

**EFFECTS OF FINANCIAL LEVERAGE ON FINANCIAL
PERFORMANCE OF NON-FINANCIAL FIRMS LISTED AT
NAIROBI SECURITIES EXCHANGE**

**BY
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DECLARATION

I hereby declare that this is my original work and has not been presented to any other university or college for an award of a certificate, diploma or degree.

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D63/5784/2017

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

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DEDICATION

I dedicate this project to God Almighty, my creator, my strong pillar, my source of inspiration, wisdom, knowledge and understanding. I also dedicated this work to my family, parents, brother and sisters for being the best support system on this journey. Thank you. My love for you all can never be quantified. God bless you.

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LIST OF ABBREVIATIONS

ANOVA: Analysis of Variance

CDSC: Central Depository and Settlement Corporation

CMA: Capital Market Authority

DFL: Degree of Financial Leverage

DTA: Debt to Asset Ratio

DTE: Debt to Equity Ratio

EACSE: East Africa Community Securities Exchange

GDP: Gross Domestic Product

ICR: Interest Coverage Ratio

MFIs: Micro-Finance Institutions

NPLR: Non-Performing Loans Ratio

NPV: Net Present Value

NSE: Nairobi Securities Exchange

ROA: Return on Assets

ROE: Return on Equity

SACCOs: Savings and Credit Cooperative Societies

SPSS: Statistical Package for Social Sciences

ABSTRACT

Capital structure decision is among the key financial decisions that are taken by firms because financial leverage has an effect on the financial performance. Theoretical foundations on capital structure have found different conclusion where Modigliani and Miller argued on the irrelevance of debt on capital structure and agency theory to stress on the importance of debt in capital structure to control the actions of management. No agreement exists on the nature of the effect of financial leverage on financial performance from both the theoretical and different empirical studies. The aim of this study was to ascertain the effect of financial leverage on financial performance of non-financial firms quoted at the NSE. The population for the study was all the 40 non-financial firms listed at the NSE. However, out of the 40 non-financial firms, the researcher managed to get data for 39 companies amounting to 97.5% response rate. The independent variables for the study were financial leverage measured by the ratio of total debt to total assets, asset tangibility measured by the ratio of fixed assets to total assets, liquidity measured by current ratio and firm size measured by a log of total assets. Financial performance was the dependent variable and was measured by return on assets. Secondary data was collected over a five 5 year time frame (January 2013 to December 2017) annually. The descriptive cross-sectional research design was employed for the study. Data analysis was undertaken using the SPSS software. The relationship between variables established using multiple linear regression analysis. The study found that the independent variables had a correlation with financial performance of non-financial firms listed at the NSE ($R=0.221$). ANOVA results show that the F statistic was significant at 5% level with a $p=0.049$. Therefore the model was fit to explain the association between the selected variables. From the research findings financial leverage ($t= -0.243$, $p= 0.808$), firm size ($t= -1.133$, $p= 0.259$) and asset tangibility ($t= -0.306$, $p= 0.760$) produced a negative effect on the financial performance of listed non-financial firms' in Kenya. Liquidity ($t= 2.716$, $p= 0.007$) had a positive and significant effect on the financial performance of listed non-financial firms' in Kenya. This study recommends when firms are setting their capital structure they should strike a balance between the tax savings benefit of bankruptcy and debt costs associated with borrowing. The study also recommends that non-financial firms quoted at the NSE should maintain adequate levels of liquidity as the findings of this study depict a positive significant effect of firm liquidity on financial performance.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Financing decision is an important function in a company's decision making that helps finance managers to decide when to obtain finances and how to meet their investment needs (Zhao & Wijewardana, 2012). The choice of financing is crucial for every organization since an ideal capital structure between debt and equity influences not only the firm's value, but also the stock prices in the securities exchange market. According to Moghadam and Jafari (2015) financial leverage brings about serious impacts on macroeconomic elements such as interest rates, pricing levels, securities market development and economic growth. Thus, this reveals how significant financing decisions are as they can define the going concern of a firm. Poor financing options can result in the collapse of a company, and at same time influence the valuation of a firm's securities in the securities market (Abubakar, 2015).

This study is anchored on three theories namely; Pecking Order Theory, Trade-off Theory and Agency Theory. Pecking order theory states that companies should leverage their firms such that the equity amount is higher than their debts as they can fund most of their investments. Thus, it proposes that firms should first consider utilizing all the available inside funds before considering borrowing externally (Rayan, 2010). The trade-off theory states that large companies with many assets should consider using more of debt than equity to finance its investments so as to avoid any exposure to illiquidity, which may hamper its business operations. The agency theory on the other hand considers the use of debt to finance investments the best way to ensure that managers stay in check. Shareholders consider debt a disciplinary measure against managers who may have some selfish motives. That is

because with debt, there are interest payments to be made. Thus, to avoid any default and to ensure early payment of interest on loans, managers are forced to invest wisely and work hard towards the maximization of the profit, hence, maximize shareholders' wealth (Mwangi, Makau & Kosimbei, 2014).

Financial leverage is largely employed in most non-financial firms, 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 (Al-Otaibi, 2015). Therefore, it is a representation on the extent to which the firm uses debt and equity. Financial leverage use in a firm infers that the firm is supposed to attain more returns on the fixed charge reserves as compared to their expenses (Vengesai & Kwenda, 2017).

1.1.1 Financial Leverage

Financial leverage refers to the proportion of debt over equity utilized by a firm to finance its operations (Rayan, 2010). Firms that utilize financial leverage in their investments focus on exploiting the benefits allied to financial leverage, and also strive to minimize the costs that come with utilizing financial leverage. Financial leverage is directly related to debt financing as an increase in the level of debt financing implies that there will be a rise in the level of financial leverage too. Investors who rely on debt financing to invest their monies are always expectant of interest gains on the amounts invested. Hence, financial leverage shows how a firm can utilize outside financing in its operations without necessarily shrinking its worth (Mule & Mukras, 2015).

Fama and French (2002) found financial leverage to be beneficial in resolving free cash flow problems and through tax shield benefit. However, it may be ineffective to use leverage because of conflicts amongst capital providers and associated bankruptcy costs. Financial leverage helps in cushioning financial deficits in the firm in case of limited financial resources. Therefore, financial leverage may be advantageous or disadvantageous to the firm in respect to the resulting costs. Leverage financing results to interest expenses which is paid before the maturity period of the debt in excess of partial principal payments of the loan (Harelimana, 2017). The main objective of firms applying leverage is to maximize the possible earnings of the resources of companies. In cases where firms use leverage, they have to settle charges in respect of utilizing these resources (Kimathi, Galo & Melissa, 2015). There are several measures used in measuring financial leverage for instance, debt to asset ratio (DTA) and debt to equity ratio (DTE) based on book values and market values (Vengesai & Kwenda, 2017). This study used debt to asset ratio as a measure of financial leverage.

1.1.2 Financial Performance

Financial performance has been defined as a measure of how well a firm uses its available resources in the generation of revenues. It provides a guideline that gives a way for future decisions relating to business developments, assets acquisitions and managerial control (Tehrani & Rahnama, 2006). It reflects what has been achieved by the management in monetary terms over a specific duration and can be utilized in making comparison of like firms in the one industry. According to Ongeru (2014), financial performance provides an avenue for the evaluation of business activities in objective monetary terms. The main objective of the firm is to maximize the wealth of the shareholders and therefore performance measurement helps to evaluate how richer

the shareholder becomes as a result of the investment decisions over a given period (Berger & Patti, 2002).

Financial performance is normally measured by use financial and non-financial terms (Kaplan & Norton, 1992). Financial performance can be measured through; return on assets (ROA) refers to the measure of the management efficiency in generation of the revenues by using the assets at their disposal. It is computed by dividing the net income after taxes by the total assets of the firm. A higher ratio depicts a higher managerial efficiency in the utilization of the company assets and hence good performance. Tobin's Q is computed by dividing the total market value with the total asset value. It looks at the cost of replacing a company's assets and helps in determining whether the company stock over/under valued. On the other hand return on equity refers to the measures of how much profit can be generated from the shareholders investments. It is computed by net income after taxes by the total shareholders capital. A higher return on equity (ROE) shows a higher efficiency in the use of shareholders money. According to Baragoroza and Waal (2010) non- financial measures of performance include internal processes, customer perspective, learning and growth. This study focuses on financial measures and uses ROA as a measure of financial performance.

