

**EFFECT OF DIVIDEND POLICY ON STOCK PRICES VOLATILITY FOR
FIRMS LISTED ON THE NAIROBI SECURITIES EXCHANGE, KENYA.**

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**A Thesis Submitted to the School of Business and Economics in Partial Fulfillment
of the Requirements for the Conferment of Degree of Master of Business
Administration of Masinde Muliro University of Science and Technology**

July, 2021

DECLARATION

This thesis is my original work prepared with no other than the indicated sources and support, and has not been presented elsewhere for a degree or any other award.

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CERTIFICATION

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ABSTRACT

Different researchers have failed to reach a consensus after investigating how dividend policy and volatility of share price associate at over time and hence the endless debate on how dividend policy selected by a firm affects stock prices. The relationship between dividend decisions with finance, investment and firm value makes dividend decisions a central element of corporate finance. A more effective and efficient model for dividend decision making is required by managers and investors. Corporate managers will benefit from the finding of this study by understanding the role that the size of their firms play in moderating the effect of dividend policy on stock price volatility of listed firms. The corporate managers will be able to use the findings of this study to determine proper appropriation of their earnings on dividends and retained earnings for future capital gains and hence they would be able to maximize shareholders wealth. This study measures the effect of dividend policy measured by (Dividend yield, dividend payout ratio and earnings per share) on stock price volatility for firms listed on Nairobi Securities exchange. This study uses a longitudinal research design to determine :The effect of dividend payout ratio on stock price volatility for listed firms, the effect of dividend yield on stock price volatility of listed firms, the effect of earnings per share on stock price volatility of listed firms and the moderating effect of firm size on stock price volatility of listed firms. Purposive sampling was used for this study where only firms with complete data for the period of the study were sampled. 49 firms were found to have complete data for the period of the study. The research relied entirely on secondary data. Audited Financial statements of listed companies in Kenya were obtained from the NSE and CMA websites. was analyzed using multiple linear regression models and STATA 15 software. Using descriptive statistics data was analyzed using mean, standard deviation, min max, and variance. The findings of the study were presented in tables, charts and graphs. The findings indicated that dividend policy explained up to 35.71% variation in stock price volatility of listed firms. Further, multiple linear regression coefficients indicated that payout ratio and earning per share in that order have positive and significant effect on stock price volatility . However, dividend yield had a negative and significant effect on stock price volatility. Firm size had significant moderating effect on the relationship between dividend policy and stock price volatility as it moves R square from 30.08% to 35.71% accounting for additional 5.63% variance in stock price volatility. The study therefore, concluded that dividend policy influence stock price volatility of listed firms. The study recommended that listed firms Listed firms 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 price.

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ABBREVIATIONS AND ACRONYMS

NSE	: Nairobi Securities Exchange
IFC	: International Finance Corporation
PCM	: Perfect Capital Market
NYSE	: New York Stock Exchange
VIF	: Variance Inflation Factor
DASS	: Delivery and settlement system
CDS	: Central Depository System
ATS	: Automated Trading System
MIT	: Millennium Information Technologies

OPERATIONALIZATION OF KEY CONCEPTS

Dividend yield: It is the proportion obtained by dividing the dividend per share by the share price. The dividend yield is used to calculate the earnings on investment (shares) when only all dividends issued by the company during the year are taken into account.

Payout ratio: The dividend payout ratio is the proportion of a company's net income to the total amount of dividends paid out to shareholders. It is the amount of profit distributed to shareholders in the form of dividends.

Firm size: The size of a business unit is the same as the size of the firm. It refers to the size or amount of work produced by a particular company. The term "size of business" refers to the extent of a company's organization and operations.

Price volatility: A measure of the degree of fluctuation in stock prices over time.

Earnings per share: The fraction of a company's profit assigned to each outstanding share of common stock is called earnings per share (EPS).

Dividend policy: A company's board of directors establishes dividend distribution criteria. It establishes the parameters for giving returns to equity shareholders on the capital they have invested in the company.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Dividend policy's significance can't be underscored in the corporate world and as a result researchers have over time given it considerable attention. Return on investment and investor perspective are to a great extent determined by dividend policy, this makes dividend policy of a firm very crucial to investors. Future operations and survival of a firm is determined by the dividend policy adopted by the firm. Economic viability of a firm is assessed by the dividend policy decisions that it makes. Management of a company in the eyes of shareholders and potential investors is determined by dividend policy (Murekefu and Ouma 2012). Dividends are viewed by a majority of investors as a gauge of a company's performance which is computed each financial year as the firm pays out dividends (Chenchehene & Mensah 2015). A company's dividend decision determines dividend payout ratio (Adesina & Uwuigbe 2017). The company will remain with little funds available for investment on future projects and payment of creditors if a larger proportion of a company's earnings are distributed as dividends. This make payment of excess equity by a company very risky has the company would completely fail to meet it's obligations hence exposing it to takeover risk among other financial risks. A firm that allocates a lesser portion of its earnings for distribution as dividends is able to retain a greater proportion for investment in viable projects. A policy that a company adopts is directly influenced by the company's share price. Two major aspects anchor the rationale

of dividend policy which include: A greater proportion of cash being plowed back to the firm for purposes of expansion and diversification and the second aspect is determining the proportion of earnings to be distributed to shareholders as dividends.

On the importance and insignificance of dividend policy, various schools of thought have been documented (Thafani and Abdullahi 2014). Managers should examine a dividend policy that optimizes a company's share capital, according to empirical evidence from diverse scholars. Authors have attempted to shed light on dividend behavior, resulting in a variety of theoretical explanations. (Modigliani and Miller 1961) proposed the dividend irrelevance theory, which states that laws governing bonuses arising from shareholders' contributions to share capital have no effect on the firm's share price or share capital. By establishing that dividend payment is relevant, some researchers have come up with relevant hypotheses to argue against Miller and Modigliani. This hypothesis includes the bird in the hand theory (Gordon 1963, & Litner 1956), which claims that investors assign greater weight to shareholder bonuses because they believe dividends are more secure than capital gains returns. Firms employ dividends to transmit advantageous information to stakeholders, according to signaling theory. In order to thrive, companies must conduct thorough market research and develop sound strategy before making dividend policy decisions. Internal and external factors affecting share price should be determined through thorough environmental scanning as the factors too affect dividend policy.

Maintaining a long history of stable dividend payout by a company makes the company be negatively affected if it omits or lowers dividend distribution. Increasing dividends would have a positive impact on the companies as the increased distribution would send a

positive signal to stock market. Declaration of new dividends by companies without a dividend distribution history enables them to gain a positive image.

The greatest of research on the effect of dividend policy on stock market volatility has been conducted in advanced countries like the United States (Proffitt & Bacon, 2013). While using an OLS regression analysis to investigate the effect of dividend policy on stock price volatility of 599 firms in the US equity capital market from 2010 to 2012, dividend yield was found to have a negative relationship and an insignificant positive relationship between dividend payout and stock price volatility (Proffitt and Bacon, 2013). Zakaria, Muhammad, and Zulkifli (2012) evaluated the relationship between dividend policy and share price volatility in the Malaysian stock market, which is one of the research on the impact of dividend policy on stock price volatility in emerging economies. Hashemijoo, Ardekani, and Younesi (2012) investigated the link between dividend policy and share price volatility in the Malaysian stock market. Hashemijoo et al. (2012) discovered a negative association between dividend yield and dividend distribution on stock price volatility while studying 84 publicly traded consumer goods companies from 2005 to 2010. While examining a sample of 106 listed construction and mineral firms from 2005 to 2010, Zakaria et al. (2012) discovered a positive relationship between share price volatility and dividend payout ratio but an insignificant negative relationship between share price volatility and dividend yield for the listed firms. Hooi, Albaity, and Ibrahimy (2015) observed a negative link between dividend payout ratio and dividend yield and stock price volatility in a sample of 319 firms from the Kuala Lumpur stock exchange while investigating a sample of 319 firms from the Kuala Lumpur stock exchange.

The relationship between dividend policy and stock price volatility for firms listed on the Nigerian stock market has been studied by Sulaiman and Migiro (2015) and Ilaboya and Aggreh (2013). While examining the effect of dividend policy on share price volatility for 26 firms across sectors in the Nigerian Stock Exchange market from 2004 to 2011, Ilaboya and Aggreh (2013) discovered a positive relationship between dividend yield and stock price volatility and a negative relationship between dividend payout ratio and stock price volatility. Sulaiman and Migiro (2015) discovered that dividend per share and earnings per share have a substantial positive link with stock price volatility when investigating 15 firms listed on the Nigeria Stock Exchange from 2003 to 2012.

In separate studies, Ramadan (2013) and Alqudah & Yusuf (2015) investigated dividend policy and stock price volatility in the Jordanian stock market. Ramadan (2013), while examining 77 industry firms listed on the Amman Börse from 2000 to 2011, found an important negative impact on the share payout ratio and dividend returns on stock price volatility. Ramadan's (2013) findings show that dividend policy affects volatility in stocks prices. For companies listed on the Amman Stock Exchanges between 2001 and 2011, Alqudah & Yusuf (2015) found an important adverse impact on the ratio of dividend yields and dividends payout for stock price volatility. This research has been undertaken. The two studies acknowledge that dividend policy affects stock price volatility.

Several factors influence the dividend decision taken by a company. These factors vary in each country, industry and company. Different beliefs, culture, talent and management

philosophy are responsible for the differences in dividend policy factors. Almajaziri, Elsady & Hamdy, 2012.

In terms of market size, structure and performance, Kenya's capital market is developing and market dividend compared to developed countries, dividend behavior tends to be irregular. The Nairobi Securities Exchange (NSE) is a national securities market that engages the saving and investing public in more than 67 companies, including: The companies listed are classified into two main categories: the main business sector and the segment of the alternative investment market. These businesses have been listed by the NSE into thirteen fields. Including: Agricultural, Commercial and Services Financial Services, Exchange Trading Fund, Telecommunications and Infrastructure, Investment, Vehicles and Accessories, Banking, Insurance, Manufacturing and Allies, Building and Allies, Power and Petroleum, Real Estate Investment Trust. (NSE,2017). The market acts as a barometer to indicate how savings and investment are carried out. Capital market investors range from local to foreign, individual to young and old institutional with different objectives and expectations. Market managers (NSE management) and the regulator (capital market authority) are tasked with promoting and protecting the interests of investors in the market. One of the NSE listing requirements for a company to have a clear future policy on dividends (Kenya Gazette Legal Notice No.60 May 2002). This requirement requires serious management consideration to dividend policy.

Volatility of asset markets refers to the amount of risk or volatility associated with shifts in the valuation of the stock market. (Mgbame & Ikhatua, 2013). Security is more volatile and has the ability to exceed a broader range of values. The security price will then adjust

significantly in any way within a brief span of time. In the event that the value of a security does not fluctuate dramatically and appears to be steadier, this means that the security is less unpredictable.

Uncertainty about the returns provided by the investment is explained by volatility and is unique for every market (Kamuti 2013). A market's volatility is measured by the ability of past stock prices to reflect future stock prices. Stock return observed to be able to input the estimates of volatility of an underlying asset. Standard deviation is also used to refer to volatility in the financial markets.

Factors considered when looking at an option to determine its volatility include risk free interest rate, the current stock price, the expiration date, the stock dividends paid by the stock and the strike price (Ernayani et al 2017). Implied volatility and options value in the market is then calculated using options pricing model based on the factors considered when looking at an option to determine its volatility.

Combination strategies, which enable investors', determine investors using implied volatility calculate cheap or expensive options. Each option on a stock can and will most likely have different implied volatility due different expiration dates and strike prices.

There are benefits that accrue to non-options trading as well due to stock price volatility. However, traders should exercise care when applying stock price volatility in non-option trading and combine other technical indicators with volatility.

Stock price direction is majorly determined by implied volatility (Shaikh & Padhi, 2014). A fall in a stock's value which does not reflect a change in implied volatility makes the market not to worry about the change. However a rise in implied volatility that makes the market nervous about the downward potential of the stock in an extremely volatile market precludes investor sentiments change.

So far, the evidence suggests that dividend decisions in both developing and developed markets are inconsistent. The issue is still largely unresolved, but it is crucial to investors and business decision-making. As a result, the study looked into NSE market firms' dividend-paying behavior in terms of profitability, previous dividends, growth prospects, and business risk. The problem statement is explained below, along with objectives and hypotheses. The section concludes with a justification and study scope.

1.2 Statement of the Problem

Corporate managers, scholars and researchers have over time been preoccupied with Dividend payout decisions since there is no single consistent explanation of how and why firms should pay dividends, whether payment of dividends should be a continuous undertaking and what exact factors determine dividend payout by a firm. In Kenya's stock market, the dividend image of public firms seems unclear or confusing to investors. The dividend return of the listed companies is indicated as variable and (or) incoherent in several yearly reports (Bulla, Namusonge & Kanali 2017).

Payout and dividend profits influence an investor's decision to invest or not to invest and therefore they are key to making investment decisions. Dividend yield and riskiness of

investments are factors that investors pay close attention to since they may affect evaluation of a firm's shares in the long run. Stock price volatility therefore may be influenced by dividend policy. Despite years of empirical and theoretical research, dividend policy has continued to generate endless debate. These include the linkage between risk and dividend policy (Hashemijoo and Ardekanani 2012).

The relationship between dividend policy and volatility in share prices has been studied locally at various times by various researchers. Luvembe, Mungai & Mugami, (2014), Tuigong 2015 and Musyimi 2017) In their results, however, the researchers struggled to reach a consensus. For example Luvembe,(2014), found a substantial positive relationship between dividend payout ratio and stock price volatility among listed banking companies in Kenya. Musyimi (2017), on the other hand found an insignificant relationship between dividend payout ratio and stock price volatility. She also found a significant negative relationship between earnings per share and stock price volatility. Ramadan (2013) found that dividends have a significant effect on the share price and therefore its volatility in his study of the Jordan economy. It established a negative relationship with the share price volatility dividend yield and dividend payout ratio. In other countries and sectors, the researcher recommends further research. The aim of the study is to bridge the gap by analyse, by multiplying the regression by a complete departure of previous research approaches to the impacts of the dividend policy on stock-price volatility, of the companies listed in Nairobi Securities Exchange between 2012 and 2017.

1.3 Objectives of the Study

1.3.1 General Objective

The broad objective of this study was to determine the effect of dividend policy on stock prices volatility in Nairobi security exchange market in Kenya.

1.3.2 Specific objectives

The specific objectives of the study were to:

- i. To establish the effect of dividend payout ratio on stock price volatility for firms listed on Nairobi securities exchange market in Kenya
- ii. To determine the effect of dividend yield on Stock price volatility of firms listed on Nairobi securities exchange market in Kenya
- iii. To establish the effect of earnings per share on the stock price volatility for firms listed on Nairobi securities exchange market in Kenya.
- iv. To assess the moderating effect of firm size on the relationship between dividend policy and stock price volatility of firms listed on Nairobi securities exchange market in Kenya.

1.4 Research hypothesis

- i. **H₀₁**. Payout ratio has no significant effect on stock price volatility of listed firms on Nairobi securities exchange market in Kenya
- ii. **H₀₂**. Dividend yield has no significant effect on Stock price volatility of listed firms on Nairobi securities exchange market in Kenya.
- iii. **H₀₃** Earnings per share has no significant effect on stock price volatility for listed firms on Nairobi Securities exchange market in Kenya.
- iv. **H₀₄** .Firm size has no moderating effect on the relationship between dividend policy and stock price volatility of listed firms on Nairobi securities exchange Market in Kenya.

