FINANCIAL LEVERAGE AND FIRM PERFORMANCE OF LISTED NON-FINANCIAL FIRMS AT THE NAIROBI SECURITIES EXCHANGE, KENYA

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ABSTRACT

The goal of incorporating financial leverage into a company's capital structure is to boost performance. According to the Capital Markets Authority (CMA), listed non-financial organizations suffering financial difficulties supervised under statutory or delisted has increased. CMA is concerned about the performance of these listed non-financial enterprises, which necessitates increased attention from researchers, policymakers, and other stakeholders. The study's essence was establish link betwixt financial leverage and Nairobi bourse non-financial corporates' performance. The precise aims were to use financial leverage indicators such as the Debt Intensity, Financial Flexibility, Interest Obligation, and Debt Capitalization, as well as performance measures such as Equity's and Assets' Return. Size of firm was moderating variable herein. The study was based on Proposition II theory, theory of Agency Costs, theory on Trade-off, and Market Timing theory. The research was quantitative and used a causal research methodology. Data was derived from Nairobi bourse, CMA for bourse non-financial enterprises from 2013 to 2018. Data analysis was undertaken via descriptive statistics, correlation, and panel regression with results presented and interpreted in connection to the objectives. Diagnostic tests were undertaken prior to analysis. Data presentation form was tabulations, diagrams and charts. The findings illustrate the positive correlation of debt intensity and both the ROA and ROE of non-financial enterprises at Nairobi bourse, that the interest obligation has an affirmative and vital effect on ROE and ROA. Further, debt capitalization was established to positively affect both ROA and ROE with impression significant on ROA. Size of firm was found to articulately moderate the nexus between debt intensity and ROA of the target populace. Similarly, the size of the firm was found to moderate significantly the interrelation between debt intensity, debt capitalization and financial flexibility as well as the ROE. Financial flexibility had constructive impact on the target Nairobi bourse enterprises' ROA and ROE though nonsignificant with ROA. On the premise of the results, financial flexibility has a beneficial impact on the firm results of Nairobi bourse non-financial entities. Considering the above findings, the research herein recommended the utility of more debt with larger firms applying higher debt for operations' finance. Further policy makers should develop policies around tax incentives, stability of interest rates, check levels of inflation, and improve credit ratings so that firms are able to raise debt capital at minimum cost which improves results of firms.

Keywords: Debt Intensity, Financial Flexibility, Interest Obligation, Debt Capitalization, Return on Equity, Return on Assets.

INTRODUCTION

One of critical decisions that business owners must make is choose not to use debt and equity. Debt financing is a vital part of a corporation, according to Maghanga and Kalio (2014). Higher returns could be leverage level resultant. As a result, an optimal level of debt can improve an organization's performance. Financial leverage is the debt amount the funding sources of a legal entity (Akinyomi, et al 2018). According to Abubakar (2015), managers in business must determine what percentage of debt and equity should be maintained. Abubakar (2015) also mentions Velnampy and Niresh (2012), who posits that performance is substantially impacted by the composition of a firm's sources of funds. To enhance profitability, company management must make important investments and, above all, agree on the optimal debt-to-capital ratio (Maina & Kondongo, 2013). Financial leverage is frequently used by business leaders to improve performance (Mukaria, et al. 2015).

Financial services considerations are ongoing in character, according to Chadha and Sharma (2015), because corporate managers must constantly obtain money to fund infrastructure investments. Internal cash, stock, debt, and preference shares can all be used to fund a project. Firms, on the other hand, face a substantial issue in selecting the correct amounts of these sources of funding (Chadha & Sharma, 2015). Firm managers desire a properly leveraged financial position that balances risk and reward (Hasan,et al. 2014). As per Banafa (2016), the leverage assessment is a crucial component of a company's financial success, hence it is important for company executives are attentive to it.

Although financial leverage has the ability to have a major impact on performance, Olang (2017) points out that a high level of liquidity can put a company at danger of insolvency due to large interest payments. As a result, companies should use the least amount of debt possible. Economic power used successfully in a business is clear and provable evidence that the company can successfully regulate the investment burden connected with debt (Cheng & Tzeng, 2010). According to Pandey (2005), company executives prefer to employ debt financing over equity since debt can maximize returns for existing shareholders while equity can diminish the value of existing common shares. When the cost of debt is kept low and financial exposure is handled, financial leverage boosts the return on investment (Kunga, 2015). The more a company's financial leverage, the greater the danger it faces (Irungu et al., 2018).

Capital structure, according to Chesang (2015), can be used to discipline executives so they must raise additional risk is managed and loan repayments are made; resultant being firm results improvement. Shibanda and Okaka (2015) found that effective the use debt is vital to business success. The investigation involved a survey of 42 NSE non-financial firms, and it was determined to illustrate a statistically vital impact on lengthy loan sustainability.

Financial leverage is a two-edged sword. Firms that use debt financing effectively may be able to achieve higher returns and improved performance. Khan (2012) pointed out that ineffective debt management can have detrimental consequences. Assuming debt raises the

risk because revenue must be utilized to repay the debt, particularly if revenue is dropping. As a result of the increased risk, the utilization of financial resources from a business standpoint will effect the return on capital, which can be good or negative. The financial cost of debt rises as an organization's debt level rises, exposing the company to more financial risk. As a result, the company is in financial trouble (Enekwe, et al. 2014). The best method to deal with this double-edged sword, according to Owolabi and Inyang (2013), is to identify an optimal balance position of the gains of financial leverage and the cost of bankruptcy.

Modigliani and Miller (1963), who amended their 1958 theory, stated that increasing debt in a company's capital organization lowers its profit margin (WACC) because debt acts as a retained earnings, and the firm benefits from this excess cash. Many academics have studied the relationship between leverage and corporate productivity at both the global and national levels. Ahmed, Awais, and Kashif (2018) discovered strong link betwixt financial leverage and business results. Inam and Mir (2014) also discovered company growth in Pakistan's energy and fuel sector having positive link with financial leverage. Based on his research of Pakistan's publicly traded companies, Ali (2014) arrived at the position that success of an entity is pegged on finance leverage. In a survey of 77 Jordanian industrial enterprises, Imad (2013) discovered a negative relationship between leverage and productivity. Khan (2012), who worked for Pakistani corporations, came to similar conclusions. Other researchers, such as Enekwe, et al. (2014), explored interrelationship of leverage and performance in pharmaceutical enterprises in Nigeria, found varied results.

Recent study in Kenya indicates that the link betwixt financial leverage and performance warrants more investigation. Furthermore, relating to equity organizations, quasi companies have gotten less research attention (Kale, 2014). The findings of the various studies are also inconclusive. Some researchers, such as Shibanda and Okaka (2015), Olang' (2017), Shimenga and Miroga (2019), and Chesang (2017), found a strong association among collateral and efficiency in non-financial firms at NSE, while others, such as Kunga (2015), Aziidah (2017), Irungu, et al. (2018), and Mohamed (2017) found adverse association. These conflicting results necessitate more investigation, with a focus on filling up the gaps in the current studies.