1.1.3 Financial Leverage and Financial Performance

Throughout literature, attention has been direct at existence of an ideal capital structure and as well as if the use of debt is relevant to the firm performance (Shahar, et al, 2015). From theoretical perspective, Market timing theory by Baker and Wurgler (2002) states that high leverage firms raise funds when they have low market valuation and a low leverage firm raises funds when they have high market valuations. On the other hand, Modigliani and Miller (1958) argue that financial

leverage has no effect on firm performance neither on share returns. As per the trade-off theory, an optimal structure of capital is derived a tough balancing of the costs that are related to debt financing and tax advantage benefit for use of debt finance. Therefore the effect of financial leverage on share return remains a theoretical concern to date.

Jibran et al (2012) found that debt also offers business enterprises a tax shield; hence firms are motivated to borrow more to reap maximum tax benefits which translate to higher profits. But, abnormal debt levels may force a firm into bankruptcy hence; managers should be keen to address risk factors, for instance, high debt-equity ratio which implies that a firm's bankruptcy risk is high. According to Olang (2017) a higher degree of financial debt leads to a higher payment of interests which in turn affects negatively the firm's baseline of share earnings. According to Cheng and Tzeng (2010) companies that uses leverage demonstrates in great extent that it can handle the risks which comes about with carrying debt. This can be a very crucial point to consider when deciding when to get additional finance.

Decision on source of financing is among the key financial decisions that are taken by firms since debt financing has an effect on the financial performance. Leverage financing provides the borrower with an opportunity to finance an investment on short-term source at the same time spreading the cost of capital over time so as to meet the affordability and budgetary constraints (Vengesai & Kwenda, 2017). 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). There are several measures used in measuring

financial leverage for instance, debt to asset ratio (DTA) and debt to equity ratio (DTE) based on book values and market values (Vengesai & Kwenda, 2017).

1.1.4 Non-Financial Firms Listed at the Nairobi Securities Exchange

Established in 1954, the Nairobi Securities Exchange remains as the main securities exchange market of Kenya and also the leading securities market in East Africa (Kioko, 2015). NSE is a body corporate established under the Companies Act (CAP 486) of the Kenyan law and comprises of all licensed stock brokers. The government sold 20% of its stake making the market private in (1988). The NSE is regulated by the Capital Market Authority of Kenya where the regulator ensures compliance of the listed companies. The NSE focuses on helping trade clearance arrangements of equities, debt derivatives and other related financial tools (Olang, 2017). In Kenya, the Nairobi Securities Exchange (NSE) comprise of 65 listed companies which has been classified to identify them with various sectors in the economy (NSE, 2017). There are 40 non-financial firms listed at the NSE under the following sectors: commercial and services, agriculture, industrial and telecommunication and technology, investment, automobiles and accessories, energy and petroleum (NSE, 2017).

Non-financial firms listed in the NSE would be keen to optimize expansion opportunities to benefit from the growth opportunities in the long-term. This could be achieved through adopting capital structures levels that support asset growth by finance managers of the listed firms. Firms may supplement the shareholders equity by employing debt. Additional financing requirements may therefore be achieved by increasing the owners' claim through issuing of ordinary shares or use of retained earnings or by increasing creditors claim through borrowing. However, many non-

financial firms have been delisted due to financial distress problem with others being placed on receivership and therefore the need for the study.

1.2 Research Problem

Firms that need finances are faced with dilemma on whether to use debt or equity. Jensen and Meckling (1976) however, maintained that conflict between lenders and shareholders will always work in favor of shareholders because if the firm's capital structure is composed of more debt than equity, shareholders can afford to undertake risky projects. If a firm is reporting profits and is financially sound, it is better placed to settle its financial obligations including servicing debts. On the contrary, if the performance is poor, financiers will incur higher losses attributed to un-serviced loans. The discussion on the relevance or irrelevance of capital structure have been an interesting debate to many researches as the theories have led to contradicting decisions and outcomes. For instance, according to MM capital structure is largely irrelevant in that it cannot have a bearing on the prediction of a firm's market value (Modigliani & Miller, 1963).

The financing decision influences the shareholders return. Consequently, financial leverage choices may affect the profitability of the firm and therefore its overall share returns. Cases concerning financial distress on firms have been increasing both in developing and developed countries mostly caused by high debt to equity ratio. In recent times, the Kenyan economy has witnessed numerous cases of failure among globally reputed firms (Atosh, 2017). These non-financial firms were regarded as icons of corporate financial stability and their collapse came with tremendous surprise to researchers and analysts alike. A number of non-listed firms at the NSE such as Kenya Airways, Uchumi Supermarkets Limited, Mumias Sugar Limited, and Express

Kenya Limited etc. have gone through cycles of financial distress in the recent past arising from high financial leverage and other factors such as poor corporate governance (NSE, 2017). These developments coupled with the lack of universal theory triggered the need for further research.

Globally, Harelimana (2017) found that debt levels are strongly related to bank profitability. Pradhan and Khadka (2017) found that the relationship between independent variables; bank size, interest coverage and short-term debt on bank profitability was positive while, long-term debts showed a negative relationship on profitability. Nwaolisa and Chijindu (2016) outlined that companies that employ more debt to equity, those with high debt to equity ratio, realize high profitability, which aids the firm maximize the owners' wealth. Enekwe, Agu and Eziedo (2014) researched on the effect of financial leverage on financial performance of the Nigerian pharmaceutical businesses and found a negative association between the two variables. Darush and Peter (2015) that debt level has a significant influence on the performance of SMEs.

Locally, Tangut (2017) found that stock returns were affected negatively by leverage and this was an indication that shareholders of highly geared firms may not receive optimal compensation. Murikwa (2017) found that ROA was negatively related to leverage but positively related credit risk and firm size of commercial banks in Kenya. Onchong'a, Muturi and Atambo (2016) found that increase in short term and long term debt reduces return on asset. Okiro, Aduda and Omoro (2015) found that good CG structure have a positive significant effect on firm performance. The study also confirmed that capita structure as interviewing variable it had a positive effect on relationship between corporate governance and firm performance.

Lack of consensus on empirical studies relating to leverage and financial performance and disagreement among important theories of capital structure is a reason enough to do further research. Also most of studies done in Kenya have focused on relationship between financial leverage and financial performance, making it impossible to give a convincing outcome and henceforth the need to do this study. Therefore this study seeks to add knowledge on the topic of the study and attempts to give an explanation to the question, what is the effect of financial leverage on stock returns of non-financial firms listed at the NSE?

1.3 Research Objective

The objective of the study was to establish the effect of financial leverage on financial performance of non-financial firms listed at Nairobi Securities Exchange.

1.4 Value of the Study

Findings of the study are of benefit to policy makers through developing policies that ensure that firms maintain and implement an optimal structure that is less susceptible to financial risks. This enables firms to exploit cheaper and reliable sources of finances to enhance profitability. 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 erosion of investors' wealth.

The findings of the study also 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 not only maximizes the shareholders' wealth but also boost investor confidence in the Nairobi Securities Exchange.

Scholars and academicians in the finance discipline benefits from the study

recommendations to conduct future studies to broaden the knowledge on financial leverage. Furthermore, they can consider the methods and results of this research and possibly extend it in various directions. The study finding adds to the present information on financial leverage and financial performance in the Kenyan context. A developed conceptual framework has been tested to establish its applicability to the firms listed at NSE.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section explains the theoretical literature review, the determinants of financial performance and the empirical literature review. Additionally, it illustrates the conceptual framework and gives a summary of the literature review.

2.2 Theoretical review

This section highlights the theories that will be used to support the research topic. They comprise static trade-off theory, pecking order theory, and the agency cost theory.

2.2.1 Trade-off Theory

The theory was developed by Myers (1984). According to trade-off theory firms usually choose how much debt finance or equity finance to use by looking at advantages and disadvantages of both debt and equity. According to Kraus and Litzenberger (1973) trade-off theory is applied in a situation where the firm works towards striking a balance between taking advantage of tax shield on interest expense arising from debt financing and the actual cost of the debt. An ideal capital structure is assumed to be dictated by a tradeoff between the benefits and costs of employing debt. Debt is perceived to bear interest tax shields but also increase risk and cost of bankruptcy. In tradeoff theory, the entity is depicted as matching the value of these gains and losses (Baker & Martin, 2011).