1.5 Significance of the Study

The findings of this study will be beneficial to various stakeholders; The management of listed firms will be able to use the findings of this study to make the right decisions in regards to the dividend policy to adopt. This would be achieved by the management of the companies listed at the Nairobi Securities exchange market using the findings of the study to determine the effect that the dividend policies adopted has on the value of their shares and hence the market value of the firms.

Investment advisors/fund managers, financial consultants, and other investment industry stakeholders Financial consultants and other investment industry stakeholders, such as stock brokers, stock dealers, investment banks, authorized security dealers, credit rating agencies, collective investment schemes, custodians, and venture capital funds, will benefit

from the study's findings in providing proper services to their clients, such as proper advice on available investment options.

The NSE and CMA will use the findings of this study to come up with regulatory policies that will ensure maximum investor protection by developing appropriate rules and regulations with regard to sufficiency, transparency and promptness of information disclosure as well as equal access to information by investors.

The results of this assessment can be used by scholars and researchers as a framework for further studies. Investors can understand the relationship between dividend policy and the share value of a company and be able to make sound financial decisions in terms of which companies invest their funds and, as a consequence, by using the results of this analysis, prevent risky investment decisions.

1.5 Justification of the Study

Dividend policy is one of the most important aspects to consider when deciding on an investment strategy. Given information on dividend yield and payout ratio, an investor can perform a better and more accurate financial analysis and other ratios. As a result, determining the impact of dividend policy on stock price volatility is critical. This research is significant because its findings will be of interest to a wide range of stakeholders. The conclusions of this study may be used as a basis for formulating dividend policy by senior management of listed companies, particularly finance managers, whose primary goal is to maximize shareholder wealth in a Kenyan setting. The study's findings could aid in making strategic investment decisions that maximize shareholder profit. Shareholders will also

gain insight into the theory and practice of dividend policy, as well as its implications on stock price volatility of publicly traded companies, which will aid in the appraisal of management's decision-making efficiency. The findings of the study could help shareholders monitor management's decisions and ensure that the purpose of management is to enhance shareholder value. This study will also be available to academics and scholars from educational and research institutions, who will use it as a reference for future research.

1.6 Scope of the Study

The scope of this study was restricted to the firms trading at the Nairobi Securities Exchange Market in Kenya. Firms which have consistently traded at NSE from 2012 to 2017 were the focus of the study. Dividend yield, earnings per share and payout ratio were the independent variables focused by the study with firm size as the moderating variables and stock price volatility as the dependent variable.

1.7 Limitation and delimitations of the study

The study focused on the period between 2012-2017 when the Kenya's capital markets experienced intermittent volatility following a period of electioneering. The choice was therefore appropriate to assess stock price volatility dynamics over a period of six years.

Firms that were consistently listed for the 6 years of the study were considered. Hence a sample of 49 firms out of the 64 listed was considered. The findings for this study were specific to companies listed on the NSE and therefore may not be applicable to all emerging

markets and may also not be used to generalize behavior regionally or for other developing markets.

The publicly available information was inadequate especially in delisted firms. Data was not available from most firms which were delisted. This narrowed down the scope of the study to the 49 firms whose data was available. The study could have been conclusive if conducted across all firms listed in the Nairobi Securities Exchange. The study focused on listed company's whose operations are regulated and hence the data obtained is reliable and might be used for prediction.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews related literature with regard to dividend policy and stock price volatility. The chapter reviews the theoretical literature, empirical studies and captures the independent variables as Earnings per share, Dividend Payout Ratio and dividend yield and dependent variable as stock price volatility. Firm size is captured as the moderating variable for this study. This study is anchored on three theories namely: Dividend signaling theory, Bird in the hand theory and the Agency Cost Theory.

2.2 Theoretical Framework

This study employed the concepts drawn from the three theories to explicate dividend policy and how it relates to stock volatility of firms listed on the NSE.

2.2.1 Dividend signaling theory

In 1977, Stephen Ross and Solomon Ezra advanced this notion. They found that empirical research showed a comparable increase in share prices for firms with a considerable increase in dividends payment, while those firms, which failed, or considerably curtailed payment of the dividend experienced a similar decline in share prices. In his view, investors preferred a dividend rather than capital gains.

This is a hypothesis that announcing an increase in a company's dividend payments delivers strong indications of the company's bright prospects. A dividend payment announcement is being made highly positive on the market and helps to develop a very positive image of the firm with relation to future growth and stability. Firms utilize dividends in order to share profit with shareholders and, if this happens, they may decide to dividend them when they plow profits back into the firm for development and expansion. When directors decide to give a dividend, they normally publicize the amount and timing, which means that shareholders are aware of what they should expect.

These statements are well anticipated and observed because they believe investors can give information on the financial well-being of the company. Generally, when the amount of the dividend to be paid to shareholders is changed, the company makes dividend signage.

A change in the dividend policy of a firm is observed in practice to have an effect on its share price. Increase in dividend is believed to result to an increase in share price and shareholders wealth while a reduction in dividends is believed to result to a decrease in shareholder's wealth. This pattern according to signaling theory leads to a conclusion that shareholders prefer dividends to future capital gains (Nnamdi, 2009).

Williams (2000) and Miller and Rock (1985) created basic signaling theory models, demonstrating that, in a world of asymmetric knowledge, better educated insiders employ dividend policy as a costly signal to communicate their firm's future prospects to less informed outsiders. They recommend that managers construct dividend payment levels and that the levels are raised to indicate private data to investors. They argue that when

management believe that the present market worth of an undertaking's shares is below its level, they change the dividends level by boosting them so that public investors can receive private information. The increase in dividend payment is a reliable signal if other companies that do not have positive information inside the company cannot duplicate the increase in the dividend until it is possible for the dividend to decline later on. Accordingly, the theorists argue that the dividend signal hypothesis verifies a positive (negative) price reaction to higher (lower) cash payouts.

The theory consists of the following assumptions: The notification of dividend changes is positively associated to the reactions to share prices and future earnings changes. Knowledge is not available simultaneously to all parties, and asymmetry of information is the rule (Houston 2013). Asymmetries in information can result in very low assessments and a policy on investment that is inadequate. The theory suggests that financial actions of companies are signals conveyed to investors by management to address these inequalities. The key to financial communications policies are these signals. These signals In this instance, managers know more than investors, so that investors locate "signals" in the behavior of managers to find insights into the company. The hypothesis simply indicates that the company's announcements of an increase of dividend payments indicate that the company has excellent prospects for the future.

The change in dividend payments should be seen to indicate the company's future income prospects to shareholders and investors. A dividend payment increase is often seen as a favorable signal that provides positive information regarding the future profit potential of a firm, leading to an increase in the share price. On the other hand, a decline in the payment

of dividends is seen as a negative indicator of future chances for income, which results in a fall in share and investment worth.

According to dividend signaling theory, managers with positive investment potential are more likely to use signaling than managers with no positive investment potential. The idea also points to a prediction of the company's future performance by means of dividend increases and to a decrease in companies paying less dividends in comparison with firms paying high amounts of dividends.

The idea is relevant to our research because it argues that a dividend decision may have an information signaling effect that corporations will take into account when deciding on their policy. The decision has significant implications for the company's capital structure and stock price. Furthermore, the ruling may have an impact on the amount of taxation that investors must pay. Companies with future investment opportunities will also use the theory to seek funds from present and potential investors.

According to the signaling dividend theory, dividend decisions are important, and the bigger the company's payout, the higher its value. However, a corporation should always make judgments favoring its long-term goals, because investors and shareholders should not take the lead. A dividend action provides a clear tool to make a remark in an unsure world where oral comments are misinterpreted/ disregarded which talks louder than a lot of words. This idea relates to the payout rate for dividends since it says that an increase in dividends shows positive future performance for a company. The theory also suggests that only when managers monitor their positive potential will managers send this signal.

2.2.2 Agency Costs Theory

An agency relationship exists between the management and shareholders according to agency theory. (Easterbrook, 1984, Jensen and Meckling, 1976; La Porta , Lopez-de-Silanes, Shleifer et al 2000). A conflict of interest always exist between the management and shareholders. This conflict arises as while, the management aims at maximizing compensation, the shareholders are focused towards maximizing their wealth. Steps are therefore taken by management to assure the shareholders that management is working for their best interest.

External debt and external equity are the key causes of agency problems in businesses. The agency's theory focuses on how the principal and the agent communicate. The theory's key problem is the relationship with the owner manager and the need for monitoring of shareholder control behavior. The need for oversight is due to the allocation of power and control and the related conflicts of interest between shareholders as managers and managers as agents. The theory of the agency postulates that organizational and management oversight can help minimize agency conflicts and ensure that executives are not in a position to abuse their position in the markets. The consequences of collective action can make it impossible for certain shareholders to control the actions of management. As a result of conflict of interest with customers, management should also use dividend strategies as a method to reduce organization expenses. Increasing payout ratio will help solve the issue of the agency (Easterbrook, 1984). According to Easterbrook businesses, higher dividends would be charged and required to go to the stock market to raise additional investment finance needed, if they will like to pursue planned investment.

Via supervision by prospective buyers of the organization and its executives, agency concerns may be minimized.

A paradigm was developed (Rozeff, 1982) that underpins the cost theory of the agency as the model of cost minimization. The paradigm of cost minimization blends transaction costs with agency costs, with the impression that the optimum compensation ratio is at the level of minimizing the sum of transaction and agency costs. The principle of agency costs seeks to explain the idea of agency costs and to propose ways in which organizations can minimize or reduce agency disputes. By modifying their dividend plans, companies more frequently eliminate agency disputes.

The theory is based on ten propositions as follows: the agent is more likely to perform in the principal's interest because the contract between the agent and the principal is based on outcomes (Jensen& Meckling 1976). The second proposal the agent is likely to act in the principal's benefit, because the principal has knowledge to validate the actions of the agent. The third proposition is that data sources are negatively related to contracts based on performance and positively related to contracts based on actions. The fourth suggestion is that outcome instability is negatively linked to contracts based on outcomes and positively related to contracts based on actions. Harris& Raviv (1979). The fifth proposition is that the agent's risk tolerance is negatively linked to contracts based on performance and positively related to contracts based on actions (Ouchi, 1979). The sixth proposition is that the principal's vulnerability version is positively linked to contracts based on result and negatively related to contracts based on conduct. The seventh proposition is that the conflict of priorities between the principal and the agent is positively related to contracts

based on performance and negatively related to contracts based on actions (Perrow, 1986). The eighth proposition is that work programmability is negatively linked to contracts based on performance and positively linked to contracts based on actions (Eisenhardt, 1985, 1988). The ninth proposition is that the measurability of outcomes is positively linked to contracts based on results and negatively related to contracts based on conduct (Anderson, 1985; Eisenhardt, 1985). The tenth suggestion is that the duration of the agency agreement is negatively linked to contracts based on performance and positively related to contracts based on actions (Lambert, 1983).

Agency issues has been broadly observed in different academic fields. Evidence in fields like corporate governance, (Hastori, Siregar, Sembel &Maulana, 2015) and accounting (Fauzi & Locke, 2012). Agency theory has become one of the most important theories in finance and economics literature due to the existence of agency problem in different types of organizations. The agency cost theory proponents argue that there is a revolution at hand and a foundation of a powerful theory of organizations is being developed (Jensen 1983). While exploring the ownership structure of corporations which included an evaluation of alignment of manager's interest with those of the owners through equity ownership by managers, Jensen& Meckling 1976 described agency interest as why certain contractual relations arise. Governance mechanisms identified by researchers in support of agency cost theory are captured in two propositions by Jensen.

The first proposition is the ability of outcome based contracts as an effective tools in curbing agent opportunism (Fama and Jensen, 1983). It is argued that outcome-based contracts are capable of balancing the choice of agents with those of the principal when the

compensation for both depends on the same actions and thereby tends to minimize the conflict of interest between the agent and the principal. The second proposition is the capacity of information systems to curb opportunism among agents. Jensen claims that since the principal is told by knowledge structures regarding the agent's behavior, they can curtail opportunism since the agent can realize that the principal will not be fooled by him/her.

According to Fama (1980), efficient capital and labor markets play a role of information mechanisms and aid in controlling the self-serving behavior of top executives. The information role of board of directors in minimizing agency conflicts and controlling behavior is also discussed by Fama and Jensen. (Fama&Jensen 1983). The Agency's cost theory solves two sets of problems, attempts to solve a real problem by checking the behavior of the agent and tackles the complexities of tracking risk attitudes. Agency cost theory attempts to settle disagreements between the principal and the agent in the event that there is a real difficulty checking the behavior of the agents. In cases where the principal and agent behave differently because of their risk preferences, the theory also suggests solutions.

Agency theory helps understand the relationship between financiers and existing shareholders. Agency cost theory is important in instances where financiers are private equity operators or venture capitalists as they may also act as managers or shareholders. This theory links to dividend yield which is an independent variable for the study. Agency problem caused as a result of free cash flow is experienced by firms with high yields while firms that maintain their dividend yield low are able to avoid such agency problems.

2.2.3 Bird in the Hand Theory

Bird in the hand theory proponents contend that the capital expenditure of a business is not influenced by the dividend strategy. It also argues that the cash payout strategy that a company adopts would not impact returns on capital necessary. (Gordon, 1963) and (Litner, 1962) are some of the theorists who contend that a decline in the cash dividend ratio leads to a rise in the returns on capital expected as the resulting capital gains are unpredictable than the return earnings and rising equity values of investors from the cash dividends paying rises. Bird in the hand theorists claim that investors would rate a dollar received from cash dividends higher than a dollar they earn from capital gains. The theorists argue that today's cash dividend dollar will be less expensive than a dollar in capital gains in the future. Investors use a stable cash flow per share to measure share prices and discount them at a rate that represents the risks. Therefore, low-cash dividend shares with high potential yields on capital gains would be less risky than high cash dividend shares. This also suggests that the share price would decrease as remaining profits rise towards potential capital gains.

The theory of Bird in the hand suggests that cash dividend shares are less risky. The hypothesis further notes that less risky stocks will be more profitable if other factors impacting the share price are stable. Rozeff (1982) notes that management understand the presence of volatility risks involved with business earnings and thus choose low cash dividends as they do not want to be forced to unpredictable profits in the coming years because of the decreased rate of cash dividends that shareholders are familiar with as shareholders evaluate the continuity in the amount of cash dividends rather than stock

dividends (Gombola and Feng-Ving, 1993). A drop in the rate of distribution of cash dividends can be due to the high risk posed by a company, resulting in a decline in the amount of cash dividends charged.

The theory of Bird in the Hand postulates that cash dividends are less costly relative to capital returns, and investors would favor the allocation of cash dividends by firms compared to retaining earnings to turn them into capital gains. Therefore, investors are prepared to pay more for the stock of a company with cash dividends relative to a company that maintains the earnings for potential capital returns while all other variables are kept stable. The principle of Bird in the hand suggests that a corporation whose primary aim is to increase its share price should follow a high dividend payout ratio (Baker and Powell, 1999). The main proponents of the bird in the hand hypothesis are (Walter, 2012), Myron Gordon (1963), and John Litner (1962). The rationale adopted by the bird in the hand principle is that if financial dynamics are unpredictable and data is asymmetric, dividends are evaluated differently from capital gains. The hypothesis is based on the following assumptions: the company's eternal earnings flow, the company is supported from equity alone, the company's retention rates are stable, there are no corporate taxes and the cost of capital is higher than the rate of expansion.

