EFFECTS OF FINANCIAL STRUCTURE ON FINANCIAL PERFORMANCE OF LISTED NON-FINANCIAL FIRMS IN KENYA

BY

CHEPCHIRCHIR KUTTO

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DECLARATION

I do declare that this research project is my original research work and has never been submitted in any other institution for any academic purpose.

Sign…………………………………   Date…………………………..

Chepchirchir Kutto

D63/21616/2019

This research project has been submitted for examination purposes with my approval as a University of Nairobi supervisor.

Sign………………………………… Date 2/12/2020 ……………….

Dr. Duncan Ochieng (PhD, CIFA)

Lecturer,

Department of Finance and Accounting, University of Nairobi

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DEDICATION

This research project is dedicated to my parents for their immense support and contribution to seeing this work to completion.

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LIST OF ABBREVIATIONS

ANOVA: Analysis of Variance.

ARM: Athi River Mining

CMA: Capital Market Authority

CSR: Corporate Social Responsibility

D/E: Debt-Equity

GAAP: Generally Accepted Accounting Principles

MM: Modigliani and Miller

NSE: Nairobi Security Exchange

NYSE: New York Security Exchange

ROA: Return on Assets

ROE: Return on Equity

SMEs: Small and Medium Enterprises

USA: United States of America

ABSTRACT

In view of the key roles played by listed firms in an economy, it becomes very important that their financial soundness and viability is maintained. This is only possible if the different factors that play to affect listed firm's financial positions are known. This research work sought to establish the effect of capital structure on the financial performance of listed firms in Kenya. An exception was made on the financial firms as they have high liquidity which can make their financial structures very peculiar and specific to their industries. Data was collected for 5 years ending with the year 2018 and in total, 47 companies were studied. The factor was studied alongside other factors as literature review identified other factors with possible effect on financial performance. Such factors are the corporate governance characteristics as measured by the number of directors, use of interest-bearing debt as measured by the amounts of interest payments, liquidity positions as determined by the current ratio and the firm size as measured by the amount of assets held by a firm. The study established that the factors actually affected the financial performance of the listed non-financial firms. The study established that the factors were relevant and they affected the financial performance in a way. Their effect was found to account for 12.55% of the variations in performance of companies. More equity in the capital structure was found to affect financial performance positively. The effect was that, for every unit increase in equity ratio, there was, a corresponding 0.62 units increase in financial performance. Board size and use of interest-bearing debt were found to affect financial performance negatively. For every unit increase in board size, there is a decrease in financial performance by 0.08 units while unit increase in interest expense decreases financial performance by 0.06 units. Firm liquidity and size were found to impact positively on performance. Unit increase in liquidity and firm size caused a corresponding increase in financial performance by 0.04 and 0.23 units respectively. The impact of board size and firm size were significant while liquidity, capital structure and interest-bearing debt were insignificant. The factors had p-values of board size (0.049), liquidity (0.570), capital structure (0.070), firm size (0.017) and interest-bearing debt (0.364). These findings indicate that counties need to optimise on use of equity in their capital structures and use less of interest- bearing debts. The management in these companies also need to be more liquid to advance financial performance by taking advantage of opportunities emerging and enhance their size to take advantage of economies of scale. The companies also need to relook into the composition of their boards in terms of expertise as currently, the boards and causing a negative performance although it's insignificant.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Firms need to finance their operations using a mix of variety of financial sources, mostly debt and equity. The choice on the sources lie in the hands of managers and who are deemed to perform for the benefit of the investors. While different sources of finances have different implications in terms of risk and commitment to the firm, there is always an optimal point where a firm is in a position to maximize on the returns to the shareholders. Both debt and Equity has benefits and disadvantages, which are associated with firm's performance according to Mutua (2019). Debt brings the advantage of tax saving but increases risk. Equity on the other hand is expensive but there are no obligations to meet. It is thus expected that a financial structure skewed too much towards either more debt or more equity have an undesirable influence on the FP of corporations. It is important for a firm to look at that optimal financial structure which makes it utilise the benefits of both debt and equity while cushioning against disadvantages of the specific sources. This optimal financial structure normally has a positive consequence on the performance of firms.

Some theories have been advanced but which still have conflicting arguments about the two variables. Brusov, Eskindarov, Filatova, and Orekhova (2018) have shown some relevant factors against the arguments by the financial structure irrelevance theory of Modigliani and Miller (1958). Another theory, Pecking order theory by Myers and Majluf (1984), was also be considered. Their argument, though, conflicted that of MM theory as they proposed a ranking of financing sources to guide financing decisions. In order of priority, they advocated for RE, debt and lastly equity (Engin, Erbas&Sokmen, 2019). Trade Off theory shall also be considered due to its consideration of bankruptcy costs and rationality in capital structuring (Nicodano& Regis, 2019). Agency theory shall be factored in the study, as financing decision

should contribute to financial performance, which gives rise to an agency relationship between executives and investors as noted by Mutua (2019).

Of late, there are business giants, which have been forced to close doors, and debt use have been deemed a key contributor complimenting mismanagement and other factors. The Nakumatt case was very serious with an accumulated debt of 35.8 billion, out of which, according to Cytonn (2018), only 15% could be paid from the assets of the company at the time of putting in to liquidation. According to Alushula (2019), Midland Hauliers was also placed under administration by Prime bank for failing in debt repayment obligation. For Kenyan listed non-financial firms, there has not been a major collapse except the miseries of Kenya Airways Company, which was forced to do debt restructuring in 2017. According to Joseph (2017), the restructured debt amounted 5.8 billion. In his study, Mutua (2019) found out that use of debt in listed firms was bringing about a positive impact on financial performance. He had however not isolated financial firms and so this research aimed at establishing if the results of his study held in case the financial firms are isolated and if the whole of the financial structure is used without a focus on interest bearing debt only.

1.1.1 Financial Structure

Financial structure is an indicator of the blend of the owner's equity and liabilities to finance business operations (Mutua, 2019). According to Trivedi (2010), the financial structure is thought to be the component of the credit side of balance sheet, which captures debt and capital. Different ratios of the three inputs may be used depending on the nature of business, the manager's attitude to the different sources of funds, their availability and the impact each source on the value of the shareholders in a business.

Equity, short and long-term liabilities have been used in different proportions in financing the business. Even though equity is less costly and safer to use in financing business, it is

considered to dilute the owners voting rights and has a long-felt impact on the ownership of the business. Short-term debt is desirable for use in businesses due to its availability and tax shield, but may be costly and have a higher risk due to urgency of repayment. Long-term obligations are considered beneficial due to the tax shield and less pressure but have the challenge of formalities to acquire, collateral security requirement and long-term burden of repayment, which strain business operations in the future. As all the options for financing have both benefits and drawbacks as per Akomeah, Bentil and Musah (2018), a cost benefit analysis should be done to realise the equilibrium point where the benefits are optimal.

The financial structure in the current study was measured by segregating the debt and equity portions in the company financial structure and then analysing the proportion of each to the financial structure. Therefore, two ratios – one for total debt to total capital and another one for total equity to total capital –was used to measure financial structure. Segregating them helped in identifying the effect – to financial performance – of preferring more of either of the two in the firm financial structure to the performance of the firm.

1.1.2 Financial Performance

Financial performance is the degree to which profit oriented firms measure the level of financial objective attainment (Ng'ang'a, 2017). According to the definition by Musila (2015), firm performance can be taken as a measure of how a firm is better or worse off on the wealth of the shareholders out of the trade of a certain period. As this coincides with the primary objective of investors, which is to add value on the investment they have made, it becomes a key concern to both existing and potential investors. A firm making huge profits becomes more attractive to the shareholders and potential investors.

When managers represent shareholders in decision-making, the key indicators of good management are only viewed at the end of period from the performance (Ng'ang'a, 2017).

Even though there are other variables of performance, which may be critical in a business - like welfare, CSR and future growth potential, most investors are concerned with what they earn for the period mostly in form of profits. In addition, financial performance has been thought to be a relative term by Mutua (2019) and was measured against the assets invested. This is because what may be viewed, as a good performance by an investor depends on what has been invested hence Return on Assets becoming a good measure of the current study.

In the current study, financial performance was measured using ROA. ROA was obtained as a ratio between the net income as obtained from the comprehensive income statements and assets invested in the firms as obtained from the statement of financial position, which is published in the CMA investors' relations for annual reports.

1.1.3   Financial Structure and Financial Performance

There is no single financing structure that can provide better performance to the business. Every firm will have a different financial structure from the others mostly based on the shareholders risk appetite and management attitude to equity, short and long-term obligations. Therefore, a firm decides on the proportion of the two debt terms to complement the equity capital. On the other side, the decision taken on the debt ratio and equity to be combined in the business might have some financial implications that affect the entity performance. Even though MM established that the financial structure was not that relevant to performance, later researchers, like Mutua (2019), have established contrary results showing that either of debt or of equity has impact on a business performance.

Echekoba and Ananwude (2016) established that, financial structure had an adverse influence to the FP, which resulted from interest payment from revenues. However, Fama and French (2012) established that if we have to assume the entity concept, the equity financing was not cheap as dividends were paid out of profits. When this impact is considered, debt capital may

become more preferred due to its tax benefit (Fama & French, 2012). Therefore, managers should be wise to use the cost-benefit analysis to determine the extent and blend of debt with equity for the business that maximizes on the wealth of the owners without necessarily endangering the business or losing investment opportunities.

1.1.4 Non-Financial Listed Firms in Kenya

Listed firms have been considered as public firms whose shares are traded in control of stock market. In the Kenya, trading of shares occurs under the control of the NSE. On the other hand, non-financial firms are firms, which trade in other industries other than provision of financial services, which is offered, by the banking industry, and insurance firms as per Besho (2019). The non-financial firms were considered for the current study due to their normal leverage level, as compared to the high leverage of financial firms.

According to Odinya and Joseph (2018), such listed firms have a statutory requirement under the virtue of company law relating publication of the financial reports. Such law requires publication of audited financial reports, which becomes a public document and can be assessed by public who wish to know about their performance. With the issue of financial structure, listed firms enjoy a lot of liberty as they can mix the sources of finances at their disposition. As they have an option of issuing shares through the security market as well as good name and collateral, which can allow them, raise debt equity easily (Mutua, 2019).

