EFFECT OF DEBT FINANCING ON FINANCIAL PERFORMANCE OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

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DECLARATION

I declare that this is my work and has not been presented to any institution or university other than the University of Nairobi for examination.

Signed: _____   Date: _____

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This Research project has been presented for examination with my approval as the University Supervisor.

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DEDICATION

To my family Lydia Muthoni ,Scarlet Wanjiku my dad James Kabugi and my mum Margaret Murugi for your continued support and encouragement may God bless you abundantly.

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LIST OF ABBREVIATIONS

CMA: Capital Market Authority

DY: Dividend Yield

EPS: Earning Per Share

MM: Modigliani and Miller

NPV: Net Present Value

NSE: Nairobi Securities Exchange

OP: Operating Profit

ROA: Return on Assets

ROCE: Return on Capital Employed

ROE: Return on Equity

ROI: Return on Investment

SPSS: Statistical Package for Social Science

VIF: Variance of Inflation

ABSTRACT

Many firms rely on debt to finance investment projects because the retained earnings cannot solely support the firms operations. If firms settle on poor debt financing decisions, the outcome to the firm will lead to higher costs in capital, which in turn lead to reduction in overall financial performance. On the other hand, effective debt financing decisions results in higher present value, thereby boosting the worth of a company. However, finding the optimal structure is important because this decision gives a firm an edge over its competitors as it is very critical. The objective of this research was to determine the effect of debt financing on financial performance of listed firms at the Nairobi Securities Exchange. It also aimed at reviewing the increasing body of theoretical and empirical studies that have endeavoured to examine the range of magnitude and effects of the debt financing on the financial performance. The target population was all the listed firms at the Nairobi Securities Exchange. Secondary sources of data were employed. Panel data was utilized, data was collected for several units of analysis over a varying time periods. The research employed inferential statistics, which included correlation analysis and panel multiple linear regression equation with the technique of estimation being Ordinary Least Squares (OLS) and so as to establish the relationship of debt finacing and financial performance while incorporating the control effect of firm size, liquidity, and asset tangibility. The study findings were that firm size and liquidity are significantly positively associated to financial performance. Additional findings were that that the model consisting of debt financing and the control variables that entail; firm size, liquidity, and asset tangibility in unison influence financial performance and they can be utilized to significantly predict financial performance. The final findings were that debt financing and firm size have a significant positive relationship with financial performance. Policy recommendations are made to the CMA and NSE, and by extension, the National Treasury, to formulate and enforce rules and regulations on debt financing. The policy makers should strive to bolster the corporate bond sector of the capital market. Further conclusions were made to firm management and consultants to implement good working capital management practices, employ debt financing, and increase firm size in order to boost firm value. Recommendations were made to other stakeholders like investment banks, equity analysts, and individual investors to search for firms that employ debt financing, implement good working capital management practices and are large in size, to invest or recommend to invest.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Financial decisions are significant in a company's decision making and they helps finance managers to decide when to obtain finances and how to meet their investment needs (Zhao & Wijewardana, 2012). Many firms rely on debt to finance investment projects because the retained earnings cannot solely support the firms operations. If firms settle on poor debt financing decisions, the outcome to the firm will lead to higher costs in capital, which in turn lead to reduction in overall financial performance. On the other hand, effective debt financing decisions results in higher present value, thereby boosting the worth of a company. However, finding the optimal structure is important because this decision gives a firm an edge over its competitors as it is very critical (Onchong'a, Mututi & Atambo, 2016).

The study was anchored on Modigliani and Miller (1958) proposition on no optimal structure of capital and hence a decision to use whichever source of finance has no impact of a firm's value. Trade off hypothesis by Kraus and Litzenberger (1973) is also looked in to since many organizations always try to find a balance on using debt because interest expense is tax allowable and at the actual cost of the debt. Agency theory by Jensen and Meckling (1976) favors firm's uptake of high debt financing levels at it encourages management to work hard towards meeting the creditors' obligation and at the same time safeguard the shareholders' interests. Myers and Majluf (1984) in pecking order theory argues that managers are in favor of internal financing as compared to external, and where internal funds are insufficient, debt financing is given first priority to equity financing.

Of concern, is establishing whether firms listed at NSE stand to gain from debt financing and criteria of establishing the debt proportion that will constitute their debt financing across various industries. Interest on debt is tax allowable and deductible in Kenya hence financing the entire of firm's operation by use of debt will benefit the firm on one side as interest on debt is tax exempt whereas it will have an adverse effect as the firm will be under the control of the creditors who will have a large stake of control. Using debt as a funding source may minimize agency costs since the manager will be forced to work in the best interest of business due to increased pressure from debt holders and shareholders (Omollo, Muturi, & Wanjare, 2018).

1.1.1 Debt Financing

Debt financing refers to the acquisition of capital from a specific lender to undertake business operations and repay it back within a pre-determined period with interest (Hussain, Millman & Matlay, 2006). Debt is a financing structure that intends to enhance the ROI compared to the cost of borrowed funds. According to Baltaci and Ayaydin (2014) debt financing is a major source of external funding for corporate firms. . Debt entails two types of options; short-term debt repayable within a period of twelve months and long-term debt payable within a time frame of more than twelve months (Lokong, 2011).

Fama and French (2002) found debt to be beneficial in resolving free cash flow problems and through tax shield benefit. It may be ineffective to use debt because of conflicts amongst capital providers and associated bankruptcy costs. However, debt financing helps in cushioning financial deficits in the firm in case of limited financial resources. Debt

financing may be advantageous or disadvantageous to the firm in respect to the resulting costs. According to Harelimana (2017) Debt financing results to interest expenses that are paid in excess of partial principal payments in installments through the loan duration and therefore, the rate of return on invested capital should be high to meet these costs.

Vengesai & Kwenda (2017) found leverage to have a significant effect on performance of firms because debt capital allows the borrower to cater for investment in the short run basis while spreading the cost of debt over a longer duration of time making it affordable and important to use in financing. Financial leverage is largely employed in most commercial activities, particularly in cases where funding via preferred stock instead of common stock is involved. In short, effects of a variation on the extent where most organization's resources are being funded through loanable funds on the return for each share of the organization are called financial debt (Miras, 2015). Debt financing will be measured as a proportion total debt of the firm to its total asset.

1.1.2 Financial Performance

According to Leah (2008) financial performance refers to how a firm uses its available resources in the generation of revenues. The survival of a business is reliant on its financials in the long-term. This is possible where the business has the ability to produce adequate returns from its activities as this is the principle objective of the firm. Ponce (2011) defined financial performance as the degree of accomplishment of the financial objectives in an organization. It involves gauging in monetary terms, the outcome of the actions and activities of a corporation to ascertain the financial well-being during a stated period. The

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performance of the company can be determined using the financial statement reported by the company. Financial statements provide important information which is a summary of all the activities of a firm.

The major objective of the firm is to increase the value of the shareholders. In this doing, the firm is able to generate adequate cash flows to finance its operations and pay off its expenses as well as make favorable amounts of profits. The firm's performance is often used as a basis to determine the efficiency of its management and how effectively the assets of the firm are being utilized. Financial performance can be measured through the accounting measures such as (ROA, ROE, ROI, EPS, OP and ROCE) and market measures like Tobin Q and DY among others. Mashayekhi and Bazazb, (2008) argue that Accounting based measurements are highly favored compared to the Market ones when investigating firm accomplishment as they present management actions outcome. However it is important to integrate both measurements to get a better view of the firm. This is because most accounting measurements like ROE determine short-term performance while the market measurements e.g. Tobin's Q depict future long-term growth and development. This study used ROA as a measure growth in revenues.

1.1.3 Debt Financing and Financial Performance

Capital structure theories explain how capital structure decision impacts and interacts with business performance. The association of firm's structure of capital and its performance has been underscored by various theories (Khan, 2012). Jensen and Meckling (1976) reasoned that high capital structure debt has the beneficial effect of addressing agency conflict between managers and shareholders in the sense that it disciplines the management

not into misusing funds since there are standing obligations in the form of interest and principal on debt to be repaid. This will lead to a more judicious management of the firms operations. According to the MM proposition, there is no optimal structure of capital and hence a decision to use whichever source of finance has no impact of a firm's value (Modigliani & Miller, 1958).

There are benefits of using debt as a financing option such as tax shield benefit on debt as well as drawbacks in form of costs (Fama & French, 2002). Acharya and Almeida (2007) argued that the inability to meet financial commitments may result in loss of collateralized asset or even bankruptcy. This is because its increases the risk perceptions of shareholders while raising financial costs in terms of interest and principal amount advanced at specified terms. A company with too much debt is likely to default on repayment of the interest. This would ultimately result into bankruptcy proceedings and financial distress. Thus, this reveals how significant financing decisions are as they can define the going concern of a firm (Abubakar, 2015).

1.1.4 Firms Listed at Nairobi Securities Exchange

NSE is a body corporate established in the Companies Act (CAP 486) of the Kenyan law and comprises of all licensed stock brokers. The NSE was privatized in 1988 when government of Kenya sold 20% of its holdings. The NSE market is structured in a way that its operations are carried out through Central Depository & Settlement Corporation. CMA of Kenya is the main regulator of all firms listed where the regulator ensures compliance of the listed companies (NSE, 2018).

Currently there are 65 firms listed in 11 sectors (NSE, 2018). These sectors are banking, agriculture, telecommunications and technology, commercial & services, automobiles & accessories, energy & petroleum, insurance investment, construction & allied, manufacturing & allied and growth enterprise market segment. In this particular study, the banking and insurance divisions will not be examined due to the capital structure regulations. NSE has a critical influence in the improvement of Kenya's economy by empowering reserve funds and contributing and helping neighborhood and universal firms to access practical capital. In many firms capital structure is ordinarily expected to help the enthusiasm of the value investors (Mutegi, 2016).

According to CMA directorate (2018) debt and financial performance issues are reflected on listed firms as some have massive debts accumulating and thus pushing management into survival tactics. The huge debts have resulted to companies owing more than their net value, therefore investors end up facing low prospective returns in current and future years. Kenya airways, ARM cement, Uchumi supermarkets, Transcentury, Home Afrika and Mumias sugar are examples of quoted firms in search of new cash injections so as to retire their loans partly and hence embark on turnaround plans.

Debt also boosts return on equity of a company but also can result to companies collapsing. This then hurts the profitability and firms are unable to cover their finance and operating costs with the ability to generate cash failing to match the punishing debt obligations (Kuria, 2010). Several listed firms have been known to use debt to grow fast and betting

on making high returns that suffice to pay off the loans and create net gains also. This study hence investigated the listed firms in NSE to establish the overall relationship.