Myers (1984) finds a flaw with the theory and points out that many high profit making firms with excellent credit rating have been observed to operate at leverage that are low for years despite the theories prediction that such firm will not overlook the benefit of debt when the prospects of financial distress were minor. He points out

that consistently, the greater number of high profit making firms were found to have the least leverage. This gives rise to alternative pecking order theory. It is generally agreed that bankruptcy costs on their own are too minor to offset the value of tax shields (Ju, Parrino, Poteshman, & Weisbach, 2005). This theory is relevant to this study given that non-financial listed firms in Kenya performing poorly have high leverage compared to those with low debts performing better.

2.2.2 Pecking Order Theory

Pecking-order theory was developed by Myers and Majluf (1984) and it considers internal finance as the cheapest source of finance, then debt and finally external equity. They consider retained earnings as having no floatation costs and therefore, require no additional disclosure of financial information (Kishore, 2009). 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 indisciplined (Kishore, 2009). The theory is significant to this study because non-financial 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.

2.2.3 Agency Cost Theory

Founded by Jensen and Meckling in 1976, the agency cost theory suggests 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 (Okiro, Aduda & Omoro, 2015). 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 introduction of leverage rather than employing external equity. Such a measure aids in maintaining the firm ownership and also forces managers to remain focused on profitable ventures so as to fulfil the financing obligations (Nwaolisa and Chijindu, 2016). The agency cost theory is applicable in capital financing since managers' intent to achieve maximum returns prior to putting into consideration the shareholders' interests. Conflict of interest is a crucial challenge present between principals and agents. The problem arises mostly due to the shareholders' expectation of the managers to strive towards maximizing their returns. This theory is relevant to this study since non-financial

firms can obtain financial leverage to act as discipline mechanism against managers and to deter them from capitalizing on negative NPV projects.

2.3 Determinants of Financial Performance

2.3.1 Financial Leverage

Financial leverage has both merits and demerits on the on the ROA of a firm. The benefits of use financing may incorporate the assessment deductibility of premium charge and the decrease of issues related to free money streams. Then again use financing will involve the office clashes between the investors and the obligation holders and furthermore the potential insolvency cost (Lambe, 2014). Firms utilize obtained assets to upgrade their activities since it furnishes them with the capability of expanding the volume of tasks and enhance the normal profits for value capital. The utilization of use in financing the activities of the firm will improve the execution if just the rate of a degree of profitability is higher than the expense of capital acquired (Githaigo and Kabiru, 2015).

2.3.2 Firm Size

Firm sizes vary as some are large whilst others are small. Firm sizes contribute to the financial performance. For instance, large firm are able to produce in huge quantities due to the economies of scale that they enjoy over small firms. The mass production provides large firms with competitive advantage which enables them attain high profits (Rayan 2010). In addition to economies of scale, large firms are more penetrated, which has ensured their attainment of higher market shares than the smaller firms. The higher market share is also a source of competitive advantage to larger firms. Large firms are more advantaged when raising outside funds from the capital markets, which can be attributed to their large sizes which attests to their

capability of financing the borrowed funds. Additionally, large firms have very minimal dependence on internally raised funds, enabling them to profit more than the smaller firms (Alghusin, 2015). Thus, it is evident, based on the above statements that firm sizes influence profitability in the form of preference of capital structure mix. Firm sizes could be viewed from various angles including; extent of turnover and success, asset structure, number of employees, and the market structure of a firm. The size of the firm will be measured as a log of total assets.

2.3.3 Asset Tangibility

Asset tangibility refers to the ratio of fixed assets to the total firm's assets. 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 are usually used as guarantee and collateral for firm's creditors in case a firm requires external financing. Therefore, companies with high amount of tangible assets are expected to have high debt level in the capital structure than a firm with fewer tangible assets. These external finances in turn lead to high turnover and enhance the firm's performance if efficiently utilized (Rajan, & Zingales, 1995).

2.3.4 Liquidity

Liquidity implies the easiness with which funds are available to be employed in carrying out firms' operations. It is also a degree of a firm's capability of meeting its commitments when they are outstanding. Liquidity indicates a firm's readiness to settle both expected and unexpected demands of cash at any time (Gamlath & Rathirane, 2013). Thus, firms ought to be liquid to maintain its operations and remain in existence for the longest time possible. It must always be ready to meet its

debts at any given juncture. Therefore, for a firm to remain liquid, efficient working capital management strategies must be applied. Cash and cash equivalents are divided by the current liabilities to measure liquidity. Therefore, liquidity ratios compare the current assets to the current liabilities of a business. Focus is placed on liquidity to determine a firm's effectiveness in meeting its bills. Liquidity relates positively to financial performance (Niresh, 2012).

2.4 Empirical Literature Review

There are several empirical studies on factors that affect financial leverage and financial performance, but these studies have outlined mixed results. This section covers various studies conducted both globally and locally. Pradhan and Khadka (2017) researched how debt financing affects profitability of banks in Nepal. The population of the study was twenty two commercial banks. Descriptive research design was employed for the purpose of the study. 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 findings indicated that there was a positive relationship 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 Nepal and the focus was commercial banks therefore, the need of the current study.

Harelimana (2017) researched on effect of debt financing on the level of performance of business in Rwanda. The study used comparative research design because it was a case comparing two businesses. Multiple regression analysis was used for data 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. This study creates a contextual knowledge gap because it focused on banking sector in Rwanda.

Nwaolisa and Chijindu (2016) did a research on the influence of financial structure on the value of manufacturing companies quoted on the Nigerian stock exchange. The research was carried out on 23 firms that had been selected randomly from the 27 firms in the Nigeria's Stock Exchange. The study covered the periods (1993 – 2013). Earnings per share and ROE were employed as performance indices for the pooled ordinary least squares, fixed effect and random effect regression techniques were used to analyze the data. They discovered that financial leverage negatively affects financial performance of consumer goods measured by ROE and EPS. The study however was on Nigerian firms which operate under different market conditions unlike those in Kenya. The study presents a contextual knowledge gap because it was a case study in Nigeria and therefore, the need of the current study that focus on Kenya context.

Darush and Peter (2015) researched on the relationship debt level had on performance of SMEs in Sweden. The study employed cross-section research design where 15,879 SMEs were sampled. Data analysis was done through a three-stage least squares model. The predictor variables were short-term debt and long-term debt while responsive was firm performance. They study concluded that debt level has a significant influence on the performance of SMEs. This study presents a contextual knowledge gap because it was done in Sweden and cannot be generalized in Kenya. The focus was on the SMEs and the current study will look at non-financial firms listed.

Enekwe, Agu and Eziedo (2014) researched on the how financial leverage impacted on the ROA of listed Nigerian pharmaceutical companies. The study was for a period of 12 years from 2001 to 2012. Three companies were selected for the study. Ex-post facto research design was applied in the study. The study employed secondary data which was obtained from the financial statements of the three selected pharmaceutical companies quoted at the Nigerian Stock Exchange. Descriptive statistics, Pearson correlation and regression were applied in the study. The study found out that there is a negative link between debt ratio and debt equity ratio with ROA, whereas interest coverage ratio (ICR) had a positive association with ROA in Nigerian pharmaceutical companies. The study however focused on pharmaceutical firms. The study presents both conceptual and contextual knowledge gap since the focus is on pharmaceutical firms in Nigeria. This study therefore will focus on non-financial firms listed at NSE.

Tangut (2017) investigated on the impact of financial leverage on stock returns of non-listed firms listed on NSE. The research study used both primary and secondary data. Exploratory research design methodology was used covering a 16 years period, 2002- 2016. Both independent and dependent variable data collected was tested using unit root test, multicollinearity, normality and hausman test, analysed on a multiple regression, correlation analysis and descriptive statistics on SPSS. The study concluded that financial leverage has a negative significant effect on share returns of a firm. The study presents conceptual knowledge gap since the focus relation between financial leverage and stock return. This study therefore will link financial leverage and financial performance.