Intrinsic value is used to determine the price of a share (Penman, 2007), i.e the value of a share is determined by the money the share generates. The sum of present value of expected net inflows in the form of dividends received and the present value of the selling price are the determinants of the intrinsic value of a share. A model was developed by Gordon & Shapiro 1956, to determine the value of a company which is based on discounting future

dividend payments. According to the model developed by Gordon and Shapiro 1956, high dividends over time lead to an increase in share price. They also note assert that a reduction in funds available for investment which results in a lower rate of dividends is caused by dividend payment.

A company that maintains low level dividend pay will be faced with high discount rates and a result the company would be forced to increase its share price due to low cost of capital so as to be able to offset its decline based on growth. Litner, (1956), found out that managers prefer to maintain dividends at a certain constant level while examining dividend policy of a sample of firms. The concept of sticky dividends was introduced by Litner where it states that managers deliberately maintain amount of distributed dividends at a level that is comparable to previously distributed dividends. This helps weaken fluctuations in dividend pay as compared to fluctuations in stock.

According to Litner, determining the amount of financial reserves and retained earnings are dependent on the size of dividend payment therefore dividend policy is an important part of corporate governance (Zakaria and Zulkifli 2012. Bird-in-the-hand theory affirms that investors would prefer dividend payment over capital gains due to uncertainty, in a world of uncertainty and information asymmetry. The view that “a bird in hand is worth more than two in the bush” is consistent with the bird in the hand theory perspective. (Information about the prediction of the company can be obtained from dividends paid by the company).

It is unrealistic to believe that the investors and management have the same data even though it is assumed that investors and management have perfect knowledge about a company. Because of the difference in the level of information possessed by investors and managers, firms to send a signal to the investors that their companies are financially stable and have the potential of remaining profitable use dividend payment. This theory links to earnings per share, an independent variable for this study. The theory suggests investors preference for certain current dividends as opposed to future unpredictable capital gains.

Independent Variable

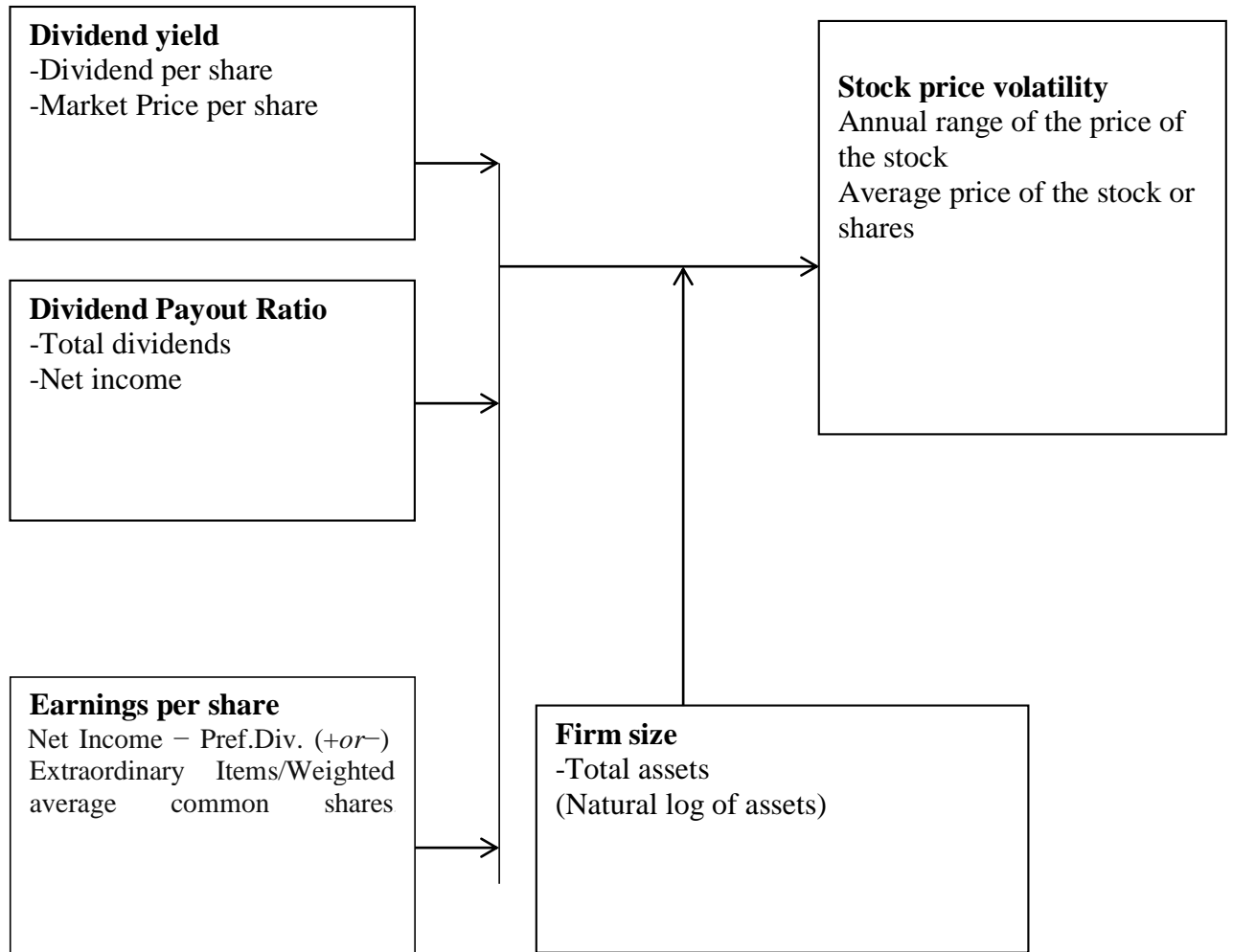


Figure 2. 1 Conceptual Model of impact of dividend policy on stock price Volatility for firms listed on the Nairobi Securities Exchange Market.

Source: Researcher, 2019

2.4 Review of Variables

The study has five variables of interest. The independent variables are dividend payout ratio, dividend yield, and earnings per share stock price volatility is the dependent variable while firm size is the moderating variable.

2.4.1 Dividend Yield

A dividend is a payment to shareholders from excess profits by an organization Johnson & Hackbarth (2011). Usually it is expressed as an amount per share. If you compare the dividends of corporations, you utilize dividend income or just profit. Dividend returns are the amount of dividends divided by the inventory price. This displays the proportion of the buyer's share price – investment in the company; dividend returns. The dividend yield is the return on investment for shares in the absence of any capital gains

In the dividend importance group, there is a widespread assumption that investors are not oblivious to how earning sources under conditions of volatility are divided into dividends and retained earnings. The investment incentive open to the firm should decide the dividend strategy of the company, according to (Hashemijoo & Ardekani, 2012).

(Hashemijoo & Ardekani, 2012) argued that firms should not pay dividends to shareholders provided that investment opportunities exist where a rate of return (r) that is higher than the firms weighted average cost of capital (K_o). However if no such opportunities exist, payment of dividends should be made out of the firm's profits.

In the opinion of Wodung (2014), the future raises the volatility of the dividend. Shares with a better dividend payout ratio are able to pay a higher price for them and retain buyers. According to the other school of thought, market prices of shares are not affected by the dividend policy of a company. Investors therefore prefer current and certain dividends as opposed to uncertain future returns since they are risk avoiders. A conclusion can therefore be made that market value is dependent on dividend payout.

A study conducted by Luvembe, Mungai & Mungami (2014) concluded that there is a substantial relationship between share price volatility and dividend yield, where the size of the business, the level of earnings growth, dividend payout and the degree of growth have had a big effect on dividend yield and stock returns.

The results are in accordance with Gordon's concept of dividend pertinence theory, which states that dividend policy has a major beneficial effect on stock prices as it states that companies that pay their shareholders more dividends face lower stock price volatility risk.

Investors buy shares of a common stock according to (Sinha, 2015) with the sole intention being able to earn potential profits. Dividends, capital gains or share losses are part of an investor's projected future profits. Consequently, the valuation of the stock fund is determined on the basis of the discounted value of the potential capital returns if distributions are to come in. Sinha (2015) notes that the current value of projected dividends is expressed in equity values over a long time.

In Memon and Channa (2017), the market share price of non-financial corporations in Pakistan for 2006-2015 was subject to the effects of dividend payment and dividend

returns. The study examined the strong negative effects on stock market prices of dividend income and dividend payments' significant beneficial influence.

Waheed and Ali (2017) looked at the relationship between dividend policy and share price volatility for the top 10 businesses listed on the Pakistan Stock Exchange (PSX) from 2007 to 2016. The relationship between share price volatility and dividend policy is determined by six (6) independent variables: dividend yield, dividend payout, firm size, firm growth, earning volatility, and leverage. Based on the findings of this study, all independent variables have a significant impact on share price volatility, indicating that firms that pay regular dividends to shareholders are less volatile. The report stresses that the relationships will be found by future researches taking up the specific industry and concentrating on the other associated variables.

2.4.2 Dividend Payout Ratio

Dividend payments were investigated and discussed in the financial literature. Many theoretical models were developed to depict the aspects management should take into account in making policy decisions on the dividend. The dividend payment means the management' methods in deciding over time on the size and pattern of cash distribution. Miller and Modigliani (1961) claim that a decision of dividend has no impact on the value of the company and hence unimportant.

In theory, dividend policies are crucial to stock price determination. The current value of all future predicted stock dividends should be equal to the stock price. This study assessed the impact of dividend policy on price volatility for several NSE companies. Different

schools of thought examined the subject of dividends and stock pricing. There is a school that says that decisions on dividends are independent of the current worth of a firm, and instead depend on the value of the investment strategy of the company. They presume that external financing expenses compensate for any profit from dividend distributions. (Miller, Miller (1961). This school is sure of the prospective earnings of the company, a market without competitors and reasonable investors. This view is further enhanced by the concept of preferential payments of capital gains as a result of tax concerns. Since capital gains attract fewer taxes, some investors see it higher in relation to each dividend.

Enhardt, (2013) found that setting corporate dividend policy has remained controversial which requires judgment by decision makers. Therefore, no single explanation of dividend payments has been reached.

Irandoost, Hassanzadeh, & Salteh (2013) research in Tehran stock market shows a significant effect of dividend policy on stock price movement in the short term and not in the long term. Ramadan (2013) found both payout ratio and dividend yield to have a significant negative relationship with stock price fluctuation in the Jordanian market. He suggests that Jordanian managers for the studied firms are able to use adaptive dividend policies to impact stock price volatility and recommends that duration effect and signaling theory can be used to explain stock price movement in Jordan. Al-Shawawreh (2014), a study conducted on the same market, reveals that although stock price fluctuations are considerably, negatively associated to the payment rate for the dividend, the dividend yields are marginally linked positively with stock price variations.

Lashgari and Ahmadi have identified a major negative association between the price movement and the payout ratio (2014).

Shah and Noreen (2016) found in their study of the market in Pakistan a substantial negative correlation for both the dividend yield and the dividend payout ratio. In the study of dividends policy and stock price shifts in the construction and material companies listed, Zakaria, Muhammad and Zulkifli (2012) discovered that their payout ratio has a substantial positive association to stock price volatility. In Malaysia, Hashemijoo and Mahdavi-Ardekani (2012), Hooi, Albaity, Ibrahimy (2015) and Zainudin, Mahdzan, and Yet (2018) research indicate that both the yield and payment ratios of dividends have a negative effect on the volatility in stock prices.

In Kenya, Wanjiru,(2013), established a significant positive relationship between dividend policy and stock price volatility for firms listed on NSE between 2011-2015. The results of her study agree with the finds of Mohammed,(2015), who found that announcement of dividends has an effect on NSE stock returns. However the findings disagree with the results by Njeru,(2015) , who found a negative relationship between dividend policy and share price volatility for firms listed on NSE

There exist a conflict in the empirical research results related to the influence of dividend policy on stock price volatility, the conflict in empirical results may be attributed to the different research approaches used and sample sizes selected.

2.4.3 Firm Size

Decision on dividend payment of a firm may be influenced by firm size. Large firms due to their ability to access additional funds for investment from the capital markets (Alzomania and AlKhadhiri, 2013) can do high dividend payout. Since large firms can access additional investment funds from the capital markets, their dependence on retained earnings as a source of funds is reduced and therefore they are able to pay high dividends. Consequently, retention dependency is reduced as a fund source and is more likely to pay more.

Conflicting results on the relationship between stock price volatility and dividend policy have been observed in the UK, (Hussainey and Chijoke-Mgbame 2011) found firms with higher dividend payout ratios or dividend yield to decrease volatility in stock prices. Hussainey and Chijoke-Mgbame (2011), established that larger firms experienced less stock price volatility compared to smaller firms and stock price volatility was high for company's with large amount of debts. Previous studies that have found a negative moderating influence of firm size on stock price volatility for both developing and developed countries include: (Hussainey et al., 2011, Hashemijoo et al., 2012; Profilet & Bacon, 2013, Hooi et al., 2015;; Jahfer & Mulafara, 2016). There exists a probability of a negative relationship between firm size and stock price volatility since larger firm's activities are more diversified and are highly scrutinized by market investors and regulators thus they tend to have more informed and less volatile stock prices.

Asghar et al. (2013) found out that firm size shuffles the positive relationship between dividend policy and stock price volatility because of the variant nature of firm size in various sectors leading to the increase in sensitivity of the relationship between dividend policy and stock price volatility. Company size mixes different company's financial factors with investment amount and capital structure.

Small businesses' common equity, on average, has higher risk-adjusted returns than those of large corporations . A number of observational papers in literature have shown that the size effect is prevalent in many countries. In order to settle over time, the negative relation between irregular returns and firm size has been observed. Munyua,(2014).

A study of 189 companies in insurance, shipping, banking, and other sectors for the period 1937-1963 showed that portfolis earnings of the highest and lowest price rose by 32 percent and 90 percent respectively in price. Higher returns result from higher earnings on rates, i.e. (Munyua, 2014).

Chaudry, Igbal & Butt, 2015, found that corporate size moderates the link between dividend policy and stock price volatility. The idea of managers as a key factor in decision-making and policy-making is to increase the corporate stock prices towards premium prices which would provide more profit for the enterprises and dividends for shareholders (Chaudry, Igbal & Butt,2015).

Kimani and Olwenyi (2021) discovered that dividend payout ratio had a negative affect on small enterprises among the selected commercial banks in Kenya, i.e. stock price volatility decreased as the firms increased dividend payout ratio. For modest enterprises, they have

constantly established a link between the volatility of stock price and dividend distribution. The findings are consistent with those of Muhannad et al. (2018), who conducted a study to investigate the effect of dividend policy on the stock price volatility of firms listed on the Amman Stock Exchange and discovered, using the moderating effect of firm size, that size has a positive and significant relationship with stock price volatility, implying that the price volatility and share price risk of larger firms are higher.

According to the research, the size of a company has a considerable negative impact on stock price volatility in both emerging and established countries. However, research in Kenya that have looked at firm size as a moderating factor in stock price volatility have concentrated on certain sectors, such as (Kimani & Olwenyi,2021), which looked at selected commercial banks listed on the Nairobi Stock Exchange. As a result, the goal of this research is to determine whether firm size has a moderating effect on stock price volatility of listed companies across all sectors that have regularly traded on the NSE between 2012 and 2017.