With such level of freedom, the key determinants of the financing mix remain at the hand of the managers who will decide on the best ratio. Previous studies have more so factored the capital structure, which is a limitation as short-term debt is omitted, but it may have a lot of impact on performance due to the pressure of repayment together with the high cost associated with them (Echekobe & Ananwude, 2016). The current study sought to determine

the influence of debt, as part of financial structure, and how they influence the FP of these NSE listed non-financial firms.

1.2 Research Problem

Collapse of some Kenyan firms under the weight of debt indicates an underlying problem in their debt and overall financial structure decisions. Developed theories have not been able to help in some of these matters. MM Hypothesis by Modigliani and Miller (1958) purports that there is no any relationship between the two variables, which is contradicted by Pecking order theory of Myers, and Majluf (1984). Preference of debt over equity is advocated by this theory but both after retained earnings. It is however, crucial to note that, there is no case advanced as problematic due to equity whereas debt have caused more trouble like in Nakumatt case as shown by Cytonn (2018). Agency theory by Jensen and Meckling (1986) denotes that, good financial structure should make firms' financial performance go up for better owner-manager relationship. It has however not been able to guide in the choice of the best financial structure to help managers achieve their agency responsibilities. These deficiencies have left management very exposed to wrong financial structure choices.

Financial structure has been an issue for quite some time and is very dynamic. What remains undisputed is its importance in success of a firm. Several firms in Kenya have failed or took desperate measures in the weight of debt. Other firms are in administration like the Nakumatt, ARM Holdings, and the Spencon Ltd Company (Cytonn, 2018). These firms' collapse was at a time of interest rate capping, which ought to make debt more appealing sending a confusing implication. These unexpected collapses, and especially being due to debt, shows a dire need for a research to be conducted to find the influence of financial profile on FP of an entity.

Some researchers have been done to establish the relation of these two study variables but have not explored the area fully. A study conducted in Kuwait by Al-Saidiand Al-Shammari

(2015), established that entity ownership had an influence on financial performance. This study leaves a gap as debt, which is part of the financial structure, is left out if ownership is the focus. Another research in Pakistan by Habib, Wazir, and Khan (2016) found that debt is inversely related to financial performance and agreed with Rouf (2015) in Bangladesh. Kenya has however, a different debt system compared to those countries and therefore research in Kenya needs to be done to determine if similar conclusions could be reached.

Regional studies done have also been short of perfection. A study based in Ghana by Akomeah, Bentil and Musah (2018) focused on ROA, ROE and financial structure while that of Echekoba and Ananwude (2016) focused on consumer goods companies in Nigeria. Another research work by Akingunola, Olawale and Olaniyan (2018) focused on equity and financial performance leaving out debt. This is unrealistic as financial performance is a result of all those financing means and debt is one of them. This makes focusing on the whole of the financial structure better for comprehensive decision making.

Studies in Kenya, regardless of their applicability, need to be complimented with others to boost their efficiency in guiding management decision-making. Muigai and Muriithi (2017) focused on financial structure in relation to debt. They established different effects on small firms and in large firms. The study did not however guide on differentiating small firms from big firms and so managers would wonder in what category their firms lie. Banafa, Ngugi, and Muturi (2015) determined that leverage had a negative influence but later researchers like Mutua (2019) have proved otherwise. This necessitates more research into the area to understand and be able to facilitate practicing managers in choosing the most appropriate financial structure. This study therefore sought to answer the question; what is the effect of financial structure on the financial performance of listed non-financial firms in Kenya?

1.3 Research Objectives

This research work aimed at establishing;

i.   the effects of financial structure on performance of listed non-financial firms in Kenya

ii.   the effects of corporate governance of performance of non-financial firms in Kenya

iii.   the effect of the size of the firm on the financial performance of non-financial listed firms in Kenya

iv.   the effect of liquidity on the financial performance of non-financial listed firms in Kenya

1.4 Value of the Study

The conclusions of the research are beneficial in many ways. It can bring benefit in terms of policy, practice and theory. In theory, finance students, lecturers and researchers can benefit. The study will add into existing knowledge making it wider and comprehensive. Future researchers can also use the research to get better insights of the underlying connection between financial structure and financial performance.

Government and company policy makers are other crucial beneficiaries of my research work. By understanding the underlying relationship, government policy makers will make debt or equity easier to access for corporations depending on which impacts positively. Company policy makers can also use the results to develop better debt and equity policies to match with the desired financial performance.

In Practice, company managers are guided on the amount of debt and/or equity to optimise on the financial performance of their companies. They can be guided by a more recent study, which takes into account the most recent situation in the country for precise conclusions and thus decision making.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

In this section, the study considered a brief revisit of the existing studies in support of the research topic with the aim of establishing the knowledge gap that exists within the field of the study. The chapter will specifically cover the theories of the study in support of any of the variables under consideration, determinants of FP of corporations which are listed in the NSE and which are non-financial other than financial structure, an empirical review establishing the studies so far done and their knowledge gap, conceptual frame work and conclude with a brief review of the literature.

2.2 Theoretical Literature Review

Under this section, the researcher considered different theories that have been advanced in connection with one of the variables being considered in this study. To achieve the study objectives, the researcher focused on the following theories in the study as they support or criticize one of the study variables, MM theory, the Agency theory, Pecking order theory and the Trade-Off theory.

2.2.1 Modigliani and Miller theory

The theory of Modigliani and Miller has been acknowledged as among the theories that forms the basis of economics and finance, which was established by (Modigliani & Miller, 1958). It argued that the way in which companies utilize different sources of revenue was not essential when determining the profitability of the company. The theory argued that whichever mixture of debt and equity was used in the firm, it would remain irrelevant when it comes to the profitability of the firm, as profitability is a function of firm's value (Brusov, Filatova, Orekhova & Eskindarov, 2018). The theory formed a basic insight to the quantitative studies

where previous studies had relied on empirical data; the theory gave a stepping stone when investigating the financing structure and the FP of firms.

According to Mutua (2019), some of the assumptions, which were in the theory of MM theory, will only exist in a situation of an ideal market and which is hard to achieve. The lack of ideal market conditions in the real world has been the basis of some of the arguments against Modigliani and Miller where scholars noted that where markets are exposed to external forces of economy, perfect information assumption made in the theory shall never exist.

However, according to Yapa (2017) in his study that sought to ascertain if the debt-equity combination in a business had any influence on the FP established that firms uses different ratios of debt and equity and can still perform at the different levels. The study results were in the favour of the theory of MM establishing that the kind of capital structure was irrelevant when determining firm's FP. However, the study noted that the problem of asymmetric information assumed in the theory had never existed in the market (Yapa, 2017). The theory has been adopted for the current study owing to its implication on the capital mix options in a firm. As in the market, many scholars have sought to ascertain if the financial structure adopted by a firm influenced its performance with contradicting findings with different levels of significance within the market conditions.

2.2.2 Pecking Order theory

The theory as advanced by Myers and Majluf (1984) which established that based on the weakness of the Modigliani and Miller theory assumption of asymmetric information, that a firm will have a hierarchy of financial preference. The theory argued that the first priority of financing the organizations projects would be given to the retained earnings as the most profitable source of funding, with the second priority being given to the debt capital whose

returns provide a benefit on the tax shield while equity capital was ranked the last source of financing the firms' activities.

According to the study by Onatca, Unver and Sokmen, (2019) a firm realizing the preference of the retained profits as the best financing option for their operations will tend to propose the lowest dividend so as to retain much profits for investments. Low dividends payments on the other side are seen to reduce the price of the share making them more affordable in the market to attract subscribers. Otherwise, a firm could not require external funding based on the fact above. However, considering the tax benefit of interest being an allowable expense in taxation as opposed to equity whose dividends are non-allowable makes borrowing a better source to obtain resources to finance activities as compared to equity.

According to Ahmed and Ali (2017), even though the evidence of the theory and its application was common, the theory did not apply in all areas with a limitation being reported based on the opportunities available for growth and in the case of assets tangibility. Mutua (2019) established a limitation of this theory based on the subcontracting and group owned SMEs. However, due to its wide application in consideration of the profitability of each source of financing, the theory became crucial when finance choice and performance is discussed. The theory was considered in the current study for its assessment and ranking of the sources of finance, which determines financial structures.

2.2.3 Trade-Off Theory

The pioneers of this theory Kraus and Litzenberger in the year 1973 who were triggered by the shortcomings of MM theory on the bankruptcy cost non-existence assumption. The theory argued that there is some relevance on the capital structures adopted for a firm that influences the firms' performance. According to Nicodano and Regis (2019) in their study established that the concept of rationale plays a critical role in financial structuring. The selection of any

source of financing was established through an evaluation of the cost associated with the source and the benefit obtained. For instance, in establishing the debt to be used in financing a firm, managers should evaluate the benefit of taxation on interest expense against the bankruptcy cost as per Kraus and Litzenberger (1973)

The study by Nicodano and Regis (2019) established that a firm can no longer optimize its operations by purely financing their operations using equity capital. An ideal operation would be at the point in which the firms cost of capital and the benefits from the utilization of the different ratios of capital strike a balance, which is realized when the additional benefit from taxation is equal to the extra cost of bankruptcy cost. Equity being termed as more secure, cost of dividends should be considered against the opportunity cost of interest tax benefit forgone to evaluate the rationale of the level of equity and debt to be employed.

According to their study, Yulianto, Suseno and Widiyanto (2016) established the need for an adjustment between the actual and targeted debt in a firm based on the trade-off theory applying the dynamic model. From the theory objectivity in determining the most favourable financing structure that should be employed in the firms to source finances, the theory has therefore been considered quite relevant for the current study. The theory in particular supports financial structure of a business based on the equilibrium of each financing option.