Murikwa (2017) researched on the effect leverage had on ROA of banks in Kenya. Descriptive research design methodology was used covering a 10 years period, 2007-2016. Secondary data on the 11 listed commercial banks at the NSE was collected and

analysed using a multiple regression, correlation analysis and descriptive statistics. The independent variables were degree of financial leverage (DFL), non-performing loans ratio (NPLR), and bank size while ROA was the dependent variable. The finding of the study showed that there is a negative relationship between ROA and leverage and there is a positive relationship between ROA and credit risk management and bank size. Thus the study recommends that commercial banks should maintain leverage levels at a minimum and increase size so as to maximize performance. The study found that there was a negative significant effect between share return and capital structure. The study presents contextual knowledge gap since the focus is on commercial banks in Kenya only. This study therefore will focus on all non-financial firms listed at NSE.

Onchong'a, Muturi and Atambo (2016) examined the relationship between of leverage financing firms Return on Asset of firms at NSE. The study targeted a population of 60 firms with debt in their capital structure in Nairobi Securities Exchange and utilized secondary data from audited financial reports of these firms between periods of 2009-2016. Using regression analysis analyzing coefficient on the debt effects on return on asset the study revealed that a unit increase of short term debt reduces return on asset. However the study found that a unit increase in short term debt however will reduce the profit margin ratio. The study concluded that high debt financing reduced the returns of shareholders through decrease in profit margins. It also recommends that listed firms to put more emphasis on employing more shareholders funding rather than borrowing loans so as to reduce risks associated with borrowing. The study presents contextual knowledge gap since the focus is all listed firms at NSE. This study therefore will be specific to non-financial firms listed at NSE.

Okiro, Aduda and Omoro (2015) did a study to determine the outcome of capital structure and corporate governance on performance of firms listed at the EACSE. A descriptive research design was considered effective for this study because it was useful in collecting data that depict the relationship between variables. The study targeted 98 firms that had been actively trading for the last 5 years (2009-2013) at EACSE nonetheless; was census survey was used to study only 56 firms constituting 57% that were considered satisfactory to make generalization. Secondary data was sort from annual reports obtained from NSE, DSE, USE, RSE and CMA websites. Analysis of data was done using descriptive and inferential statistics. It was concluded that there existed a significant link relating corporate governance and ROA of quoted firms. The study additionally affirmed that there is a positive significant mediating impact of capital structure on the connection between financial performance and corporate governance.

2.5 Conceptual Framework

The goal of this research is to investigate the effect of financial leverage on the financial performance of non-financial firms quoted at the NSE. Financial leverage is the independent variable whereas the financial performance is the dependent variable. The study will also incorporate other variables such as firm size, asset tangibility and liquidity as other independent variables. The conceptual framework is as follows:

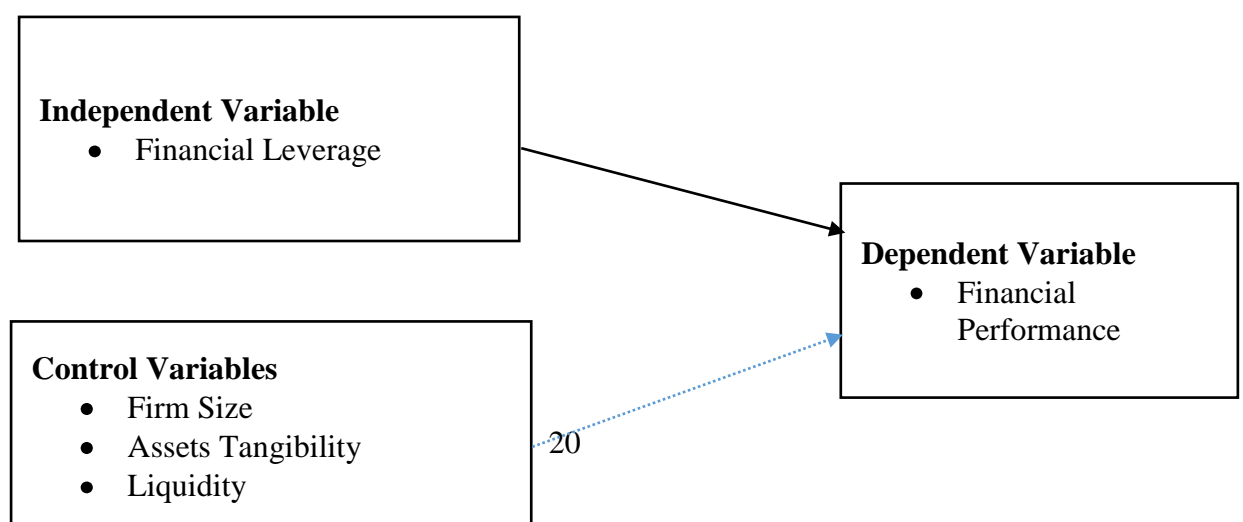


Figure 2.1: Conceptual framework

Source: Research Findings (2018)

2.6 Summary of the Literature Review

Theoretical frameworks have tried to explain the concept of financial leverage. The study has used Modigliani and Miller Theory, Pecking Order Theory and Agency theory. Some of the key determinants of financial performance are also explained in this section. Empirical review on global and local perspective on financial leverage and financial performance has also been done. However, most literature reviewed on the relationship between financial leverage and financial performance is on international markets with very few carried out in the local market. The finding on the studies reveal conflicting outcome depending on the markets and the model of analysis used. Therefore, there is no agreement on the nature of effects of debt financing on financial performance from both the theoretical and different empirical studies and the present study anticipate adding more knowledge in the area.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter states the methods that were used during the study to realize its set objective. It starts with research design, a description of the population, sample design, data collection, and analytical model.

3.2 Research Design

Kothari (2008) notes that a research design involves preparation of the circumstances for gathering and examination of statistics in a way that strives to achieve significance to the study drive. A plan involves a preparation of what is to be done from writing the hypothesis all through to analysis of data. Kothari (2008) noted that a research design is a blue print for gathering, measuring and analyzing data. The study adopted a descriptive research design. The choice of this design was appropriate because it helps in depicting the relationships between variables. This form of design also allows describing the behavior of the variables without influencing them.

3.3 Target Population

Target population refers to the complete cluster of objects to which a researcher intends to generalize the findings or outcomes of the study (Mugenda & Mugenda, 2003). For purposes of this study, population of interest consisted of 40 non-financial firms registered at the NSE. Census study was adopted to enable focus on all 40 non-financial under the following segments in the NSE sector categorization; Automobile, Commercial and Services, Energy and Petroleum and Manufacturing and Allied, construction and Allied, Agricultural sector and Telecommunication. These segments are selected because financial firms are providers of debt capital compared to non-financial firms which use debt to finance their investments.

3.4 Data Collection

Secondary data was collected from annual published reports submitted to the NSE and CMA. The data on independent variables (total debt, total assets, fixed assets and net income) was obtained from financial statements for period of our study. Financial information of a five-year period between 2013 and 2017 was used since it is considered current and long enough to provide sufficient data for analysis.

3.5 Diagnostic Test

Various diagnostic tests such as tests for normality, multicollinearity and autocorrelation were used. Normality is a test for the assumption that the residual of the response variable are normally distributed around the mean. This is determined by Shapiro-wilk test. Autocorrelation is the measurement of the similarity between a certain time series and a lagged value of the same time series over successive time intervals. It was tested using Durbin-Watson statistic. Multicollinearity is said to occur when there is a nearly exact or exact linear relation among two or more independent variables. It was tested by the determinant of correlation matrices, which varies from zero to one. When there is complete linear dependence of variables, the outcome is zero and outcome near zero show strong multicollinearity (Cooper & Schindler, 2006).

3.6 Data Analysis

Typically involves application of statistical measures and logical methods to evaluate and establish a relationship between data (Tully, 2014). Data collected was analyzed through use of Microsoft Excel (MS Excel) and Statistical Software for Social Scientists (SPSS) Version 21. SPSS and MS Excel are preferred as they produced output that found adequate statistical inference and generally easy to use. The output of the data analysis was reported in various tables highlighting the relevant statistics.