1.2 Research Problem

The decisions on source of financing are of much importance to the firm since they have an overall effect on the performance. According to Tausee, Lohano and Khan (2013) debt capital was found to have a significant positive effect on financial performance. Debt capital enables the borrower to cater for investment in the short run basis while spreading the cost of debt over a longer duration of time making it affordable and important to use in financing. Theoretical foundations on debt financing have found different conclusion where Modigliani and Miller argued on the irrelevance of debt on capital structure and agency theory stress on the importance of debt in capital structure to control the actions of management. No agreement exists on the nature of effects of debt financing on financial performance from both the empirical and theoretical perspectives.

Financial analyst have argued in support of debt use and considers debt finance as good in enhancing firms performance provided its acquired at the favorable rate and its proceeds utilized in a good way. However this has not been the case with some of listed firms at NSE. This is clear with firms, for example, Mumias Sugar Company, Kenya Airways, Uchumi Supermarkets that have acquired huge debts that have exceeded their net gains hence affecting their performance adversely as well as investor confidence therefore resulting to total collapse and even closures. For instance, the Cadbury East Africa and Pan Paper Mills Company in Webuye have shut down their operations. Other firms such as Eveready East Africa are also facing similar challenges and are contemplating closing their

operations. These developments coupled with the lack of universal theory triggered the need for further research.

Globally, in Pakistan stock exchange Aziz (2019) sought to know the effect debt had on ROA of non-financial firms. He indicated that leverage had a negative effect on ROA of firms and recommended internal sources of capital. In Rwanda Harelimana (2017) investigated how debt as a financing strategy affected performance level of businesses and found that there was a positive relationship as debt enhanced value of the firm. Similarly, in Napel Pradhan and Khadka (2017) found debt to positively affect the profitability of firms. In South Africa Magoro and Abeywardhana (2017) found that debt capital negatively affects the performance of companies.

Locally, Karuma et al (2018) found that debt financing had a positive effect on ROA of listed manufacturing firms. Momanyi (2018) also found debt to strongly correlate to the performance of listed commercial and services firms. Ng'ang'a (2017) found debt to have positive but insignificant relationship on revenue growth of private secondary schools in Kajiando county. Madeizi (2017) found a weak negative and statistically significant association between debt financing and dividend policy of firms listed at the NSE.

Lack of consensus on empirical studies relating to debt financing and financial performance and disagreement among important theories of capital structure is a reason enough to do further research. My study therefore, tries to identify whether debt financing has influenced financial performance over time with changes in the financial markets such

as changes in borrowing rates of companies as well as changes in the political arena. The research question was; does debt capital have any effect on return on assets among firms listed at the NSE?

1.3 Research Objective

The objective of this study was to determine the effect of debt financing on financial performance of listed firms at the Nairobi Securities Exchange.

1.4 Value of the Study

The findings of the study intends to benefits industry practitioners involved in making financing decisions by affording them a vital reference point on the need by corporations to determine and maintain optimal financing framework necessary to improve financial performance. This could be achieved by identifying specific industry- based debt thresholds that would ensure that firms are not unnecessarily exposed to risk of financial failure that results to in adequate cash to support day to day operations.

The findings of this study are an important reference source for researchers, scholars and students who might be interested in undertaking research in this field. Significance of this study to the scholars stems from it being capable of helping ascertain research gap to guide them when carrying out further studies in this field. Identification of research gap is critical in ensuring the field is enriched with knowledge depth as opposed to quantity of research works with limited depth.

The research findings intend to benefit current and potential investors of listed firms, in understanding the impact of leverage level on value of the firm and make informed decisions before venturing into any investment. The study intends to benefit the managers of listed firms in Kenya, in making best choice of financing decision that will enhance firms' performance and maximize the wealth of stakeholders.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter covers various theories underpinning the study. It also looks into the determinants of financial performance and reviews various studies done on and around the topic of study. The chapter ends with a summary of the chapter findings.

2.2 Theoretical Review

This research is founded upon four main capital structure theories which include; MM theory, trade-off theory, agency theory and pecking order theory.

2.2.1 Modigliani and Miller Theory.

Modigliani and Miller (1958) made several propositions in regard to capital structure. They argued that the value of a firm was not dependent on whether the firm is highly or less leveraged. Instead, Modigiliani and Miller claimed that the value of the firm is dependent on the future growth prospects of that firm. If a company's growth prospect is high, so will be its market value and will lead to higher stock prices. This theory explains that a company that is using both debt and equity has the same value as a company that is unleveraged as long as the profits and future prospects are the same. Several assumptions accompany this theory. It is assumed that no taxes are charged, the cost of buying and selling securities is nil, investors have access to the same information as the owners of the company, both investors and the company have the same borrowing rates and that a company's EBIT is not affected by debt financing.

However, Modigliani and Miller (1963) indicated that acquiring of external debt increases financial performance through tax shield benefits; this was in contradiction with their earlier work. Other factors such as; insolvency costs, and information asymmetry, and having business model power, money structure has the earmarks of being an impact on firm value. The proposition is grounded on assumptions that when the levered value of shares is more than the unlevered then investors choose personal debt to raise the funds for financing a firm. The scenario then affirms the irrelevancy of capital structure in the valuation of a company. The assumptions and contradicting views in the theory gives a reason on further studies on the topic.

2.2.2 Trade-off Theory

The theory was advanced by Kraus and Litzenberger (1973). Tradeoff theory argues that there are benefits of using debt as a financing option such as tax shield benefit on debt as well as drawbacks in form of costs. In essence, costs associated with financial distress such as bankruptcy cost of debt and non-bankruptcy costs such as employee turnover, unfavorable terms of payments by suppliers and internal conflicts among bondholders. Financial distress is encountered by a firm when the firm is unable to meet promises made to creditors. Complete failure to meet creditors' financial obligations makes a firm insolvent. An important composition of Trade-off theory of capital structure is usually the cost of financial distress or the direct or indirect bankruptcy costs of debt.

There are varying conclusions about trade-off theory by different scholars. For instance, Rajan and Zingales (1995) argue that firms that report higher profits have a likelihood of

acquiring little amount of debt. This is conflicting with the factual projection of the tradeoff theory that portrays that firms with higher profits are supposed to acquire higher amounts of debt to take advantage of tax benefits of debt. Graham (2000) comparing the drawbacks and benefits of debt discovered that firms recording very high profits and with very little probability of being insolvent consciously make use of debt. The theory is of importance in the study as the study seeks to find whether leverage as a source of finance is beneficial to the firms in terms of their performance.

2.2.3 Agency Theory

Jensen and Meckling (1976) figured about the agency problem. They explained that there exists an association relating the owner of a business, who is the principal, and those bestowed with the responsibility to manage the business, (agents), so as to ensure maximization of shareholders' profits. Problems arise when the agents to the principal fail to act in a way to satisfy the interest of the principal, who is the shareholder. That means that the managers will now be working towards satisfying own interests. It is worth realizing that the problem arises due the fact that managers' salaries are ever constant regardless of the huge profits they realize in the firms' operations and when the firms incur losses, they are the only ones who suffer the consequences of the loss (Rayan 2010). Hence, the theory states that there is need for firms to manage the relationship between principals and agents. Both the principals and the agents have varying motives, which may levy agency costs to a firm.

Thus, firm shareholders knowing the likely selfish interests by the managers, they institute constricting measures and resolutions geared towards safeguarding and multiplying their wealth. One of restrictive measure is the use of debt capital rather than employing internal funds. Such a measure aids in maintaining the firm ownership and also forces managers to remain focused on profitable ventures so as to fulfill the financing obligations (Nwaolisa and Chijindu, 2016). The agency cost theory is applicable in capital financing because of managers' intent to achieve maximum returns prior to putting into consideration the shareholders' interests. Firms can obtain debt financing to act as discipline mechanism against managers and to deter them from capitalizing on negative NPV projects and this would boost the performance of firms.

2.2.4 Pecking Order Theory

The pecking-order theory was propagated by Myers and Majluf (1984) and it considers internal finance as the cheapest source of finance because it has no floatation costs, then debt and finally external equity. Based on asymmetric information, the theory highlights issuing securities to raise external capital signals out a lower profitability to investors than what they had expected. Being rational in their decisions, investors adjust the discount rate for the firm upward since they now require a higher return on their investment.

The theory assumes managers will be obliged to act in the best interest of the investors since they know more about the company future growth opportunities (Sheikh & Wang, 2011). Also, it is assumed information asymmetry exists between them. This case may not be realistic in practice as it also ignores the problems that may occur when a firm's

managers get more comfortable with the companies financials and become indiscipline (Kishore, 2009). The theory is significant to this study because firms in Kenya tends to support the argument of pecking order theory, because this firms maximizes on internal sources available to fund their operations before seeking external funds.

2.3 Determinants of Financial Performance

2.3.1 Debt Financing

Debt financing may be advantageous or disadvantageous to the firm in respect to the resulting costs and the ROI of the projects it caters for (Harelimana, 2017). Debt entails two types of options; short-term debt repayable within a period of twelve months and long-term debt payable within a time frame of more than twelve months (Adekunle & Sunday, 2010). Debt financing can be measured by analyzing various financial ratios such as long-term debt, short term debt or a mix of the two which results to total debt of the firm. These measures are expressed as a ratio of total assets of the firm. Using debt in financing the operations of the firm will enhance the performance if only the return on investment is higher than the cost of capital borrowed (Githaigo & Kabiru, 2015).

2.3.2 Firm Size

According to Okiro et al., (2015 firm size is positively associated with capital structure. For instance, larger firms have other benefits compared to small ones such as economies of scale, larger market power as well as competitiveness ability hence this warrants them higher profits. Alghusin (2015) found that large firms had an advantage when rising outside funds from the capital markets, which may be attributed to their capability securitize the borrowed funds. Also, large firms have very minimal dependence on

internally raised funds, enabling them to profit more than the smaller firms. Rajan and Zingales (1995) established structure of capital is positively related to size of the company. Scholars have found varied conclusion in relation to the size of the firm and ROA and therefore, more research is necessary.