The ideal position can be ascertained by analysing

Corporates' performance is a critical construct of capital structure research, according to Mukaria, et al. (2015). According to Kale (2014), company success has a significant impact on economic growth since more profits mean more money for stockholders. Additional wealth contributes to greater expenditure, industry, and taxation, all of which inject money into the economy. Furthermore, higher profits mean higher corporate taxes, allowing the government to support more economic and social programs (Kale, 2014). Increased employment prospects are also a result of improved corporate performance. Firm performance also enhances the firm's stability and enables it to withstand negative economic shocks (Bhutta & Hasan, 2013).

CMA is the Kenyan capital markets regulator, and it has put in place strict listing requirements for firms including corporate governance, working capital and firm performance (CMA, 2018). Firms that breach these requirements are suspended from trading or are delisted. According to CMA's report on delisting at NSE, most of the firms that have been delisted or suspended are non-financial firms and the underlying reasons were related to firm performance (CMA, 2018). Most of the firms were either bought out, failed to maintain the working capital requirements, or had consistently recorded negative performance thus jeopardizing shareholders' investments (CMA, 2018). Listed firms that become insolvent are placed under statutory management as per the Insolvency Act, 2015.

The consideration of debt in a business entity is termed financial leverage (Mukaria, Mugenda & Akenga, 2015). It's the extent to which a company uses debt finance, according to Rehman (2013). The financial leverage rises as the proportion of debt in the capital mix increases. Proportion of borrowed funds to owners' money throughout the financial performance, according to Chadha and Sharma (2015). Jensen (1986) stated that including dues in a given investment provides tax advantages because annual returns are exempt, as described by Abubakar (2015). Debt also disciplines business owners since it binds them to set obligations like interests. The goal of employing debt is to boost a company's profits as long as the economy is doing well. Financial leverage raises risk and returns, and vice versa (Imad, 2013). When a company uses debt, the goal is for the return to outweigh the costs of debt.

Borrowing offers tax advantages, discipline for management, and the ability to boost returns. Despite this, organizations can really be entirely supported by debt because debt entails higher financial costs and risk. This is the decision to use financial leverage (Abubakar, 2015).

The Interest Obligation evaluates a firm capacity to meet its interest commitments. Financial institutions use it to determine if a firm can afford to make timely loan repayments without jeopardizing operations or revenues. It shows the company's profitability as well as the financial risk of lending money to it. As a result, the IO is a useful indicator of financial leverage. Enekwe et al. (2014) employed ICR as one of the economic leverage metrics in their research. Debt Capitalization is the ratio of a company's overall debt fund capacity (Ilyukhin, 2015). It's an overall economic burden.

The leverage instruments examined in this research are debt intensity, financial flexibility, interest obligation, and debt capitalization. Because it indicates the amount of a company's overall borrowed funds, the debt intensity is a clear indicator of its level of financial risk. This is a ratio of a corporation's net liability to its existing assets (Ilyukhin, 2015).

The size of a corporation, according to Banafa (2016), moderates interdependence betwixt leverage and corporate results. Big organizations in the industry have a smaller knowledge asymmetry than small businesses. As a result, huge organizations have an easier time obtaining capital from lenders than small ones. As a result of their increased liquid assets,

large firms nowadays can take on higher margins as insurance (Marete, 2015). As a result, business size has an impact on financial stress, which in turn has an impact on efficiency.

The Nairobi Securities Exchange is one of Africa's most important stock exchanges (NSE). The Kenyan stock exchange is regulated by the country's capital markets authority. The effort began in 1954 with the goal of allowing domestic and international investors to raise cash at a reduced cost (www.nse.co.ke, 2018). NSE has played an important part in Kenya's economic development by encouraging savings and investment. The NSE allows investors to exchange, save, hedge, and trade their assets (Kale, 2013).

Statement of the Problem

Non-financial corporates are critical in Kenya's economy. The non-financial sector accounts for roughly 88% Kenyan GDP and is most important in terms of task formation (KNBS, 2018). The non-financial sector is Kenya's Vision 2030 development plan critical component, whose aim is to make the state an industrializing and globally competitive country by 2030. Manufacturing, construction, agriculture, technology, and energy are all important non-financial sectors in the government's development program. Tax incentives, collaborations, decreasing business registration procedures, and electricity subsidies are just a few of the initiatives (www.vision2030.go.ke, 2018). The NSE has also offered a venue for these companies to raise financing for expansion and growth.

However, throughout the last decade (from 2008 to 2018), the number of non-financial firms that have suffered financial difficulties and have been placed under statutory supervision, suspended, or de-listed has increased. The majority of the authorities' responses have been receivership or reorganization. Earlier research has linked listed non-financial corporations' performance issues, such as placement on statutory management, to a lack of adequate debt financing and, by extension, financial leverage (Mwangi, et al. 2014; Mohamed, 2017). This ties delisting and statutory management of companies to financial leverage, indicating a conceptual gap.

CMA is concerned about the performance of these listed non-financial enterprises, which necessitates additional attention from researchers, policymakers such as the Capital Markets Authority, and other stakeholders. Non-financial enterprises like as Uchumi Holdings, Kenya Airways, Trans Century, Mumias Sugar Company, and Athi River Mining have also been in the news for signals of financial crisis and are being closely monitored by the CMA, according to Mburu (2018).

Gweyi and Karanja (2014), Aziidah (2017), Banafa (2016), Oketch, et al. (2018), Irungu, et al. (2018), Kunga (2015), Olang' (2017), Shimenga and Miroga, (2019), Chesang (2017) have identified a nexus of financial leverage and business entity performance. Notably majority of the above studies concentrated on all publicly traded companies (both financial and non-financial) and certain industries, leaving a contextual gap when it comes to publicly traded non-financial companies. A study of additional research by Shibanda and Okaka (2015),

Marete (2011), Enekwe, et al. (2014), Rehman (2013), Raza (2013), and Ilyukhin (2015) demonstrates a methodological disparity in terms of performance and financial leverage. This study builds on previous research by taking into account additional performance and financial leverage metrics that were not addressed in previous studies.

Mukaria, et al. (2015) also pointed out that research on impact of leverage on corporate results still lacks. Furthermore, the majority of previous research has been on financial institutions (Kale, 2014). A temporal gap is also revealed by a survey of the current literature. Mukaria, et al. (2015) utilized a time frame spanning 2008 to 2013, while Banafa (2016) used a time frame spanning 2009 to 2013. Gweyi and Karanja (2014) studied the years 2010 to 2012, while Mwangi, et al. (2014) studied the years 2006 to 2012. Aziidah (2017), Kale (2014), and Mule and Mukras (2015), respectively, covered the years 2012 to 2016, 2009 to 2013, and 2007 to 2011. To close the gap in time, this study covers the years 2013 to 2018, allowing it to incorporate more recent economic trends, changes in government policy and NSE.