3.6.1 Analytical Model

The study used a multiple regression in carrying out analysis in finding out the outcome between the responsive variable and predictors variables. A responsive variable is the financial performance while the predictor variables are financial leverage, firm size, Asset Tangibility and Firm Liquidity.

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

Where;

Y= Financial Performance; measured by Return on Asset ratio (Net income/ Total assets)

X₁= Financial Leverage; measured by (Debt/Total assets)

X₂ = Size of the firm; measured by natural log of assets

X₃= Asset Tangibility; measured as a ratio of fixed asset to total assets

X₄= Firm Liquidity; measured as a ratio of current assets to current liabilities.

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 F and T tests were used to test statistical significance where F test was used to determine the significance of the analytical model while T – test was used to determine the significance of the coefficients of the regression model where a t value greater than two ($t > 2$) was considered significant at 95% confidence level.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introduction

This section represents study's findings established on the objectives of research. This chapter focused on collected data analysis from companies annual reports. Using descriptive statistics, correlation analysis and regression analysis, the results of the study were presented in form of tables for easy interpretation.

4.2 Diagnostic Tests

The study assessed normality through Kolmogorov-Smirnov and Shapiro-Wilk tests, multicollinearity through variance of inflation factors and autocorrelation through Durbin-Watson test.

4.2.1 Normality Test

Normality test was conducted on the data collected to establish whether it was collected from a normally distributed population. When p-value greater than 0.05 would indicate that the data was collected from a normally distributed population. The researcher used both Kolmogorov-Smirnov and Shapiro-Wilk tests.

Table 4.1: Normality Tests

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Financial Performance	.204	195	.433	.870	195	.467
Financial Leverage	.357	195	.642	.853	195	.534
Firm Size	.089	195	.200*	.966	195	.097
Asset Tangibility	.086	195	.200*	.950	195	.051
Liquidity	.218	195	.487	.727	195	.648

Source: Research Findings (2018)

Both Shapiro-Wilk tests and Kolmogorov-Smirnova indicated that p-values greater than 0.05. This was an indication that the secondary data used in this study was collected from a normally distributed population. The null hypothesis that the data was not normally distributed is therefore, rejected. Consequently, the data can be used in carrying out advanced parametric analysis such as Pearson’s correlation and regression analysis.

4.2.2 Multicollinearity Test

A test of Multicollinearity was undertaken. Tolerance of the variable and the VIF value were used.

Table 4.2: Test for Multicollinearity

Model		Coefficients	
		Collinearity Statistics	
		Tolerance	VIF
1	Financial Leverage	.873	1.146
	Firm Size	.764	1.308
	Asset Tangibility	.798	1.253
	Liquidity	.841	1.189

Source: Research Findings (2018)

From the findings, the all the variables had a tolerance values >0.2 and VIF values <10 as shown in table 4.2 indicating that no Multicollinearity exists among the independent variables.

4.2.3 Autocorrelation

Autocorrelation test was done to check if there was similarity between the data and their lagged value in time series.

Table 4.3: Test for Autocorrelation

Model	Durbin-Watson
1	1.889

Source: Research Findings (2018).

The autocorrelation statistics on table 4.3 indicates that the variable residuals were not serially correlated since the value was within the acceptable range of between 1.5 and 2.5.

4.3 Descriptive Analysis

Descriptive statistics gives a presentation of the mean, maximum and minimum values of variables applied together with their standard deviations in this study. Financial performance had 0.055403 as mean with a 0.1461040 standard deviation. Financial leverage had a mean of 0.258029 and a standard deviation of 0.22269. Firm size recorded a 5.9388 mean with a standard deviation of 0.7366. Asset tangibility resulted to a mean of 0.5729 with a standard deviation of 0.2258. Liquidity had a mean of 2.155 and a standard deviation of 2.154.

Table 4 4: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Financial Performance	195	-.6137	.5195	.055403	.1461040
Financial Leverage	195	.0000	1.6354	.258029	.2226863
Firm Size	195	4.4691	7.4359	5.938811	.7366034
Asset Tangibility	195	.1760	.9508	.572893	.2258356
Liquidity	195	.0827	12.6315	2.155082	2.1544397
Valid N (listwise)	195				

Source: Research Findings (2018).

4.4 Correlation Analysis

The researcher carried out Pearson product-moment correlation analysis to test whether the study variables were correlated. A p-value of 0.05 or less was used to

indicate significant correlations.

Table 4.5: Correlation Analysis

		Financial Performance	Financial Leverage	Firm Size	Asset Tangibility	Liquidity
Financial Performance	Pearson Correlation	1	-.070	-.047	-.086	.196**
	Sig. (2-tailed)		.333	.514	.231	.006
Financial Leverage	Pearson Correlation	-.070	1	-.171*	.140	-.303**
	Sig. (2-tailed)	.333		.017	.051	.000
Firm Size	Pearson Correlation	-.047	-.171*	1	.363**	.240**
	Sig. (2-tailed)	.514	.017		.000	.001
Asset Tangibility	Pearson Correlation	-.086	.140	.363**	1	-.125
	Sig. (2-tailed)	.231	.051	.000		.082
Liquidity	Pearson Correlation	.196**	-.303**	.240**	-.125	1
	Sig. (2-tailed)	.006	.000	.001	.082	

Source: Research Findings (2018).

The researcher established that there was a positive and statistically significant correlation ($r = .196$, $p = .006$) between financial performance and firm liquidity. Negative and insignificant correlation was noted between financial leverage ($r = -.070$, $p = .333$), firm size ($r = -.047$, $p = .514$) and asset tangibility ($r = -.086$, $p = .231$) and financial performance. This indicates absence of multi-collinearity among the predictor variables implying that they can be used as determinants of non-financial firms' financial performance.

4.5 Multiple Regression Analysis

The research employed regression analysis where financial performance was regressed against financial leverage, firm size, asset tangibility and liquidity.

4.5.1 Model Summary

Table 4.6: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.221 ^a	.049	.029	.1439901
a. Predictors: (Constant), Liquidity, Asset Tangibility, Financial Leverage, Firm Size				

Source: Research Findings (2018)

R squared is the coefficient of determination and depicts the variations in the response variable that is brought about by the variation of predictor variables. R square was 0.049, a discovery that 4.9 percent of the deviations in financial performance of non-financial firms quoted at the NSE are caused by changes in (financial leverage, firm size, asset tangibility and liquidity). Other variables not included in the model justify for 95.1 percent of the variations in financial performance. Also, the results revealed that there exists relationship among the selected independent variables and financial performance as shown by the correlation coefficient (R) equal to 0.221.

4.5.2 Analysis of Variance

Table 4.7: Analysis of Variance (ANOVA)

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.202	4	.050	2.434	.049 ^b
	Residual	3.939	190	.021		
	Total	4.141	194			

F Critical Value = 2.242

Source: Research Findings (2018)

The significance value was 0.049 which is less than $p=0.05$. This implies that the model was statistically significant in predicting how financial leverage affects financial performance of listed non-financial firms in Kenya. The calculated F-value

of the dependent variable was (2.434). This was an indication that (financial leverage, firm size, asset tangibility and liquidity) effects financial performance of listed non-financial firms in Kenya.

4.5.3 Coefficients of Determination

The researchers further computed co-efficients of determination to establish the direction of the relationship between the variables. The co-efficients of determination are shown below.

Table 4.8: Model Coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.145	.089		1.631	.105
	Financial Leverage	-.012	.050	-.018	-.243	.808
	Firm Size	-.018	.016	-.092	-1.133	.259
	Asset Tangibility	-.016	.051	-.024	-.306	.760
	Liquidity	.014	.005	.210	2.716	.007

Source: Research Findings (2018).

The results indicated that; Financial Leverage (t= -0.243, p= 0.808), Firm Size (t= -1.133, p= 0.259) and asset tangibility (t= -0.306, p= 0.760) produced a negative effect on the financial performance. Liquidity (t= 2.716, p= 0.007) had a positive and significant effect on the financial performance. The following regression equation was estimated:

$$Y = 0.145 - 0.012X_1 - 0.018X_2 - 0.016X_3 + 0.014X_4$$

Where;

Y= Financial Performance

X₁ = Financial Leverage

X₂ = Firm Size

X₃ = Asset Tangibility

X₄ = Liquidity

The Constant value of 0.145 in the estimated analytical model above indicates what financial performance would be if the predictor variables used were marked zero. A unit increase in firm liquidity would lead to an improvement in financial performance by 0.014. Increase in financial leverage, firm size and asset tangibility would reduce by financial performance by 0.012, 0.018 and 0.016 respectively. Stochastic error term was assumed to be zero in this study.