2.3.3 Firm Liquidity

Liquidity in a firm is the capability of a firm to convert its assets into cash (Lambe, 2014). Firms with high liquidity are able to leverage on the opportunities that will yield high returns and at the same time protect the firm from going bankrupt during financial distress times. With the pecking order theory, liquidity reserves are easily created from profits available as firms opt for funds generated internally than externally. Firms would not be required to seek external funds if its assets they have are liquid enough to finance the various projects in the firm. Liquidity of a firm is measured using the current ratio or quick ratio. It brings out the capacity of a firm to meet its obligations that are immediate using the current assets available. A good current ratio indicates that a firm is capable of paying up its obligations using current assets (Etyang, 2012).

2.3.4 Asset Tangibility

Tangibility of assets refers to fixed assets ratio to the firm's total assets (Rajan & Zingales, 1995). The fixed assets play a vital role in determining firms debt level, turnover and finally firms profitability. Fixed assets of the firm have bigger economic value than intangible asset, which tend to lose value quickly in case of bankruptcy and have minimal informational asymmetries. The tangible assets usually are used as guarantee and collateral

by firm's creditors in case a firm requires external financing. Therefore, companies with high amount of assets that are tangible are seems to have high debt level in structures of capital than firms with less tangible assets. These external finances in turn lead to high turnover and enhance the firm's performance if efficiently utilized. Tangibility of assets is obtained as a fixed assets ratio to total assets.

2.4 Empirical Review

Debt financing and firm performance is a subject of concern by many investors. There are many empirical studies on debt financing and firm performance, but these studies have outlined mixed results. This section covers various studies conducted both globally and locally. Globally, Aziz (2019) focused on how debt financing impact on ROA of non-financial firms. The study population included 14 non-financial sectors of Pakistan stock exchange for period 2006-2014. Using regression analysis it was found that financial performance is negatively affected. Thus the study recommended that companies have to rely more on internal sources of financing due to it being cheap and reliable. This research presents a contextual gap as the findings for the Pakistan firms cannot necessarily be generalized to the Kenyan context hence the need to conduct this study on debt financing effect on quoted Kenyan firms.

Harelimana (2017) researched on how the level of debt influenced performance of business in Rwanda. Comparative research design was used because it was a case comparing two businesses. Linear regression technique was used in analysis to show the association between the predictor variable (debt level) and the responsive variable (financial

performance). The study found that debt levels are strongly related to bank profitability. The research concluded that Bank of Kigali was far better in performance compared I&M Bank. The study presents a contextual knowledge gap because it was a case study in Rwanda and therefore, the need of the current study that focus on a sector.

Pradhan and Khadka (2017) researched on the effect of debt financing on profitability of commercial banks in Napel. The population of the study was twenty two commercial banks. The study used a descriptive research design. Data analysis was done using multiple regression model where relationship of independent variables (interest coverage, bank size, short-term debt, long-term debt and total debt) and dependent variables (ROE and ROA) was shown. The results revealed a positive association of bank size, interest coverage and short-term debt on bank profitability while, long-term debts showed a negative relationship on profitability. This study creates a contextual knowledge gap because it was done in Napel and the focus was commercial banks therefore, the need of the current study.

Magoro and Abeywardhana (2017) focused on debt capital and its effect on financial performance on South African companies. The study sampled 25 retail and wholesale South African firms for the period of 2011-2015. Using regression analysis secondary data was analyzed and outcomes indicated that debt capital both long and short have a negative effects financial performance. Hence the study recommended that managers of firms should make decisions that ensure profit maximization and reduction of costs associated with debt so as to maximize shareholders wealth. The research presents a contextual gap as it focused on retail and wholesale South African firms but this study focuses on debt financing effects on the performance financially of quoted firms in Kenya.

Locally, Karuma et al (2018) carried out a study on effect of debt financing on performance financial of manufacturing firms at NSE for the period 2013- 2017.The targeted study population was the 9 manufacturing firms quoted. Secondary was sort from published financial statements. The study revealed that short-term debt showed significant and positive effect to ROA while long-term debt indicated a positive and significant link to ROA. The study hence recommended that firms should have measures that sustain short-term debt and increase long-term debt financing for efficiency. The research presents a contextual gap as it focused only on the manufacturing sector.

Momanyi (2018) researched on the effect debt financing had on commercial and services firms listed at the NSE. The targeted study population was the 12 commercial and services firms quoted in the security market. Secondary was sort from published financial statements for a period of five years (2013-2017). The descriptive cross-sectional research design was employed for the study and the relationship between variables established using multiple linear regression analysis. The study findings indicated that debt financing was strongly correlated to financial performance of commercial and service firms listed at the NSE. The research presents a contextual gap as it focused only on the commercial and services sector

Ng'ang'a (2017) examined the effect of debt financing on schools performance in financial terms of privatized secondary schools in Kajiado County. A descriptive design for research was adopted to show the link among the variables. Secondary nature data was applied for the period of three years (2014-2016). Data collected was tabulated on a regression model

to enhance the analysis through use of SPSS. The research found a positive and insignificant link to the independent variables (debt financing and revenue growth) and dependent variable (financial performance). The study still exhibited that a negative and significant association exists between independent variables (administrative efficiency and operational efficiency) and financial performance of the private secondary schools at Kajiado. The research conclusions stated that debt financing has no effect on schools performance in financial terms. The study presents contextual knowledge gap since the focus is on private secondary schools in Kajiado only. This study therefore focuses on firms listed at NSE.

Madeizi (2017) examined the effect of debt financing on dividend policy of listed firms at NSE. The study population involved 64 firms that were listed during the study period, starting from 2012 to 2016. Descriptive cross sectional research design was used to show the association between the variables and the study relied on secondary data collected from annual audited financial reports. Data collected was tabulated on a linear regression model to enhance the analysis through the use of SPSS. The independent variables used were; debt financing, profitability, size of the firm and liquidity while the dividend policy was dependent variable. The study revealed that there exist a weak negative and statistically significant association between debt financing and dividend policy. The study presents contextual knowledge gap since the focus is on relation between debt financing and dividend policy of all firm listed at NSE. This study therefore will focus on the relationship between debt financing and financial performance of services and commercial firms quoted at NSE.

2.5 Conceptual Framework

A conceptual framework reflects how the dependent variable which is the listed firms' financial performance is related to the independent variable (Debt financing, Size of the firm, firm liquidity and asset tangibility).

Independent Variable   **Dependent Variable**

Debt Financing
- Debt to Equity Ratio

Financial Performance
- Return on Assets

Control Variables

Firm Size
- Ln Total Assets

Liquidity
- Working Capital Ratio

Asset Tangibility
(Fixed Assets/Total Assets)
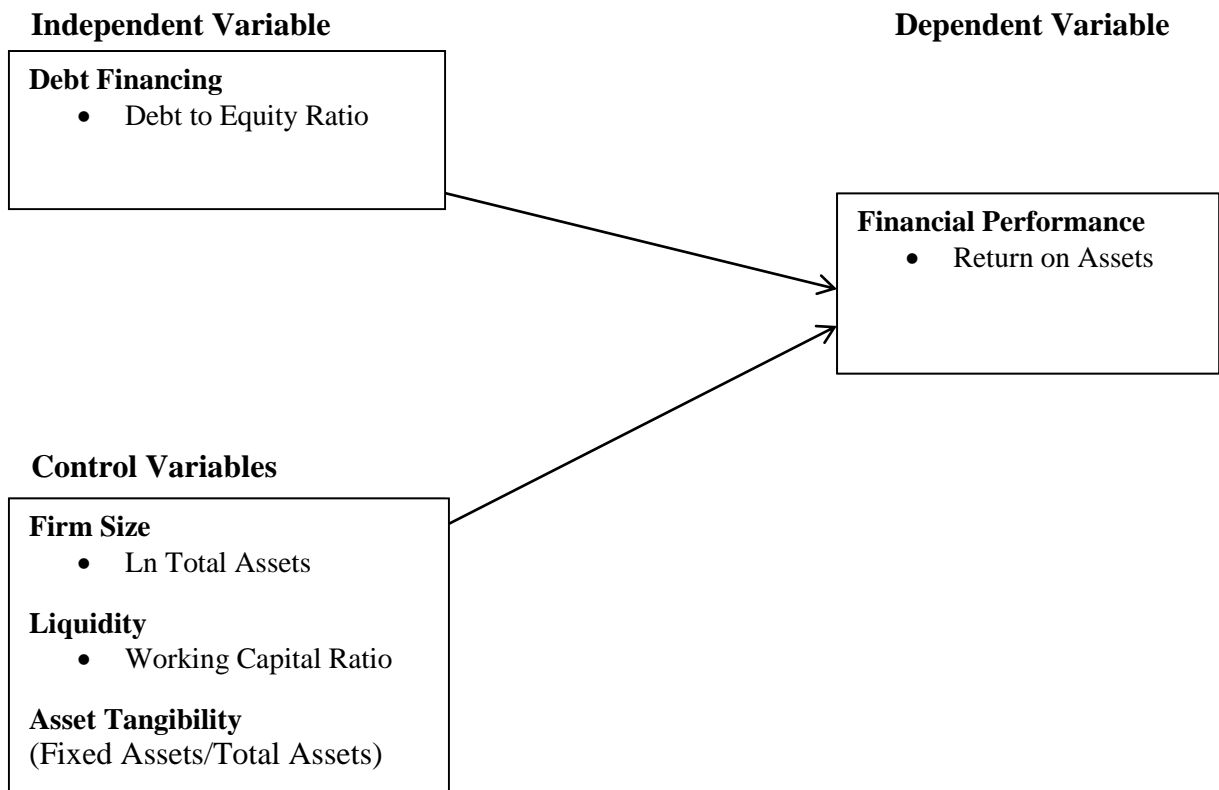
Figure 2.1: Conceptual Framework

2.6 Summary of Literature Review

The literature review chapter has given an in depth study of previous literature on various elements that have impact on the financial performance of firms listed at the Nairobi Securities Exchange. These factors have been discussed and they include; debt financing, liquidity tangibility of assets and size of the firm. An outline on international studies has

been done on the effect debt financing has on the performance of listed firms and these studies revealed both positive and negative impact. Also, overview on Local studies on and around the topic has revealed that profitability and capital structure are negatively related. Theories on the effect of debt financing on ROA have been tackled. Therefore, the chapter is an outline of both factual and theoretical background of the study. Lastly, a diagrammatical presentation on how the dependent variable relate to the independent variables is also shown.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The section explains the research methods that were used to determine the effect of using debt capital on the ROA of firms quoted at the NSE. The design used in the study is discussed as well as population, data collection techniques, analytical procedures and the diagnostic tests. Finally, an analytical model that shows how the predictor factors are related to response factor is discussed.