Specific Objectives:

i. To establish the effect of debt Intensity level on firm performance of listed non-financial firms.
ii. To determine the effect of Financial Flexibility on firm performance of listed non-financial firms.
iii. To establish the effect of Interest Obligation on firm performance of listed non-financial firms.
iv. To determine the effect of Debt Capitalization on firm performance of listed non-financial firms.
v. To establish the moderation effect of firm size on firm performance of listed non-financial firms.

The study sought to test the following null hypothesis:
H_{01}: Debt Intensity has no significant effect on firm performance of listed non-financial firms.
H_{02}: Financial flexibility has no significant effect on firm performance of listed non-financial firms.
H_{03}: Interest Obligation has no significant effect on firm performance of listed non-financial firms.
H_{04}: Debt Capitalization has no significant effect on firm performance of listed non-financial firms.
H_{05}: Firm size has no significant moderation effect on the relationship between financial leverage and firm performance of listed non-financial firms.

Theoretical Review

Modigliani and Miller (1963) revised their initial argument to MM II by removing the zero-tax assumption. This was understood because without taxes, there is no competition. Because

leverage functions as a fiscal shield, a larger leverage ratio in the company capital system decreases the weighted average capital cost (WACC). Other issues like as lawsuit losses and servicing expenses will be recorded when the corporation benefits from debt tax deductibility. On the basis of MM II with a leverage increase, Alifani and Nugroho (2013) determined that the expected equity return (ROE) was rising.

When conflicts of interest arise between the owners of the firm, managers, and investors, the price of an agent is spent. According to Jensen and Meckling, the interests of the CEO and the owners are not always the same (1976). In this situation, the company's managers place a greater emphasis on achieving personal ambitions than on increasing shareholder returns. As a result, shareholders use indebtedness as a means of enforcing management's discipline in order to prevent wasteful spending.

Jensen and Ruback (1983), instead of focusing on increasing shareholder value, recognized the company's disproportionate cash flow, which favored managers. This schism poses a serious dilemma for shareholders, who must ensure that excess capital flows are not diverted to unprofitable activities rather than shareholder returns. Excessive debt creates agency problems among creditors and owners, according to Fama and French (2000). Due to these issues, there may be a negative relationship between financial leverage and the company's success.

The trade-off theory is defined as the concept that a corporation calculates the total amount of debt and equity financing to be employed by the balance of earnings and costs. Insolvency costs, which are a measure of a company's success, are caused by economic theory. In fact, this theory states that the tax benefit of debt service outweighs the cost of the obligation, which includes the financial weight of debt and foreclosure fees. As a result, with fewer loans, the marginal benefit increases, but as the debt grows, so do the marginal costs. As a result, if a firm does not maximize the trade-off when deciding how much debt and equity to use, it risks incurring bankruptcy and other marginal expenses.

According to Iqbal et al. (2012), the original formulation of the trade-off principle was drafted after a discussion of the Modigliani-Miller theorem. If the principle of irrelevance were applied to corporate income tax, however, the fiscal benefits that protected huge businesses added to financial debt. According to Abdeljawad (2013), the competitive trade-off hypothesis said that enterprises may stray from the intended capital structure but will eventually return to the planned capital structure. Executives strive for a balance of debt and equity financing, hoping to increase leverage and profit from debt's future efficiency improvements. The unsolved question is whether the arrangement is successful, that is, whether it produces favorable results. The research sought to describe this via debt intensity, debt capitalization, financial flexibility, and interest obligation as measures of financial leverage.

Managing stakeholder relationships makes good financial sense and helps the company achieve its goals, including profit maximization. To accomplish this, businesses must commit

to considering stakeholder interests in all activities and decisions, as well as effectively addressing their concerns (Freeman, Harrison, & Zyglidopoulos, 2018).

Empirical Review

Rehman (2013) enquired interrelation of firm results and leverages. The results indicate that the debt to share ratio with corporate income and business productivity and ROE was in a negative relation. However, this research did not consider other measures of financial leverage, which include debt intensity and interest obligation, as well as the firm's size as a moderating variable. In addition, Rehman (2013) only looked into sugar companies, hence the scope of the study was limited.

The effect of the capital structure on the financial performance of NSE firms between 2002 and 2011 has been analyzed by Maina & Ishmail (2014). The secondary data were analyzed using a regression analysis and mixed findings were recorded. In a formula for evaluating the leverage level and the quantities of resources, the analysis showed that the financial success of businesses has a substantial adverse effect. In another studies that there is no significant effect on the results of financial institutions on debt-to - equity ratio and total assets. This research used all non-financial firms and used firm size as a moderator.

Enekwe, Eziedo, and Agu (2014) researched leverage impact on Nigerian pharmaceuticals' outcomes discovering that the interest-coverage ratio was positively correlated with their competitiveness. From 2001 to 2012, three major Nigerian pharmaceutical companies used secondary data for their research. In the study, regression and Pearson correlation models were utilized for data analysis. The company's success was found to be negatively correlated with the debt intensity and indebtedness ratio. However, inquiry found debt ratio, debt share, and tax rate of the Nigerian pharmaceutical industry have little effect on its success. The study, however, did not use ROE as a performance indicator. This study also had a narrow scope, focusing solely on pharmaceutical businesses, implying that the findings can only explain the behavior of the pharmaceutical industry and not a broader range of behavior. This study used a population and included ROE as a performance metric.

Raza (2013) reviewed the influence of leveraging on business output from the Karachi Stock Exchange in its 2004-2009 list of companies. Long-term debt is more expensive, based on the paper, and using leverage in high-level initiatives correlates to low earnings. The utilization of liquidity and firm size as elements that balance the financial leverage-performance link were not considered in the investigation. Interest Obligation, debt intensity, and debt capitalization were not mentioned in the study as indices of financial efficiency.

For the period 2004-2013, Ilyukhin (2015) scrutinized leverage impact on results of Russian joint venture businesses. The study's assumptions on service efficiency, trade-offs, and pecking order were used. The return on investment and operating margin, in addition to the debt-to-equity ratio, were used. As reported, corporate earnings suffered as a result of the debt. The data also supported the pecking-order concept and were incompatible with the

trade-off principle, according to the research. However, in order to achieve the broad breadth of financial operations' contribution to the firm's outcomes, the analysis did not consider the implications of other financial leverage metrics such as interest obligation and debt intensity. This research considered firm size as a moderator and included IO and DC as metrics of financial leverage.

From 2007 to 2012, 36 Bangladeshi companies that were registered on the Dhaka stock exchange were examined by Hasan (2014). The study assessed financial efficiency using EPS, finding capital debt and ROA were significantly adversely associated. The use of the interest obligation and the debt intensity in the financial leverage calculation was not included in the study.