4.6 Discussion of the Research Findings

The research purposed to explore the effect of financial leverage on financial performance of non-financial firms quoted at the NSE. Financial leverage as measured by ratio of debt to total assets, asset tangibility as measured by the ratio of fixed assets to total assets, liquidity as measured by current ratio and firm size measured as a log of total assets were the independent variables while financial performance was the dependent variable, measured by return on assets.

The Pearson correlation coefficients between the variables revealed that a positive and significant correlation exists between liquidity and financial performance of non-financial firms quoted at the NSE. It was noted that there exists a negative and insignificant association between financial leverage and firm size with financial performance of non-financial firms quoted at the NSE while asset tangibility was found to have an insignificant and negative relationship with ROA.

The model summary revealed independent variables: financial leverage, firm size, asset tangibility and liquidity explains 4.9% of variation in the dependent variable as depicted by an R^2 value implying that other factors were not included in the model that account for 95.1% of changes financial performance. The model was fit at 95% confidence level as the F-value was 2.434. Therefore, the overall multiple regression model was statistically significant and suitable in predicting how the independent variables selected affects financial performance of non-financial firms quoted at the NSE.

This study is in agreement with Enekwe, Agu and Eziedo (2014) who found out that there is a negative link between debt ratio and debt equity ratio with ROA in Nigerian pharmaceutical companies. Tangut (2017) found that stock returns were affected negatively by leverage and this was an indication that shareholders of highly geared firms may not receive optimal compensation. Murikwa (2017) found that ROA was negatively related to leverage but positively related size and credit risk management of commercial banks in Kenya.

This study differs with Harelimana (2017) who 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. Nwaolisa and Chijindu (2016) outlined that companies that employ more debt to equity, those with high debt to equity ratio, realize high profitability, which aids the firm maximize the owners' wealth.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section summarizes the previous chapter's findings, conclusion and study limitations. The section also elucidates the policy recommendations that policy makers can implement to achieve the expected share return of non-financial firms listed at the NSE. Finally, the chapter shows suggestions for future research studies, which can be helpful to future scholars.

5.2 Summary of Findings

The study sought to investigate the effect of financial leverage on ROA of non-financial firms quoted at the NSE. The independent variables for the study were financial leverage, firm size, asset tangibility and liquidity. The study adopted a descriptive cross-sectional research design. Companies' annual reports were used to retrieve secondary data which were analyzed using SPSS software version 22. The study used annual data for 39 firms covering a five year time frame as from January 2013 to December 2017.

From the results of correlation analysis, a positive and significant correlation exists between liquidity and ROA of non-financial firms quoted at the NSE. The association between financial leverage and ROA of non-financial firms quoted at the NSE was found to be negative. The study also showed that there exist a negative association between asset tangibility and financial performance of while firm size was found to have a negative relationship with financial performance of non-financial firms listed at the NSE.

The co-efficient of determination R-square value was 0.049 implying that the predictor variables selected for this study explains 4.9% of changes in return on

assets. Therefore, other determinants not included in this model that account for 95.1% of changes in ROA of non-financial firms quoted at the NSE. The model was fit at 95% confidence level and F-value of 2.434. Therefore, the overall multiple regression model was statistically significant and thus suitable in explaining how the ROA of the non-financial firms quoted at the NSE is affected by the selected independent variables.

From the regression a constant value of 0.145 in the estimated analytical model above indicates what financial performance would be if the predictor variables used were marked zero. A unit increase in firm liquidity would lead to an improvement in financial performance by 0.014. Increase in financial leverage, firm size and asset tangibility would reduce by financial performance by 0.012, 0.018 and 0.016 respectively.

5.3 Conclusion

From the findings of the study, it can be concluded from the study that financial performance of non-financial firms listed at the NSE is affected by financial leverage, firm size, asset tangibility and liquidity of the firms. Financial leverage was noted to have a negative but statistically insignificant association with financial performance of non-financial firms listed at the NSE and this means an increase in leverage leads to a decrease in ROA though not to a significant extent. Firm size was found to have a negative and statistically significant relationship with ROA of non-financial firms quoted at the NSE and therefore this study concludes that firm size does significantly reduce ROA of non-financial firms quoted at the NSE.

The study found that asset tangibility had a negative and insignificant effect on non-financial firms' financial performance. The study therefore concludes that asset structure leads to a decrease in financial performance of non-financial firms listed at

the NSE. The study established that liquidity had a positive and significant effect on financial performance of non-financial firms quoted at the NSE and therefore it is concluded that higher levels of liquidity leads to an increase in financial performance.

This study concludes that independent variables chosen for this study financial leverage, firm size, asset tangibility and liquidity affect a small extent ROA of non-financial firms quoted at the NSE. It could be therefore concluded that these variables significantly affect financial performance as depicted by the p value of ANOVA summary. The four independent variables explain 4.9% of changes in financial performance, implying that the variables not included in the model explain 95.1% of changes in financial performance.

5.4 Policy Recommendations

Financial leverage was found to have an insignificant negative effect on financial performance of non-financial firms quoted at the NSE. The research therefore recommends that when firms are setting their capital structure they should strike a balance between the tax savings benefit of debt and bankruptcy costs linked with borrowing. High levels of debt has been found to reduce financial performance of listed non-financial firms from the findings of this study and so firm managers should maintain debt in levels that do not affect negatively on financial performance to ensure the goal of maximizing shareholders' wealth is attained.

The study found out that a positive relationship exists between financial performance and liquidity position. This study recommends that a comprehensive assessment of listed non-financial firm's immediate liquidity position should be undertaken to ensure the company is operating at sufficient levels of liquidity that will lead to

improved financial performance of firms. This is because a firm's liquidity position is of high importance since it influences the firm's current operations.

The study established that there was a negative influence of asset tangibility on financial performance of non-financial firms quoted at the NSE though not significant. This study recommends adequate measures should be put in place by managers of these firms to improve and grow their financial performance by reducing the level of fixed assets in favor of current one. This would translate to improved shareholder wealth which is the main goal of a firm.

5.5 Limitations of the Study

The researcher found it difficult to obtain the data. This was because some of the data sought was not readily available in the financial statements. This explains why the researcher was only able to get data from thirty nine firms out of the possible forty.

Another limitation was the quality of the data. It is illusion to derive conclusions from the study since the legitimacy of the situation cannot be ascertained. The data that has been used is only assumed to be accurate. The measures used may keep on deviating from one year to another subject to prevailing condition. Secondary data that had already been retrieved was utilized for the study, unlike the primary data which is first-hand information. The study also considered selected determinants and not all the factors affecting financial performance of non-financial firms quoted at the NSE mainly due to limitation of data availability.

For data analysis purposes, the researcher applied a multiple linear regression model. Due to the shortcomings involved when using regression models such as erroneous and misleading results when the variable values change, the researcher cannot be able to generalize the findings with certainty. If more and more data is added to the

functional regression model, the hypothesized relationship between two or more variables may not hold.

5.6 Suggestions for Future Studies

The study was not exhaustive of the independent variables affecting financial performance of non-financial firms quoted at the NSE and this study recommends that further studies be conducted to incorporate other variables like management efficiency, growth opportunities, industry practices, age of the firm, political stability and other macro-economic variables. Establishing the effect of each variable on financial performance of non-financial firms quoted at the NSE will enable policy makers know what tool to use when maximizing shareholder's wealth.

The study concentrated on the last five years since it was the most recent data available. Future studies may use a range of many years e.g. from 2000 to date and this can be helpful to confirm or disapprove the findings of this study. The study limited itself by focusing on non-financial firms at the NSE. The recommendations of this study are that further studies be conducted on all firms operating in Kenya. Finally, due to the shortcomings of regression models, other models such as the Vector Error Correction Model (VECM) can be used to explain the various relationships between the variables.