2.2.4 Agency theory

Agency theory has become widely recognized since its advancement by Jensen and Meckling in the year 1976. Its argument emanates from the relationship that exists in companies where the owners delegate the management functions to board of director or management. With the objective of the principals who are the shareholders being to maximize their wealth, that of the directors who are agents tend to be different and on the contrary to that of the principals. Directors as employees sought to get the best in terms of payment, which is at the expense of

the shareholders wealth. In their study, Bosse and Phillips (2016) established that there is a tendency of the behaviour of the managers to adopt transactions for the firms that have a negative influence to the shareholders and the society. However, according to their study identified that the current agency theory was not clear enough to capture and characterize this behaviour in a precise way calling for some change of assumptions of the theory (Bosse & Phillip, 2016).

The theory has been adopted for the current study due to its linkage between the FP and the other variables in the current study. While the decision on the financial structure is more on the hands of the board of management or directors, the outcomes and reputations of the financial structure should be barred by the shareholders. The theory calls for establishment of friendly relationship between shareholders and the managers to ensure the decisions made are in favour of the firms.

2.3 Determinants of Financial Performance

The study looks into the other key determinants that influence the FP of listed firms that are non-financial in the context of Kenya other that the financial structure under this section. To realize the research objectives, the study considered use of interest-bearing debt impact on performance, corporate governance, liquidity position of the firms and the firm size.

2.3.1 Use of Interest-Bearing Debt

Interest bearing debt has been one of the common sources of financing options for businesses with both the short-term debts like bank over-drafts and long-term loans like financial loans and asset loans, which attracts interest on fixed intervals. The study by Mutua (2019) in the context of the NSE in Kenya established a positive correlation between the interest-bearing debts and FP which could be attributed to the strict conditions which are attached to the credit terms which only allow the agreed investment to be funded by the finances. Also, a close

watch and monitoring is normally made by the financier who increases the level of control of such finances as well as the reduction of the income tax that results to higher profits.

In the contrary, a study made by Rouf (2015), established that the use of interest-bearing debt had an inverse influence on the FP in the case of Dhaka. It was established that the interest-bearing debt exerted pressure on firms and increased the expenses of the business hence resulting to lowered performance (Wong, 2019). It is on the basis of this contradicting evidence that the current study sought to establish the relationship between the interests bearing debt as measured using both current liability and non-current liabilities in the statement of financial position and FP of non-financial firms which are listed in Kenya.

2.3.2 Corporate Governance

In the recent past, corporate governance has been considered among the most significant attribute of management of any entity. Different firms in the attempt to boast their corporate image by enhancing their corporate governance through their existing structure and by adopting the best practices in the market. Even though it has been branded to have a lot of importance, corporate governance is viewed as a costly thing calling for a critical balancing between the benefits obtained from corporate governance and its cost. A study done by Besho (2019) in the context of the NSE had results in favour of the correlation between corporate governance and FP which was positive and statistically significant.

However, a study conducted in the context of USA established that even though there was some connection between the performance and the indicators of corporate governance which were considered to be the size of audit committee, board size and its composition in terms of gender, it failed to acknowledge statistical relationship between the variables in firms listed in the NYSE (Manning, 2019). Therefore, it is necessary to conduct the current study and establish the linkage between the corporate governance as measured by board size and FP.

2.3.3 Liquidity Position of the Firm

The liquidity is considered to be the level at which a firm maintains its current assets to be in a position to utilize them in meeting the short-term liabilities. A higher rate of non-fixed resources to non-fixed liabilities will ease the pressure that could even result to the disposal of fixed assets to meet current liabilities hence desirable. Such actions end up affecting the future operations and ruining the lender relations that have adverse implications. The study by Khan and Ali (2016) established a favourable correlation linking liquidity and performance in the banking sector.

The findings later were supported by the study of Mutua (2019) which concentrated on all firms listed in the Nairobi Securities exchange. The observation was that with higher liquidity, a firm normally establishes good relations with its creditors and will have many options to obtain credit to finance any opportunity they get in the market as opposed to their counterparts with low liquidity. The study sought to establish how the liquidity level in a firm affects FP of non-financial listed firms in NSE which was measured using current ratio.

2.3.4 Size of the Firm

Firm size has been considered as a key factor that influences the performance of a firm. With small firms struggling to make investments and meet their operational needs, bigger firms are well off and will have all the necessary resources to back up their investments and hence improve on financial performance. The concept of economies of scale plays a crucial part in determination of the performance of different size firms. Small firms miss out the benefits with bigger firms enjoying purchases in bulk at lower cost which lowers their cost of production and hence the profits increase (Opeyemi, 2019). With the lower cost of production, the firms are in a position to offer their goods at relatively lower price and ends up realising higher level of turnover. However, bigger firms require specialized management as there are higher chances of firms getting into diseconomies of scale leading to wastage and

hence reduced profitability. The study sought to establish the extent of relationship between firm size as measured using the firm's asset base and performance of corporate.

2.4 Empirical Review

Some studies have so far attempted to ascertain the linkage between the variables under the current study. The empirical reviews considered the existing scholars work on the field of study from the global level, regional level and at the local level establishing what was observed and the gap that necessitates the current study.

2.4.1 Global Studies

From the global arena, a study conducted by Al-Saidi and Al-Shammari (2015) in Kuwait which adopted a descriptive design and inferential statistics wanted to ascertain the effect of ownership composition on non-financial firm's performance in Kuwait. The study established that general ownership of firms by equity did not impact on the FP of a firm but some ownership like government and family owned businesses had a favourable effect on the performance of corporations. The relationship was attributed to the close control offered family ownership and management quality for government owned firms (Al-Saidi & Al-Shammari, 2015). However, these results tend to be contradicting with both positive and neutral relationship which calls for this study to establish what the correlation between performance and the equity ownership is.

A related study was done by Rajan and Zingales (1995) in G-7 countries. The study used Total liabilities to assets ratio as a measure for financial structure and sought to establish leverage levels in the concerned countries. The study established that the countries almost had a similar pattern of leverage preference except the United Kingdom and Germany. The difference was attributed to institutional differences suggesting that use of the capital sources

would be impacted by the various institutions in an economy and they would consequently affect performance as evidenced by other studies.

Another study made by Habib, Khan and Wazir (2016) in Pakistan established a statistically significant inversely related behaviour between the debt and profitability of a firm. In their study, which they employed, a qualitative statistical approach found that debt increases, the level of profitability was inversely related mostly because of the claim of interest, which reduces profits. The study only focused on the debt and profitability hence calling for this study, which factored the influence of both equity and debt and the performance as measured by ROA.

Yet another study which was conducted in the context of Bangladesh on the impact of the debt-equity proportion of firms in the Bangladesh security exchange market established an inverse correlation between the D/E ratio and the return on asset as well as returns on sales as per Rouf, (2015). The study which adopted a qualitative statistics approach factored in the trend for three years and established that as debt grows than equity, the performance declines and the vice versa (Rouf, 2015). The study however was limited on the time where the current study is necessary to establish the trend for five years.

2.4.2 Regional Studies

In the regional context, Akomeah, Bentil and Musah (2018) in the context of Ghana used qualitative statistics to establish the decision on capital structure and performance. Their study which measured performance using ROA and ROE established that capital structure negative influenced on the firm's performance. Their study however, only focused on the equity capital and failed to consider the influence of debt as the current study is going to do.

A second study by Echekoba and Ananwude (2016), on the influence of the structure used to finance a firm on the level of performance in the Nigeria stock exchange a case of consumer

goods firms. The study established an inverse correlation between the applications of debt and the FP of such firms. This was attributed to the cost of interest which was considered as an expense reducing the profits for the firms (Echekoba&Ananwude, 2016). However, the study was only limited to the consumer goods firms which are thought to have less contribution in value addition calling for a comprehensive study to investigate all firms which have been listed at the NSE which are non-financial as the current study considered.

A different study in the same country by Akingunola, Olawale and Olaniyan (2018) established contradicting results which established an inverse correlation between the capital structure adopted by firms and level of performance when applying ROA as a measure but a positive correlation when adopting the ROE model. The study which employed a descriptive statistic model did only consider the equity part of financing which the current study had both the equity and debt as measured by debt-equity ratio for precise results.

2.4.3 Local Studies

In the context of Kenya, studies on the variables of the current study have been done with a study by Muigai and Muriithi (2017) which used descriptive research approach on effects of size of firm on structure of financing and performance. The findings of the study were that the firm size influences the extent to which capital structure affected performance. As per the research findings, small firms were having an inverse impact on the usage of debt while bigger firms were having a positive impact. However, the point of turning for the size of the firms was not established making the results unclear and calling for the current study to ascertain the real relation between financial structure and FP.

Another local study was conducted by Banafa, Muturi and Ngugi (2015) on the impact of leverage level to the non-financial listed firm's performance. The study established an inverse correlation between the leverage and performance of listed firms. However, according to the

regression result, the R value indicated that the combined variables of the study only explained 40% of the causes of financial performance calling for introduction of more variables to explain causes of performance in a better way as the current study attempts to establish.

According to the study by Waswa and Wepukhulu (2018) focusing on impact of derivative instruments on the FP of listed non-financial corporations in NSE, a study that adopted a descriptive design establishing that debt didn't affect performance of firm. The study did not establish the connection between equity and performance as the current study sought to. It is in lieu of these contradicting results on the financial structure showing positive, neutral and even negative results that make the researcher to initiate the current study that sought to ascertain the link between financial structure and FP on non-financial listed firms in the NSE.

2.5 Conceptual Framework

The conceptual framework seeks to establish the existing linkage between the variables of a study. From the above literature review, the variables of the study have the following relationship and measurement as expressed in the figure 2.1 below.