2.4.4 Earnings per share

Earnings per share (EPS) refers to the percentage of the earnings of a company, inclusive of preferred stock dividends and taxes assigned to each share of common stock. In deciding the price of a bond, this is known to be the single most significant element. EPS is a more widely accepted denominator often used for financial results benchmarking.

Khan et al (2011) have found that earnings per share, dividend yield, equity rates and profit following taxes have a positive influence on share prices while the retention ratio has

negatively affected stock prices in their study of the impact on stock price dividend payments on fifty five Karachi Stock Exchange companies. Kanwal et al., (2011), showed a substantial positive relationship with stock price volatility and an unimportant negative link between equity, retention and dividend returns on inventory and stock price volatility in Pakistan's chemical and pharmaceutical industry.

Khan (2012) has researched the influence on the stock prices of chemical and pharmaceutical business in Pakistan of the dividend announcements. Panel data was utilized to explain the relationship between equitable, earnings per share and retention rate between stock prices and dividends after adjusting equity returns. The ratio for retention, cash dividends, and equity returns have been identified to substantially and positively explain stock price variability in the chemical and pharmaceutical industries in Pakistan whereas a negative relationship between share earnings and stock price volatility was established.

Emamgholipour et al. (2013), utilized as an independent variable prices on earnings and the ratio of value to book and profit on shares to assess the influence on stocks of chosen financial factors. Emamgholipour et al. (2013) For a five-year period from 2006 to 2010, they sampled registered companies in the Tehran Stock Exchange. For the investigation, they have utilized the F-Limer test and regression model. The results of this study demonstrated a significantly favorable effect on stock return per share, but stock returns had a negative impact on book value and price-to-earnings ratio.

Mgbame & Ikhatua (2013) used GARCH models in order to determine the relevance as an independent variable of performed billing data used in the Nigerian stock exchange book value, dividends per share and returns per share and stock value volatility. For the period between 2000 and 2010, they tested 10 firms listed on the Nigerian bourse. The results suggest that the stock price impacts of DPS, EPS, and BVPS are substantial and beneficial.

Menike and Prabath examined the relationship between financial variables and stock price on a sample of 100 companies listed on the Colombo Stock Exchange from 2008 to 2012. They discovered that earnings per share, dividend per share, and book to market value all had a positive and significant impact on stock price (2014). Independent variables of the study were dividends per share, dependent variable were income per share and book for market value and stock price volatility.

The maximization of earning per share will result the highest price for the company's shares. Share prices may increase and reduction in rejoinder to variations in the value. Earnings per shares is a part of a firm's income that is due to apiece remaining parts of mutual stock. Earnings per share also help people to have a better insight of dissimilar company's power to make money (Inyiama and Ozouli, 2014).Momentous influence of earnings per share on s company's stock prices performance make it to be considered very important in the financial sector. (Pin yak, 2014)

In comparison to older firms with a long operating experience, younger companies with potential growth aspirations appear to be more susceptible to current success, so short-term EPS performance is a significant metric for them . Top executives who are obsessed with

the relationship between the share price, the possibility of losing their job and their prestige prefer to rely on short-term metrics such as earnings per share. When businesses face extreme pressure to fulfill consumer demands, EPS appears to be underachieved by just a few cents. In reaction to earnings shocks, the assumption that short term earnings rather than long-term cash flow projections influence share price shifts is strengthened by major share price fluctuations.

2.5 Empirical Review

A variety of factors have been found in previous empirical studies to affect the effect that dividend policy has on stock price volatility. The decision on dividends is among the most critical decisions that managers will take. Dividend policy influences the primary goal of shareholders to increase their capital by dividends.

It is important for Companies to strike a balance between pay ratio and retention ratio Khan et al, (2011). Khan et al in their finding conclude that there is no significant relationship between dividend payout and share price.

A positive relation between the three independent variables (Debt Equity, Earnings per Share, Dividend Payout Ratio) and the dependent variable was stated in the results (market share price). Limungi (2011) found that during the time under review, the ex-dividend day behavior of stocks traded on the NSE revealed unique behaviors that needed to be further studied. In general, however, most stock prices on the dividend date fell.

Ramadan (2013) discovered that dividends greatly influence share prices and thus their volatility in his analysis of Jordan's economy. It established a negative association with the share price volatility dividend yield and dividend payout ratio. These results are consistent with the UK market results of Hussainey et al. (2011) and with the Nigerian market results of Okafor, Mgbame, Chijoke-Mgbame, (2011). He contended the company's confidence and faith in the performance of a company that leads to stable share prices if it increases its dividend. Likewise, if corporate dividends are lowered, the performance of the company sends a bad signal to the market that drives investors to doubt their businesses. This causes shares prices to fluctuate. Incorporation of two control variables "size and growth," he enhanced his basic dividends model. Size has been shown to be significantly detrimental in connection to share price volatility. unfavorable associations. negative association. In his study of the Malaysian construction companies and materials companies Zakaria et al. (2013) used corporate size as a moderating variable in their study of the Nigerian stock market and found that corporate size was significantly adverse to inventory price volatility for the Malaysian construction and equipment companies and companies listed on the Nigerian stock market.

In this unpublished thesis, Njonge (2014) adopted a descriptive research design to enable a better description of the analysis of the effects of dividend policy on the share prices of companies listed on the Nairobi Stock Exchange. He evaluated the data using the statistical model for social scientists in order to generate simple descriptive statistics and correlation coefficients (SPSS). The association between income per share and share price and debt equity and payout ratio was positive. He found it positive. This analysis demonstrated that

company payout plans are described in the ratio between earnings per share and debt equity.

Fawaz (2014) has created a pooled panel database based on available financial information consisting of the balance sheet, income account and cash flow statement, and related details of publicly quoted companies, while investigating the impact of the Jordan Stock Exchange Dividend Policy on stock price fluctuations. He determined that there is no statistical importance to the dividend payout on stock market volatility. He also contended that there was no significant connection between price and stock price movements. While examining the relationship between stock dividend and stock price volatility, he determined that the stock dividend and stock price volatility had a notable statistical influence.

Otieno (2016) employed descriptive survey design for 61 businesses listed on NSE by 31 December 2015, in his study on how dividend policies effect share price volatility. A negative association between the dividend income and payout ratio has been detected by Otieno. Otieno concluded that there is a negative, negligible association between payout and stock price volatility, while assessing the effect of the payout ratio on stock price volatility. He endorsed Khan's (2012) conclusions on the impacts of dividend announcement on pharmaceutical, chemical and industrial stock price in Pakistan.

Chelimo & Kiprop, (2017) employed historic research design and descriptive design for six insurance companies listed in NSE for their study on the impact of dividend policy on share price performance. Their results showed that companies show high volatility, followed by income per share volatility. Inflation rates were likewise highly volatile.

Chelimo & Kiprop concluded that during the era, Kenya was the cause of high fluctuation between the market and political forces.

Ahmad, Ashraf & Hussein (2018), in their study about the impact of dividend policies on stock price volatility, used the Parkinson model (1980) to determine if stock prices followed a normal distribution pattern as a large sample was used, and by ignoring the impact on the company's current ex-dividend, the standard deviation could be achieved. This conclusion reflects the success in developed economies of companies such as US companies. The dividend policy affects the stock price volatility of listed firms, on the Amman bond, Jordan, by utilizing descriptive analyses, Pearson correlation, and GMM panel analysis. The dividend return and dividend payout ratio, the two primary policy considerations for dividends, were adversely influenced by changes in share prices. The results correspond to previous studies, such as (Hussainey 2011).

The higher the dividend return and dividend payments, the lower the volatility of the stock price, corresponding with the high dividends yield hypothesis of the long-term effect, the closer to the cash, removes uncertainty over the cash flows of the firm (Ahmad, Mohammad and Alrabba, 2018). Furthermore, as high dividends represent the robustness of the firm, the negative link between high dividend income and high dividend income complies with the notion of signaling. But the policy on dividends and hypotheses regulate the insecurity and risks of stock prices are also determining factors. In further important investigations, these fields should be taken into account.

The findings from the empirical review demonstrate that, since studies in both developing and advanced countries examined empirical literature, the impact of dividend policy on stock prices volatility may take any direction depending on the political environment and the state of the economy, and other global events.

2.6 Critique of Relevant Literature

The purpose of this study was to assess the influence of the dividend policy on NSE listed businesses' stock prices volatility. The research established factors of dividend policy (dividend income, dividend payout and profit per share) as independent variables and as control variable, as the dependent variable the size of firm and volatility of stock prices. A variety of different elements and events are affecting stock prices that do not belong in the preceding research and which can influence stock prices directly or indirectly. Some of the factors that influence or forecast stock buying and selling, and hence stock prices, can be divided into quantitative and qualitative categories. Qualitative aspects include corporate goodwill, market feelings, worldwide situation, changes in government policies, excitement for investors, reporting by analysts and unforeseen situations. Includes take-over/fusion, stock splitting, margin loans, inflation, availability of money, interest rates, and exchange rates. The literature evaluated in this study shows that earlier investigations focussed on different variables or targeted bourses outside of Kenya than those selected for this study. Previous research has found inconsistent outcomes in different situations and with different factors for the study. Some of the NSE's research looked at the listed companies separately, according to the industries in which they operate. To establish a proper conclusion on how the various dividend policies adopted by corporations in the

various sectors affect their stock price volatility, this study aggregated all firms listed at NSE together, divided by industry or market segment.

To determine the adequacy of the study's model, researchers used multiple regression analysis with fixed and random effects. Because this study used fixed effects to establish model appropriateness, it was possible to account for uniqueness by allowing the intercept to vary among cases while the slope coefficients were considered to be constant across firms. Allowing for variance in the intercept allowed for more information about the characteristics to be shared across cases, allowing for the detection of potential changes in the intercepts due to unique aspects of the cases and their settings. Random effects allowed for the estimate of general baselines and fluctuation of the variables under investigation, allowing for the separation of false correlations caused by other factors. This technology is essential for social scientists who frequently struggle to keep their research participants safe from harm.

Multiple regression enabled the researcher understand the functional relationship between the dependent and independent variables. Multiple regression is beneficial in some respects, since it can show the relationships between more than just two variables. Use of standard multiple regression to determine the appropriate model for the study enabled the researcher determine the predictive value of the overall model and how well each independent variable predicted the dependent variable. The researcher expected that use of fixed and random effects and multiple regression to determine suitability of the model would improve model fitness as compared to studies done by other researchers on the effect

of dividend policy on stock price volatility for firms listed at the Nairobi Securities Exchange market.

Second, the study looked at the impact of a number of variables on stock price volatility, including dividend payout ratio, dividend yield, earnings per share, and business size. When combined with other ratios, information on dividend payout ratio and dividend yield allows an investor to do a more thorough and accurate financial study of a company, and hence their perceived impact on stock price volatility. One of the most important aspects that can influence a company's dividend policy is its size. Large corporations are more likely to pay higher dividends because they may have easier access to the financial markets (Alzomania and AlKhadhiri, 2013). As a result, the company's reliance on retained earnings as a source of funding is lessened, and the company is more likely to pay a greater dividend. Earnings per share (EPS) is a key metric for developing investing strategies and portfolios. Other researchers whose work has been examined have not used this mix of variables..

Many theoretical and empirical studies have been done to determine the effect that dividend decisions made by firms have on the market value of their shares. Zakaria,(2012), Alifani & Nugroho, (2013), Wodung, (2014), Otieno,2015, and Muhannard Ashraf & Hussein (2018). have all analyzed data in both developed and developing markets to determine the impact of dividend decisions on stock price volatility.

In order to minimize stock price uncertainty, Wodung (2014) used ordinary least square multiple regression (dependent variable against dividend yield and dividend payout

(independent variables) and leverage and firm scale as control variables for (13) companies listed on the stock exchange market in Nigeria. Tugoi (2015) to assess the effects of dividend policy on stock price volatility for NSE-listed companies performed a random generalized least square regression. The weighted average price declined as control variables against the cash dividend per share and net assets per share, retained earnings per share, debt equity ratio and earnings per share.

Nigerian stock exchange market is a growing market just like the Nairobi securities exchange market. A prevalent misconception among Nigerian investors is that a high dividend yield means that the dividend paid is a significant component of the stock price return, and that this is the most relevant metric. This makes Nigeria stock market an important market to compare with together with other growing markets such as Ghana and Botswana stock exchange markets.

2.7 Summary of Literature Review

It was shown in the reviewed literature that the dividend policy has a direct impact on stock prices. For example, Hussainey et al (2011) found that firm size and debt impacted the volatility of stock prices in England. A further research found a negative size relationship, although there was a positive relationship between leverage. Otieno, (2016) results showed that the payout ratio had an insignificant negative relationship with the volatility of the stock price of the NSE-listed companies.

A test of the relationship showed a negative, negligible relationship when determining the relationship between dividend yield and stock price volatility. The results of Otieno agreed

with the findings of Khan (2012) on his research on the effect of the dividend announcement on the stock price of Pakistan's chemical and pharmaceutical industry.

However, there are other dividend policy determinants and assumptions that govern the volatility and danger of share prices. Additional research of relevance should take these fields into account. Njonge (2014) registered a positive correlation between the three predictor variables (debt equity, earnings per share, dividend payout ratio) and the dependent variable (Price's market share).

While establishing the relationship between firm size and stock price volatility, Otieno established a positive significant relationship between the firm size and the stock price volatility. Chelimo & Kiprop (2017), discovered that dividend payout had a significant negative relationship with the share price at a 5 percent significance level.

Muhannard Ashraf & Hussein (2018) revealed that dividends policy effects stock price volatility in Amman bourses, Jordan, by the implementation of the descriptive analysis, Pearson correlations, and the GMM analysis panel. Dividend yield and dividend pay-out ratio, two fundamental dividend policy criteria, have a negative impact on share price fluctuations. The results are consistent with those of Hussainey et al (2011). This implies that, according with the time effect theory, the higher the dividend return and dividend payout, the lower the stock price volatility, eliminating uncertainty about corporate cash flows and resulting to a drop in discount rate swings and an increase in price stability. Moreover, the negative relationship between high dividend rates and high dividend payouts

conforms to the signaling theory, because big dividends show the robustness of the company.

These studies would also be helpful in illustrating the association between dividend policy and fluctuations in equity prices at the NSE.

2.8 Research Gap

Several studies on the impact of dividend programs on equity prices on stock markets have been undertaken in developing countries and a few have been conducted in emerging markets. In addition, Kenyan dividend decision studies (Otieno 2016, Musyimi 2017) found a significant negative relationship between earnings per share and stock price volatility. The authors recommended further research to be done in other companies. For instance, most studies on NSE have focused on specific sectors e.g. Musyimi (2017), has focused on non-financial firms listed on NSE while studies by Tuigong (2015), he recommended further research to be done in other sectors. This study intends to fill the gap by examining the effect of dividend policy on stock price volatility for firms listed on NSE. The study also incorporates firm size as a moderating variable to establish whether the size of a firm influences the ability of the dividend policies adopted to influence stock prices volatility.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research approach that will be utilized to carry out the investigation. This chapter discusses research design, study area, study population, data collection processes, measurement scales used to operationalize the study variables, and validity and reliability. The chapter describes how the necessary data will be gathered, processed, and evaluated in order to answer the research questions specified in chapter one.

