4849 | 0.170138 | 6.88 | 16.514 | 1.69 | 20 | 0.5 |
| Barclays Bank - Kenya Ltd | 2015 | 240877 | 5.381795334 | 617 | 2716 | 0.227172 | 6.58 | 16.156 | 1.55 | 13.6 | 1 |
| CFC Stanbic Holding Ltd | 2015 | 208451 | 5.319003983 | 891 | 1976 | 0.450911 | 6.58 | 16.156 | 12.4 | 82.5 | 5.4 |
| Diamond Trust Bank DTB | 2015 | 271608 | 5.433942558 | 720 | 1E+06 | 0.000743 | 6.58 | 16.156 | 27.3 | 187 | 2.5 |
| Equity Group Bank Ltd | 2015 | 428062 | 5.631506676 | 248 | 1886 | 0.131495 | 6.58 | 16.156 | 4.59 | 40 | 2 |
| Housing Finance Group | 2015 | 71659 | 4.855270743 | 519 | 1744 | 0.297592 | 6.58 | 16.156 | 3.4 | 1.3 | 1.3 |
| I & M Bank Ltd | 2015 | 191723 | 5.282674216 | 685 | 292 | 2.34589 | 6.58 | 16.156 | 17.1 | 100 | 3.5 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| Kenya Commercial Bank KCB | 2015 | 558094 | 5.746707353 | 611 | 3025 | 0.201983 | 6.58 | 16.156 | 5.45 | 43.75 | 2 |
| National Bank of Kenya | 2015 | 125440 | 5.098436045 | 103 | 7214 | 0.014278 | 6.58 | 16.156 | -4.1 | 15.75 | 0 |
| NIC Bank | 2015 | 165788 | 5.219553092 | 380 | 3199 | 0.118787 | 6.58 | 16.156 | 13.3 | 43.25 | 1 |
| Standard Chartetered Bank | 2015 | 233965 | 5.369150894 | 258 | 1825 | 0.14137 | 6.58 | 16.156 | 20 | 195 | 17 |
| Cooperative Bank | 2015 | 342499 | 5.534659308 | 925 | 4889 | 0.1892 | 6.58 | 16.156 | 2.31 | 18 | 0.8 |
| Barclays Bank - Kenya Ltd | 2016 | 259498 | 5.414134015 | 376 | 42094 | 0.008932 | 6.3 | 16.575 | 1.05 | 11.6 | 1 |
| CFC Stanbic Holding Ltd | 2016 | 204895 | 5.311531361 | 288 | 30237 | 0.009525 | 6.3 | 16.575 | 12.1 | 83.5 | 4.4 |
| Diamond Trust Bank DTB | 2016 | 244124 | 5.387610477 | 297 | 36431 | 0.008152 | 6.3 | 16.575 | 20.3 | 197 | 2 |
| Equity Group Bank Ltd | 2016 | 379749 | 5.579496639 | 512 | 52341 | 0.009782 | 6.3 | 16.575 | 2.59 | 53 | 1.5 |
| Housing Finance Group | 2016 | 68085 | 4.833051442 | 851 | 9774 | 0.087068 | 6.3 | 16.575 | 2.7 | 1.9 | 0.3 |
| I & M Bank Ltd | 2016 | 164116 | 5.215150923 | 246 | 26186 | 0.009394 | 6.3 | 16.575 | 17.2 | 97 | 2.7 |
| Kenya Commercial Bank KCB | 2016 | 504778 | 5.703100419 | 726 | 80989 | 0.008964 | 6.3 | 16.575 | 3.45 | 41.05 | 1.5 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| National Bank of Kenya | 2016 | 115114 | 5.061128145 | 100 | 10996 | 0.009094 | 6.3 | 16.575 | 1.12 | 17.05 | 0 |
| NIC Bank | 2016 | 161847 | 5.209104654 | 253 | 30288 | 0.008353 | 6.3 | 16.575 | 11.3 | 37.25 | 1 |
| Standard Chartetered Bank | 2016 | 250274 | 5.398415735 | 352 | 43904 | 0.008017 | 6.3 | 16.575 | 14 | 135 | 13 |
| Cooperative Bank | 2016 | 349998 | 5.544065563 | 519 | 60045 | 0.008644 | 6.3 | 16.575 | 2.61 | 13 | 0.7 |

**SOURCE: (Nairobi Securities Exchange, 2017, Central Bank of Kenya, 2017, Zemele Asset managers, 2017, Kenya National Bureau of Statistics, 2017)**