Independent Variable

Financial Structure

- Ratio of debt to total capital
- Ratio of equity to total capital

Dependent Variable
Financial Performance
- Profitability- Efficiency matrix

Control Variables

- Corporate Governance
- Use of Interest- Bearing Debt
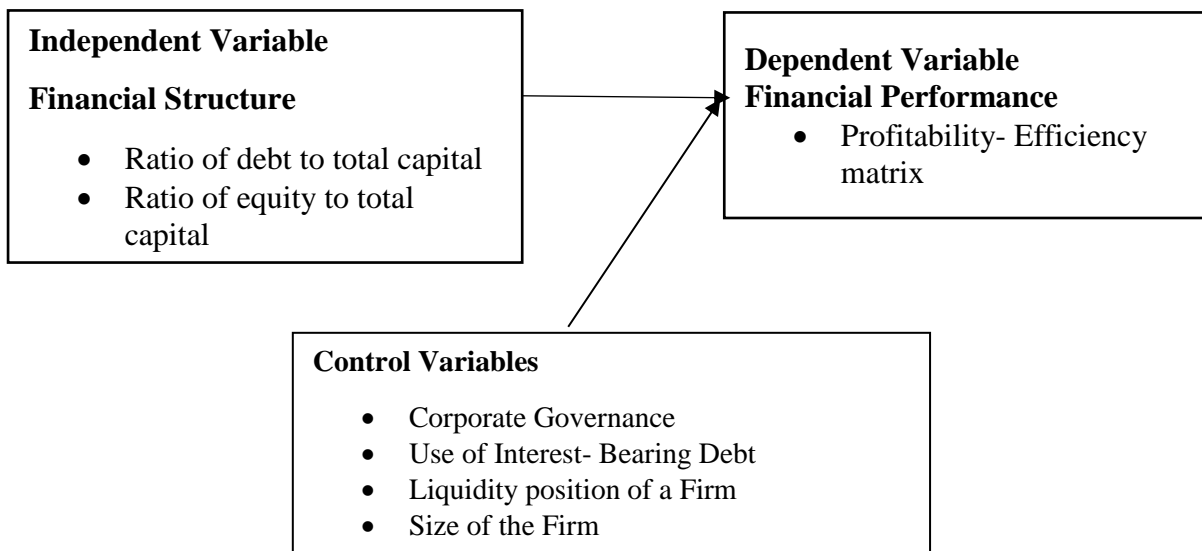- Liquidity position of a Firm
- Size of the Firm

Fig 2.1: Conceptual Framework

2.6 Summary of Literature Review

The table below represents a summary of the literature review as discussed under this topic. It analyses the existing scholarly work from the different dimensions starting from the global to the local studies done in support of either of the study variables.

Table 2.1: Summary of Literature Review

Author of study	Focus of Study	Methodology	Findings	Knowledge Gaps	Focus of current study
Al-Saidi and Al-Shammari (2015)	Impact of ownership composition on performance of firms	Descriptive and inferential statistics.	Some ownership structures influenced performance but not all	Only concentrated on equity and the results are contradicting	Looked at both the influence of debt and equity on performance
Habib, Khan and Wazir (2016)	Impact of debt on profitability	Descriptive research approach	Established significant and negative relationship	Only focused on debt	Factored in both debt and equity.
Rouf (2015).	Firms performance and capital structure of non-financial listed firms	Qualitative statistics	Established negative correlation between debt equity ratio and ROA as well as ROS	The time span of three years under the study might not be sufficient to generalize trend in Dhaka Stock exchange.	The study considered the analysis for five year in NSE.
Akomeah, Bentil and Musah (2018)	Decision on capital structure on performance	Qualitative statistics	Established negative relation between both ROA, ROE on performance	The results did show the relation of debt.	Factored the combination of RE, debt and equity.
Echekoba and Ananwude (2016)	Effects of financial structure on performance	Descriptive statistics	Established a negative relationship between financial structure and performance.	Only considered firms offering consumer goods which have similar nature.	Consider all non-financial firms in NSE which operate in different industries.
Akingunola, Olawale and Olaniyan (2018)	Capital structure and performance of firms	Descriptive statistics model	Use of ROA showed negative relation while ROE did give positive	The results did show the relation of debt and could not be assumed to be the difference	Factored the combination of RE, debt and equity.

			relation		
Muigai and Muriithi (2017)	Effect of firm size on capital structure and performance	Descriptive research design	The impact of size of firm had varying impact on the performance and capital structure of firms.	Failed to establish at what level of assets the performance change turn.	Considered general financial structure and performance
Banafa, Muturi and Ngugi (2015)	Impact of leverage on financial performance.	Descriptive statistics and inferential analysis	Established a negative relationship	The variables in the study only explained 40% of performance	Other variables expected to explain greater percentage of performance
Waswa and Wepukhu lu(2018)	Effects of derivative instruments on financial performance	Descriptive research design	Use of debt financing does not influence performance.	Did not factor the relation between equity and performance.	Factored the combination of RE, debt and equity.

Source: Author

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter is an outline of the approach, which was embraced by the researcher in realising the study objectives. The chapter outlines the research design selected to be used, also show the target population together with applicable sampling methods to be adopted. The chapter will disclose the research design, data collection and analysis methods chosen and the various tests which was done on the data to confirm its validity.

3.2 Research Design

Research design is a scheme for achieving the research objectives (Munyao, 2018). It is thus supposed to be well selected to enable the researcher to go on smoothly and achieve the study objectives. Kothari (2004) observed that data analysis is an organisation of settings for data collection and its analysis in an economical and relevant manner. Chandran (2004) and Kerlinger (1986) held similar observations with a focus on the research objectives and the study questions. This research assumed a quantitative research design to obtain data on the financial structure and how it influences the FP of NSE listed non-financial firms. For identification of the relationship existing, direction of the relationship and the magnitude of such relationship, a regression analysis was conducted.

3.3 Population and Sampling

Population indicates to all the members of a group. Kenton (2020), defined it as the entire group from which, a statistical sample can be selected from. It was also observed by Rouse (2015) that, a population can be distinguished by at least one common feature. The targeted population for this was all NSE listed non-financial firms. The firms represent a total of 47 firms with the exclusion of financial firms which includes 12 banking institutions and 6 listed insurance firms. This population cuts across all industries only excluding the financial

industry due to high leverage characterised by the nature of the industry. According to the study of Mutua (2019), it is recommendable that whenever the population is not so large, a census survey should be conducted. In light to this recommendation, the study therefore conducted a census to find the connection between the financial structure and the FP of the 47 non-financial firms in NSE. Hence, there was no sampling in the study as the population is relatively small and the required data was easily accessible from published financial statements.

3.4 Data Collection

This research adopted secondary data, which was collected from the published financial statements. As it is a requirement that all listed firms publish their end year results in a standard format based on GAAP, all the necessary data to examine the study objectives was available. To assess the financial structure, the liabilities, equity and total capital value for each of the target population was obtained from the statements of financial position while data related to financial performance which was measured using return on assets which was collected from the published income statements. Information on the corporate governance measured by size of board was obtained from the introductory remarks in the financial reports about the firm's director. Data relating to the interest -bearing debts as measured by current and non-current liabilities that attract interest was collected from notes to the financial statements while data related to liquidity measured by current ratio and firm size as measured by firms' asset base which was obtained from the statement of financial position. This data was an average of data collected from the financial reports, which have been audited for years from 2014 to 2018, which have been published per firm.

3.5 Diagnostic Tests

In order to ensure that data collected is fit to pass through the regression test and provide accurate results to meet the research objectives, the diagnostic tests where necessary to be

conducted. To ensure the best estimates and results are obtained the researcher conducted the following tests.

3.5.1 Test for Omitted Variables

This test is necessary to ensure that the data collected does not have omitted variable which normally makes data to be incomplete and hence affecting the how the data represents the study variables. The study adopted Ramsey Reset test to test for omitted variables and in case of detected omitted more data was collected to ensure completeness of data to make good representation of the study variables.

3.5.2 Test for Multicollinearity

As the independent variables of the study might be having a close relationship, a multicollinearity test was conducted to establish such relations. The research adopted the Variance Inflation Factor model to check for multicollinearity in independent variables, which may be affecting the dependent variable in a close relation. The researcher was to eliminate any multicollinearity in the variables by eliminating one of such related variables.

3.5.3 Test for Autocorrelation

The test was conducted to see if there is any connection between error terms of subsequent years. A Durbin Watson test was conducted to test for 1st order autocorrelation while a Breusch Godfrey test was conducted to test the higher order autocorrelation. In case of autocorrelation, it was rectified by use of Rhobust.

3.5.4 Test for linearity

The tests were done to establish if there is existence of linear association between the dependent variable and each of the predictor variables under study. A linear relationship is desirable for the regression analysis and this was tested by plotting a scatter graph with a line of best fit. If the relationship is non-linear, data was corrected by use of logs.

3.5.5 Test for Stationarity

As recommended by Mushtaq (2011), that data collected from secondary sources to be tested for stationarity to avoid spurious regression, the study used the Hadri LM test to test stationarity. In case stationarity was found to exist in data collected, differencing was done to correct the same.

3.5.6 Haussmann Test

In order to determine the model that was adopted to present the best results for the objectives of the study between fixed effects and random effects model, the Haussmann test was conducted as recommended by Hausman (1978).

3.5.7 Test for Heteroscedasticity

In testing the behaviour in error terms occurrence, the study considered the heteroscedasticity test to determine whether the error terms are homoscedastic or heteroscedastic. The study tested this using Breusch-pagan test whose interpretation was made at the 95% confidence level scale. The use of robust standard errors was used to correct heteroscedasticity.

3.6 Data Analysis

Analysis of data was conducted for this study in order to make an inference in an objective manner and through a systematic way. In order to establish the relationship between the dependent and independent variables, descriptive statistics and regression analysis approach was adopted. This model was adopted as it shows existence of relationship, shows the direction of such relationship and the strength of relationship between the two variables of study and the control variables as well.

3.6.1 Analytical Model

The below analytical model was used in the study;

$$Y_{it} = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_{4t} + \beta_5 X_{5t} + \varepsilon$$

Where,

Y,   Financial performance of firms indicated by the company financial efficiency and profitability in time t

$\beta 0$,   Regression equation constant

X_{1it},   Financial structure of firm indicated by ratio of total debt to total capital and ratio of total equity to total capital at time t

X_{2it},   Corporate governance as measured by natural log of board size at time t

X_{3it},   Use of interest-bearing debt as measured by natural log of interest payments at time t

X_{4it},   Firm liquidity level as measured by natural log of current ratio at time t

X_{5it},   Firm size as measured by natural log of firm asset base at time t

ε,   Probable residual error

$\beta 1, \beta 2, \beta 3, \beta 4$, the coefficients of financial structure, corporate governance, use of interest-bearing debt, firms' liquidity level and size of the non-financial listed firms in NSE.