3.2 Research design

A research design, according to Gray (2014), is the procedures for collecting, analyzing, interpreting, and reporting data in research initiatives. Through study design, the conceptual research problem is linked to meaningful and doable empirical research. The research design outlines the procedure for collecting data for a study, as well as the data collection and analysis methodologies that will be employed, as well as how the research problem will be addressed. A study design is also a technique that demonstrates how to tackle the problem under consideration. The purpose of a research design is to guarantee that the information acquired enables the researcher to respond to the research question as quickly as possible. A longitudinal research design was used for this study.

This study used a longitudinal research design to identify and link events to specific exposures, as well as to further define these exposures in terms of their presence, timing,

and chronicity, as well as to establish a sequence of events and track changes over time for specific individuals in a population. The use of a longitudinal research design allows for the measurement of the same variables for the same participants at least twice across time (Hassett & Paavilainen-Mäntymäki, 2013). The longitudinal research design can indicate how the anticipated result evolves over time and if the changes can be attributed to changes in independent variables, as well as provide information on underlying relationships and temporal order of events.

3.3 Location of the Study

The Nairobi Securities Exchange (NSE) is a leading African exchange situated in Kenya, one of Sub-Saharan Africa's fastest-growing economies. The NSE, which was founded in 1954, has a six-decade history of listing equities and debt instruments. It provides a world-class trading platform for local and international investors interested in Kenya's and Africa's economic development. Nairobi Securities Exchange is located in Westlands in Nairobi city, approximately 4.1 kilometers from Embu-Nairobi highway-Nairobi highway A2, 4.5 kilometers from Embu-Nairobi highway through Meru to Nairobi through highway A2 and parklands road, and 5 kilometers from Murang'a road.

3.3 Target Population

Target population is the group from which the sample is drawn Banerjee and Chaudhury (2015). A target population is the whole collection of measurements, items, or people who make up the sum of all potential measurements within the scope of the study. The sixty-four (64) listed corporations as of 2017 were the study's target population (NSE Quarterly

report 2017). Firms listed on the NSE were chosen for this study because the NSE is a developing market and few studies on stock price volatility have been conducted in developing markets, the listed firms are subjected to scrutiny by the regulator (CMA), and thus present a positive image to stakeholders, allowing the results to be compared and generalized to similar developing markets. Unlike previous studies that have focused on listed firms in individual sectors ,this study focuses on listed firms across all sectors that have consistently traded on NSE between 2012-2017 and incorporates the moderating effects of firm size and hence the results are expected to be different.

3.4 Sample and Sampling Techniques

Purposive sampling was used to select the samples. Companies in the various categories that had complete financial information for the research period were sampled. For this study, a total of 49 listed companies with comprehensive data were used. The deliberate selection of an informant based on the attributes they possess is known as purposeful sampling, also known as judgment sampling. It's a non-random technique that doesn't necessitate any underlying assumptions or a set number of informants. Simply put, the researcher identifies what data is needed and then seeks out persons who can and will provide it based on their knowledge or experience (Bernard 2002).

3.5 Data Collection Instruments

The research relied entirely on secondary data. panel data from financial statements of listed companies in Kenya which are available both at the CMA website and the NSE website were used for the study. The NSE handbook was also used to provide the data

required for this study. All secondary financial data was extracted from the published financial statements of the companies under examination. Published financial statements were obtained from individual firms website. The firms were supposed to have published their accounts for a period of 6years 2012-2017.CMA is a major licensing institution for listed firms and hence was used as an authoritative source for information on listed firms.

Table 3.1 Operationalization and Measurement of Variables

Source: Researcher, 2020

Variable	Name of variable	Operalization	Measurement
Dependent Variable	Stock Price Volatility	Historical Volatiliy	Annual range of the price of the stock / average price of the stock or shares
Independent Variables	Dividend Yield	Cash dividends paid out to shareholders. Market value per share	(Cash Dividend per share/Market Price per share.)*100
	Dividend payout ratio	Total earnings distributed to stockholders	Total dividends/Net income
Control Variables	Earnings per share		Net Income – Pref.Div. (+or-) Extraordinary Items/Weighted average common shares
	Firm Size	Total Assets by the firm	Total value of Assets held

3.6 Data analysis and presentation

Both descriptive and inferential statistics were used in the data analysis. Descriptive statistics is the term used to interpret data and seeks to explain, illustrate or summarize data in a concise manner such that trends can arise from the data. Different tests were subjected to the secondary data, including: stationary test, normality test, multicollinearity test, and heteroscedasticity test. Data was presented in form of tables and charts. Empirical pooled data (firm year observations) collected from the NSE handbook and CMA handbook available at the NSE and CMA websites respectively for the period 2012-2017 was analyzed using multiple linear regression models and STATA 15 software. The researcher used STATA to analyze data since it's a complete integrated software package which provides multiple data needs such as data manipulation, visualization, statistics and automated reporting. STATA is also efficient in running repetitive analysis and is an efficiently organized program.

3.7 Descriptive Statistics

Descriptive statistics was used to determine the statistical properties in order to enable the researcher select proper functional form of the model. Using descriptive statistics data was analyzed using mean, standard deviation, min max, and variance (Babbie,2009).

3.7.1 Model Specification and Rationale of Variables

Correlation technique was used to check for highly correlated variables so as to avoid the problem of multicollinearity which is a common problem in time series data. The secondary time series and cross section data was pooled into panel data set. The researcher conducted multiple regression analysis and converted data to its natural log in order to eliminate heteroscedasticity. The researcher used multiple panel unit root tests which can be arranged in groups by cross-sections such as dependence, independence or homogeneous. This research used Multivariable regression model for testing panel data. The model used was as shown below:

Stock price volatility $_{it} = \beta_0 + \beta_1 \text{dividend yield}_{it} + \beta_2 \text{dividend payout}_{it} + \beta_3 \text{Earnings per share}_{it} + \varepsilon_t$.

$$SPV_{it} = \beta_0 + \beta_1 dy_{it} + \beta_2 dp_{it} + \beta_3 eps_{it} + \varepsilon_t,$$

Where,

SPV_{it} = Stock price volatility for period t.

β_0 = Intercept, a sample-wide constant

dy_{it} = Dividend Yield period t.

Eps_{it} = Earnings per share period t.

Dp_{it} = Payout ratio **period t**

ε = error term

$\beta_1, \beta_2, \beta_3$ = coefficients for the respective determinants.

With moderating variable

$$SPV_{it} = \beta_0 + \beta_1 dy_{it} f_{zit} + \beta_2 dp_{fzit} + \beta_3 eps_{fzit} + \epsilon_t,$$

F_{zit} = Firm size period t

3.8 Ethical Consideration

Ethical standards were considered throughout the research process in this study. The study ensured a true representation of analyzed data, and a high level of confidentiality for the collected data. The researcher sought approval from Masinde Muliro University of Science and Technology school of graduate studies allowing data collection process to commence and applied for a research permit from National Council of Science, Technology and Innovation (NACOSTI). The certificate is essential in research to avoid potential conflict with sources of information. Ethical consideration in the field of academia is important because it protects the researcher who may encounter adverse treatment while collecting data.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter discusses the interpretation and presentation of the findings and presents analysis of the data on the impact of dividend policy on stock prices volatility in the Nairobi securities exchange market in Kenya. Specifically the study focuses on payout ratio, dividend yield, and earnings per share on stock price volatility. Firm size is used as moderating variable. The chapter also provides the major findings and results of the study.

4.2 Descriptive Statistics

The descriptive statistics entailed Minimum, Maximum, Mean and standard deviation. The results are as shown in Table 4.1.

Table 4. 1: Descriptive Statistics

YEAR	Payout Ratio	Dividend Yield	Earnings Per Share	Firm Size	Stock Volatility	Price
2012						
Min	0.29	-10.35	-137.81	10.30	0.19	
Max	150.00	93.70	99.36	22.01	70.05	
Mean	10.33	9.68	30.38	15.80	7.69	
Stdev	26.59	16.39	34.06	1.91	12.95	
2013						
Min	0.25	0.38	1.88	10.39	0.27	
Max	190.77	172.73	99.60	22.01	45.37	
Mean	9.87	14.01	33.79	15.89	7.28	
Stdev	30.87	27.80	22.29	1.92	9.90	
2014						
Min	0.13	-2919.33	-4857.55	10.55	0.34	
Max	129.23	999.39	210.61	22.01	200.09	
Mean	8.70	-90.13	-68.72	16.00	14.20	
Stdev	23.20	606.59	700.80	1.94	35.97	
2015						
Min	0.09	-9.37	-60.00	3.68	0.29	
Max	207.67	189.93	138.90	22.01	86.67	
Mean	9.11	16.91	34.48	16.05	9.58	
Stdev	29.53	40.29	34.22	2.65	17.51	
2016						
Min	0.19	-13.73	-1162.93	10.65	0.19	
Max	139.26	85.50	152.89	22.00	145.48	
Mean	8.83	9.77	10.86	16.09	8.85	
Stdev	20.85	19.64	174.14	2.05	21.43	
2017						
Min	0.03	-11.54	-1456.13	11.49	0.13	
Max	56.72	84.05	143.84	22.02	42.43	
Mean	6.58	8.06	8.87	16.11	6.28	
Stdev	10.06	15.99	216.33	2.05	9.13	

TIME SERIES DATA

Min	0.03	-2919.33	-4857.55	3.68	0.13
Max	207.67	999.39	210.61	22.02	200.09
Mean	8.90	-5.28	8.28	15.99	8.98
Stdev	24.34	249.55	307.98	2.09	20.03

Table 4.1 shows summary statistics between 2012 and 2017 for each variable used in the study. From Time series summary for study period, payout ratio ranged from 0.03 to 207.67 with a mean of 8.90. The distribution had a standard deviation of 24.34. Further, dividend yield ranged from -2919.33 to 999.39 with a mean of -5.28. The distribution had a standard deviation of 249.55. Earnings per share ranged from -4857.55 to 210.61 with a mean of 8.28 and standard deviation of 307.98. Log of total assets which measured firm size ranged from 3.68 to 22.02 with a mean of 15.99 and standard deviation of 2.09. Lastly, stock price volatility ranged from 0.13% to 200.09 with a mean of 8.98 and standard deviation of 20.03. Figure 4.1 shows scatter plot for stock price volatility between 2012 and 2017.

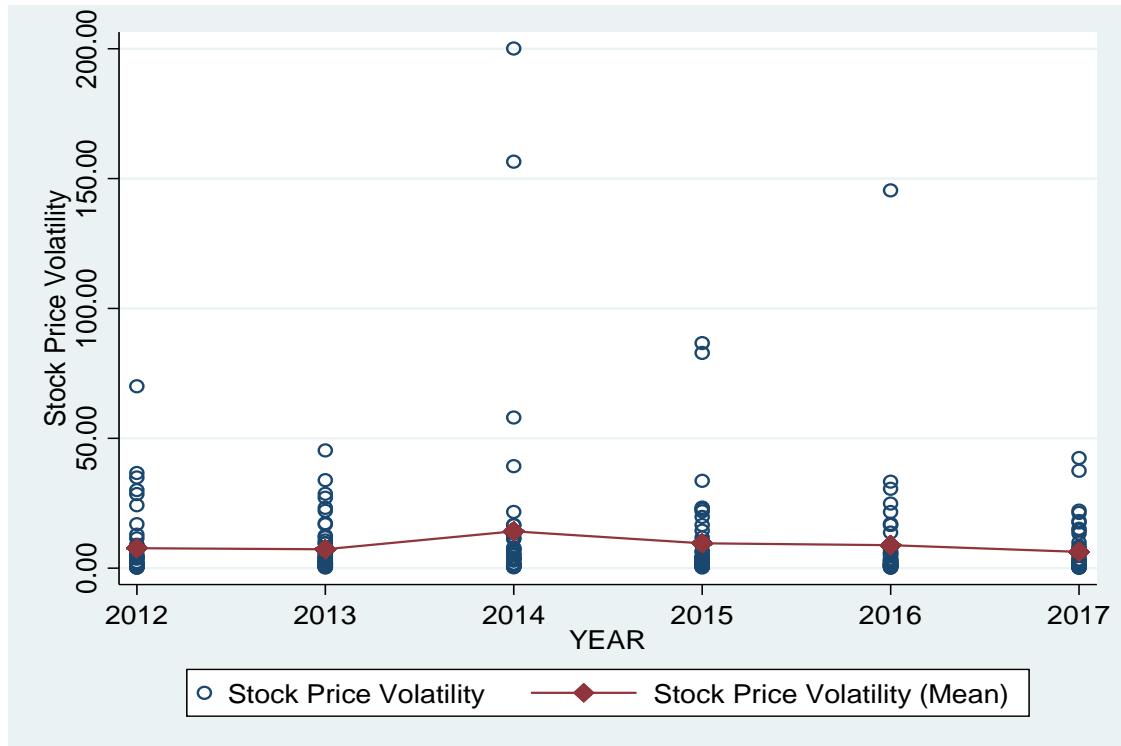


Figure 4. 1:Scatter Plot for Stock Price Volatility between 2012 and 2017

The price volatility above show that there is great variation for the period 2012-2017.

4.4 Panel Unit Root Test

The study performed a unit root test to guarantee that no unit roots were present (the panel data are stationary). Unit root test were conducted to ensure that the series were stationary and check the problem of having a spurious regression. A variable can only be said to be stationary when it has no unit root. The study used both Levin-Lin-Chu and Im Pesaran and Shin test (IPS). Westerlund and Breitung (2009) in particular demonstrate, in relation to the less restrictive, alternative, that local power is stronger for the Levin, Lin, and Chu (2002) tests than that of Im, Pesaran, and Shin (2003), even when they are not all stationary.

The two tests are based on the following hypothesis

Ho: All panels contain unit roots

Ha: At least one panel is stationary

The results are as shown in Table 4.2

Table 4. 2: Unit Root Tests

	Levin-Lin-Chu		Im Pesaran and Shin test	
	Statistics	P-Value	Statistics	P-Value
	-8.6642**	0.000	-	0.000
Payout ratio			3.6001**	
	-45.0993**	0.000	-	0.009
Dividend yield			2.3674**	
Earnings per share	-26.1697**	0.000	-1.5958*	0.033
Firm size	-39.0489**	0.000	-2.5936*	0.004
Stock price volatility	-6.8185**	0.000	-2.1840*	0.014

** sig at 1% level, * sig at 5% level

The summary findings for the Stationary Test can be seen in Table 4.2. A p-value above 0.05 indicates the presence of unit roots, whereas a p-value under 0.05 indicates that the unit roots were not present for both Levin-Lin-Chu and Im-Pesaran-Shin tests. The results indicated that there was absence of unit root for the study variables. This showed that all variables are stationery, there was no problem of unit root, and the results can proceed for further inferential statistics.