Aziidah (2017) examined leverage impact on results of four energy corporates on Nairobi bourse using 2012 to 2016 secondary data in the survey determining notable adverse link betwixt firm competitiveness and leverage. Firms' stability on loans reduced their profitability due to high funding costs. The study didn't regard corporate size moderation sequel on connection betwixt leverage and operational success. Study included only publicly traded energy companies.

Manianga et al. (2013) looked into relationship betwixt non-financial businesses at Nairobi bourse capital mix and corporate performance. Linear regression was used in the argument. Debt-to-capital ratios and output are inextricably linked, according to the study. However, the research was carried out during a time of political unrest as well as high inflation, which had an effect on the profitability of the businesses. As a result, it's possible that the study was carried out over protracted time order to gain a better understanding of the repercussions over time. Other metrics of financial leverage were also included in this study, which took into account firm size as a moderator.

Marete (2011) investigated association betwixt firm size and financial leverage for NSE companies. Findings allude to organization size having positive impact on client leverage. The study using Pearson's method of measuring correlation discovered that a corporation's stability and production were unrelated. However, Debt Intensity was not included in the research.

Banafa (2016) looked at leverage impact and firm size on NSE's enterprises' performance. Debt equity ratio had adverse influence on Kenyan businesses' results, but larger firms had a beneficial effect on ROA and ROE. This research considered firm size as a moderator and failed to include financial flexibility, interest obligation, and debt capitalization as metrics of financial leverage.

RESEARCH METHODOLOGY

This research adopted a causal research design because the interest is to examine the cause-and-effect relationship between financial leverage and firm performance. The target population for this study comprised all the 43 non-financial firms listed at the Nairobi Securities Exchange.

The study employed census technique since it was possible to reach and obtain information on all subjects of the population. The study obtained secondary data from NSE and CMA for the period between 2013 and 2018. The data was extracted from annual financial statements of the listed non-financial firms. The study utilized the document review guides to obtain the specific data sets required for the study. The data was analyzed using descriptive statistics, correlation analysis and panel regression analysis. Descriptive statistics was used to provide summaries of results of performance profile, leverage profile, and size of the firms. Correlation analysis and panel regression analysis was used to test the relationship between financial leverage and firm performance. The results were presented using tables, charts and diagrams. The study carried out a panel data regression analysis of the panel data from 2013 to 2018 using the Statistical Package for Social Sciences (SPSS) software. The study used the panel regression model adopted from Banafa (2016).

RESULTS AND KEY FINDINGS

Descriptive Analysis

Descriptive statistics were retrieved to determine the statistical character of the data used for analysis. The mean, standard deviation, minimum, and maximum values of the study's numerous variables were the primary descriptive statistics used in this investigation. Means were used to reflect the average values of the study's variables from 2013 to 2018, while standard deviation was used to demonstrate variation/dispersion from the mean values, thereby indicating the degree of variability of the study's variables. In addition, maximum and minimum statistics were employed to reflect the study variables' maximum and minimum values for the study period. Table 1 shows the descriptive data, followed by a commentary.

Table 1: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
ROA	0.139111	0.296799	-1.11486	1.797788
ROE	1.27377	0.941272	-1.75278	4.772287
Financial flexibility	0.44827	1.083536	-1.11486	15.3579
Debt Capacity	0.406895	0.225732	0.07	0.99
Interest Obligation	0.532462	0.259597	-0.0191	0.992514
Debt Capitalization	0.115296	0.224297	-0.95322	0.716838

Table 1 shows that the aggregate average ROA of non-financial enterprises listed on the NSE from 2013 to 2018 was 13.9 %. This indicates that non-financial enterprises listed on the Nairobi Securities Exchange did well in terms of efficiently utilizing their resources to generate appropriate income from 2013 to 2018. The total maximum ROA value of non-financial enterprises listed on the NSE was 179.8%, while the lowest value was -111.1%, indicating greater performance in terms of resource use efficiency.

Similarly, the aggregate mean ROE of non-financial enterprises registered on the Nairobi Securities Exchange was 127.4 percent. For the period 2013-2018, the high average ROE of non-financial enterprises listed on the Nairobi Securities Exchange indicates that the firms fared well in terms of generating income to grow and pay dividends.

Across 2013 and 2018, the total average debt intensity of non-financial enterprises listed on the NSE was 0.45. This indicates that non-financial enterprises registered on the Nairobi Securities Exchange used less debt to fund their assets than equity.

In terms of financial flexibility, the statistics show that non-financial enterprises listed on the Nairobi Securities Exchange averaged 0.41 from 2013 to 2018. The minimum financial flexibility was 0.07, while the maximum financial flexibilty was 0.99. According to Ekwe and Duru (2012), the data generally reveal a healthy financial flexibility, with a financial flexibiliy of less than 45 percent indicating that enterprises in this category are able to satisfy their financial responsibilities utilizing their properties.

The findings reveal that the mean interest Obligation of non-financial enterprises listed on the NSE was 0.53 could indicate that non-financial enterprises listed on the NSE are making good use of their debt.

The research revealed that non-financial enterprises listed on the Nairobi Securities Exchange had an average debt capitalization of 0.115 from 2013 to 2018. Standard deviation values of 0.18 and 0.12, respectively, demonstrate that this value fluctuated more from firm to firm than from year to year. The overall minimum debt capitalization was -0.95, while the maximum debt capitalization was 0.72. Non-financial enterprises registered on the Nairobi Securities Exchange used debt to finance their operations seldom, with an average debt capitalization of 0.115.

Diagnostic Tests

Before doing linear regression, it's necessary to execute a series of diagnostic tests on the data to check that the regression assumptions are met. The study used this information to conduct diagnostic tests to ensure that the regress requirements were followed, including the test for normality, linearity, heteroscedasticity, unit root test, and Hausman test for model specification.

Test for Normality

Normality test helps in the evaluation of how well the distribution of the data can be approximated by the normal distribution (Öztuna et al. 2006). The study tested for normality using the Shapiro-Wilk test which checks the correlation between the data and the corresponding normal scores. From the results in table 2, all the variables had p-values greater than the critical value of the study (5%) which is an indication that data was normally distributed.

Table 2: Shapiro-Wilk test for Normality

Variable	Obs	Shapiro-Wilk Statistic	P-value
Debt Intensity	248	0.35399	0.061
Financial Flexibility	248	0.87743	0.52
Interest Obligation	248	0.94571	0.058
Debt Capitalization	248	0.9735	0.142
ROA	248	0.93132	0.081
ROE	248	0.77061	0.076
Firm sales	248	0.27546	0.131

Test for Heteroscedasticity

Heteroscedasticity refers to a situation where the variance of the residuals is not equal across the regression line. This can distort the results and weaken the analysis (Osborne & Waters, 2002). It is the systematic change in the spread of the residuals over the entire range of measured variables. In the panel data, the standard error component term assumes disturbances have homoscedastic variance with constant serial correlation through the random separate effects. This study used the Breusch-Pagan test to check for heteroscedasticity in the data. the null hypothesis is that the variances of the error terms are constant (homoscedastic). The results are as shown in table 3.