3.6.2 Test for significance

In evaluating the regression results, significant test was conducted by a combination of the F-test, P-value and ANOVA. By adopting a confidence level at 95%, the correlation between the dependent and each of the independent variables were established. The F-test compared the fit of the different models, while P-value indicated the level of significance of the relationship between financial structure and the financial performance of NSE listed non-financial firms.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter elaborates the study findings as it answers the research questions. The chapter is guided by the overall objective of the study and elaborates on response rate for the study population, summary statistics of the variables studied and diagnostic tests done on the data collected to confirm its fitness for use in analysis. The chapter then concludes by elaborating on the study findings and a discussion on the analysis results. The key objective in this section is to outline the findings of the researcher.

4.2 Response Rate and Descriptive Statistics

There was adequate data collected for analysis in the study. There was a total possibility of collection of 235 data points for each variable. This was based on 47 companies and collection for 5 years. Some data was however not available and collection was less than 100% but still adequate. On financial performance, data collected was 94% of the intended amount while for total assets which was the indicator for firm size was 93%. On interest expense which indicated the use of interest-bearing debt, there was a 78% response rate which was the lowest. There was a response rate of 80% in the board size, 93% on liquidity and 94% on both the equity and the debt ratios. The lowest was thus a 78% response rate which is adequate enough for analysis and facilitation of drawing of conclusions.

Table 4.1 Response Rate Table

Variable	Financial performance	Total assets	Int. Expense	No. of directors	Liquidity	Equity ratio	Debt ratio
Data collected	220	219	183	187	218	221	221
Unavailable data	15	16	52	48	17	14	14
Total	235	235	235	235	235	235	235
Response rate %	94%	93%	78%	80%	93%	94%	94%

Source: Author

In terms of data characteristics, summary statistics indicated that the average financial performance as measured by efficiency profitability ratio was 0.109924 with a standard deviation of 3.62. Comparing the standard deviation and the mean performance, there is an indication that the performance has a high volatility which may be pose uncertain conditions to potential investors. The minimum and maximum performances were -44.7 and 18.79 respectively. This also shows a very diverse range in financial performance, something potential and existing investors should be weary of.

Looking at the size of the firms as measured by their asset base, the mean size of a firm is Sh33.8billion shillings with a standard deviation of Sh71.9billion. The minimum asset base and the maximum are Sh50.202million and Sh379bilion of assets respectively. This indicates that the stock market has firms of different sizes and investors thus has a wide range of firms to invest in incase firm size is one of their considerations. Use of interest-bearing debt as shown by the interest expenses have shown similar diversity as in financial performance and firm size. The mean interest expense incurred by the firms was 757.94million while the minimum and maximum interest expenses were Sh0 and Sh7.81billions. This adds to the noted diversity in the operating conditions of the firms.

The interest expense had a standard deviation of 1.504billions. Board size did not show much diversity and this may be due to most of the firms adhering to governance guidelines set out by CMA making the firms make director number decisions based on the same set guidelines and therefore making similar decisions. The mean board size was 8.8 persons with a standard deviation of 2.8 while the minimum and maximum board size was 4 and 18 persons respectively. Liquidity a measured by the current ratio shows that the mean ratio was 11.76 while the minimum and maximum current ratios were 0.029 and 2069.776 respectively. This range is very wide and it is due to the fact that the firms operate in diverse industries with different cultures in terms of working capital financing.

The liquidity ratio in the market has a standard deviation of 140.05. The last variables were the equity and debt ratios. The minimum equity ratio in the market is -0.91 which is as a result of accumulated losses in some of the firms. This is something investors should be weary of which can also turn out to be a chance to a distress purchase as suppressed prices. The highest equity ratio is 0.97 and the mean ratio is 0.46. The mean ratio shows that most of the firms in the NSE prefer to finance their firms with more debt than equity. Depending on their risk profile, investors can invest in the firms with higher or lower equity ratios.

Table 4.2 Table for Data Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
F. Performance	220	0.0109924	3.623718	-44.69719	18.79215
T. Assets ('000')	219	33,800,000	71,900,000	50,202	379,000,000
Int. Expense	183	757,936.6	1,504,355	0	7,806,676
Board size	187	8.871658	2.82169	4	18
Liquidity	218	11.76045	140.05	0.0290409	2069.776
Equity ratio	221	0.4686949	0.3159793	-0.9141752	0.9746264
Debt ratio	221	0.5313051	0.3159793	0.0253736	1.914175

Source: Summary statistics test results

4.3 Diagnostic Tests

The researcher recognized the value of valid data in drawing of conclusions. The data was first tested for any anomalies to ensure that it was fit before analysis. The data was tested for linearity, omitted variables, heteroscedasticity, and autocorrelation and also for stationarity. This section outlines these tests noting their resulting conclusions.

4.3.1 Test for Linearity

Linearity was tested through plotting of scatter diagrams with lines of fit and also observing the distribution of the plots. Natural logarithms of both assets and interest expenses were used instead of the actual values in plotting of the scatter and line plots. The variables were then all

found to be linearly related to the financial performance and thus declared fit for regression as linearity is a key assumption.
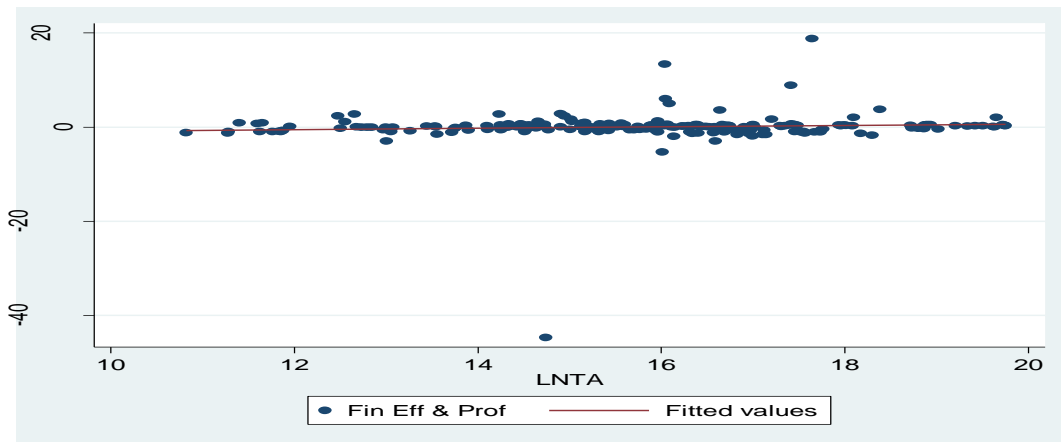

Fig 4.1: Linearity test for natural logarithm of total assets

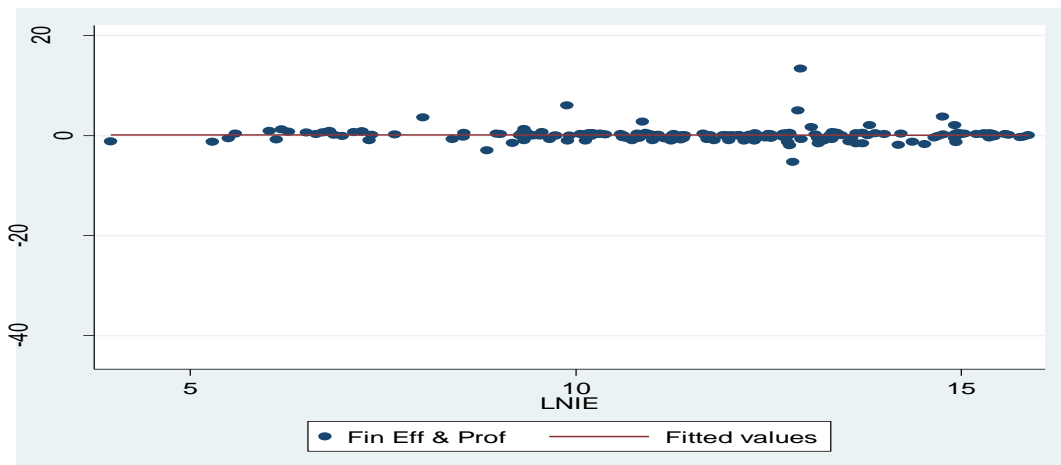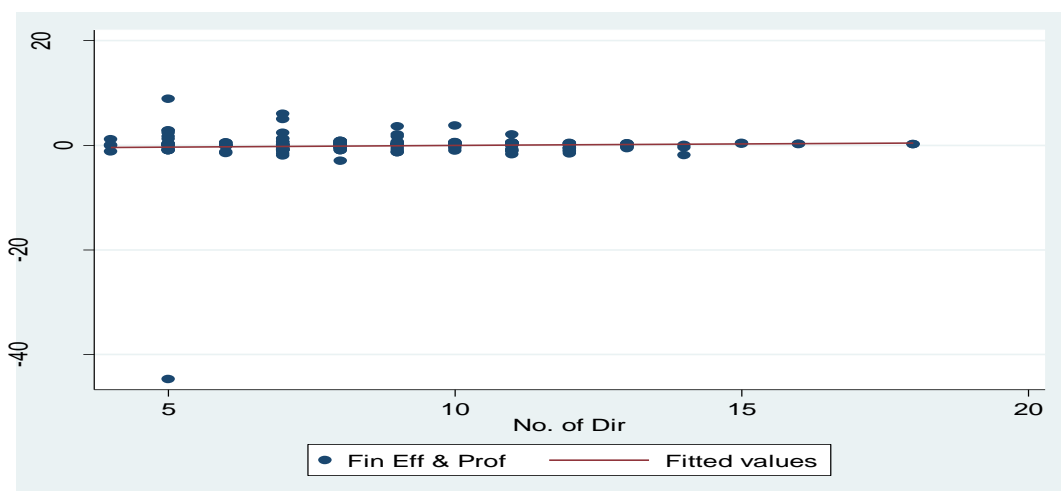***Fig 4.2: Linearity test for natural logarithm of interest expense***