4.5 Correlation Analysis

The study then tested the link between independent and dependent variables using correlation analysis. The results are as shown in Table 4.3

Table 4. 3: Correlation Analysis

		DY(ln)	EPS(ln)	DPR(ln)	TS(ln)	SPV(ln)
DY=Dividend yield	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	294				
EPS=Earnings Per Share	Pearson Correlation	.150*	1			
	Sig. (2-tailed)	.010				
	N	294	294			
DPR=Dividend Payout Ratio	Pearson Correlation	.013	-.360**	1		
	Sig. (2-tailed)	.822	.000			
	N	294	294	294		
TS=Total Assets	Pearson Correlation	.048	.047	-.056	1	
	Sig. (2-tailed)	.410	.420	.337		
	N	294	294	294	294	
Price Volatility	Pearson Correlation	-.065	.373**	.223**	.179*	1
	Sig. (2-tailed)	.266	.000	.000	.017	
	N	294	294	294	294	294

The findings in Table 4.3 demonstrate that there was no clear association between the variables (payout ratio, dividend yield, earnings per share, firm size and stock price volatility). The dividend yield and stock price volatility relationship is -0.065, P=0.266. This suggests that the dividend yield and stock price fluctuations have a negative and negligible linear relationship. These results agree with Nazir et al. (2010), who discovered

a negative and important association between dividend policy and the fluctuation of stock prices. However, the assessment of Joshi (2011) found that the dividend yield was positively linked to market price. Suleiman et al. (2011) showed that share price volatility had a significant positive relationship with dividend yield

As shown by the correlation coefficient of 0.373, $P=0.000$, earnings per share had a significant and optimistic relationship to stock market volatility. In the Nigerian stock exchange market, Uwuigbe, Olusegun and Godswill (2012) analyzed the determinants of share prices. The study showed that earnings per share had a favorable impact on the price of stocks. Khan (2012) shows, however, that the important negative relation between earnings yield and share price was significant. Bougatef (2011) observed that the yield of profits was insignificantly related to the price of the business.

The correlation study was used to test the relationship between the payout of dividends and stock fluctuations, which showed a major positive impact on the share price. Similarly, 0.223, $P=0.000$ was the relationship between the dividend payout ratio and the volatility of the stock price. This suggests that there is a positive and significant linear association between the volatility of equity prices and the dividend payout ratio. Khan (2012) revealed a strong and meaningful correlation between dividend payout and stock prices, while Onyango (2018) found that the dividend pay-out ratio had a negative but negligible share price relationship.

4.6 Diagnostic Test for Regression

Prior to undertaking regression analysis, diagnostic tests were required to ensure that the traditional linear regression model's assumptions were met. This ensures that the estimations generated are long-term and efficient (2000). Osborne and Waters (2002) stated that the results produced would be erroneous and biased when the assumptions of regression are not followed. The study used the following diagnostic tests to confirm adherence to the assumptions: normality/linearity test, heteroskedasticity test, serial autocorrelation test, and multicollinearity test for all study variables.

4.6.1 Normality Test

The normality was tested using the Jarque-Bera (JB), Skewness and Kurtosis. The results are as shown in Table 4.4.

Table 4. 4: Normality Test

Stats	DY(ln)	DNE(ln)	DPR(ln)	TS(ln)	SPV(ln)
skewness	0.433369	0.354401	-0.83708	-0.53307	0.355634
kurtosis	6.526841	4.458344	11.85897	5.344775	2.697722
Jargue-Bera	11.6	32.21	9.957	24.50	7.317
Probability	0.068	0.107	0.217	0.054	0.258

Normality was tested using skewness, Kurtosis and Jargue-Bera. Skewness of value smaller than 2 and kurtosis value smaller than 6 should be considered normal (Tabor,

2011). From Table 4.6, all variables have Skewness less than 2. This implies that are normally distributed and the data was adequate and met the assumption of linearity. This observation was also supported by kurtosis values which were less than 6 except for dividend yield, dividend payout ratio and total assets which measured firm size. A more robust technique called Jarque-Bera (JB) was utilized in the study to determine the normalcy further. The study could not reject the null hypothesis because Jarque-probability Bera's for study variables was higher than 5 percent.

4.6.2 Testing for Heteroscedasticity

For heteroscedasticity, the researchers utilized the Breusch-Pagan/Cook-Weisberg test. The null hypothesis claims that the variance is constant, whereas the alternative hypothesis claims that heteroscedasticity exists. When homoscedasticity is violated, heteroskedasticity increases. According to the findings (table 4.5), the p value of 0.808 was greater than the significance level (0.05), meaning that the study accepts the null hypothesis of homoscedasticity. These findings indicate that the data was homoscedastic.

Table 4. 5: Testing for Heteroscedasticity

Breusch and Pagan Lagrangian multiplier test for random effects

Price_Volatility1[FIRMID,t]=Xb+ u[FIRMID]+ e[FIRMID,t]

Estimated results:

	Var	sd = sqrt(Var)
PFL	1.888987	1.374404
E	0.379372	0.615932
U	0.742499	0.861684

Test: Var(u) = 0
chibar2(01) = 58.82
Prob > chibar2 = 0.808

4.6.3 Testing for serial correlation (Independence)

As serial correlation biases standard errors in linear panel-data models and makes results less efficient, researchers must define serial correlations in the idiosyncratic error word in a panel-data model.

Table 4. 6: Testing for serial correlation (Independence)

Wooldridge test for autocorrelation in panel data
H0: no first order autocorrelation
F(1, 48) = 11.124
Prob > F = 0.071

Wooldridge tested this premise with an autocorrelation. The study tried to test the zero hypothesis that there was no serial first-order correlation. The study showed no first-order serial correlation from the results shown in Table 4.6, as the p value was larger than 0.05, which led to the study failing to reject the null Hypothesis. The results showed that this is not the first-order serial correlation. It was shown that the results followed the premise that the residues were not associated over time and therefore sufficient for examination of the panel regression.

4.6.4 Multicollinearity

Multi-linearity also known as collinearity indicates if two or more variables employed in a regression model have a high correlation, meaning one can be foreseeable linearly with higher accuracy in relation to other variables. The researcher tested collinearity by using variance inflation factor (VIF). This component measures the high level of multicollinearity in the analysis of regression. It shows the index the magnitude of the increase in variance when due to collinearity the regression coefficient is raised. Further research would be required of a variable with a VIF value greater than 10. The dividend yield variable VIFs =1,143, earnings per share =2,573 and the payout ratio of dividends

=1,633 were lower than 10 as a result of the findings. This implies that there was absence of multicollinearity. Pertinent results are as shown in Table 4.7.

Table 4. 7: Multicollinearity

	Tolerance	VIF
Dividend Yield	.875	1.143
Earnings Per Share	.389	2.573
Dividend Payout Ratio	.612	1.633

4.5 Regression Results for Secondary Data

This study tested the direct influence of independent variables (payout ratio, dividend yield, and earnings per share, and moderating variable firm size) on stock price volatility. The purpose of linear regression analysis was to establish the contribution of independent variables to stock price volatility of firms listed on Nairobi securities exchange market in Kenya. Random and fixed effects model was used after applying Hausman test.

4.7.1 Linear influence of dividend Payout ratio on stock price volatility

The first goal was to see how the dividend payment ratio affected stock price volatility for companies listed on Kenya's Nairobi securities exchange market. A random-effects GLS regression was used in conjunction with the Hausman test to investigate the association between dividend ratio and stock price volatility for companies listed on the Nairobi securities exchange market in Kenya. In order to calculate the contribution of the payout ratio to stock price fluctuations, the R square was used. The observations are as shown in Table 4.9.

Table 4.8: Regression Results of Payout ratio on stock price volatility

Random-effects GLS regression	Number of obs =	294
Group variable: FIRMID	Number of groups =	49
R-sq:	Obs per group:	
within = 0.3604	min =	6
between = 0.4574	avg =	6
overall = 0.3709	max =	6
corr(u_i, X) = 0 (assumed)	Wald chi2(1) =	162.42
	Prob > chi2 =	0.0000

SPV	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]	
DPOR	0.03124	0.0024516	12.74	0.000	0.02605	0.03644
_cons	9.240821	1.725558	5.36	0.000	5.858789	12.62285
sigma_u	11.0639					
sigma_e	10.73612					
Rho	0.515032	(fraction of variance due to u_i)				

The dividend payout ratio accounted for 37.09 percent (Overall R square=0.3709) of the variation in stock price volatility of firms listed on the NSE, according to the results of a random effect model. Because the model used random effect regression analysis, the study used Wald chi-square to measure the goodness of fit. The results revealed Wald chi-square = 162.42 with a p-value of 0.0000. The partial regression coefficient for dividend payout ratio was 0.03124 shows that increase in one percent in dividend payout ratio across time and listed firms makes stock price volatility to increase by 0.03124 units. The regression model is as shown below

$$SPV_{it}=9.240821+0.03124DPOR$$

The study concluded that the model employed to link dividend payout ratio and stock price volatility was statistically significant, rejecting the null hypothesis that the model had a good fit. Increasing the ratio of dividends would enhance the volatility of stock prices among NSE-listed companies. This finding is in agreement with. Nishat and Irfan (2003) revealed a positive and considerable share price volatility influence with the dividend payment ratio. Abu and Adebayo (2019) nevertheless observed that the payout ratio for dividends had a negative effect on Nigeria's stock prices.

As investors' appetite for dividends ranges over one probability, investor demand represents time-varying risk expectations or 'emotions.' "Time" (Baker and Wurgler, 2004) In particular, investors may favor "safer" dividend-paying stocks in low-sentiment cycles (e.g., recessions), whereas investors prefer "riskier" stocks that spend their earnings rather than spread them in good times (e.g., booms).

Baker and Wurgler (2004) argue that because certain investors prefer cash rewards in the form of dividends, firms may simply cater to their preferences. Investors prefer dividend-payers who give them back cash because it is perceived much safer than stock market volatility. Some investors, therefore, see dividends as a signal of a company's growth investment opportunities, so they prefer non-dividend-paying companies because they assume that the companies have retained income to finance lucrative future projects. Investors prefer dividend shares to reduce the interest conflict between shareholders and managers. Consequently, there are several explanations about why investor preferences or uninformed dividend demand changes. In contrast, there are investors who are looking for

capital gains from growing companies and, for this group of investors, dividends are undesirable.

4.7.2 Linear Influence of Dividend Yield on Stock Price Volatility

The second objective of the analysis was to determine the influence of the dividend yield on the volatility of stock prices for companies listed on Kenya's Nairobi securities exchange market. In order to determine the relationship between dividend yield and stock price volatility of companies listed on Kenya's Nairobi securities exchange market, a basic linear regression analysis was performed. In this analysis, the stock price volatility lag was added as the first analysis found that the dividend yield has little major direct effect on the volatility of the stock price. This was done according to the advice of Maniagi (2018). The observations are as shown in Table 4.10.

Table 4. 9: Regression Random Effect of Dividend yield on Stock Price Volatility

Random-effects GLS regression		Number of obs =	245
Group variable: FIR MID		Number of groups =	49
R-sq:		Obs per group:	
within = 0.0111		min =	5
between = 0.5608		avg =	5
overall = 0.2812		max =	5
corr(u_i, X) = 0 (assumed)		Wald chi2(1) =	24.54
		Prob > chi2 =	0.0000

SPV	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]	
DY	-0.02626	0.062648	-0.42	0.675	-0.14905	0.096525
SPVL1	5.468736	1.112349	4.92	0.000	3.288573	7.6489
_cons	2.83156	2.290794	1.24	0.216	-1.65831	7.321433
sigma_u	9.66036					
sigma_e	14.18125					
Rho	0.31696	(fraction of variance due to u_i)				

The result obtained from random effect model indicated that dividend yield accounted for 28.12% (Overall R square=0.2812) of the variation in stock price volatility of firms listed on the NSE. The findings revealed Wald chi-square = 24.54 with a corresponding p-value =0.0000. Dividend yield was shown to be negatively connected to stock price volatility of firms listed on the NSE, according to the research. Dividend yield had a regression coefficient of -0.02626, implying that a unit increase in dividend yield across time and listed firms reduced stock price volatility by 0.26264 units. The p-value for dividend yield was 0.675, which was higher than the adopted significance level of 0.05, indicating that the link was statistically insignificant. The regression model is depicted in the diagram below.

$$SPV_{it}=2.83156-0.02626DY$$

Therefore, the study rejected the null hypothesis that dividend yield has non-significant influence on stock price volatility of firms listed on the NSE. According to the findings, a rise in dividend yield will result in a comparable decrease in stock price volatility for firms listed on the NSE. The considerable inverse relationship between share price volatility and dividend yield gives empirical support. Lindeman (2016) discovered that dividend yield has a detrimental effect on share price volatility. In fact, high dividend yield has an effect of dampening fluctuations in share prices. Ofori-Sasu, Abor, and Osei (2017) in a similar study of Ghanaian firms in which a high dividend yield negatively affected shareholders wealth. However, Pelcher (2019) showed a significant positive relationship between dividend yield and share price volatility.

4.7.3 Linear influence of earning per share on stock price volatility

The third goal of this study was to determine the effect on the volatility of stock prices on the Nairobi stock exchange market in Kenya by earnings per share. Random-effects GLS regression was undertaken to establish the association between profit per share of companies listed on the securities exchange market in Nairobi in Kenya and stock value volatility. Table 4.11 displays the results.

Table 4. 10: Regression Results of Earning per share and stock price volatility

Random-effects GLS regression	Number of obs =	294
Group variable: FIR MID	Number of groups =	49
R-sq:	Obs per group:	
within = 0.0010	min =	6
between = 0.5887	avg =	6
overall = 0.2962	max =	6
corr(u_i, X) = 0 (assumed)	Wald chi2(2) =	29.90
	Prob > chi2 =	0.0000

SPV	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]	
EPS	6.151205	1.130195	5.44	0.000	3.936064	8.366347
_cons	3.991655	2.318965	1.72	0.085	-0.55343	8.536743
sigma_u	14.02974					
sigma_e	0.303427	(fraction of variance due to u_i)				
Rho	6.151205					

The result obtained from random effect model indicated that earning per share accounted for 29.62% (Overall R square=0.2962) of the variation in stock price volatility of firms listed on the NSE. The findings showed Wald chi-square = 29.90 with a corresponding p-value =0.0000. The partial regression coefficient for Earning per share was 6.1512 shows that increase in one unit in earning per share across time and listed firms makes stock price volatility to increase by 6.1512 units. The regression model is as shown below

$$SPV_{it}=3.9916+3.991EPS$$

The study therefore rejected the null hypothesis implying that Earning per share has no significant influence on stock price volatility of firms listed on the NSE. This means that a rise in earnings per share will result in a large increase in the stock price volatility of NSE-listed companies. The findings correspond with the price return ratio of firms listed on the Nairobi Securities Exchange researched by Ogello (2014). The results revealed a

significant positive association for companies surveyed between price earnings ratio and stock returns. Gautman (2017) also found that the price income ratio was adversely linked to the fluctuations in share prices. What this means is that the larger the PE ratio, the lower the volatility of the share price.

4.5.6 Effect of Dividend Policy on Stock price volatility of firms listed on the NSE

Multiple regression analysis was measured to determine the multivariate effect of the independent variables of the sample (payout ratio, dividend yield and earnings per share) on the dependent variable (stock price volatility). This was after testing and fulfilling the mandatory predictions of multiple regression analyses. The outcomes of multiple regressions are seen in Table 4.12.