Table 3: Breusch-Pagan Heteroscedasticity Test Results

Breusch-Pagan Test	
$chi^2(1)$	0.07
Prob > chi2	0.7941
Ho: Constant variance; Reject if P-value < 0.05	

The findings presented in Table 3 indicate that the prob > Chi2 value of 0.7941 which represents significance is greater than 0.05 which indicates that the null hypothesis of constant variance is not rejected. This shows that the variances of the error terms are constant homoscedastic.

Test for multicollinearity

Multicollinearity exists when there is a strong similarity between the independent variables. The study adopted the Variance Inflation Factor to check for multicollinearity. The general decision criterion is that if VIF is greater than 10, then the coefficients in the regression model are poorly estimated due to serious multicollinearity. On the other hand, Tolerance index presence is detected if the index is closer to zero and this show multicollinearity between the regressors. The results are shown in table 4.

Table 4: Multicollinearity Test Results

Variable	VIF	1/VIF
Debt Capitalization	1.29	0.772793
Interest Obligation	1.26	0.792885
Financial Flexibility	1.06	0.947494
Debt Capitalization	1.06	0.947738
Mean VIF	1.14	

Dependent Variable: ROA

The results in Table 4 indicate absence of multicollinearity since all the variables had VIF of less than 10 with a mean of 1.14 which was also below 10. Similarly, tolerance values of each of the variables under investigation were above 0.1 implying multicollinearity was not a problem.

Stationarity test

Panel unit root tests for stationarity checks for presence of unit roots in panel data. This study adopted the Levin-Lin Chu test to check for presence of unit roots. A significant P-value of less than 0.05 was adopted to imply stationarity whereby the null hypothesis being that series/data has a unit root or is not stationary. The findings are as shown in table 5.

Table 5: Levin Lin Chu Unit Root Test

Variable	Statistic	Prob.**	Decision
Financial Flexibility	-17.3637	0.000	Stationary
Debt capitalization	-5.37007	0.000	Stationary
Debt Intensity	-7.98391	0.000	Stationary
Interest Obligation	-7.71309	0.000	Stationary
Firm Sales	-5.61041	0.000	Stationary
ROA	-10.3893	0.000	Stationary
ROE	-13.262	0.000	Stationary
Ho: The data has a unit root (Not Stationary); Reject if p-value < 0.05			

From the findings in table 5, the significance level for this test at 0.05 for each variable. Alternative hypothesis that data lacks a unit root (stationary) was chosen over the null hypothesis because all of the variables used in the study had P-values below 0.05.

Correlation Analysis for ROA

The results for the correlation between the independent variables and ROA are presented in Table 6.

Table 6: Correlation Matrix for ROA

Variable		ROA	Debt Intensity	Financial Flexibility	Interest Obligation	Debt Capitalization
ROA		1				
Debt Intensity	R	0.0194	1			
	Sig.	0.7617				
Financial flexibility	R	0.0536	0.0064	1		
	Sig.	0.401	0.9204			
Interest Obligation	R	0.0147	-0.133	0.0868	1	
	Sig.	0.8184	0.0363	0.173		
Debt Capitalization	R	0.4311	-0.1118	-0.1684	-0.4108	1
	Sig.	0.000	0.0789	0.0079	0.000	

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

The results as presented in table 6. The first objective reviewed debt Intensity. The results indicated that debt intensity and ROA association was insignificantly positive (r = 0.0194; Sig=0.7617 > 0.05). This implies increased debt intensity, positively but insignificantly affects the ROA (firm results).

The second objective sought to establish the effect of financial flexibility with findings indicating that financial flexibility is weak positively and insignificantly associated with the ROA (r = 0.0536; Sig=0.401 > 0.05).

The third aim pursued association of interest obligation with results indicating that interest obligation is weak positively and insignificantly associated with the ROA (r = 0.0147; Sig=0.8184>0.05).

The fourth intention sought find debt capitalization association with results indicating that debt capitalization is positive significantly associated with the ROA(r = 0.4311; Sig=0.000 <0.05). This implies that debt capitalization increase would significantly increase corporates' ROA.

Correlation Analysis for ROE

The results for the correlation between the independent variables and ROE are also presented in Table 7.

Table 7: Correlation Matrix for ROE

		ROE	Debt Intensity	Financial Flexibility	Interest Obligation	Debt Capitalization
ROE		1				
Debt intensity	r	0.0595	1			
	sig.	0.3507				
Financial flexibility	r	0.3265	0.0064	1		
	sig.	0.000	0.9204			
Interest Obligation	r	0.1399	-0.133	0.0868	1	
	sig.	0.0276	0.0363	0.173		
Debt capitalization	r	0.011	-0.1118	-0.1684	-0.4108	1
	sig.	0.8629	0.0789	0.0079	0.000	

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

From the results in table 7, The first objective reviewed debt Intensity. The results indicated that debt intensity and ROE were weak, positively and insignificantly associated (r = 0.0595; Sig=0.3507 > 0.05).

The second objective sought to establish the effect of financial flexibility with findings indicating that financial flexibility's positive significantly association with the ROE (r = 0.3265; Sig=0.000 < 0.05). In this regard, rising financial flexibility significantly increases ROE. By taking more debt, financial performance be positively affected as returns on equity would increase.

The third aim pursued association of interest obligation with results indicating that interest obligation is weak positive significantly associated to ROE (r = 0.1399; Sig=0.0276<0.05). Accordingly, an increase in interest obligation would significantly increase the ROE.
The fourth objective sought to find debt capitalization association with results indicating that debt capitalization is weak, positively and insignificantly associated with the ROE(r = 0.011; Sig=0.8629 >0.05). This implies that an increase in the debt capitalization insignificantly raises the ROE of non-financial corporates listed on NSE.

Regression Results for ROA

A random effect model to establish the effect of financial leverage on ROA of non-financial firms listed on NSE was estimated and the results are as presented in table 8 using robust standard errors.

Table 8: Regression Results for ROA

	Coefficient	Robust Std. Err	z.	P>|z|
Debt Intensity	.0349267	0.014948	2.34	0.019
Financial flexibility	.0465293	0.086172	0.54	0.589
Interest Obligation	.2531891	0.105221	2.41	0.016
Debt Capitalization	.7337339	0.096651	7.59	0.000
constant	-.1155446	0.076126	-1.52	0.129
R-Square	0.2284			
Wald Chi 2 (4)	60.71			
Prob > Chi2	0.000			

Source: Study data 2020

From study's results with regard to R-Square value of 0.2284, it can be concluded that financial leverage proxied by debt intensity, financial flexibility, interest obligation and debt capitalization explains up to 22.84% of the variation in ROA. A Prob > Chi2 value of 0.000<0.05 signifies model significance implying the model is suitable in predicting the relationship between financial leverage and ROA.