3.2 Research Design

Kothani (2005) described research design as a tool of data collection, analyzing and interpretation. It makes it possible to combine all the study elements in an effort of making sure the research questions are answered. The design of this study was descriptive in nature where the numerical data gathered will be used statistically to make conclusions. A study on how choice of debt in financing and its influence on ROA of firms was the main focus.

3.3 Population

Population is a total collection of components from which a researcher obtains interpretations from (Mugenda, 2003). It is the bigger set of observations. The population of this study is 65 firms listed at the NSE. In particular, the study will not include financial firms listed at the NSE due to the capital structure regulations. Therefore only 42 non-financial firms were included in the population sample.

3.4 Data Collection

Data collection methods refer to the systematic procedures applied by a researcher to gather and collect data for use in the study (Zikmund, et al., 2011). The study used secondary data gathered from the yearly published financial statements and annual reports of the 42 listed non-financial firms. The annual published financial reports were obtained from the companies' websites. The study collected data on financial performance from the financial statements, which comprised of net income and total assets and data on debt financing, liquidity and asset tangibility was obtained from financial statements. The study period of 5 years was used between 1st January 2015 and 31st December 2019.

3.5 Diagnostic Test

For the validity of regression analysis, a numb   er of assumptions are done in conducting linear regression models. These are; no multi-collinearity, observations are sampled randomly, conditional mean ought to be zero, linear regression model is "linear in parameters", spherical mistakes: there exist homoscedasticity but no auto-correlation, and the elective assumption: error terms ought to be distributed normally. According to the Gauss-Markov Theorem, the first 5 assumptions of the linear regression model, the regression OLS estimators, are the Best Linear Unbiased Estimators (Grewal *et al.*, 2004).

The aforementioned assumptions are of great importance since when any of them is violated would mean the regression estimates will be incorrect and unreliable. Particularly, a violation would bring about incorrect signs of the regression estimates or the difference

of the estimates would not be reliable, resulting to confidence intervals that are either too narrow or very wide (Gall et al., 2006).

The diagnostic tests are conducted so as to guarantee that the assumptions are met to attain the Best Linear Unbiased Estimators. Regression diagnostics assess the model assumptions and probe if there are interpretations with a great, unwarranted effect on the examination or not. Diagnostic examinations on normality, linearity, multicollinearity, and autocorrelation were done on the collected data to establish its suitability in the formulation of linear regression model. Normality was tested by the Shapiro-Francia test, which is suitable for testing distributions of Gaussian nature which have specific mean and variance. Linearity indicates a direct proportionate association amongst dependent and independent variable such that variation in independent variable is followed by a correspondent variation in dependent variable (Gall et al., 2006). Linearity was tested by determining homoscedasticy, which was determined by the Breusch-Pagan Cook-Weisberg Test for Homoscedacity.

Tests for multicollinearity of data was carried out using variance inflation factors (VIF) to determine whether the predictor variables considered in the research are significantly correlated with each other. According to Grewal *et al*. (2004) the main sources of multicollinearity are small sample sizes, low explained variable and low measure reliability in the independent variables. Auto-correlation test was carried out through the Durbin-Watson Statistic.

Additionally, to avoid spurious regression results unit root test was carried out on the panel data. The aim of conducting unit root test is to check whether the macroeconomic variables under study are integrated of order on (1, 1) or not before estimation procedure can be proceeded into. Unit root test was conducted through the Fisher-type unit root test. The study also utilized the Hausman specification test to ascertain if the variables used in the study posses fixed influence overtime or if they have varying and random influence over time. The null hypothesis is that that the variables have a random effect and the alternate hypothesis is that the variables have a fixed effect. If the significance value is less than α (0.05), the null hypothesis will consequently rejected and if the significance value is greater than α (0.05), the null hypothesis will not be rejected.

3.6 Data Analysis

This is a systematic process that applies statistics techniques to evaluate data through inspecting, changing and modeling data to derive fundamental information for sound decision making. Because panel data was employed for the study, STATA version 13 was the statistical analysis program utilized for the study because it is able to perform panel multiple linear regression. Correlation analysis was used to show whether and how strongly changes in debt financing are related to financial performance while regression analysis was employed to determine the association amongst debt financing and financial performance.

3.6.1 Analytical Model

A multiple linear regression model was used to show the debt financing and financial performance relationship. Responsive variable was the financial performance while the predictor variables were debt financing, firm size, firm liquidity and asset tangibility.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where;

Y = Financial Performance; measured by ROA (Net Income/ Total Asset)

X_1 = Debt Financing; measured by ratio of debt to asset ratio

X_2 = Firm Size; Measured as natural log of total assets.

X_3 = Firm Liquidity; measured by ratio of current liabilities to current assets.

X_4 = Asset Tangibility; measured by as a ratio of fixed assets to total assets

α = Constant; y intercept that is, the value of y when x is equal to zero

β = Coefficients of the model

ϵ = Error term

3.6.2 Test of Significance

The study adopted a confidence interval of 95%. The results were set to be mathematically significant at the 0.05 level, that indicates that the significance number should be less than 0.05. A statistical inference technique was used in making conclusions relating to the accuracy of the model in predicting the firm value. The model significance was tested using the significance values at 95% confidence. The meaning of the association amongst every predictor variable to the response variable will be determined by the significance values.

CHAPTER FOUR: DATA ANALYSIS, RESULTS, AND FINDINGS

4.1 Introduction

This chapter entails of the data analysis, interpretation and the discussions of the outcomes. The section hence is fragmented to four sub sections, which entail diagnostic tests, inferential statistics, and interpretation and the arguments regarding the outcomes. Precisely this chapter summarizes the platform for data presentations, analysis, interpretations, and discussions.

4.2 Response Rate

All the 65 listed firms in the NSE, whose list is provided in Appendix I, were the target population in the study. The study employed a census approach and the entire population was to be examined. However, twenty three financial firms which entailed banks and insurance companies were expunged from the analysis because their operations neccisitate a different structure of the statement of financial position than conventional firms. The information on current assets and current liabilities is not available and thus liquidity cannot be calculated. Thus, 42 listed firms were utilized for this analysis.

4.3 Diagnostic Tests

Diagnostic tests that are a precursor to conducting linear regression were conducted. Diagnostic tests done in this study included; normality tests, homoscedasticity tests, multicollinearity tests, and autocorrelation tests. Normality test was carried out using the

Shapiro-Francia test and the homoscedasticity test was conducted through the Breusch-Pagan Cook-Weisberg Test for Homoscedacity. Test on Multicolinearity of data was carried out using Variance Inflation Factors (VIF) while the autocorrelation test was done through the Durbin-Watson statistic. Unit root test was conducted through the Fisher-type unit root test. Additionally, the Hausman test was conducted to determine whether fixed or variable effects panel regression should be conducted.

4.3.1 Normality Test

The normality tests for all the variables employed in the study are highlighted in Table 4.1.

Table 4.1: Shapiro-Francia Test for Normality

Variable	Obs	W'	V'	z	Prob>z
ROA	192	0.75277	38.875	7.548	0.00001
DebtFinanc~g	192	0.85702	22.483	6.419	0.00001
FirmSize	192	0.98695	2.051	1.482	0.06923
Liquidity	192	0.76986	36.187	7.401	0.00001
AssetTangi~y	192	0.97093	4.57	3.134	0.00086

In the test, the null hypothesis holds that the data has a normal distribution. The level of significance adopted in the study is 5%. The singnificance value of firm size is greater than α (0.05), thus the null hypothesis is not rejected. Hence, the data series of the variable is normally distributed. Since the significance values in tests for ROA, debt financing, liquidity, and asset tangibility are less than α (0.05), thus the null hypothesis is rejected. Hence, the data series of the variables are not normally distributed. Thus, the variables were standardized as a remedy for normalizing skewed data.

4.3.2 Homoscedacity Test

The homoscedacity tests for all the predictor variables employed in the study are enlisted in Table 4.2.

Table 4.2: Breusch-Pagan/Cook-Weisberg Test for Homoscedacity

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of ROA
chi2(1)   =   75.31
Prob > chi2 = 0.0000

The null hypothesis is that there is homoscedacity. The level of significance adopted in the study is 5%. Since the significance value is less than α (0.05), the null hypothesis is rejected. Hence, the data series of all the predictor variables are heteroscedastic. Thus, robust standard errors', which is a technique to obtain unbiased standard errors of OLS coefficients under heteroscedasticity, was applied.

4.3.3 Test for Multicollinearity

Results on Test for Multicolinearity of data carried out using Variance Inflation Factors (VIF) are displayed in Table 4.3.

Table 4.3: VIF Multicollinearity Statistics

Variable	VIF	1/VIF
FirmSize	1.28	0.784239
AssetTangi~y	1.27	0.789108
Liquidity	1.18	0.849527
DebtFinanc~g	1.17	0.853908
Mean VIF	1.22	

The common rule in statistics is that the VIF values should be less than 10 and greater than 1. The findings indicate that the individual and mean VIF values fall below 10 and are greater than 1. Hence, there is no presence of multicollinearity amongst the variables listed in the study.

4.3.4 Tests for Autocorrelation

Test for Autocorrelation of data was carried out using the Durbin Watson statistic. The findings displayed that Durbin-Watson d-statistic (5, 192) = 1.522041. The Durbin-Watson statistic ranges from point 0 and point 4. If there exist no correlation between variables, a value of 2 is shown. If the values fall under point 0 up to a point less than 2, this is an indication of an autocorrelation and on the contrast a negative autocorrelation exist if the value falls under point more than 2 up to 4. As a common rule in statistics, value falling under the range 1.5 to 2.5 is considered relatively normal whereas values that fall out of the range raise a concern (Shenoy & Sharma, 2015). Field (2009) however, opines that values above 3 and less than 1 are a sure reason for concern. Therefore, the data used in this panel is not serially autocorrelated since it meets this threshold.

4.3.5 Unit Root Test

The results for the unit root test conducted for the data series financial performance is displayed in Table 4.4 below

Table 4.4: Unit Root Test for Financial Performance

Fisher-type unit-root test for ROA

Based on augmented Dickey-Fuller tests

Ho: All panels contain unit roots		Number of panels =	42
Ha: At least one panel is stationary		Avg. number of periods =	4.57
AR parameter: Panel-specific		Asymptotics: T -> Infinity	
Panel means: Included			
Time trend: Not included			
Drift term: Not included		ADF regressions: 0 lags	

		Statistic	p-value
Inverse chi-squared(84)	P	426.4412	0.0000
Inverse normal	Z	-6.7588	0.0000
Inverse logit t(184)	L*	-16.2251	0.0000
Modified inv. chi-squared Pm		26.4199	0.0000

The null hypothesis is that financial performance has a unit root and the alternate hypothesis is that the variable is stationery. Since the significance values for the P, Z, L* and Pm tests are all less than the critical value (α) at the 5% confidence level, then the null hypothesis is rejected. Thus, the panel data series is stationery.