Table 4. 11: Regression Random Effect of Dividend Policy on Stock price volatility of firms listed on the NSE

Random-effects GLS regression	Number of obs =	294
Group variable: FIRMID	Number of groups =	49
R-sq:	Obs per group:	
within = 0.0009	min =	6
between = 0.5051	avg =	6
overall = 0.2996	max =	6
	Wald chi2(1) =	8.54
corr(u_i, X) = 0 (assumed)	Prob > chi2 =	0.0361

SPV	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]	
DPOR	0.547065	0.068059	8.04	0.000	0.413113	0.681017
DY	-0.18641	0.060584	-3.08	0.002	-0.30565	-0.06717
EPS	0.459741	0.044592	10.31	0.000	0.371977	0.547506
_cons	0.611027	0.269679	2.27	0.023	0.082466	1.139588
sigma_u	0.864822					
sigma_e	0.616335					
Rho	0.663173	(fraction of variance due to u_i)				

According to the results of the random effect model, dividend policy accounted for 29.96 percent (Overall R square=0.2996) of the variation in stock price volatility of firms listed on the NSE. The results revealed Wald chi-square = 8.54, with a p-value of 0.0361. This means that the dividend policy of companies listed on the NSE is a strong predictor of stock price volatility.

From the findings, dividend payout ratio had a regression co-efficient of 0.5470 implying that when dividend yield and Earning per share are controlled, a unit increase in dividend payout ratio across time and among listed firms would result in an increase of 0.5470 units in stock price volatility of firms listed on the NSE. The p-value was 0.000, which was lower

than the accepted significance level of 0.05, indicating that this link was statistically significant. The dividend payment ratio of NSE-listed companies was found to be strongly and positively connected to stock price volatility. Dividend payout ratio is a strong significant predictor of stock price volatility, with a p-value of 0.000. These findings are consistent with those of Enrile (2018), who looked at the relationship between the dividend payment ratio and the share prices of Nairobi Stock Exchange companies. The findings of the analysis revealed that the dividend payout had a favorable and meaningful relationship to share prices. This direct proportionality is confirmed by Majanga (2015), which showed that the share price was favorably correlated with the dividend per share.

The study established that dividend yield had a regression co-efficient of -0.186 implying that when dividend payout ratio and Earning per share are controlled, a unit increase in dividend yield across time and among listed firms would result in a decrease of 0.186 units in stock price volatility of firms listed on the NSE. This effect was determined to be statistically significant because the p-value was 0.002, which was less than the adopted significance threshold of 0.05. Dividend yield was an average predictor of stock price volatility, with a p-value of 0.002. As a result, dividend yield was discovered to be adversely connected to NSE stock price volatility. Ahmad, Alrjoub, and Alrabba (2018) established a negative but significant relationship between dividend yield and stock price volatility on the Amman Stock Exchange. Memon, Channa, and Khoso (2017) who showed that dividend yield had a significant short term negative impact on stock market price. However, Chelimo and Kiprop (2017) established that dividend yield had a positive and significant effect on share price.

From the findings, Earning per share had a regression co-efficient of 0.4597 implying that when dividend yield and dividend payout ratio are controlled, a unit increase in Earning per share across time and among listed firms would result in an increase of 0.4597 units in stock price volatility of firms listed on the NSE. This influence was deemed to be statistically significant because the p-value was 0.000, which was less than the significance level of 0.05 used. Earnings per share is a highly significant predictor of stock price volatility, according to a p –value of 0.000. The stock price volatility of companies listed on the NSE was shown to be considerably and positively connected to earnings per share. Murira, Baimwera, and Munene (2017) studied the link between share returns and share prices for stocks listed on the Nairobi Securities Exchange during a five-year period from 2010 to 2014. The findings indicated that earnings ratio had a positive but weak correlation with market price per share. Similar results were also obtained by Hussainey, Mgbame and Chijoke-Mgbame (2014) indicated that earning per share exerts a positive and significant influence on share price volatility of firms. However, Al Qudah and Yusuf (2015) demonstrated that higher earning per share would mean low volatility of the stock price.

$$SPV_{it}=0.6110+0.5470DPOR-0.186DY+0.4597EPS$$

4.5.1 Hausman Test

A Hausman test was conducted to assess whether the purpose of this study is to use the fixed effect or the random effect model. A Hausman specification test is carried out to find the more efficient model by choosing between a fixed and random effect model (Borenstein, Hedges, Higgins, & Rothstein, 2010). The null hypothesis is that the

individual effects and the independent variables are not significantly interrelated with each other. A dismissal of the null hypothesis reveals that a random model is the argument in favor of the fixed effect. The results are illustrated in Table 4.8

Table 4. 12: Hausman Test

	(b) Fixed	(B) Random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
DPOR	0.037416	0.148109	-0.11069	0.006069
DY	-0.01464	-0.05885	0.044203	0.022867
EPS	0.009752	0.105219	-0.09547	0.008049

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$$\begin{aligned} \text{chi2}(3) &= (\mathbf{b}-\mathbf{B})'[(\mathbf{V}_b-\mathbf{V}_B)^{-1}](\mathbf{b}-\mathbf{B}) \\ &= 6.93 \\ \text{Prob}>\text{chi2} &= 0.0742 \\ &(\mathbf{V}_b-\mathbf{V}_B \text{ is not positive definite}) \end{aligned}$$

Results of Table 4.8 showed a prob>chi2 value of 0.0742 that is higher than the critical P value at a significance level of 0.05, which implies the random distribution of cross-sectional population units. Thereby no rejecting the null hypothesis that the model of a random effect is the best. The study therefore employed a model of random effect regression.

4.5.7 Moderating effect of firm size on the relationship between dividend policy and stock price volatility of firms listed on the NSE

This study sought to assess the moderating effect of firm size on the relationship between dividend policy and stock price volatility of firms listed on Nairobi securities exchange

market in Kenya. Hierarchical regression analysis was performed to determine whether firm size had moderating role on the relationship between dividend policy and stock price volatility. The fourth null hypothesis denoted, **H₀₄**: Firm size has no moderating effect on the relationship between dividend policy and stock price volatility of firms in the listed on Nairobi securities exchange Market in Kenya. The following regression model was estimated:

$$Y_{it} = \alpha + \beta_1 DPOR_{it} + \beta_2 DY_{it} + \beta_3 EPS_{it} + \beta_5 DPORFS_{it} + \beta_6 DYFS_{it} + \beta_7 EPSFS_{it} + \epsilon_{it}$$

Where Y is stock price volatility estimated by firm size interaction dividend policy constructs. The regression coefficient β_1 measured the direct effects of dividend policy constructs when firm size equals to zero. Table 4.13, summarizes the regression results.

Table 4. 13: Model 1-Independent and Dependent Variables

Source	SS	Df	MS	Number of obs =		
				F(3, 290)	=	294
Model	170.4901	56.83004	56.83004	Prob > F	=	43.03
Residual	382.9831	1.320631	1.320631	R-squared	=	0.000
				Adj R-squared	=	0.308
Total	553.4733	1.888987	1.888987	Root MSE	=	0.3009
						1.1492
SPV	Coef.	Std. Err.	T	P>t	[95% Co	Interval]
DPOR	0.547065	0.068059	8.04	0.000	0.413113	0.681017
DY	-0.18641	0.060584	-3.08	0.002	-0.30565	-0.06717
EPS	0.459741	0.044592	10.31	0.000	0.371977	0.547506
_cons	-1.12119	0.272858	-4.11	0.000	-1.65822	-0.58415

Model one entails SPV (Dependent variable) and the dividend policy (Independent Variable). The model of independent and dependent variable produced an R square of

0.309 implying that 30.9% of the variation in stock price volatility of listed firms is significantly influenced by dividend policy. This contribution is significant as shown by F (3, 290) =43.03, P=0.000 implying that dividend policy is a very strong significant predictor of stock price volatility of firms listed on the NSE. The regression coefficients are similar as the ones obtained for multiple regressions in Table 4.13 From this model it was found that dividend yield is significant (p=0.0002); dividend payout ratio (p=0.000) and Earning per share (p=0.000) are strong significant predictors of stock price volatility of firms listed on the NSE.

Table 4. 14: Model 2-Independent, Moderating and Dependent Variables

Source	SS	Df	MS	Number of obs	=	294
				F(4, 289)	=	33.25
Model	174.4407	4	43.61017	Prob > F	=	0.000
Residual	379.0326	289	1.311531	R-squared	=	0.3152
				Adj R-squared	=	0.3057
Total	553.4733	293	1.888987	Root MSE	=	1.1452

SPV	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
DPOR	0.552402	0.067894	8.14	0.000	0.418773	0.68603
DY	-0.19112	0.060435	-3.16	0.002	-0.31007	-0.07217
EPS	0.458108	0.044448	10.31	0.000	0.370625	0.545591
FS	0.055759	0.032127	1.74	0.084	-0.00747	0.118991
_cons	-2.02217	0.586035	-3.45	0.001	-3.17561	-0.86873

R-Square Diff. Model 2 - Model 1 = 0.007 F(1,289) = 3.012 p = 0.084

Model two entails SPV (Dependent variable), the dividend policy (Independent Variables) and firm size (Moderating variable). The model of independent, moderating and dependent variable produced an R square of 0.3057 implying that 30.57% of the variation in stock price volatility of listed firms is significantly influenced by dividend policy. The

introduction of additive firm size moved R squared from 0.3057 to 0.3152. The change was insignificant as indicated by P=0.084 implying that firm size is an insignificant predictor of stock price volatility of firms listed on the NSE. The study second regression model is as shown below

$$\mathbf{SPV_{it} = -2.02217 - 0.552402DPOR - 0.19112DY + 0.458108EPS + 0.055759FS}$$

The results reveal that the size of the firm has a negligible and positive impact on stock price volatility of NSE-listed companies, as evidenced by a beta of 0.055759. It is implied that a temporary increase in the unit size and listed companies would increase the volatility of stock prices of NSE-listed companies by 0,055759. As the p-value (0,084) was larger than the significance level, the connection was negligible (0.05)

Table 4. 15: Model 3-Independent, Moderating, Interaction and Dependent Variables

Source	SS	Df	MS	Number of obs	=	294
				F(7, 286)	=	24.25
Model	206.1601	7	29.45145	Prob > F	=	0
Residual	347.3131	286	1.214382	R-squared	=	0.3725
				Adj R-squared	=	0.3571
Total	553.4733	293	1.888987	Root MSE	=	1.102

SPV	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
DPOR	0.433861	0.502686	0.86	0.389	-0.55557	1.423294
DY	-2.10396	0.442396	-4.76	0.000	-2.97473	-1.2332
EPS	1.397034	0.346734	4.03	0.000	0.714561	2.079508
FS	-0.09881	0.143304	-0.69	0.491	-0.38087	0.183255
DPORFS	0.003482	0.031414	0.11	0.912	-0.05835	0.065314
DYFS	0.121674	0.028371	4.29	0.000	0.065832	0.177515
EPSFS	-0.05653	0.02124	-2.66	0.008	-0.09834	-0.01473
_cons	0.562301	2.311245	0.24	0.808	-3.98691	5.111508
R-Square Diff. Model 3 - Model 2 = 0.057 F(3,286) = 8.707 p = 0.000						

Model	R ²	F(df)	P	R ² change	F(df) change	P
1	0.308	43.032(3,290)	0.000			
2	0.315	33.251(4,289)	0.000	0.007	3.012(1,289)	0.084
3	0.372	24.252(7,286)	0.000	0.057	8.707(3,286)	0.000

Model three entails SPV (Dependent variable), the dividend policy (Independent Variables), firm size (Moderating variable) and cross interaction between independent and moderating variables. This model produced an R square of 0.3571 implying that 35.71% of the variation in stock price volatility of listed firms is significantly influenced by dividend policy. The introduction of interaction terms (IV*MV) moved R squared from 0.3152 to 0.3571. The change was significant as indicated by P=0.000 implying that firm size interaction dividend policy is a strong significant predictor of stock price volatility of firms listed on the NSE. The study third regression model is as shown below

$$Y = 0.562 + 0.433DPOR - 2.103DY + 1.397EPS + 0.003DPORFS + 0.121DYFS_{it} - 0.056EPSFS_{it}$$

Where:

Y = Stock Price Volatility

DPOR= Measures of dividend payout ratio

DY = Measures of dividend yield

LR= Measures of Earning per share

DPORFS = Measures of dividend payout ratio multiplied by firm size

DYFS = Measures of dividend yield multiplied by firm size

EPSFS = Measures of Earning per share multiplied by firm size

From 4.15, even though one of the three interaction terms had insignificant influence on stock price volatility of firms listed on the NSE of listed firms, several deductions can be made. First, increase in firm size increases the effect of dividend payout ratios on stock price volatility of firms listed on the NSE of listed firms and the effect is strong and significant. This implies that dividend payout ratio effect on stock price volatility of firms listed on the NSE increases with increase in firm size and the effect is strong and significant. The same was observed for dividend yield implying that increase in firm size increases the effect of dividend yield on stock price volatility of firms listed on the NSE. On the other hand, increase in firm size strongly decreases the effect of earning per share on stock price volatility of firms listed on the NSE of listed firms as indicated by a p-value of 0.008. This implies that dividend yield effect on stock price volatility of firms listed on the NSE reduces with increase in firm size. Similar results were obtained by Chaudry, Iqbal and Butt (2015) who found out that firm size had a moderating effect on the relationship

between dividend policy facets of dividend pay-out, growth in assets and earnings volatility with stock prices. The study findings are also supported by Ahmad, Alrjoub and Alrabba (2018) found a positive and significant relationship between firm size and stock price volatility. What this meant is that small firms are characterized by higher stock price volatility compared to large firms

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The objective of the study was to establish the influence of dividend policy on stock price volatility of firms listed on Nairobi securities exchange market in Kenya. Specifically, the study focused on effect of payout ratio, dividend yield and earning per share on stock price volatility of firms listed on Nairobi securities exchange market in Kenya. This chapter summarizes the study's key findings, as well as the conclusions and suggestions based on those findings. The chapter highlights important recommendations for further research.

5.2 Summary of the Findings

This section contained summary of secondary data collected between 2012 and 2017. Ratios were collected for respective study variables and thereafter, natural log were utilized to take care of large numbers (outliers). Descriptive analyses as well as inferential analysis such as Pearson correlation, simple linear regressions and multiple linear regressions were utilized at 95.0% confidence level. Summary of the results are presented according to specific objectives.

5.2.1 Impact of Payout Ratio and Stock Price Volatility for firms listed on NSE

This study sought to establish the effect of payout ratio on stock price volatility for firms listed on Nairobi securities exchange market in Kenya. Payout ratio was measured using

dividend paid/Total number of shares issued and indicated that there is a strong significant positive relationship between payout ratio and stock price volatility of firms listed on Nairobi securities exchange market in Kenya. Simple regression analysis revealed that payout ratio strongly and significantly accounted for variations in stock price volatility among listed firms. Multiple linear regression revealed that when other variables used in this study are controlled, a unit increase in payout ratio would result to a strong significant increase in stock price volatility of firms listed on Nairobi securities exchange market in Kenya by 0.547units.

5.2.2 Impact of Dividend yield on Stock price volatility of firms listed on NSE

The study sought to establish the impact of dividend yields on the volatility of stock prices of companies listed on Kenya's Nairobi securities exchange market. The dividend yield was calculated by multiplying the cash dividend per share by one hundred, divided by the stock price per share. As shown by the Pearson correlation coefficient, there was an insignificant negative association between the dividend yield and stock price volatility of companies listed on the Nairobi securities exchange index in Kenya. Major predictors of stock price fluctuations were the adoption of the lag for the stated dividend yield depending on the previous year's stock price. Results from multiple linear regression revealed that when other variables used in this study are controlled, a unit increase in dividend yield would results to strong significant decrease in stock price volatility of firms listed on Nairobi securities exchange market in Kenya by 0.186 units.