The first hypothesis posited debt intensity has a significant effect on firm performance. Results indicated debt intensity had significant influence on ROA (P>|z|=0.019<0.05). The study rejects null hypothesis. This is consistent to Rehman (2013) who revealed a debt intensity significantly improved ROA of listed sugar companies in Pakistan. Gweyi &

Karanja (2014) however reported that debt intensity had weak positive insignificant effect on ROA of deposit taking saccos.

The second hypothesis opined that financial flexibility has an insignificant effect on firm performance. Results indicated financial flexibility has no significant influence on ROA (P>|z|=0.589>0.05). Study failed to reject the null hypothesis. This is inconsistent with Enekwe, Eziedo, and Agu (2014) who concluded that financial flexibility has a negative significant influence on ROA. Similarly, Hasan (2014) found financial flexibility had significant effect on ROA.

The third hypothesis posited interest obligation had significant effect on firm performance. Results indicated that interest obligation has a significant effect on ROA (P>|z|=0.016<0.05). Study rejects the null hypothesis inconsistently with Enekwe, Eziedo, and Agu (2014) who concluded that interest obligation has a positive insignificant effect on ROA.

The fourth hypothesis opined debt capitalization's significant influence on firm performance. Results indicated debt capitalization's significant effect on ROA (P>|z|=0.000<0.05). Study rejects the null hypothesis consistent to Mule & Mukras (2015) who found debt capitalization had significant effect on ROA. Similarly, Hasan (2014) opined that debt capitalization had significant effect on ROA.

Regression Results for ROE

A second random effect model to establish the effect of financial leverage on ROE of non-financial firms listed on NSE was also estimated using robust standard errors and the results are as presented in table 9.

Table 9: Regression Results for ROE

	Coefficient	Robust Std. Err	z.	P>|z|
Debt intensity	0.902	0.388	2.33	0.020
Financial flexibility	0.5499277	0.242974	2.26	0.024
Interest Obligation	.2531891	0.105221	2.41	0.016
Debt Capitalization	0.5649624	0.3446526	1.64	0.101
Constant	1.217743	0.2468032	4.93	0.000
R-Square	0.113			
Wald Chi 2 (4)	11.92			
Prob > Chi2	0.007			

Source: Study data 2020

From table 9, R-Square value is 0.113 which shows that debt intensity, financial flexibility, interest obligation and debt capitalization explains up to 11.3% of the variation in ROE. A significant Prob > Chi2 value of 0.007 implies the model is suitable in predicting the relationship between financial leverage and ROE.

The first hypothesis posited debt intensity had positive significant influence on firm performance. Results indicated debt intensity's significant effect on ROE (P>|z|=0.02<0.05).

Study rejects null hypothesis supporting Gweyi & Karanja (2014) finding of positive significant effect of debt intensity on ROE of deposit taking Saccos. This is inconsistent to Rehman (2013) who revealed debt intensity had negative significant influence on ROE sugar companies in Pakistan.

The second hypothesis opined financial flexibility had significant effect on firm performance. Results show financial flexibility's significant effect on ROE (P>|z|=0.024<0.05). Study rejects null hypothesis consistent to Hasan (2014) who revealed financial flexibility had significant effect on ROE

Third hypothesis posited interest obligation has a significant effect on firm performance. Results indicated interest obligation had significant effect on ROE (P>|z|=0.016<0.16). Study rejects null hypothesis.

Fourth hypothesis opined debt capitalization has no significant influence on firm. Results indicated debt capitalization has no significant influence on ROE (P>|z|=0.101>0.05). Study failed to reject the null hypothesis inconsistent to Mule & Mukras (2015) who found debt capitalization had significant effect on ROE.

Moderating Effect of Firm Size on the relationship between financial leverage and ROA

The independent variables were interacted by the moderating variable (firm size) to obtain an interacting variable and then regressed in a random effect robust standard error model to determine whether firm size proxied by sales moderated the relationship between financial leverage and ROA of non-financial firms listed on NSE. Moderation exists if the beta coefficients of the interacting terms are significant (< 0.05). Table 10 presents the results.

Table 10: Moderating Effect of Firm Size for ROA

	Coefficients	Std. Err.	z	P>z
Debt Intensity	0.024028	0.015364	1.56	0.118
Financial flexibility	0.023289	0.094041	0.25	0.804
Interest obligation	0.237366	0.107202	2.21	0.027
Debt Capitalization	0.75501	0.110498	6.83	0.000
Firm size	-7.9E-10	6.8E-09	-0.11	0.908
Debt intensity*firm size	1.3E-08	4.7E-09	2.86	0.004
Financial flexibility*firm size	7.3E-10	1.3E-08	0.06	0.954
Interest obligation*firm size	-9.4E-10	8.1E-09	-0.12	0.907
Debt capitalization*firm size	-7.6E-09	2.0E-08	-0.39	0.699
_cons	-0.11303	0.080473	-1.4	0.16
R-Square	0.2879			
Wald Chi 2 (9)	74.02			
Prob > Chi2	0.0000			

Source: Study data 2020

After interaction with firm size, the R-Square results show that the variation of ROA explained by financial leverage improves to 28.79% from 22.84% implying that firm size explains ROA of. Results further showed only the interaction of debt intensity with firm size was significant (P-value < 0.04) implying firm size moderates association betwixt debt

intensity and ROA. By seizing the opportunity presented through economies of scale, large non-financial firms can borrow more to boost their operations using the assets they have thereby generating more income when compared to smaller firms. However, insignificant p-values after moderating with firm size for the other variables implies that firm size doesn't impact the effect of financial flexibility, interest obligation or debt capitalization on ROA.

Moderating Effect of Firm Size on the relationship between financial leverage and ROE

The study further interacted the moderating variable with independent variables to obtain an interacting variable and then regressed in a random effect robust standard error model to determine whether firm size moderated the relationship between financial leverage and ROE. Table 11 presents the results.