Fig 4.3: Linearity test for board size
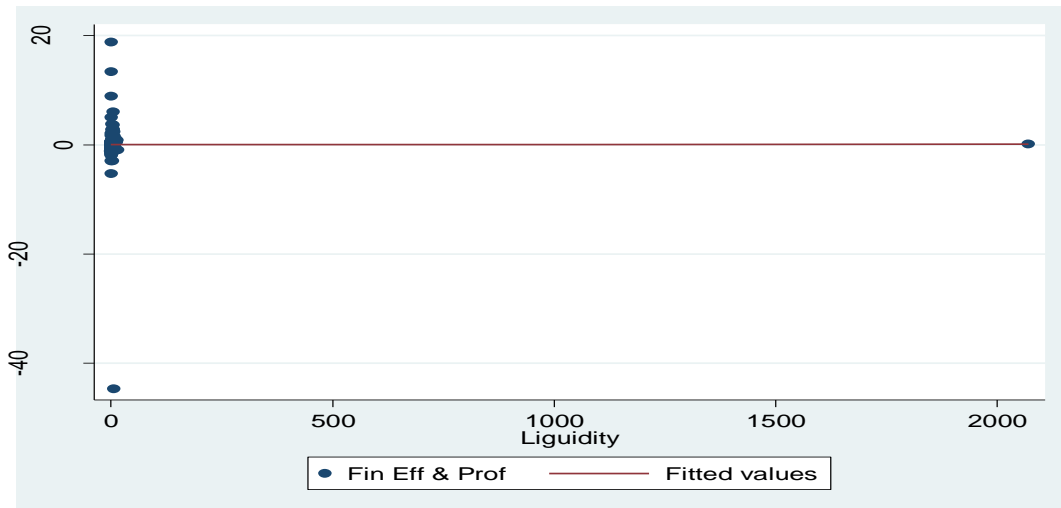
Fig 4.4: Linearity test for liquidity
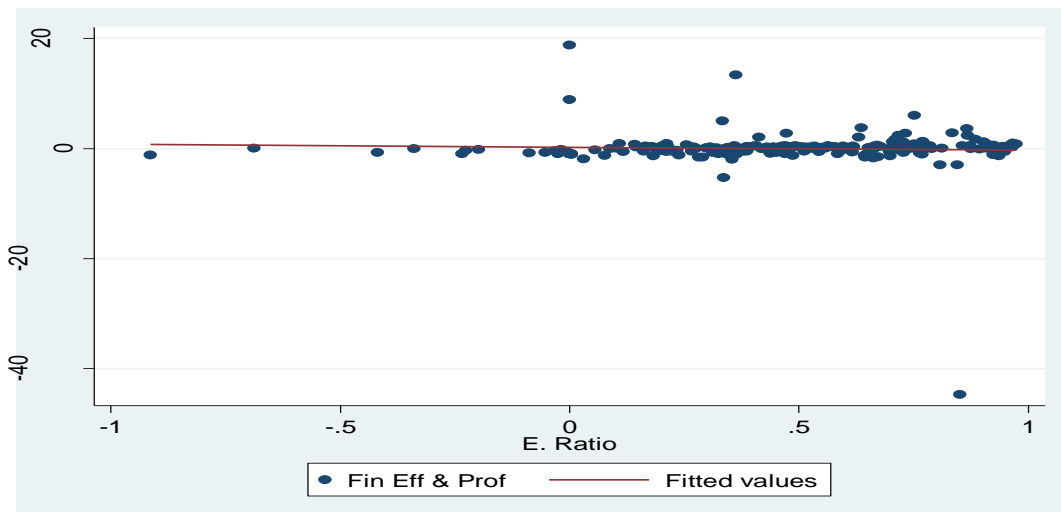
Fig 4.5: Linearity test for equity ratio
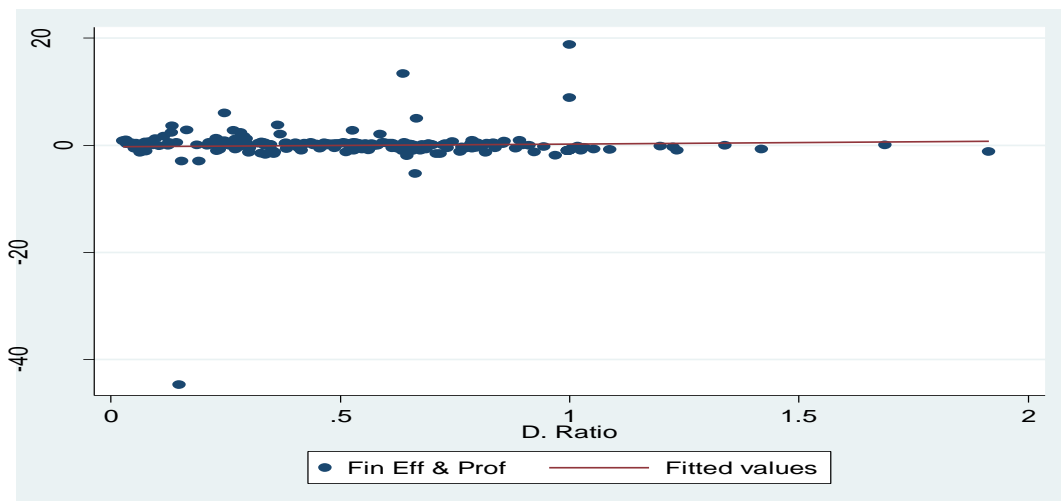
Fig 4.6: Linearity test for debt ratio

4.3.2 Test for Omitted Variables

Omitted variables was tested through the use of the Ramsey RESET test. The test was done to see if some relevant factors which could potentially affect financial performance which had been left out of the regression equation. The hypothesis tested was that the model had no omitted variables and interpretation was done at 95% confidence interval. The test had a P-value of 0.8725 which was insignificant and therefore the null hypothesis was not rejected. The conclusion thus, was that the model did not have missing variables.

Table 4.3 Ramsey RESET Test Table

Ramsey RESET test

Ho: model has no omitted variables

$F(3, 148) =$ 0.23

Prob> F =   0.8725

Source: Ramsey RESET test results

4.3.3 Test for Heteroscedasticity

Breusch-Pagan test was used in testing for heteroscedasticity and was enhanced by plotting a scatter for the residuals against the fitted variables and noting the nature of the graph. Under both tests, it was noted that the data was heteroscedastic as observed by the significant P-value that led to rejection of the null hypothesis that the data was homoscedastic. Rhobust standard errors were used in the final regression to correct the anomaly which could have suppressed the variables standard errors.
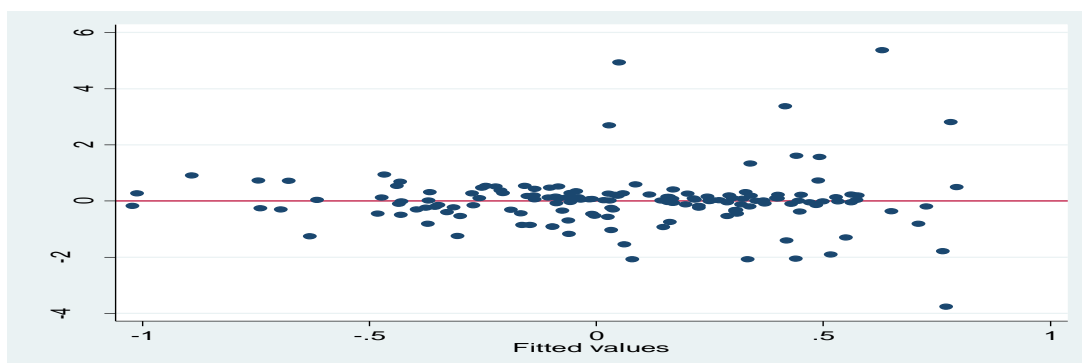
Fig 4.7 Graph of residual values plot test for heteroscedasticity

Table 4.4 Breusch-Pagan Test Results Table

Breusch-Pagan test
Ho: Constant variance
chi2(1)   =   44.43
Prob> chi2 =   0.0000
Source: Breusch-Pagan test results

4.3.4 Test for Multicollinearity

Multicollinearity was tested using the VIF test and interpretation done by comparing the resulting VIF values with 5. The test established that all variables had VIF values less than 5 and thus leading to the conclusion that the variables were not suffering from multicollinearity. It was also established that the mean VIF score was 2.94 which is very low and thus the variables safe for use in regression without misleading conclusions.

Table 4.5 Multicollinearity Test Results

Variable	VIF	1/VIF
Ln of T. Assets	4.66	0.214508
Ln of Interest expense	4.27	0.234410
Board size	2.05	0.488516
Liquidity	2.02	0.494667
Equity ratio	1.69	0.591828
Mean VIF	2.94	

Source: VIF test results

4.3.5 Test for Stationarity

Stationarity was tested using the Hadri LM test for stationarity, the results were interpreted at a 95% confidence interval. The test was based on the null hypothesis that all panels are stationary. The test established that all panels were stationary and thus the data was fit for regression.

Table 4.6 Hadri LM Test Results

Ho: All panels are stationery		Number of panels = 47
Ha: Some panels contain unit roots		Number of periods = 5
Variable	Statistic	P-Value
Financial performance	0.6329	0.2634
Board size	-2.5428	0.9945
Liquidity	0.8614	0.1945
Equity ratio	-0.7845	0.7836
Debt ratio	-0.6269	0.7347
Ln of T. Assets	0.4993	0.3088
Ln of Interest expense	0.6036	0.2731

Source: Hadri LM test results

4.3.6 Normality test

The data for the variables was tested for normality in order to understand the distribution of the data around the mean. The test established that the data was evenly distributed and thus fit for regression and use in the study.