The results for the unit root test conducted for the data series debt financing is displayed in Table 4.5. The null hypothesis is that debt financing has a unit root and the alternate hypothesis is that the variable is stationery. Since the significance values for the P, Z, L* and Pm tests are all less than the critical value (α) at the 5% confidence level, then the null hypothesis is rejected. Thus, the panel data series is stationery.

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Table 4.5: Unit Root Test for Debt Financing

Fisher-type unit-root test for DebtFinancing

Based on augmented Dickey-Fuller tests

Ho: All panels contain unit roots		Number of panels =	42
Ha: At least one panel is stationary		Avg. number of periods =	4.57
AR parameter: Panel-specific		Asymptotics: T -> Infinity	
Panel means: Included			
Time trend: Not included			
Drift term: Not included		ADF regressions: 0 lags	

		Statistic	p-value
Inverse chi-squared(84)	P	241.1290	0.0000
Inverse normal	Z	-2.2281	0.0129
Inverse logit t(179)	L*	-7.1147	0.0000
Modified inv. chi-squared Pm		12.1228	0.0000

The results for the unit root test conducted for the data series firm size is displayed in Table 4.6 below.

Table 4.6: Unit Root Test for Firm Size

Fisher-type unit-root test for FirmSize

Based on augmented Dickey-Fuller tests

Ho: All panels contain unit roots		Number of panels =	42
Ha: At least one panel is stationary		Avg. number of periods =	4.57
AR parameter: Panel-specific		Asymptotics: T -> Infinity	
Panel means: Included			
Time trend: Not included			
Drift term: Not included		ADF regressions: 0 lags	

		Statistic	p-value
Inverse chi-squared(84)	P	349.1177	0
Inverse normal	Z	-3.6735	0.0001
Inverse logit t(174)	L*	-11.2502	0
Modified inv. chi-squared Pm		20.4543	0

The null hypothesis is that firm size has a unit root and the alternate hypothesis is that the variable is stationery. Since the significance values for the P, Z, L* and Pm tests are all less than the critical value (α) at the 5% confidence level, then the null hypothesis is rejected. Thus, the panel data series is stationery.

The results for the unit root test conducted for the data series liquidity is displayed in Table 4.7.

Table 4.7: Unit Root Test for Liquidity

Fisher-type unit-root test for Liquidity				
Based on augmented Dickey-Fuller tests				
Ho: All panels contain unit roots		Number of panels	=	42
Ha: At least one panel is stationary		Avg. number of periods =		4.57
AR parameter: Panel-specific		Asymptotics: T -> Infinity		
Panel means: Included				
Time trend: Not included				
Drift term: Not included		ADF regressions: 0 lags		
		Statistic		p-value
Inverse chi-squared(84)	P	317.9902		0.000
Inverse normal	Z	-4.2105		0.000
Inverse logit t(184)	L*	-10.6103		0.000
Modified inv. chi-squared Pm		18.0527		0.000

The null hypothesis is that liquidity has a unit root and the alternate hypothesis is that the variable is stationery. Since the significance values for the P, Z, L* and Pm tests are all less than the critical value (α) at the 5% confidence level, then the null hypothesis is rejected. Thus, the panel data series is stationery.

The results for the unit root test conducted for the data series asset tangibility is displayed in Table 4.8.

Table 4.8: Unit Root Test for Asset Tangibility

Fisher-type unit-root test for AssetTangibility				
Based on augmented Dickey-Fuller tests				
Ho: All panels contain unit roots		Number of panels	=	42
Ha: At least one panel is stationary		Avg. number of periods =		4.57
AR parameter: Panel-specific		Asymptotics: T -> Infinity		
Panel means: Included				
Time trend: Not included				
Drift term: Not included		ADF regressions: 0 lags		
Statistic	p-value			
Inverse chi-squared(84)	P	142.0216	0.0001	
Inverse normal	Z	0.2584	0.6019	
Inverse logit t(184)	L*	-1.5550	0.0608	
Modified inv. chi-squared Pm		4.4765	0.0000	

The null hypothesis is that asset tangibility has a unit root and the alternate hypothesis is that the variable is stationery. The significance values for the P and Pm tests are less than the critical value (α) at the 5% confidence level while the significance values of the Z and L* are more than the critical value (α) at the 5% confidence level. In case of any conflict in the tests, the inverse chi-squared and modified inv. chi-squared tests take precedence. Thus, the null hypothesis is rejected. Thus, the panel data series is stationery.

4.3.6 Test for Random and Fixed Effects

The study carried out the Hausman test to determine if the variables have fixed influence overtime or if the variables have varying and random influence over time. Before the Hausman test was conducted, the variables had to be transformed because they did not meet the conditions of normality and homoscedacity. The variables that did not meet the

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conditions of normality were standardized as a remedy for rectifying normality. Due to the data series employed in the study displaying heteroscedasticity, "robust standard errors", which is a technique to obtain unbiased standard errors of OLS coefficients under heteroscedasticity, was utilized. The finding on the Hausman test of specification is presented in Table 4.9.

Table 4.9: Hausman Test of Specification

	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fe	re	Difference	S.E.
DebtFinanc~g	.2703734	.1594124	.110961	.079875
FirmSize	.332512	.0366173	.2958947	.0516139
Liquidity	.0085269	.0218559	-.013329	.0074321
AssetTangi~y	.0147661	-.0774897	.0922558	.122473

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

chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                            40.78
Prob>chi2 =   0.0000

The null hypothesis assumes that variables have a random effect and the alternate hypothesis is that the variables have a fixed effect. If the significance value is less than the α (0.05), the null hypothesis is consequently rejected; if it is greater than the α (0.05), subsequently, the null hypothesis will not be rejected. When the Hausman chi-square test statistic is negative, the alternate hypothesis is adopted because asymptotically, the p value is equal to 1. From the findings in the study (Prob>chi2=0.000), the variables have a fixed

effect and a fixed effect panel model shall be utilized. This is because the significance value is less than the α (0.05), hence the null hypothesis is rejected.

4.4 Inferential Statistics

Inferential statistics were used in determining the direction, relationship, and strength of the association between the predictor variables and the response variable. The section entails the inferential statistics employed in the study, which included correlation and panel multiple linear regression analysis.

4.4.1 Correlation Analysis

Correlation analysis establishes whether there exists an association among two variables. The association falls between a perfect positive and a strong negative correlation. The study used Pearson Correlation. This study employed a Confidence Interval of 95% and a two-tail test. The correlation test was done to ascertain the association between financial risk and financial performance.

Table 4.10: Correlation Analysis

```
                  ROA DebtFi~g FirmSize Liquid~y AssetT~y
─────────────┼───────────────────────────────────────────
         ROA │   1.0000


  DebtFinanc~g │   0.0571   1.0000
              │   0.4318

     FirmSize │   0.1726*  0.0118   1.0000
              │   0.0166   0.8713

    Liquidity │   0.1797* -0.1560* -0.3261*  1.0000
              │   0.0126   0.0307   0.0000

  AssetTangi~y │  -0.0363   0.3183*  0.3039* -0.0169   1.0000
              │   0.6168   0.0000   0.0000   0.8162
```

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Table 4.10 displays that firm size and liquidity are significantly correlated at the 5% significance level to financial performance. They both have a positive significant association with financial performance. Debt financing and asset tangibility do not have a significant association with financial performance at the 5% significance level.

4.3.2 Multiple Linear Regression

The fixed effects panel regression model assessed the effect of debt financing, firm size, liquidity, and asset tangibility on financial performance. The regression analysis was established at the 5% significance level. The significance critical value exhibited from the Analysis of Variance and Model Coefficients were compared with the values obtained in the analysis. The findings are displayed in Table 4.13.

Table 4.11: Panel Multiple Linear Regression

Fixed-effects (within) regression			Number of obs	=	192	
Group variable: Number			Number of groups	=	42	
R-sq: within = 0.2366			Obs per group: min =		3	
between = 0.0366			avg =		4.6	
overall = 0.0336			max =		5	
			F(4,146)	=	11.31	
corr(u_i, Xb) = -0.9724			Prob > F	=	0.0000	

ROA	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
DebtFinancing	.2703734	.1194613	2.26	0.025	.0342766	.5064702
FirmSize	.332512	.0530624	6.27	0.000	.2276424	.4373816
Liquidity	.0085269	.0115256	0.74	0.461	-.0142517	.0313056
AssetTangibility	.0147661	.1544301	0.10	0.924	-.2904412	.3199734
_cons	-5.273498	.818294	-6.44	0.000	-6.89073	-3.656266
sigma_u	.65353643					
sigma_e	.12720964					
rho	.9634952 (fraction		of variance due to u_i)			
F test that all u_i=0:	F(41, 146) =		5.25		Prob > F = 0.0000	

The overall R^2 indicates deviations in response variable as a consequence of differences in predictor variables. The overall R^2 value is 0.0336, a discovery that 3.36% of the deviations in financial performance are caused by debt financing and the control variables that entail; firm size, liquidity, and asset tangibility. Other factors not incorporated in the model justify for 96.64% of the variations in financial performance.

The null hypothesis is that the model consisting of debt financing and the control variables that entail; firm size, liquidity, and asset tangibility do not significantly influence financial performance. The significance value obtained in the study (Prob > F =0.0000) is less than critical value of 0.05. Consequently, the null hypothesis is rejected. Thus, debt financing and the control variables that entail; firm size, liquidity, and asset tangibility in unison influence financial performance. Thus, they can be utilized to significantly predict financial performance.

The null hypothesis was that there was no significant relationship between debt financing, firm size, liquidity, and asset tangibility in isolation and financial performance. The study findings exhibited both debt financing and firm size have a significant relationship with financial performance. This is because their significance values are less than the critical significance value (α) of 0.05. Thus, the null hypothesis is rejected in both instances. Therefore, both both debt financing and firm size have a significant positive effect on the financial performance. Liquidity and asset tangibility however do not have a significant

effect on the financial performance. This is because their significance values are greater than the critical significance value (α) of 0.05. The following model was thus developed;

$Y = -5.273498 + 0.2703734X_1 + 0.332512X_2$

Where;

Y = Financial Performance

X_1 = Debt Financing

X_2 = Firm Size

This implies that when there is no debt financing and firm size, the financial performance -5.273498 is exhibited. Subsequently, when debt financing increases by one unit, there is an increase in financial performance by 0.2703734 units. In addition, when firm size increases by one unit, there is an increase in financial performance by 0.332512 units.