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APPENDIX I: NON-FINANCIAL FIRMS LISTED AT NAIROBI SECURITIES EXCHANGE

A. COMMERCIAL AND SERVICES

1. Atlas African Industries Ltd
2. Express Kenya Ltd
3. Hutchings Biemer Ltd
4. Kenya Airways Ltd
5. Longhorn Publishers Ltd
6. Nairobi Business Ventures Ltd
7. Nation Media Group Ltd
8. Standard Group Ltd
9. TPS Eastern Africa Ltd
10. Uchumi Supermarket Ltd
11. WPP Scangroup Ltd
12. Deacons (East Africa) PLC

B. CONSTRUCTION & ALLIED

13. ARM Cement Ltd
14. Bamburi Cement Ltd
15. Crown Paints Kenya Ltd
16. E.A.Cables Ltd
17. E.A.Portland Cement Co. Ltd

C. AUTOMOBILES & ACCESSORIES

18. Car & General (K) Ltd

D. ENERGY & PETROLEUM

19. KenGen Co. Ltd
20. KenolKobil Ltd
21. Kenya Power & Lighting Co Ltd
22. Total Kenya Ltd
23. Umeme Ltd

E. MANUFACTURING & ALLIED

24. Unga Group Ltd
25. B.O.C Kenya Ltd
26. British American Tobacco Kenya Ltd

27. Carbacid Investments Ltd
28. East African Breweries Ltd
29. Eveready East Africa Ltd
30. Mumias Sugar Ltd.
31. Flame Tree Group Holdings Ltd
32. Kenya Orchards Ltd

F. TELECOMMUNICATION AND TECHNOLOGY

33. Safaricom PLC

G. AGRICULTURAL

34. Eaagads Ltd
35. Kapchorua Tea Co. Ltd
36. Kakuzi Ord
37. Limuru Tea Co. Ltd
38. Rea Vipingo Plantations Ltd Ord
39. Sasini Ltd Ord 1.00
40. Williamson Tea Kenya Ltd Ord

APPENDIX II: DATA

Y	X1	X2	X3	X4
0.000476562	0.130519744	5.681715987	0.785239061	0.640241708
-0.161850679	0.239055745	5.679357023	0.843022502	0.592640867
-0.135979344	0.419669245	5.645322036	0.75401337	1.125560445
-0.25538759	0.529451282	5.579298745	0.742438932	0.852070387
-0.251016859	0.687568763	5.55622046	0.730982519	0.597423431
0.109360889	0.155753039	6.564486984	0.23060079	3.373969143
-0.017350842	0.158464061	6.586293775	0.255426724	2.523834463
-0.004172504	0.14485748	6.574173114	0.262762164	2.205018318
-0.198154772	0.251884686	6.517310331	0.304049055	1.580494544
0.004387064	0.199627054	6.472737147	0.428092427	1.548510558
-0.064036317	0.513627176	5.088830405	0.783138815	0.523357133
-0.022985606	0.612749477	5.166302797	0.797923045	0.464834682
-0.141412588	0.81171902	5.260221695	0.774517612	0.509077381
-0.168481228	0.897979895	5.192246771	0.809165944	0.407309917
-0.067967198	0.956272661	5.165698272	0.817306576	0.375206843
0.137102766	0.436707595	5.835702617	0.386986346	1.533953842
0.126995402	0.462677802	5.873629207	0.324500255	1.481511799
0.131420821	0.474895549	5.838420879	0.32763303	1.500203922
0.070652896	0.016954981	6.271131291	0.189628612	1.645554641
0.072025523	0.016610804	6.269216309	0.327027056	1.370029178
0.022600248	0.316603087	4.654060971	0.352510646	1.481177067
0.097755805	0.426396961	4.90033435	0.191423252	1.978179916
0.024534717	0.519872942	5.048286393	0.263153185	1.983859311
0.028459653	0.567442878	5.191487344	0.312000927	2.734559218
-0.228565067	0.555234702	5.157499077	0.29598369	2.99021752
0.220941612	0.008161339	5.058585439	0.338852869	2.427897574
0.206324356	0.005734953	5.077160703	0.382550673	2.365070712
0.175045484	0.00300078	5.103690858	0.407334189	2.09543037
0.138457874	0	5.085436865	0.411595108	2.07271412
0.115270797	0	5.053857936	0.442497107	2.01755059
0.04742666	0.249430326	6.619351012	0.605143726	1.156104417
0.051165978	0.24677156	6.612969081	0.636491897	1.219207631
-0.05530862	0.365721343	6.639049385	0.608678363	0.954740666
0.039794721	0.294768976	6.64393911	0.545579488	1.169278283
-0.060787907	0.290046477	6.64929951	0.579682831	0.847278799
0.025495628	0.10919615	5.207798577	0.859259672	0.86742294
0.015427374	0.124749046	5.20246652	0.860269022	0.803811174
-0.018753399	0.16294465	5.199091164	0.853020397	1.040415343
0.005254692	0.220625559	5.224921346	0.800303843	1.634993415
0.003728527	0.256010248	5.242710343	0.848645836	1.07878862
0.064040437	0.138721154	6.746226097	0.690293159	0.704898489
0.052655594	0.131350065	6.840033727	0.717583146	0.574007494

-0.613723391	0.296696772	6.746226097	0.681190344	0.343109109
-0.442341146	0.260530336	6.807060969	0.740520811	0.258705613
-0.336036669	0.196127476	6.699162441	0.888840066	0.08273402
0.059680178	0.027705852	5.105326209	0.179260236	2.455514343
0.042682606	0.022109138	5.123332136	0.177723745	2.46018018
0.033973614	0.014324097	5.09581421	0.186999238	2.755416021
0.031364931	0	5.129896036	0.176044015	2.377907599
0.0330477	0	5.138583714	0.206041181	2.281584828
0.090031563	0.159380832	6.297333446	0.345236048	3.388623416
0.031298009	0.119119804	6.292672883	0.39166117	2.898400826
0.04575491	0.263378937	6.395513702	0.319243771	2.902204594
-0.121114705	0.293456138	6.358254736	0.403895375	1.644480233
-0.541865684	0.184406585	6.191125311	0.43147469	0.942721832
0.045658519	0.547649746	5.472833943	0.76944855	0.945077692
0.040381281	0.564567042	5.567850625	0.77648965	0.470888586
-0.055673541	0.46944261	5.715474352	0.85042754	0.383451224
-0.05485832	0.259377424	5.708070604	0.837722391	0.585173101
0.153642583	0.338121881	5.630418721	0.912796757	0.216551804
0.008062116	0.014366747	5.633630023	0.627185233	2.676848606
0.008679954	0	5.612688513	0.620770413	2.296838061
0.01251487	0	5.62355939	0.568570069	2.357077863
0.012825029	0	5.611521511	0.535236418	2.696565427
0.003489185	0.030718387	5.673969601	0.703874754	1.718676995
0.072587764	0.179466286	4.469144282	0.264140694	1.381565528
0.005113164	0.307568522	4.585776465	0.255969684	1.146364872
0.006763455	0.292458857	4.656969751	0.274415633	1.106500924
0.02605258	0.268116229	4.704064679	0.252480727	1.163528398
0.03803052	0.309557872	4.768756462	0.225866885	1.190549779
0.050645061	0.283241436	6.835059594	0.471645477	1.301442833
0.037337113	0.337681647	6.89704926	0.512415622	1.16792903
0.066795139	0.37303097	6.923458677	0.648732733	0.933430213
0.060241195	0.425107367	6.877855251	0.704631415	0.671732059
0.080463786	0.550218153	6.84747524	0.662344864	0.599151049
0.110042954	0.342308336	5.207733977	0.776734413	1.085133303
-0.0245971	0.294280824	5.196377943	0.788506932	0.946416878
0.309662262	0.230294298	5.363848803	0.863390532	0.838529771
0.148903998	0.204230284	5.444701989	0.924043086	0.426190524
-0.053784351	0.215660114	5.43707482	0.928754194	0.314563765
0.04275944	0.278610137	4.8389372	0.393079665	1.112037381
0.032295653	0.308777353	4.911306789	0.383512413	1.199403412
0.003404539	0.313017356	4.953663064	0.412928349	1.056207214
0.009180645	0.361517537	4.98700449	0.416096526	0.970991399
0.007287234	0.377223404	4.973127854	0.48806383	0.995140311
0.027691783	0.428967427	6.275710446	0.866818463	1.421850775