Table 4.7 Normality Test Results Table

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
Financial Performance	220	0.0000	0.0000	.	0.0000
Board size	187	0.0027	0.5776	8.46	0.0146
Liquidity	218	0.0000	0.0000	.	0.0000
Equity ratio	221	0.0000	0.0025	24.92	0.0000
Debt ratio	221	0.0000	0.0025	24.92	0.0000
Ln of T. assets	219	0.2632	0.5176	1.69	0.4302
Ln of Interest expense	182	0.0084	0.5863	6.84	0.0328

Source: Normality test results

4.3.7 Profitability Efficiency Matrix

The following figure represents the profitability efficiency matrix results. The results indicated that the firms reported a lower efficiency levels as well as a lower profitability levels as per the matrix. The stock market was found not to have any company which is a star, and also very low companies in sleeper and dogs' categories in a profitability efficiency matrix. Only one company that was a sleeper and 9 under dogs' category translating to 2.13%

and 19.15% respectively. The rest of the firms, or 78.72% of the non-financial firms in NSE are question mark companies with lower profitability and efficiency. This implies that most of the firms need to work on boosting both their profitability and efficiency so as to maximize the wealth of the shareholders.
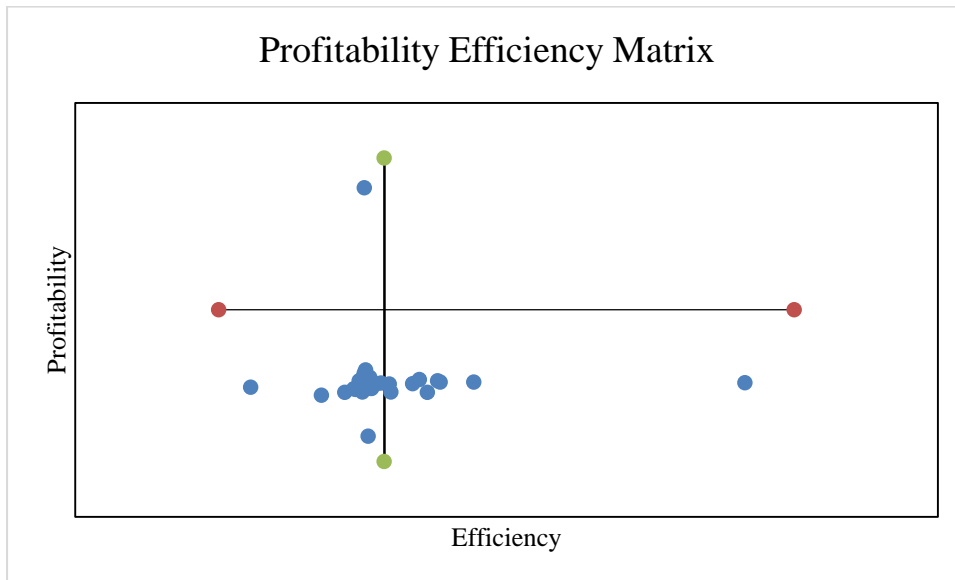
Fig 4.8 Profitability Efficiency Matrix Results

4.3.8 Correlation Analysis

Pearson correlation coefficient was used to determine the correlation between the variables in the study. The test established that most of the variables were positively correlated with each other. The highest correlation was between debt and equity ratios which made debt ratio be dropped in the final regression. The lowest correlation was between liquidity and financial performance which indicates low predictability. Board size and ln of total assets have a positive correlation with all other variables while the rest have a mix of positive and negative correlation.

Table 4.8 Correlation Analysis Results Table

	F. Performance	Board size	Liquidity	Equity ratio	Debt ratio	Ln of T.Assets	Ln of Interest expense
F. Performance	1.0000						
Board size	-0.0281	1.0000					
Liquidity	0.0017	0.0277	1.0000				
Equity ratio	-0.0414	0.0348	0.1109	1.0000			
Debt ratio	0.0413	0.2569	-0.0945	-0.7396	1.0000		
Ln of T. Assets	0.0339	0.5441	0.0284	0.1972	0.4084	1.0000	
Ln of Int. expense	0.0247	0.4464	-0.1169	-0.2164	0.5147	0.6373	1.0000

Source: Pearson correlation coefficient test results

4.3.9 Hausman Test

Hausman test was used to identify the more efficient model to use in regression between the fixed effects and the random effects models. It was done by running both models and then running the Hausman test with the hypothesis that random effects model was efficient.

Table 4.9 Fixed Effects Model Results Table

Fixed-effects (within) regression   Number of obs = 157
Group variable: Company   Number of groups = 41
R-sq: Obs per group:
within = 0.0249   min = 1
between = 0.0592   avg = 3.8
overall = 0.0410   max = 5
    F (5,111) = 0.57
corr(u_i, Xb) = -0.4185   Prob> F = 0.7246

F. Performance	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Board size	-.034172	.0840924	-0.41	0.685	-.2008066	.1324626
Liquidity	-.0773265	.1367976	-0.57	0.573	-.3484001	.1937472
Equity ratio	.0145683	.602964	0.02	0.981	-1.180245	1.209382
Ln of T. Assets	.4350359	.5563974	0.78	0.436	-.6675028	1.537574
Ln of Interest expense	-.2066636	.1419573	-1.46	0.148	-.4879614	.0746341
_cons	-4.138726	8.529266	-0.49	0.628	-21.04004	12.76258

sigma_u   .65822313
sigma_e   1.0277943
rho   .29085137 (fraction of variance due to u_i)
F test that all u_i=0: F (40,111) = 0.79 Prob> F = 0.7979
Source: Fixed effects regression results.

Table 4.10 Random Effects Results Table

			Number of obs	=	157
Random-effects GLS regression					
Group variable: Company			Number of groups =		41
R-sq:			Obs per group:		
within = 0.0054			min =		1
between = 0.3451			avg =		3.8
overall = 0.1255			max =		5
			Wald chi2(5)	=	21.67
corr(u_i, X) = 0 (assumed)			Prob> chi2	=	0.0006

F. Performance	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
Board size	-.0836153	.0425668	-1.96	0.049	-.1670446	-.000186
Liquidity	0.0385258	.0678179	0.57	0.570	-.0943949	.1714465
Equity ratio	.6152331	.3393428	1.81	0.070	-.0498667	1.280333
Ln of T.assets	.2254544	.0944424	2.39	0.017	.0403508	.4105581
Ln of Interest expense	-.0609892	.0671686	-0.91	0.364	-.1926372	.0706589
_cons	-2.45051	.8316789	-2.95	0.003	-4.080571	-.8204497

sigma_u 0
sigma_e 1.0277943
rho   0 (fraction of variance due to u_i)
Source: Random effects regression results

Table 4.11 Hausman Test Results Table

	Fixed effects	Random effects	Difference	S.E.
Board size	-.034172	-.0836153	.0494433	.0725231
Liquidity	-.0773265	.0385258	-.1158523	.1188037
Equity ratio	.0145683	.6152331	-.6006647	.4984095
Ln of T. Assets	.4350359	.2254544	.2095814	.5483236
Ln of Interest expense	-.2066636	-.0609892	-.1456745	.1250609

Test: Ho: difference in coefficients not systematic
chi2(5) = 4.51
Prob>chi2 =   0.4790
Source: Hausman test results

The test had an insignificant P-value of 0.4790 which meant that the null hypothesis could not be rejected. The conclusion was that, the random effects model was more efficient than the fixed effects models in the study and thus used in the regression.

4.4 Regression Analysis

Regression analysis was used to determine the effect of the various variables on the financial performance of listed firms in Kenya. The results of the regression were interpreted at a 95% confidence interval. In running of the regression, debt ratio was omitted due to its high correlation with the equity ratio. The study established that the variables under study account for 12.55% of the changes in the financial performance of listed firms. Though still low, this is a substantial percentage bearing in mind that there were only five variables in the regression. The regression results have also indicated that board size and the use of interest-bearing debt have a negative effect on financial performance of listed firms.

Table 4.12 ANOVA

Random-effects GLS regression	Number of obs = 157
Group variable: Company	Number of groups = 41
R-sq:	Obs per group:
within = 0.0054	min = 1
between = 0.3451	avg = 3.8
overall = 0.1255	max = 5
	Wald chi2(5) = 21.67
Corr (u_i, X) = 0 (assumed)	Prob> chi2 = 0.0006

Source: Panel regression results

Table 4.13 Regression Analysis

F. Performance	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
Board size	-.0836153	.0425668	-1.96	0.049	-.1670446	-.000186
Liquidity	0.0385258	.0678179	0.57	0.570	-.0943949	.1714465
Equity ratio	.6152331	.3393428	1.81	0.070	-.0498667	1.280333
Ln of T.assets	.2254544	.0944424	2.39	0.017	.0403508	.4105581
Ln of Interest expense	-.0609892	.0671686	-0.91	0.364	-.1926372	.0706589
_cons	-2.45051	.8316789	-2.95	0.003	-4.080571	-.8204497

sigma_u 0
sigma_e 1.0277943
rho   0 (fraction of variance due to u_i)
Source: Panel regression results

The study has also established that liquidity, equity ratio and natural log of firm size have a positive influence on the financial performance of the NSE listed firms. Of all the variables,

only the natural logarithm of the firm size had a significant influence on the performance of the firms. The constant of the equation was -2.4 and equity ratio had the highest absolute influence as indicated by its coefficient of 0.61. On the other hand, in absolute terms, liquidity had the lowest influence as indicated by its low coefficient of 0.039.

4.5 Discussion of Research Findings

The study has established that board size has a negative insignificant effect on financial performance, liquidity and equity ratio has positive insignificant effect while natural logarithm of firm size has a positive significant effect on financial performance. The study has also established that natural logarithm of interest expense has a negative insignificant effect on financial performance. These study results are in agreement with some and also contradicts some of the earlier researches done but being more current, its considerations may be more current leading to better results.

The study contradicts the observations by Modgiliani and Miller hypothesis as it has established that equity ratio, and thus capital structure, has an impact on financial performance. Having established a negative effect by interest bearing debt and a positive effect by equity ratio, the study contradicts and thus disputes the ranking of the pecking order theory at the least on its relevance in the Kenyan market. This is because equity has proved better than debt in financial performance. The study agrees with the observations of tradeoff theory that considerations are very important in building an optimal capital structure as debt and equity have been found to be very relevant in financial performance. As observed by the lower preference of equity and the positive relationship established, the study concludes that there should be agency problems in NSE as the managers are using more equity centrally to the findings of this research.