4.4 Interpretation and Discussion of Findings

The study endeavoured to establish the effect of debt financing on financial performance of listed firms at the Nairobi Securities Exchange. The study also sought to establish effects of firm size, liquidity, and asset tangibility on the financial performance of listed firms at the Nairobi Securities Exchange. The variables had to be transformed because they did not meet the conditions of normality and homoscedacity. The variables that did not meet the conditions of normality were standardized as a remedy for rectifying normality. Due to the data series employed in the study displaying heteroscedasticity, "robust standard errors",

which is a technique to obtain unbiased standard errors of OLS coefficients under heteroscedasticity, was utilized.

The study findings established that firm size and liquidity are significantly correlated at the 5% significance level to financial performance. They both have a positive significant association with financial performance. However, debt financing and asset tangibility do not have a significant association with financial performance at the 5% significance level. Additionally, the study findings revealed that the model consisting of debt financing and the control variables that entail; firm size, liquidity, and asset tangibility in unison influence financial performance and they can be utilized to significantly predict financial performance. Further findings were that both debt financing and firm size have a significant positive relationship with financial performance. Final findings were that liquidity and asset tangibility however do not have a significant effect on the financial performance.

The study finding that debt financing has a positive significant relationship with financial performance is in sync with the Modigliani and Miller (1958) proposition on no optimal structure of capital and hence a decision to use whichever source of finance has no impact of a firm's value. It is also in agreement with the Agency Theory by Jensen and Meckling (1976) which favors firm's uptake of high debt financing levels at it encourages management to work hard towards meeting the creditors' obligation and at the same time safeguard the shareholders' interests. However, the current study finding that debt financing has no significant association with financial performance contradicts these theories.

The study finding that debt financing has a positive significant relationship with financial performance is in tandem with the assertion by Onchong'a, Mututi, and Atambo (2016) that many firms rely on debt to finance investment projects because the retained earnings cannot solely support the firms operations and if firms settle on poor debt financing decisions, the outcome to the firm will lead to higher costs in capital, which in turn lead to reduction in overall financial performance. On the other hand, effective debt financing decisions results in higher present value, thereby boosting the worth of a company. It is also congruent to the assertion by Fama and French (2002) that there are benefits of using debt as a financing option such as tax shield benefit on debt as well as drawbacks in form of costs. It is also in tandem with the statement by Githaigo and Kabiru (2015) that using debt in financing the operations of the firm will enhance the performance if only the return on investment is higher than the cost of capital borrowed. However, the current study finding that debt financing has no significant association with financial performance contradicts these assertions.

In Rwanda Harelimana (2017) investigated how debt as a financing strategy affected performance level of businesses and found that there was a positive relationship as debt enhanced value of the firm. In Napel Pradhan and Khadka (2017) found debt to positively affect the profitability of firms. These study findings are congruent to the current study finding that debt financing has a positive significant relationship with financial performance. However, the current study finding that debt financing has no significant association with financial performance contradicts these findings.

In South Africa Magoro and Abeywardhana (2017) found that debt capital negatively affects the performance of companies. In Pakistan stock exchange Aziz (2019) sought to know the effect debt had on ROA of non-financial firms. He indicated that leverage had a negative effect on ROA of firms and recommended internal sources of capital. These study findings are not in agreement with the current study finding that debt financing has a positive significant relationship with financial performance.

Locally, Karuma et al (2018) found that debt financing had a positive effect on ROA of listed manufacturing firms. This study finding is congruent to the current study finding that debt financing has a positive significant relationship with financial performance. However, the current study finding that debt financing has no significant association with financial performance contradicts this finding. Ng'ang'a (2017) found debt to have positive but insignificant relationship on revenue growth of private secondary schools in Kajiado county. This study finding is not in agreement to the current study finding that debt financing has a positive significant relationship with financial performance. However, the current study finding that debt financing has no significant association with financial performance is in sync with this finding.

Madeizi (2017) found a weak negative and statistically significant association between debt financing and dividend policy of firms listed at the NSE. The current study finding that debt financing has no significant association with financial performance is in sync with this finding. Momanyi (2018) also found debt to strongly correlate to the performance of listed

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commercial and services firms. The current study finding that debt financing has no significant association with financial performance is not in tandem with this finding.

According to Okiro et al., (2015 firm size is positively associated with capital structure. For instance, larger firms have other benefits compared to small ones such as economies of scale, larger market power as well as competitiveness ability hence this warrants them higher profits. The study finding that firm size has both a significant association and relationship with financial performance is in sync with this assertion.

Rajan and Zingales (1995) asserts that companies with high amount of assets that are tangible are seems to have high debt level in structures of capital than firms with less tangible assets. These external finances in turn lead to high turnover and enhance the firm's performance if efficiently utilized. The study finding that asset tangibility has neither a significant association nor relationship with financial performance is not in agreement with this assertion.

CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This section shows the study findings summary, offered conclusions, and recommendations on the effect of debt financing on financial performance of listed firms at the Nairobi Securities Exchange. Additionally, the research limitations and further research suggestions are also outlined.

5.2 Summary of Findings

The study endeavoured to assess the effect of debt financing on financial performance of listed firms at the Nairobi Securities Exchange. The study also sought to establish the effect of firm size, liquidity, and asset tangibility on the financial performance of listed firms at the Nairobi Securities Exchange. The study employed the use of correlation and regression analyses. The correlation analysis employed in the study established that firm size and liquidity are significantly correlated at the 5% significance level to financial performance. They both have a positive significant association with financial performance. However, debt financing and asset tangibility do not have a significant association with financial performance at the 5% significance level.

The fixed effects of panel multiple linear regression revealed that the model consisting of debt financing and the control variables that entail; firm size, liquidity, and asset tangibility in unison influence financial performance and they can be utilized to significantly predict financial performance. Further findings were that both debt financing and firm size have a

significant positive relationship with financial performance. Final findings were that liquidity and asset tangibility however do not have a significant effect on the financial performance.

5.3 Conclusion

In this section, the conclusion of the study is given; the conclusion is affiliated to the study objective, which was to establish debt financing on financial performance of listed firms at the Nairobi Securities Exchange. The study concluded that debt financing does not have a significant association with financial performance. Further conclusions were that debt financing had a significant positive relationship with financial performance.

The study conclusion that debt financing has a positive significant relationship with financial performance is in sync with the Modigliani and Miller (1958) proposition on no optimal structure of capital and hence a decision to use whichever source of finance has no impact of a firm's value. It is also in agreement with the Agency Theory by Jensen and Meckling (1976) which favors firm's uptake of high debt financing levels at it encourages management to work hard towards meeting the creditors' obligation and at the same time safeguard the shareholders' interests. However, the current study cpnclusion that debt financing has no significant association with financial performance contradicts these theories.

The study conclusion that debt financing has a positive significant relationship with financial performance is in tandem with the assertion by Onchong'a, Mututi, and Atambo

(2016) that many firms rely on debt to finance investment projects because the retained earnings cannot solely support the firms operations and if firms settle on poor debt financing decisions, the outcome to the firm will lead to higher costs in capital, which in turn lead to reduction in overall financial performance. On the other hand, effective debt financing decisions results in higher present value, thereby boosting the worth of a company. It is also congruent to the assertion by Fama and French (2002) that there are benefits of using debt as a financing option such as tax shield benefit on debt as well as drawbacks in form of costs. It is also in tandem with the statement by Githaigo and Kabiru (2015) that using debt in financing the operations of the firm will enhance the performance if only the return on investment is higher than the cost of capital borrowed. However, the current study conclusion that debt financing has no significant association with financial performance contradicts these assertions.

5.4 Recommendations

The study findings will aid in further researches to be conducted on the field of debt financing and its impact on financial performance. Later scholars keen in research on debt financing and its impact on financial performance will use the study findings as referral. Policy recommendations are made to the CMA and NSE, and by extension, the National Treasury, to formulate and enforce rules and regulations on debt financing since it has been established that it influences the value of quoted firms. The policy makers should strive to bolster the corporate bond sector of the capital market. The recommendation will guide government regulators in making policies and practices to boost the capital markets and in

extension, the financial system, to mitigate collapse of listed companies and ensure lack of stability in value of financial securities issued in the capital markets.

The finding that firm size and liquidity have a significant positive association with financial performance and the additional finding that debt financing and firm size has a significant positive relationship with financial performance generates conclusions to firm management and consultants to implement good working capital management practices, employ debt financing, and increase firm size in order to boost firm value. Other stakeholders like investment banks, equity analysts, and individual investors should search for firms that employ debt financing to invest or recommend to invest. This is because that there are benefits of using debt as a financing option such as tax shield benefit on debt (Fama & French, 2002). They should also target firms that implement good working capital management practices and are large in size.

5.5 Recommendations for Further Study

Exploring the influence of debt financing on financial performance is of great importance the policy makers in the National Treasury, CMA, and NSE, practitioners in the capital markets, and consultants. However, the current study was carried out in the capital markets context, the same study could be carried out across other firms like Small and Medium-Sized Enterprises (SMEs) establish if the study findings would hold. The study was only carried out in the Kenyan context, further studies can be conducted out of Kenyan context, they can be conducted in the African or global jurisdictions to establish whether the study findings would hold.

The study only considered firm size, liquidity, and asset tangibility as the factors moderating on the relationship between debt financing and financial performance. Further studies can be conducted to ascertain if there are factors that moderate on the relationship between debt financing and financial performance. This study used secondary data, a subsequent research should be undertaken applying primary data to ascertain if the study findings would hold and either complement or criticize the finding of this study. Multiple linear regression and correlation analysis were applied in the study; Other analysis technique for example cluster analysis, discriminant analysis, granger causality and factors should be incorporated in the subsequent research.

5.6 Limitations of the Study

The study was conducted only in the capital markets context, due to time and cost and also availability of data constraints, which does not give clear indication of findings if firms in other sectors like Over the Counter (OTC) markets and SMEs or all the firms in the economy were also incorporated in the study. More uncertainties would occur if similar studies were replicated in firms outside the realm of capital markets. Although the research engaged secondary sources of data, there were some major challenges like some of the data being not readily available; especially data on debt financing and it took great lengths and costs to obtain it. The data was not utilized in their raw form and further calculations and manipulations of the data were required. Impending delays were experienced due to data processing and further editing before the compilation by the researcher.