Table 11: Moderating Effect of Firm Size for ROE

	Coefficients	Std Err.	z	P>z
Debt intensity	-0.06012	0.040608	-1.48	0.139
Financial flexibility	-0.34442	0.262365	-1.31	0.189
Interest obligation	0.528136	0.350279	1.51	0.132
Debt capitalization	0.352308	0.31071	1.13	0.257
Firm size	1.63E-09	1.83E-08	0.09	0.929
Debt intensity*firm size	3.06E-08	1.28E-08	2.38	0.017
Financial flexibility*firm size	-6.42E-08	3.37E-08	-1.91	0.056
Interest obligation*firm size	5.30E-09	2.10E-08	0.25	0.801
Debt capitalization*firm size	-1.42E-07	5.22E-08	-2.72	0.007
Cons	1.146482	0.257043	4.46	0
R-Square	0.1804			
Wald Chi 2 (9)	26.48			
Prob > Chi2	0.0017			

Source: Study data 2020

After interaction with firm size, the R-Square results show that the variation of ROE explained by financial leverage improves from 11.3% to 18.04% implying that firm size explains ROE. Results further showed interaction coefficients of debt intensity, financial flexibility and debt capitalization with firm size were significant implying firm size moderates association betwixt debt intensity, financial flexibility and debt capitalization and ROE.

Conclusions

First, study found debt intensity had a favorable and significant impact on non-financial enterprises listed on the NSE's ROA and ROE. Resultantly, the debt intensity has favorable significant hold on the firm performance of non-financial companies. Secondly, study finds financial flexibility having beneficial impact on firm performance even though insignificant on ROA. As a result, increasing the financial flexibility will improve the firm performance of Nairobi bourse non-financial enterprises.

The study also found interest obligation has favorable and significant sway on ROA and ROE. As a result, the interest obligation has a favorable and considerable impact on the firm

performance of Nairobi bourse non-financial companies. Furthermore, study finds that, while debt capitalization has a large impact on ROA but is inconsequential in terms of ROE, it has a beneficial impact on the firm performance of non-financial enterprises. Finally, the study finds that theconcludes association between debt intensity, financial flexibility, and debt capitalization and firm performance of non-financial enterprises at Nairobi bourse is moderated by firm size. Large non-financial enterprises on Nairobi bourse can boost performance by borrowing more to expand their operations and generate more revenue than smaller firms by taking advantage of economies of scale.

Recommendations

The study's findings revealed that financial flexibility, debt intensity, interest obligation, debt capitalization (financial leverage), and firm performance of non-financial enterprises listed on the NSE have positive link; more financial leverage has a favorable impact on a company's firm performance, which means that as non-financial companies use more financial leverage, their performance improves. The research advises that management of non-financial companies on Nairobi bourse maintain a balance between debt and equity financing, based on the findings that an increase in debt intensity will result in an increase in firm performance. To increase the debt intensity, companies should reduce their reliance on stock financing.

The findings further indicated firm size having moderating effect on association betwixt financial leverage and firm performance. Supported by the results Capital Markets Authority should rely on the findings of this study when developing guidelines on debt levels of listed firms. This will ensure there are set regulatory requirements that will guide firms in the management of their debt levels which can significantly drive their performance.

Similarly, an increase in interest obligation improves firm performance, the findings suggests that, until the cost of capital does not exceed actual return, it is preferable to use debt. Government policy makers should develop policies around tax incentives, stability of interest rates, check levels of inflation, and improve credit ratings so that firms are able to raise debt capital at minimum cost which improves firm performance.

REFERENCES

Abdeljawad, I., Mat-Nor, F., Ibrahimi, I., & Abdul-Rahim, R. (2013). Dynamic Capital Structure Trade-off Theory: Evidence from Malaysia. *International Review of Business Research Papers*, *9*(6), 102–110.

Abubakar, A. (2015). Relationship between Financial Leverage and Financial Performance of Deposit Money Banks in Nigeria. *International Journal of Economics, Commerce and Management*, 3(10), 759 – 778

Aburub, N. (2012). Capital Structure and Firm Performance: Evidence from Palestine Stock Exchange. *Journal of Money, Investment and Banking*, 23, 109-117.

Al-Taani, K. (2013). The Relationship between Capital Structure and Firm Performance: Evidence from Jordan. *Journal of Finance and Accounting*, 1 (3), 41- 45.

Al-Tally, H. A. (2014). An investigation of the effect of financial leverage on firm financial performance in Saudi Arabia's public listed companies. Victoria University.

Apondi, O. D. (2015). Ownership Structure and Performance of Non-Financial Institutions Listed in The Nairobi Securities Exchange. *University of Nairobi*.

Aziidah, N. (2017). The Effect of Financial Leverage on The Financial Performance of Kenyan Energy and Petroleum Firms Listed On The NSE. United States International University-Africa.

Banafa, A. S. A. (2016). The effect of leverage, liquidity, and firm size on financial Performance of listed non-financial firms in Kenya. Nairobi, Kenya: COHRED, Business administration, JKUAT. Retrieved from http://41.204.187.24:8080/handle/123456789/2219

Berger, A., & Bonaccorsidipatti, E. (2006). Capital structure and firm performance.

Bhutta, N. T., and Hasan, A., (2013). Impact of Firm Specific Factors on Profitability of Firms in Food Sector. *Open Journal of Accounting* 1(2), 19-25.

Boudry, W, Kallberg, J & Liu, C. (2010). An analysis of REIT security issuance decisions. *Real Estate Economic*, 38 (1), 91–120.

Chadha, S., & Sharma, A. K. (2015). Capital Structure and Firm Performance: Empirical Evidence from India. Vision: *The Journal of Business Perspective*, 19(4), 295–302. https://doi.org/10.1177/0972262915610852

Chebii, E. K, Kipchumba, S. K. & Wasike, E. (2011). Relationship between Firm's Capital Structure and Dividend Payout Ratios: Companies Listed at Nairobi Stock Exchange (NSE). *In Proceedings of 2011 Kabarak University 1 St Annual International Research Conference (Vol.30, No.3, p.327).*

Chen, D. H., Chen, C. D., Chen, J., & Huang, Y. F. (2013). Panel data analyses of the pecking order theory and the market timing theory of capital structure in Taiwan. *International Review of Economics & Finance*, *27*, 1–13. https://doi.org/https://doi.org/10.1016/j.iref.2012.09.011

Cheng, H. G., & Phillips, M. R. (2014). Secondary analysis of existing data: opportunities and implementation. *Shanghai Archives of Psychiatry*, 26(6), 371–375. http://doi.org/10.11919/j.issn.1002-0829.214171

Chesang, D. (2017). Effect of Financial Leverage on Profitability of Listed Agricultural Firms at the Nairobi Securities Exchange. *Masters Project, Kenya Methodist University*

Chmelarova, V. (2007). The Hausman Test, and Some Alternatives, with Heteroskedastic Data. Louisiana State University and Agricultural & Mechanical College, 2007. Retrieved from (http://etd.lsu.edu/docs/available/etd-01242007-165928/unrestricted/Chmelarova_dis.pdf).

Capital Markets Authority (2018). Study on the low uptake of capital markets products in Kenya.

De Vos, A.S., Strydom, H., Fouche, C.B., & Delport, C.S.L. (2005). Research at Grass roots: For the social sciences and human service professions. Pretoria: Van Schaik Publishers.

Dickey, D. A., & Fuller, W. A. (1979). Distribution of the estimators for autoregressive time series with a unit root. *Journal of the American statistical association*, 74(366a), 427-431.