0.011295915	0.544012422	6.398296852	0.889568375	1.096617744
0.03362519	0.428058216	6.534685935	0.937612402	0.950578292
0.018362211	0.372788148	6.564960385	0.940322746	1.204846566
0.024011623	0.367750231	6.576567654	0.921421858	1.475096052
0.019856552	0.546794824	5.449041571	0.310792022	0.93456227
0.045632067	0.438976049	5.378674017	0.352378404	0.950248176
0.115957208	0.26830714	5.2399773	0.386848208	1.237390688
0.099712004	0.304383576	5.383845873	0.271241276	1.257617136
0.102273953	0.303120461	5.381999022	0.246118096	1.440379919
0.018705028	0.314203434	6.265319097	0.795193052	0.97049268
0.031659851	0.333683374	6.344247812	0.771332095	1.034210413
0.02729482	0.410022399	6.435025472	0.75737836	1.448764452
0.024186821	0.382842165	6.47354857	0.831923673	0.982223278
0.021267472	0.370982915	6.533585493	0.8089112	0.867497143
0.032820464	0.062389644	5.601888411	0.248770764	1.278830557
0.043762177	0.225568346	5.512441572	0.316568229	1.49020383
0.047187728	0.118889701	5.534343457	0.314588751	1.525171156
0.061745898	0.105130799	5.558533378	0.298625965	1.646992784
0.072034957	0.135967231	5.579921863	0.303419174	1.735646349
0.094123563	0.117052872	6.948855838	0.545109382	1.065120788
0.058165469	0.242502304	7.083480761	0.599423733	1.034096113
0.059642148	0.287164292	7.249166304	0.76543959	1.014098985
0.062367787	0.337577767	7.3475355	0.786302932	0.870953745
0.015107475	0.299342437	7.370963065	0.816602559	0.602663086
0.024172463	0.020139608	4.908935165	0.280289576	1.842716852
0.034385668	0.067525478	4.904531621	0.316622231	2.332142857
0.046218341	0.07398872	4.936267371	0.368542345	2.368473634
0.035544251	0.050588056	4.963778386	0.367399291	2.298589992
0.002045289	0.033610908	5.011464712	0.35725347	1.639195231
0.076957403	0	6.420466199	0.539893198	2.226984381
0.099823068	0	6.361788255	0.485655474	2.139013834
0.064025341	0	6.365666907	0.460458535	2.063528055
0.057022925	0.241226253	6.34543294	0.458045901	2.283132358
0.017669053	0.276987606	6.348051418	0.45880489	1.953860384
0.437141214	0.092089793	5.219712857	0.486382191	1.256182625
0.47426024	0.10582628	5.26134615	0.508450434	1.24914728
0.519490145	0.158715714	5.27140477	0.487227801	1.45124002
0.472135498	0.161356763	5.265991663	0.51390259	1.413236685
0.384983786	1.635423687	5.250556613	0.5133385	1.317996532
0.215723651	0	6.343290205	0.595324168	10.0893154
0.193687102	0	6.403663136	0.612860286	6.296269189
0.13267067	0	6.472570262	0.624522228	4.510618065
0.121867707	0	6.488799941	0.614424253	7.088473561
0.106532437	0	6.51943078	0.695182061	6.802155312

0.117178472	0.538564288	5.761330084	0.677877011	0.698810079
0.103374007	0.582159804	5.798415137	0.68492935	0.721292611
0.137399472	0.521371785	5.813954415	0.615720732	1.022894308
0.146927087	0.408844826	5.817456948	0.6718161	0.770710133
0.115155633	0.424217333	5.823906352	0.667979174	1.006864177
0.047878683	0.249801178	5.973957303	0.273759632	1.540409307
-0.190945286	0.415926121	5.968509566	0.179236326	1.333861619
-0.151077939	0.245472505	6.125089085	0.581124536	0.869618139
-0.190712833	0.409375271	6.034550654	0.75383125	0.453799153
0.345786978	0.005824097	5.887983933	0.252108323	2.694802621
0.060860876	0.221383533	7.435876093	0.741223451	0.839592174
0.114865897	0.243595894	7.372232168	0.815248987	0.409331736
0.227646552	0.308483165	7.309706035	0.875338005	0.18646912
0.177477216	0.346028579	7.428153203	0.927000781	0.180718207
0.281179996	0.482211498	7.38185654	0.922780969	0.109292299
0.17018286	0.240697416	5.94240742	0.211999246	1.206126975
0.145218146	0.202296921	6.02302805	0.235887733	1.553962912
0.134823838	0.174962364	6.122717404	0.205820294	1.640971963
0.09530665	0.222035965	6.182184889	0.250316363	1.530548838
0.02365285	0.251633478	6.225508288	0.320785116	1.290658249
0.034208252	0.797087695	4.848786246	0.676870122	1.926038501
0.503187124	1.127365444	4.700721019	0.41735389	1.970891449
0.367275914	0.729395029	4.896145768	0.56672721	2.075696726
0.042166245	0.656932834	4.950569295	0.473678313	2.02143226
0.0382907	0.596537724	4.974654438	0.439791797	1.948561947
0.136119301	0.080256907	6.11010532	0.80768795	0.792104716
0.171005543	0.093724485	6.129047964	0.789589074	0.740187546
0.203056749	0.067789008	6.195782349	0.792360485	0.624457035
0.239374781	0	6.201895594	0.826241059	0.651675757
0.299612219	0.102319886	6.208680475	0.844380261	0.464234977
0.118534073	0.124026896	5.698588526	0.90543297	1.331698379
0.093505282	0.106334106	5.649133245	0.925972368	0.869866624
0.049205227	0.068082543	5.633401791	0.899568306	0.886232092
0.062667096	0.064259392	5.88147881	0.949364461	0.982161969
0.019621761	0.065795263	5.965108527	0.842466748	5.172828524
0.086466279	0.195083896	6.317744805	0.603874475	2.116629176
0.065308702	0.221153652	6.285368474	0.677777023	5.101308933
-0.011488782	0.222422008	6.297375054	0.672130792	5.681757017
0.04947153	0.195876409	6.331343669	0.58240118	4.258609212
-0.025498089	0.190631574	6.30756214	0.611534993	3.462781978
0.046221644	0.186629255	6.552712252	0.672118682	7.953845945
0.043533577	0.188939882	6.565851713	0.679055867	6.656962817
0.126060895	0.177282488	6.621796008	0.608046309	4.443828715
0.121012093	0.172434137	6.667235845	0.55905984	4.917590908

0.115347423	0.157370722	6.710051835	0.530688646	3.902097585
0.085167839	0.222350994	5.524767288	0.616247394	5.648494175
0.001027092	0.218928907	5.508218531	0.950774043	0.564856685
0.008918661	0.195086508	5.45572931	0.427255315	5.802852379
-0.075013863	0.190979774	5.405300247	0.432822203	5.165401146
-0.099447365	0.15631936	5.347466626	0.369739857	3.55680925
0.158168748	0.171906714	6.446759228	0.62791312	4.717088955
0.109558117	0.035738782	6.505574701	0.597794158	5.838396106
0.30047439	0.027950606	6.688528204	0.52199492	11.78104125
0.39398218	0.144911741	6.679618381	0.408548593	8.205998747
0.2063137	0.174728062	6.663653819	0.441564812	12.63148416
0.010126496	0.214284026	6.956858046	0.856970107	7.14353877
0.00304235	0.152299626	7.174047503	0.916602929	1.702679935
0.068634744	0.125794297	7.205326918	0.871690515	3.849123102
0.044024026	0.089592442	7.11747477	0.770315575	6.436174398
0.025720397	0.089133432	7.12044313	0.773782635	5.234174319
0.117451441	0.195870403	6.862442373	0.631532632	3.813336629
0.02770357	0.19914208	6.9147052	0.669162271	3.680440119
0.089911941	0.200922424	6.915837287	0.666259908	8.529311035
0.054050571	0.171861954	6.950919297	0.6214897	10.55574464
0.031275589	0.167625623	6.922420618	0.639756905	4.417473622