5.2.3 Impact of Earnings per Share on Stock Price Volatility for firms listed at NSE

The study attempted to assess the impact of earnings per share on the volatility of stock values for companies listed on Kenya's Nairobi securities exchange market. Earnings per share was calculated by dividing earnings per share attributable to shareholders by the number of outstanding shares, and it was discovered that there is a strong link between earnings per share volatility and the stock price of firms listed on Kenya's Nairobi Securities Exchange.. Using a simple regression analysis, it was discovered that profits per share explained a significant portion of the volatility in the stock price of publicly traded corporations. When the other variables in this study are controlled, a unit increase in profits per share results in a 0.459 unit increase in stock price volatility of firms listed on the Nairobi securities exchange market in Kenya, and earnings per share is a significant predictor of stock price volatility..

5.2.4 Moderating impact of firm size on the relationship between dividend policy and stock price volatility of firms listed

The objective of this study was to assess the moderating influence of corporate size on the dividend policy and stock price volatility relationship between companies listed on the securities exchange market in Nairobi in Kenya. The natural log of total assets was used to calculate firm size. Total assets showed a major association with the volatility of inventory prices of listed companies. The association between dividends policy and stock price volatility had a considerable, moderating, effect on corporate size. Hierarchical regression analysis revealed that firm size moved R square from 30.09% to 35.71% implying that firm

size significantly accounted for additional 5.62%. Further, increase in firm size would results to a strong significant increase on the effect dividend yield on stock price volatility. However, increase in firm size leads to a strong reduction on effect of earning per share on stock price volatility among listed firms.

5.3 Conclusion

The following conclusions emerged from the findings of the study.

The study concluded that the payout ratio had a major positive impact on the volatility of the stock prices of companies listed on Kenya's Nairobi securities exchange market. Raising the dividend payout ratio will lead to a rise in the volatility of listed firms' stock prices. A high payout schedule on dividends suggests more existing dividends and fewer retained profits, which can result in greater fluctuations in stock values. Low distribution strategy means less existing distributions, higher retained profits and higher capital returns, hence less uncertainty in equity price. It is also possible that some investors would favor high-paying firms, while others will prefer low-paying firms.

The study concluded that the dividend yield had a substantial negative influence on the volatility of the stock prices of companies listed in Kenya on the Nairobi securities exchange market. Growing the dividend yield will lead to a decline in the uncertainty of the listed companies' stock prices. The stock price level of the previous year appeared to have the greatest impact on the effect of the dividend yield on the volatility of the stock price. Empirical outcomes demonstrate that by adjusting the dividend yield, financial managers can adjust the uncertainty of the share price. In fact, as a share price variability

management vehicle, the dividend yield strategy can be used. By increasing the dividend yield, the share price volatility can be reduced.

The study concluded that, as shown by correlation and linear regression analysis, earnings per share had a major positive impact on the share price volatility of companies listed on the Nairobi stock exchange. A rise in earnings per share will result in a major increase in the volatility of share prices for companies listed on the Nairobi stock exchange. Therefore, earnings per share are a significant indicator of fluctuations in the share price of companies listed on the Nairobi stock exchange.

Lastly, the study concluded that firm size has a strong significant moderating effect on relationship between dividend policy and share price volatility of firms listed on Nairobi securities exchange as indicated by hierarchical analysis. As size of the firm increases, the effect dividend yield on stock price volatility also increases. On the other hand, as size of the firm increases, the effect earning per share on stock price volatility decreases.

5.4 Recommendations

The following recommendations have been made based on the study conclusions as shown below. In regard to dividend yield, the study recommends that listed firms should pay a high proportion of their earnings as dividends to their shareholders, it sends a positive signal to the market that the company is financially sound which ultimately stabilizes share prices making them less risky.

Listed firms 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 price.

The study also recommends that investors consider not only headline earning per share when making investment decisions, because other aspects such as payout ratio might provide better indications with regard to share price behavior.

The study recommends that listed firms should increase earnings per share over time; this is because if a firm has been having considerable earnings per share consistently, its shares become attractive to potential investors raising the share price through increased demand.

Finally, the study proposes that major companies look after the overall asset to improve dividend policy, especially in dividend return policies. As the explanation of this phenomenon, the company provides a favorable signal to the market that it is financially solid, ultimately stabilising its share prices and making it less unsafe when a substantial proportion of their earnings is paid out as a dividend to shareholder

5.5 Suggestions for Further Studies

This study aims to examine the effects in Nairobi on the security exchange market in Kenya of the dividend policy on stock price volatility. The selected factors were specific variables and may not be the only ones which have an impact on stock prices. Further research may be done to determine if macroeconomic variables affect the volatility of the share prices of NSE companies. These include, among other variables, inflation and foreign exchange.

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APPENDICES

APPENDIX 1: DATA COLLECTION TOOL

	2012	2013	2014	2015	2016	2017
DIVIDEND PAYOUT RATIO						
DIVIDEND YIELD						
STOCK PRICE VOLATILITY						
FIRM SIZE						
EARNINGS PER SHARE						

APPENDIX 2: LISTED COMPANIES AS AT DECEMBER 2015

SR NO	Company
CATEGORY	AGRICULTURAL
1	Eaagads Ltd Ord 1.25
2	Kakuzi Ltd Ord 5.00
3	Kapchorua Tea Co. Ltd Ord 5.00
4	The Limuru Tea Co. Ltd Ord 20.00
5	Sasini Ltd Ord 1.00
6	Williamson Tea Kenya Ltd Ord 5.00
CATEGORY	AUTOMOBILES & ACCESSORIES
7	Car & General (K) Ltd Ord 5.00
8	Marshalls (E.A.) Ltd Ord 5.00
9	Sameer Africa Ltd Ord 5.00
CATEGORY	BANKING
10	Barclays Bank of Kenya Ltd Ord 0.50
11	CFC Stanbic of Kenya Holdings Ltd ord.5.00
12	Diamond Trust Bank Kenya Ltd Ord 4.00
13	Equity Bank Ltd Ord 0.50
14	Housing Finance Co.Kenya Ltd Ord 5.00
15	I&M Holdings Limited Ord 1.00
16	Kenya Commercial Bank Ltd Ord 1.00
17	National Bank of Kenya Ltd Ord 5.00
18	NIC Bank Ltd Ord 5.00
19	Standard Chartered Bank Kenya Ltd Ord 5.00
20	The Co-operative Bank of Kenya Ltd Ord 1.00
CATEGORY	COMMERCIAL AND SERVICES
21	Express Kenya Ltd Ord 5.00

22	Kenya Airways Ltd Ord 5.00
23	Longhorn Kenya Limited
24	Nation Media Group Ltd Ord. 2.50
25	Scangroup Limited Ord 1.00
26	Standard Group Ltd Ord 5.00
27	TPS Eastern Africa (Serena) Ltd Ord 1.00
28	Uchumi Supermarket Ltd Ord 5.00
CATEGORY	CONSTRUCTION & ALLIED
29	Athi River Mining Ord 5.00
30	Bamburi Cement Ltd Ord 5.00
31	Crown Berger Kenya Ltd Ord 5.00
32	E.A.Cables Ltd Ord 0.50
33	E.A.Portland Cement Co. Ltd Ord 5.00
CATEGORY	ENERGY & PETROLEUM
34	KenGen Co. Ltd Ord. 2.50
35	KenolKobil Ltd Ord 0.05
36	Kenya Power & Lighting Co Ltd Ord 2.50
37	Total Kenya Ltd Ord 5.00
38	Umeme Limited Ord 0.50
CATEGORY	INSURANCE
39	British-American Investments Co.(Kenya)Ltd Ord
40	CIC Insurance Group Ltd Ord 1.00
41	Jubilee Holdings Ltd Ord 5.00
42	Kenya Re Insurance Corporation Ltd Ord 2.50
43	Liberty Holdings Ltd Ord 1.00
44	Pan Africa Insurance Holdings Ltd Ord 5.00
CATEGORY	INVESTMENT
45	Centum Investment Co Ltd Ord 0.50
46	Olympia Capital Holdings Ltd Ord 5.00
47	Trans-Century Ltd Ord 0.50
CATEGORY	MANUFACTURING & ALLIED
48	B.O.C Kenya Ltd Ord 5.00
49	British American Tobacco Kenya Ltd Ord 10.00
50	Carbacid Investments Ltd Ord 5.00

51	East African Breweries Ltd Ord 2.00
52	Eveready East Africa Ltd Ord.1.00
53	Kenya Orchards Ltd Ord 5.00
54	Carbacid Investments Ltd Ord 5.00
55	Mumias Sugar Co. Ltd Ord 2.00
56	Unga Group Ltd Ord 5.00
CATEGORY	TELECOMMUNICATION & TECHNOLOGY
57	Safaricom Ltd Ord 0.05
CATEGORY	INVESTMENT SERVICES
58	Nairobi Securities Exchange Ord 4.00
CATEGORY	FIXED INCOME SECURITIES MARKET SEGMENT
	PREFERENCE SHARES
59	Kenya Power & Lighting Ltd 4% Pref 20.00
60	Kenya Power & Lighting Ltd 7% Pref 20.00
CATEGORY	GROWTH ENTERPRISE MARKET SEGMENT
61	Atlas Development and Support Services
62	Flame Tree Group Holdings Ltd 0.825
63	Home Afrika Ltd Ord 1.00
64	Kurwitu Ventures

SOURCE; NSE 2017.

APPENDIX 3: LETTER OF INTRODUCTION

Eunice
Khanyisi
Lisutsa
0718536128

Dear Respondent,

I am a student pursuing masters course in Business Administration – Finance option at Masinde Muliro University of Science and Technology (MMUST). I am required to undertake a research thesis as partial fulfillment for the award of this degree. I am hereby, requesting to assist in the collection of secondary data from your organization to enable me accomplish the study on "**Impact of dividend policy on stock price volatility for firms listed on Nairobi securities exchange in Kenya**". I kindly request for financial statements data for the period 2012 to 2017 for the sixty four listed firms.

I will adhere to research ethics and use the information collected from secondary data solely for the purpose of this research only.

Thank you

Yours Faithfully,


APPENDIX 4: NACOSTI PERMIT


REPUBLIC OF KENYA


**NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY & INNOVATION**

Ref No: 558084 **Date of Issue: 22/September/2020**

RESEARCH LICENSE



This is to Certify that Ms. EUNICE KHANYISI LISUTSA of Masinde Muliro University of Science and Technology, has been licensed to conduct research in Nairobi on the topic: IMPACT OF DIVIDEND POLICY ON STOCK PRICES VOLATILITY FOR FIRMS LISTED ON THE NAIROBI SECURITY EXCHANGE MARKET IN KENYA for the period ending : 22/September/2021.

License No: NACOSTI/P/20/0829

558084

Applicant Identification Number


**Director General
NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY &
INNOVATION**

Verification QR Code



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APPENDIX 5: RANKING OF STOCK PRICE VOLATILITY FROM 2012 TO 2017

RAN K	COMPANY	STOCK PRICE VOLATILITY
1	Eveready East Africa Ltd Ord.1.00	0.35175
2	Mumias Sugar Co. Ltd Ord 2.00	0.439
3	Express Kenya Ltd Ord 5.00	0.5298
4	Olympia Capital Holdings Ltd Ord 5.00	0.5312
5	Carbacid Investments Ltd Ord 5.00	0.7918
6	CIC Insurance Group Ltd Ord 1.00	0.8874
7	Barclays Bank of Kenya Ltd Ord 0.5	0.9466
8	Marshalls (E.A.) Ltd Ord 5.00	0.9912
9	KenGen Co. Ltd Ord. 2.50	1.1188
10	Kenya Re Insurance Corporation Ltd Ord 2.50	1.2988
11	Kenya Power & Lighting Co Ltd Ord 2.50	1.4138
12	KenolKobil Ltd Ord 0.05	1.422
13	Sasini Ltd Ord 1.00	1.4354
14	Safaricom Ltd Ord 0.05	1.5744
15	The Co-operative Bank of Kenya Ltd Ord 1.00	1.7174
16	Total Kenya Ltd Ord 5.00	2.07
17	Crown Berger Kenya Ltd Ord 5.00	2.140
18	Trans-Century Ltd Ord 0.50	2.1702
19	Uchumi Supermarket Ltd Ord 5	2.2262
20	Umeme Limited Ord 0.50	2.33375
21	National Bank of Kenya Ltd Ord 5	2.404
22	Liberty Holdings Ltd Ord 1.00	2.5042
23	Housing Finance Co.Kenya Ltd Ord 5.00	2.7328
24	Unga Group Ltd Ord 5.00	2.9482
25	British-American Investments Co.(Kenya)Ltd Ord	3.201
26	TPS Eastern Africa (Serena) Ltd Ord 1.00	3.616
27	Standard Group Ltd Ord 5.00	3.8492
28	Equity Bank Ltd Ord 0.50	4.7312
29	E.A.Cables Ltd Ord 0.50	4.7331
30	Scangroup Limited Ord 1.00	4.7344
31	Eaagads Ltd Ord 1.25	4.7444
32	Kenya Commercial Bank Ltd Ord 1.00	5.0948
33	NIC Bank Ltd Ord 5.00	6.0528
34	Pan Africa Insurance Holdings Ltd Ord 5.00	8.349

35	B.O.C Kenya Ltd Ord 5.00	8.711
36	CFC Stanbic of Kenya Holdings Ltd ord.5.00	10.0458
37	I&M Holdings Limited Ord 1.00	10.868
38	Kapchorua Tea Co. Ltd Ord 5.00	13.1064
39	Stanlib Fahari Reit	13.3482
40	Bamburi Cement Ltd Ord 5.00	15.042
41	Kakuzi Ltd Ord 5.00	18.7266
42	Standard Chartered Bank Kenya Ltd Ord 5.00	18.8184
43	Williamson Tea Kenya Ltd Ord 5.00	19.155
44	East African Breweries Ltd Ord 2.00	19.8528
45	Kenya Power & Lighting Ltd 4% Pref 20.00	20.1313
46	Nation Media Group Ltd Ord. 2.5	23.7494
47	Jubilee Holdings Ltd Ord 5.00	26.1576
48	British American Tobacco Kenya Ltd Ord 10.00	63.1978
49	The Limuru Tea Co. Ltd Ord 20	88.5994
50	Home Afrika Ltd Ord 1.00	N/A
51	Flame Tree Group Holdings Ltd 0.825	N/A
52	Kurwitu Ventures	N/A
53	Stanlib Fahari Reit	N/A
54	Atlas Development and Support Services	N/A
55	Car & General (K) Ltd Ord 5.00	N/A
56	Sameer Africa Ltd Ord 5.00	N/A
57	Diamond Trust Bank Kenya Ltd Ord 4.00	N/A
58	Kenya Airways Ltd Ord 5.00	N/A
59	Longhorn Kenya Limited	N/A
60	Athi River Mining Ord 5.00	N/A
61	E.A.Portland Cement Co. Ltd Ord 5.00	N/A
62	Centum Investment Co Ltd Ord	N/A
63	Kenya Orchards Ltd Ord 5.00	N/A
64	Nairobi Securities Exchange Ord 4.00	N/A