The findings of this study add more literature to the capital structure and financial performance area. It has been established that debt use has a negative relationship on the

firms while Mutua (2019) established a positive effect. He considered all listed firms and this indicates that, depending on the selection of firms, a variable can have different effect thus need for a narrower consideration by investors and managers. The results are in agreement with the findings of Rouf (2015) and Wong (2019). The study agrees with Mutua (2019) that board size has a negative effect on financial performance but contradicts the conclusions by Besho (2019) who had established a positive influence.

In liquidity, the firm agrees with the observations of Khan and Ali (2016) that there is a favorable correlation between liquidity and financial performance. In firm size, the study agrees with that of Opeyeni (2019) that small firms may be missing out on economies of scale leading to their high cost of operation. This is because firm size has been found to impact on financial performance positively.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter focuses on the summary of the research findings as per the results of the data analysis, a conclusion driven from the research findings and a recommendation to the different parties in the sector. The section also covers the limitation of the study and makes a suggestion for further studies in the field of concern.

5.2 Summary of Findings

The main objective of the research was to establish the effect of financial structure on the financial performance of non-financial firms that are listed in the NSE. For the researcher to achieve the research objectives, other variables that were considered relevant for the study included use of interest-bearing debt, corporate governance, liquidity position of a firm and the firm size. In total, there are 47 firms which have been listed in the NSE market and which are nonfinancial cutting across all the other industries. Data was collected for five years under consideration which is published in the capital market authority. The researcher managed to achieve the lowest response rate per individual variable was 78% which can be deemed fit for making the conclusion for the research finding. Out of the total expected data points of 235 for the 47 firms for the 5 years, this recorded a response rate of 187 in respect of the number of directors for the firms.

From the results, the financial performance of the firms which was the major variable under consideration was measured using the profitability efficiency index which recorded a mean of 0.0110. Financial structure on the other hand was measured using the total equity to total capital as well as total debt to total capital ratios and which gave a mean of 0.468 and 0.532 and which from the regression results were found to be perfectly correlated leading to the omission of one measure. The mean score for interest expense as a measure of use of interest-bearing debt indicated a value of sh757,936.6 in thousands while that of total assets as a

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measure of the firm size established a mean of sh33,800,000 in thousands. The current ratio as a measure of the liquidity level of the firms was found to have a mean of 11.76 times and 9 was the mean number of directors for all the firms in the market. Results on normality test indicated that all the variables were normally distributed apart from the logs of interest rates and assets base which were found to be peaked while the log of asset base was positively skewed. The auto correlation results indicated that all the variables under consideration were positively related apart from the number of directors which influenced the performance indicators negatively.

The Hausman test indicated that the random effects model was desirable. The findings of the model indicated that out of the total change in the profitability efficiency index, 12.55% was generally attributed to the other variables in consideration for the study as indicated by the adjusted R-sq. The regression results on the two major variables of the study indicated that the financial structure as indicated by the total equity to total capital was positively affecting the performance of the nonfinancial firms in the NSE even though in an insignificant at 95% confidence level. Relating to the other variables under consideration, corporate governance as measured using the size of the board size was found to be having a negative influence and which was also significant to the financial performance of such firms.

The regression results further indicated a positive relationship between the liquidity level as a measured by the current ratio to the financial performance of the listed non-financial firm but which was also found to be statistically insignificant. The results also indicated that the asset base as a measure of the size of firms affected the financial performance in a not only positive manner but also in a significant way. Lastly, the results indicated that the interest rates as a measure of use of interest-bearing debt was found to be having a negative but insignificant influence on the financial performance of the listed nonfinancial firms in NSE.

5.3 Conclusions

Based on the study results, it was found that the financial structure affected the financial performance of the non-financial firm in a positive but insignificant manner. A conclusion is therefore made that stronger financial structure will result into a better performance of firms. In terms of the impact of number of directors which was found to have a negative influence on the performance, it can be concluded that lower number will favor the performance of firm due to the reduction of the cost of management and remuneration to the directors which reduce the profits to some extent. The effect of the size of the firm indicated a positive and significant influence on the performance of the non-financial firms leading to a conclusion that bigger firms are stand a better chance in performance due to the economies of scale which lower cost and hence giving a competitive edge in the industry for better performance.

In respect of the liquidity which was found out to be having a positive but statistically insignificant influence, it can be concluded that the firms need to maintain a healthy operations position by boosting their liquidity and which will end up giving a good reputation and hence better relations with stakeholders give a chance for better performance. On the effect of interest rates on the performance of the non-financial firms that was found to be negative but insignificant, it can be concluded that firms should avoid taking up interest bearing debt and opt for other option which are less costly in order to boost the level of performance.

From the statistical point of view, the variables under consideration have been found to account for an approximate 12.55% of the total change in the performance of listed non-financial firms in the NSE. Therefore, the study makes a conclusion that there may be some other factors that can be attributed to the change in the profitability and efficiency and which have not been considered in the current study. Firm should however consider the variables in the study when making decisions on the financial structure so as to establish an optimal mix

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of debt and equity that will not dilute the power of the shareholders while at the same time not making a high commitment on interest repayment that lowers the financial performance.

5.4 Recommendations

From the research finding, the researcher makes a recommendation that the financial structure of a firm as measured by the equity approach should be maintained at the highest rate possible for the firm as they result to a better performance of the firms. However, in the attempt to increase the equity financing, management should take the most considerate options so as to retain the decision-making strength of the existing shareholders. The researcher also recommends that firm should also attempt to maintain the highest liquidity level at all times. This is because being able to cover the current debt from the current assets eases the pressure on repayment of debts and can give managers an opportunity to concentrate with other factors that matter to the financial performance.

The results have indicated a positive and significant effect of size of the firm to the financial performance. The researcher therefore recommends that the specific firms should strive to grow their assets base in the initial years of growth as this will end up cushioning some of the minor risks that may contribute to the failure of firms. As firms at this level enjoy economies of scale in terms of cost of production based on low cost of raw materials, technology used in production and also the relative low cost of investment in research, managers should try all their best to achieve the asset base that allows smooth operations in the future. Lastly, the study recommends that interest rates and number of directors should be maintained at the lowest levels as they are seen to influence the performance of firms negatively. This can be achieved through other options of financing of business which are interest free and by ensuring diverse experience of the board of directors to minimize the number and boost their function through a strong management team. As all these factors are internal factors that are

under control of the management, firms should be highly cautious of the influence they have on their level of profitability and efficiency so as to make informed decisions.

5.5 Limitations of the Study

The study was limited in a number of ways. Firstly, the study was having the main theme build around the concept of debts and the underlying interest rates. However, in the context of the Kenyan market, interest rates under the years under consideration have been capped which means the results may not be conclusive enough to generalize in the context of a free market were demand and supply for money determines the price of money in the form of interest. Again, the study only focused on the non-financial firms and which implies that the results cannot be generalized to explain the trend in the financial industry.

Based on the research finding that established a perfect correlation between the total debt to total capital and total equity to total capital and which resulted to the omission of the total debt to total capital. This implies that the study was limited to some extent by the correlation. The study was also limited by the extent to which the variables under study influenced the change in the performance of non-financial firms listed in the NSE market.

5.6 Suggestions for Further Research

In order to advance the body of knowledge in respect to the financial structure and the level of financial performance, future study should focus on addressing some of the factors that limited the current study. The researcher will suggest that future studies to extent the coverage and consider the extent of such influence on listed firms on industry basis. This could give some light on the extent to which inter industry variables might have neutralized the influence of the variables under study. Also, future studies can focus on the influence of financial structure to financial performance but use the approach of debt which was eliminated in the current study in the regression analysis.

A more detailed study may also be conducted in a free economy were the underlying factors associated with debt can be reviewed without government interventions on the interest rates. This is because the debt appetite will be on a fair basis in such countries rather that in Kenya were some firms may have been forced to take credit based on the fact that with interest rates capping, credit could be termed to be cheap.

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Appendix I: NSE Listed Firms

1. Arm Cement Plc

2. Atlas African Industries Ltd Gems

3. BOC Kenya Plc

4. Bamburi Cement Ltd

5. BAT Kenya Plc

6. Car & General (K) Ltd

7. Carbacid Investments Ltd

8. Centum Investment Co Plc

9. Crown Paints Kenya

10. Deacons (East Africa)

11. EA Cables Ltd

12. EAPortland Cement Co. Ltd

13. Eaagads Ltd

14. East African Breweries

15. Eveready East Africa

16. Express Kenya

17. Flame Tree Group Holdings

18. Home Afrika Ltd

19. Kakuzi Plc

20. Kapchorua Tea Company. Ltd

21. Kengen Co. Plc

22. Kenolkobil Ltd

23. Kenya Airways

24. Kenya Orchards

25. Kenya Power and Lighting Company

26. Kurwitu Ventures Ltd

27. Longhorn Publishers

28. Mumias Sugar Co.

29. Nairobi Business Ventures

30. Nairobi Securities Exchange Plc

31. Nation Media Group Ltd

32. New Gold Etf

33. Olympia Capital Holdings Ltd

34. Safaricom Plc

35. Sameer Africa Plc

36. Sasini Plc

37. Standard Group Plc

38. StanlibFahari I-Reit

39. The Limuru Tea Co. Plc

40. Total Kenya Ltd

41. Tps EA Ltd

42. Trans-Century Plc

43. Uchumi Supermarket Plc

44. Umeme Ltd

45. Unga Group Limited

46. Williamson Tea Kenya Ltd

47. WppScangroup Plc

Appendix II: Data Collection Sheet

Compa ny	Year	FP	T.Debt/T. Capital	Equity/ T. Capital	Interest Bearing Debt	Firm Size	Liquidi ty	Board Size
	2014							
	2015							
	2016							
	2017							
	2018							
	2019							