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APPENDICES

Appendix 1: Companies Listed at the Nairobi Securities Exchange

Agricultural	
Ticker	**Company Name**
EGAD	Eaagads Limited
KUKZ	Kakuzi Limited
KAPC	Kapchorua Tea Company Limited
LIMT	Limuru Tea Company Limited
SASN	Sasini Tea and Coffee
WTK	Williamson Tea Kenya Limited

Automobiles and Accessories	
Ticker	**Company Name**
G&G	Car & General Kenya

Banking	
Ticker	**Company Name**
BBK	Barclays Bank of Kenya
CFC	CfC Stanbic Holdings
DTK	Diamond Trust Bank Group
EQTY	Equity Group Holdings Limited
HFCK	Housing Finance Company of Kenya
I&M	I&M Holdings Limited
KCB	Kenya Commercial Bank Group
NBK	National Bank of Kenya
NIC	National Industrial Credit Bank
SCBK	Standard Chartered of Kenya
COOP	Cooperative Bank of Kenya

Commercial and Services	
Ticker	**Company Name**
XPRS	Express Kenya Limited
KQ	Kenya Airways
LKL	Longhorn Kenya Limited
EVRD	Eveready East Africa
SCAN	Scangroup
NMG	Nation Media Group
SGL	Standard Group Limited
FIRE	Sameer Africa Limited
TPSE	TPS Serena
UCHM	Uchumi Supermarkets

Construction and Allied

Ticker	Company Name
ARM	ARM Cement Limited
BAMB	Bamburi Cement Limited
BERG	Crown-Berger (Kenya)
CABL	East African Cables Limited
PORT	East Africa Portland Cement Company

Energy and Petroleum

Ticker	Company Name
KEGN	Kengen
KENO	KenolKobil
KPLC	Kenya Power and Lighting Company
TOTL	Total Kenya Limited
UMME	Umeme

Insurance Segment

Ticker	Company Name
BRIT	British-American Investments Company
CIC	CIC Insurance Group
CFCI	Liberty Kenya Holdings Limited
JUB	Jubilee Holdings Limited
KNRE	Kenya Reinsurance Corporation
PAFR	Sanlam Kenya Plc

Investments

Ticker	Company Name
ICDC	Centum Investment Company
OCH	Olympia Capital Holdings
HAFR	Home Afrika Ltd
TCL	TransCentury Investments

Investment Services

Ticker	Company Name
NSE	Nairobi Securities Exchange

Manufacturing and Allied	
Ticker	**Company Name**
BOC	BOC Kenya Limited
BAT	British American Tobacco Limited
CARB	Carbacid Investments Limited
EABL	East African Breweries
EVRD	Eveready East Africa
ORCH	Kenya Orchards Limited
MSC	Mumias Sugar Company Limited
UNGA	Unga Group
Telecommunication and Technology	
Ticker	**Company Name**
SCOM	Safaricom

Source: Nairobi Securities Exchange Website (2020)

Appendix II: Data Collection Form

Name of Company		Sector			
	Year				
Data		2015	2016	2017	2018	2019
Net Income						
Total Assets						
Return on Assets						
Debt Financing						
Shareholders Equity						
Debt to Equity Ratio						
Ln Total Assets						
Current Assets						
Current Liabilities						
Liquidity						
Fixed Assets						
Asset Tangibility						

Appendix III: Research Data

Company	COMPANY	Year	ROA	Debt Financing	Firm Size	Liquidity	Asset Tangibility
1	Athi river mining	2017	-0.15339	0.109815	17.56969	0.21655	0.912797
1	Athi river mining	2016	-0.05484	0.178309	17.74849	0.58517	0.837723
1	Athi river mining	2015	0.148684	0.285578	17.76554	0.383449	0.850428
2	Bamburi	2019	0.007314	0.166487	17.70906	1.377064	0.753652
2	Bamburi	2018	0.011359	0.148003	17.73465	1.320599	0.752884
2	Bamburi	2017	0.136983	0.124357	17.66997	1.660765	0.713853
2	Bamburi	2016	0.086913	0.09669	17.52446	2.696565	0.534439
2	Bamburi	2015	0.100833	0.110183	17.55389	2.357078	0.56857
3	Car & General	2019	0.022014	0.131894	16.25644	0.873083	0.516723
3	Car & General	2018	0.026561	0.146555	16.1353	0.990289	0.505653
3	Car & General	2017	0.012869	0.130182	16.04203	1.029861	0.495039
3	Car & General	2016	0.022403	0.085566	16.08817	1.005435	0.416101
3	Car & General	2015	0.023673	0.108048	16.01141	1.056207	0.412933
4	Carbacid	2019	0.077741	0.059231	15.06927	5.694047	0.727029
4	Carbacid	2018	0.086553	0.063483	15.03079	9.428015	0.683975
4	Carbacid	2017	0.100244	0.070971	15.01154	7.013213	0.685724
4	Carbacid	2016	0.121868	0.077857	14.94101	7.088474	0.614424
4	Carbacid	2015	0.132486	0.082384	14.90364	4.510618	0.624522
5	Crown Berger	2018	0.031872	0.110444	15.51583	1.012942	0.288889
5	Crown Berger	2017	0.039115	0.05043	15.58564	1.190546	0.225873
5	Crown Berger	2016	0.04614	0.048765	15.43669	1.163539	0.252476
5	Crown Berger	2015	0.013153	0.046243	15.32825	1.106517	0.274422
6	East Africa Cables	2019	0.100119	0.382102	15.65206	0.656393	0.817176
6	East Africa Cables	2018	-0.04012	0.106306	15.70313	0.257738	0.828255
6	East Africa Cables	2017	-0.09627	0.169509	15.76689	0.599151	0.662345

6	East Africa Cables	2016	-0.07864	0.221619	15.83685	0.671732	0.704631
6	East Africa Cables	2015	0.022026	0.247974	15.94185	0.93343	0.648733
7	E.A Portland	2018	0.205248	0.140384	17.45382	0.248421	0.947784
7	E.A Portland	2017	-0.03859	0.156089	17.1245	0.314562	0.928754
7	E.A Portland	2016	0.148594	0.177186	17.14206	0.426198	0.924041
7	E.A Portland	2015	0.310325	0.239593	16.95589	0.838519	0.863393
8	Eveready	2019	-1.22138	0.035598	12.4233	1.501851	0.216352
8	Eveready	2018	-0.19468	0.015419	13.25998	2.532463	0.438334
8	Eveready	2017	0.353059	0.01145	13.55758	2.694803	0.252108
8	Eveready	2016	-0.18093	0.00817	13.89507	0.453799	0.753831
8	Eveready	2015	0.306962	0.035769	14.22872	0.857806	0.630411
9	Kakuzi	2019	0.110422	0.155865	15.6813	1.099969	0.598668
9	Kakuzi	2018	0.081575	0.148392	15.5974	5.941361	0.610015
9	Kakuzi	2017	0.103266	0.140476	15.56404	3.902098	0.581074
9	Kakuzi	2016	0.112226	0.158245	15.43775	4.917591	0.595344
9	Kakuzi	2015	0.153604	0.245313	14.92246	4.443829	0.457637
10	Kengen	2018	0.019158	0.443834	19.75398	1.504447	0.917196
10	Kengen	2017	0.022503	0.46134	19.74704	1.475095	0.921325
10	Kengen	2016	0.01758	0.48035	19.72016	1.204857	0.94024
10	Kengen	2015	0.192	0.465337	19.65184	0.950577	0.937612
11	Kenolkobil	2017	0.102274	0	16.99768	1.440385	0.246118
11	Kenolkobil	2016	0.099712	0	17.00193	1.257619	0.271241
11	Kenolkobil	2015	0.115956	0	16.67066	1.237396	0.386848
12	KPLC	2018	0.005697	0.493651	19.63457	0.514035	0.837756
12	KPLC	2017	0.015942	0.570813	19.61834	0.777553	0.814956
12	KPLC	2016	0.024851	0.621899	19.48395	0.944247	0.836599
12	KPLC	2015	0.026977	0.55113	19.43407	1.64343	0.760203

13	KQ	2019	-0.06652	0.744886	19.09196	0.378382	0.868863
13	KQ	2018	-0.05532	0.070341	18.73282	0.216011	0.795249
13	KQ	2017	-0.06265	0.811242	18.81017	0.36489	0.823761
13	KQ	2016	-0.1908	0.760574	18.86335	0.40731	0.809166
13	KQ	2015	-0.1878	0.588181	19.01986	0.502147	0.774518
14	Safaricom	2019	0.324669	0.009715	19.07548	1.079984	0.74044
14	Safaricom	2018	0.330204	0	18.93613	0.630948	0.835988
14	Safaricom	2017	0.299616	0	18.90117	0.464235	0.844378
14	Safaricom	2016	0.239375	0	18.88556	0.705418	0.811911
14	Safaricom	2015	0.203057	0.003127	18.87149	0.624456	0.792361
15	Sameer	2019	-0.45535	0.300801	14.24133	0.866011	0.433583
15	Sameer	2018	-0.26734	0.007593	14.76633	0.903778	0.497581
15	Sameer	2017	0.027059	0.011839	14.90403	1.548511	0.428092
15	Sameer	2016	-0.12289	0.002	15.00666	1.580495	0.304049
15	Sameer	2015	-0.00116	0.001219	15.13759	2.205018	0.262762
16	Sasini	2019	0.126761	0.091705	16.50161	4.253595	0.871416
16	Sasini	2018	0.023298	0.090925	16.37748	5.762474	0.795899
16	Sasini	2017	0.023726	0.089133	16.39543	4.240654	0.773783
16	Sasini	2016	0.045933	0.069817	16.63799	4.882947	0.834417
16	Sasini	2015	0.060754	0.061298	16.59088	4.401565	0.871691
17	Standard Group	2019	-0.11537	0.108218	15.24963	0.596933	0.669853
17	Standard Group	2018	0.055876	0.115081	15.35798	0.912037	0.574093
17	Standard Group	2017	-0.04728	0.085668	15.31058	0.846896	0.579683
17	Standard Group	2016	0.045068	0.140055	15.29824	1.169278	0.545579
17	Standard Group	2015	-0.06649	0.158599	15.28698	0.953672	0.608678
18	Total Kenya	2019	0.067471	0.056583	17.44158	2.15512	0.365649
18	Total Kenya	2018	0.058906	0.030279	17.48569	1.769735	0.305603

18	Total Kenya	2017	0.072035	0.035231	17.45342	1.734052	0.30406
18	Total Kenya	2016	0.061746	0.03942	17.40417	1.645403	0.2993
18	Total Kenya	2015	0.047188	0.036366	17.34847	1.52359	0.315302
19	TransCentury	2018	-0.17805	0.338968	16.62901	0.263964	0.773178
19	TransCentury	2017	-0.20861	0.240968	16.74622	0.404861	0.690277
19	TransCentury	2016	-0.04539	0.196684	16.75528	0.503625	0.697422
19	TransCentury	2015	-0.13267	0.234626	16.75528	0.629815	0.539248
20	Uchumi	2017	-0.38845	0.230415	15.28045	0.082734	0.871502
20	Uchumi	2016	-0.71974	0.133425	15.42539	0.258706	0.66734
20	Uchumi	2015	-0.61291	0.076983	15.67384	0.343109	0.722862
21	Unga Group	2019	0.051175	0.110562	16.1807	1.955888	0.372854
21	Unga Group	2018	0.078851	0.12525	16.11134	2.141835	0.335946
21	Unga Group	2017	-0.00074	0.085452	16.06209	1.657907	0.302046
21	Unga Group	2016	0.060925	0.116286	15.93796	2.298586	0.303153
21	Unga Group	2015	0.071711	0.116971	15.97559	2.368518	0.371212
22	Nation Media	2019	0.071309	0.059975	16.30844	1.93413	0.428604
22	Nation Media	2018	0.094365	0.002679	16.23125	1.953562	0.425969
22	Nation Media	2017	0.119334	0.002288	16.24211	2.022335	0.442497
22	Nation Media	2016	0.134277	0.001249	16.31482	2.072714	0.411595
22	Nation Media	2015	0.163121	0.011964	16.35685	2.09543	0.407334
23	BOC Kenya	2019	0.010753	0.00329	14.50497	1.977185	0.457546
23	BOC Kenya	2018	0.01509	0	14.57713	1.882055	0.45276
23	BOC Kenya	2017	0.010394	0	14.61692	1.95386	0.458798
23	BOC Kenya	2016	0.034569	0.000119	14.61475	2.283132	0.460126
23	BOC Kenya	2015	0.029492	0	14.65749	2.063528	0.460459
24	EABL	2019	0.132258	0.427858	18.28217	0.879468	0.660001
24	EABL	2018	0.089695	0.474562	18.08166	0.834865	0.697868

24	EABL	2017	0.115889	0.490414	18.01522	1.006864	0.667983
24	EABL	2016	0.164179	0.434789	17.93856	0.770709	0.650893
24	EABL	2015	0.118953	0.428082	18.01931	1.022894	0.625963
25	Eaagads Ltd	2019	0.002809	0.079529	13.7561	6.982506	0.848364
25	Eaagads Ltd	2018	-0.06902	0.084089	13.71668	8.774384	0.868718
25	Eaagads Ltd	2017	0.022757	0.084795	13.73517	7.27689	1
25	Eaagads Ltd	2016	0.048482	0.107031	13.54261	5.728405	0.847098
25	Eaagads Ltd	2015	0.100015	0.171373	12.97139	4.6862	1
26	Williamson Tea	2019	-0.02084	0.152189	15.92838	4.036195	0.660564
26	Williamson Tea	2018	0.052895	0.150736	16.06734	2.985522	0.615244
26	Williamson Tea	2017	-0.03128	0.175615	15.93946	3.761748	0.639757
26	Williamson Tea	2016	0.054051	0.179223	16.00508	5.484929	0.62149
26	Williamson Tea	2015	-0.0266	0.198518	15.96244	10.04063	0.675628
27	Kapchorua Tea	2019	-0.06181	0.183029	14.52511	4.512458	0.570922
27	Kapchorua Tea	2018	0.066855	0.177508	14.72741	2.919688	0.559416
27	Kapchorua Tea	2017	-0.0255	0.190632	14.5237	3.462752	0.611535
27	Kapchorua Tea	2016	0.109262	0.195876	14.57846	4.258629	0.582401
27	Kapchorua Tea	2015	-0.01149	0.222422	14.50024	5.681757	0.672131
28	Limuru Tea	2019	0.008062	0.105966	12.37019	8.374723	0.407583
28	Limuru Tea	2018	0.009498	0.110264	12.49969	3.502108	0.405338
28	Limuru Tea	2017	-0.08448	0.132789	12.47613	3.556809	0.46461
28	Limuru Tea	2016	-0.06759	0.172084	12.55035	5.165401	0.488938
28	Limuru Tea	2015	0.010348	0.177561	12.65641	5.802852	0.478707
29	Express	2019	-0.0491	0.82949	13.06418	1.496816	0.839082
29	Express	2018	-0.23616	1.04641	12.67902	0.618674	0.764892
29	Express	2017	-0.24091	0.706673	12.83477	0.597425	0.741813
29	Express	2016	-0.25504	0.636654	12.84681	0.852074	0.742438

29	Express	2015	-0.13576	0.509628	12.99883	1.125559	0.754013
30	TPS	2019	0.010105	0.327882	16.70513	0.664924	0.893245
30	TPS	2018	0.010172	0.203742	16.6833	0.433843	0.879816
30	TPS	2017	0.006832	0.335613	16.67696	1.079186	0.848591
30	TPS	2016	0.007615	0.316024	16.64773	1.634717	0.802636
30	TPS	2015	-0.01774	0.246344	16.57652	1.040398	0.853021
31	Scan Group	2019	0.038382	0.019954	16.3652	2.02286	0.485714
31	Scan Group	2018	0.035708	0.035014	16.48449	2.069875	0.220742
31	Scan Group	2017	0.037214	0.000427	16.4372	2.281606	0.206041
31	Scan Group	2016	0.030455	0.000346	16.41719	2.377901	0.176047
31	Scan Group	2015	0.02208	0.014898	16.33871	2.755744	0.186998
32	Business Venture	2017	-0.22857	0.451469	11.87558	2.99023	0.295982
32	Business Venture	2016	0.02846	0.427689	11.95385	2.734546	0.312
32	Business Venture	2015	0.024544	0.222166	11.62411	1.983837	0.263157
33	Olympia	2019	0.003531	0.083909	14.302	1.595858	0.797379
33	Olympia	2018	-0.0021	0.075928	14.32166	1.743531	0.756259
33	Olympia	2017	0.023705	0.088362	14.30947	1.633172	0.78814
33	Olympia	2016	0.009711	0.133821	14.23916	2.385667	0.725374
33	Olympia	2015	-0.0193	0.058011	14.2417	1.596418	0.714354
34	Home Africa	2019	-0.20443	0	15.28518	0.628933	0.090266
34	Home Africa	2018	-0.07689	-0.00014	15.32013	0.688028	0.151058
34	Home Africa	2017	-0.04052	0.010469	15.31465	0.787304	0.152086
34	Home Africa	2016	-0.04286	0.047601	15.18415	0.805173	0.190096
34	Home Africa	2015	-0.101	1.46E-07	15.16678	0.784037	0.207496
35	Kurwitu	2018	-0.039	0.47373	11.83708	0.638556	0.943737
35	Kurwitu	2017	0.077147	0.501578	11.85251	3.009494	0.914034
35	Kurwitu	2016	0.112592	0.392966	11.76482	3.537416	0.964984

36	NSE	2019	0.028064	0.016535	14.62306	7.852999	0.582829
36	NSE	2018	0.08446	0.001222	14.61229	9.496235	0.486621
36	NSE	2017	0.103787	0.003475	14.56135	12.04818	0.491332
36	NSE	2016	0.09125	0.006408	14.51551	7.329153	0.498847
36	NSE	2015	0.159341	0.006057	14.46692	7.033369	0.516528
37	BAT	2019	0.178059	0.085276	16.90366	1.087027	0.487094
37	BAT	2018	0.222672	0.176515	16.7245	1.59108	0.497467
37	BAT	2017	0.187774	0.505634	16.69502	1.317981	0.513341
37	BAT	2016	0.262205	0.505749	16.73327	1.413238	0.515219
37	BAT	2015	0.266378	0.13582	16.74303	1.45124	0.487227
38	MUMIAS	2018	-0.96226	-0.5743	16.57144	0.029041	0.960075
38	MUMIAS	2017	-0.2824	-0.22433	16.99735	0.109292	0.922781
38	MUMIAS	2016	0.055534	-0.05791	17.10395	0.180718	0.927001
38	MUMIAS	2015	-0.22732	-0.36098	16.83266	0.187863	0.874316
39	Longhorn Publishers Limited	2019	0.075722	0	14.66747	1.188656	0.371287
39	Longhorn Publishers Limited	2018	0.071833	0	14.69411	1.209036	0.31306
39	Longhorn Publishers Limited	2017	0.063821	0	14.43541	1.370029	0.327029
39	Longhorn Publishers Limited	2016	0.053996	0	14.43981	1.64559	0.189629
39	Longhorn Publishers Limited	2015	0.091479	0	13.44346	1.500204	0.327633
40	Deacons (East Africa) PLC	2017	-0.54263	0	14.25559	0.800274	0.51738
40	Deacons (East Africa) PLC	2016	-0.1218	0	14.64042	1.64448	0.403895
40	Deacons (East Africa) PLC	2015	0.040453	0	14.72621	2.332383	0.452904
41	FTG Holdings	2019	0.019699	0.146351	14.6402	1.212493	0.526852
41	FTG Holdings	2018	0.018369	0.019211	14.42488	1.143554	0.383913
41	FTG Holdings	2017	0.023653	0.038552	14.33476	1.290658	0.320785
41	FTG Holdings	2016	0.095307	0.037422	14.23501	1.530549	0.250316
41	FTG Holdings	2015	0.134824	0.077352	14.09808	1.640972	0.20582

42	Kenya Orchards	2019	0.062012	0.413753	11.82044	1.978392	0.314732
42	Kenya Orchards	2018	0.077563	0.491176	11.6489	2.113832	0.371761
42	Kenya Orchards	2017	0.052962	0.519697	11.59246	1.713227	0.421009
42	Kenya Orchards	2016	0.042168	0.630557	11.3991	2.021422	0.473678
42	Kenya Orchards	2015	0.36727	0.714735	11.2738	2.075722	0.56673