Donaldson, G (1961). Corporate debt capacity: A study of corporate debt capacity, Division of Research, Harvard School of Business Administration, Boston.

Donaldson, T., & Preston, L. (1995). The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications. *The Academy of Management Review, 20*(1), 65-91. Retrieved from http://www.jstor.org/stable/258887

Freeman, R., Harrison, J., & Zyglidopoulos, S. (2018). *Stakeholder Theory: Concepts and Strategies* (Elements in Organization Theory). Cambridge: Cambridge University Press. doi:10.1017/9781108539500

Economic & Macro Pillar | Kenya Vision 2030. (2018). Retrieved from https://vision2030.go.ke/economic-pillar/

Enekwe, C. I., Agu, C. I., & Eziedo, K. N. (2014). The effect of financial leverage on financial performance: evidence of quoted pharmaceutical companies in Nigeria. *IOSR Journal of Economics and Finance*, *5*(3), 17–25.

Ethical Considerations - Center for Innovation in Research and Teaching. (2019). Retrieved from https://cirt.gcu.edu/research/developmentresources/tutorials/ethics

Fairchild, A. J., & Mackinnon, D. (2009). A general model for testing mediation and moderation effects. Prevention Science, 10(2), 87-99. https://doi.org/10.1007/s11121-008-0109-6

Fama, E. F., & French, K. R. (2000). Forecasting profitability and earnings. *The Journal of Business*, *73*(2), 161–175.

Ghazouani, T. (2013). The Capital Structure Through The Trade-Off Theory: Evidence From Tunisian Firm. *International Journal Of Economics And Financial Issues*, *3*(3).

Goldfeld, S. M., & Quandt, R. E. (1965). Some tests for homoscedasticity. *Journal of the American Statistical Association*, *60*(310), 539–547.

Green, H. (2008). Econometric Analysis (6th Ed). Upper Saddle River, N. J. Prentice Hall.

Gweyi, M. O., & Karanja, J. (2014). Effect of financial leverage on financial performance of deposit taking savings and credit co-operative in Kenya. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *4*(2), 180–188.

Hampton, J. J. (2003). Financial decision making: Concepts, problems and cases (4th ed.). New Delhi: Prentice Hall of India.

Harris, M., & Raviv, A. (1991). The theory of capital structure. *The Journal of Finance*, *46*(1), 297–355.

Hasan, M., Ahsan, A., Rahaman, M., & Alam, M. (2014). Influence of Capital Structure on Firm Performance: Evidence from Bangladesh. *International Journal of Business and Management*, *9*(5). doi: 10.5539/ijbm.v9n5p184

Hausman, J. A. 1978. Specification tests in econometrics. Econometrica 46: 1251–1271.

Himmelberg C.P., Hubbard R.G. and Palia D. (1999). Understanding the determinants of managerial ownership and the link between ownership and performance. *Journal of Financial Economics,* vol. 53, pp. 353–384.

Iavorskyi, M. (2013). The Impact of Capital Structure on Firm Performance: Evidence from Ukraine (Unpublished Master Thesis), Kyiv School of Economics.

Ilyukhin, E. (2015). The impact of financial leverage on firm performance: Evidence from Russia. *Корпоративные Финансы*, 2(34)

Imad Z. R. (2013). Debt-Performance Relation. Evidence from Jordan, *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 3(1), 323–331

Iqbal, S. M. J., Muneer, S., Jahanzeb, A., & Rehman, S. U. (2012). A Critical Review of Capital Structure Theories. *Information Management and Business Review*, *4*(11), 553–557.

Irungu, A. M., Muturi, W., Nasieku, T. & Ngumi, P. M. (2018): Effect of Leverage on Financial Performance of Listed Firms in the Nairobi Securities Exchange. *Journal of Finance & Accounting,* 2(3), 35-54.

Jahanzeb, A., Bajuri, N. H., Karami, M., Rehman, S.-U., & Ahmadimousaabad, A. (2013). Trade-Off Theory , Pecking Order Theory and Market Timing Theory : A Comprehensive Review of Capital Structure Theories. *International Journal of Management and Commerce Innovations*, *1*(1), 11–18.

Javed, Z. H., Rao, H. H., Akram, B., & Nazir, M. F. (2015). Effect of financial leverage on performance of the firms: Empirical evidence from Pakistan. *SPOUDAI-Journal of Economics and Business*, *65*(1–2), 87–95.

Jayati S. and Sarkar S. (2000). Large shareholder activism in corporate governance in developing countries: evidence from India. *International Review of Finance*, 1(3), 161–194.

Jensen, M. (1986). Agency Costs of Free Cash Flow, Corporate Finance and Takeovers. *American Economic Review*, 76 (2), 323- 329.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305–360.

Jensen, M. C., & Ruback, R. S. (1983). The market for corporate control: The scientific evidence. *Journal of Financial Economics*, *11*(1–4), 5–50.

Kale, A. A. (2014). The impact of financial leverage on firm performance: the case of non-financial firms in Kenya. *Research Project. University of Nairobi*.

Khan, A. G. (2012). The relationship of capital structure decisions with firm performance: A study of the engineering sector of Pakistan, *International Journal of Accounting and Financial Reporting*, 2(1) 245- 262.

Kim, E. H. (1978). 'A mean-variance theory of optimal capital structure and corporate debt capacity', *The Journal of Finance*, 33(1), 45–63.

Kunga, L. K. (2015). The Relationship between Financial Leverage and Profitability of Firms Listed at the Nairobi Securities Exchange, *Unpublished MSC thesis, University of Nairobi*

Lee, N. & Lings, I. (2008). Doing Business Research: A Guide to Theory and Practice. SAGE Publications.

Levin, A. and Lin, C. F. (1992). `Unit Root Test in Panel Data: Asymptotic and Finite Sample Properties', University of California at San Diego, Discussion Paper No. 92-93.

Liu, M. (2010). *The Hausman test in dynamic panel model* (Master thesis in Statistics). Uppsala University, Sweden.

Maina, L. & Kondongo, O. (2013). Capital Structure and Financial performance in Kenya: Evidence from Firms Listed at the Nairobi Securities Exchange. Paper presented at the Jomo Kenyatta University of Science and Technology, SHRD Research Conference, Kenya, pp 238-246

Maina, L., & Ishmail, M. (2014). Capital structure and financial performance in Kenya: Evidence from firms listed at the Nairobi Securities Exchange. *International Journal of Social Sciences and Entrepreneurship*, 1(11), 209–223.

Maniagi, G., Mwalati, S., Ondiek, B. A., Musiega, D., & Ruto, R. (2013). Capital structure and performance: Evidence from listed non-financial firms on Nairobi Securities Exchange (NSE) Kenya. *International Journal for Management Science and Technology (IJMST)*, 1(2).

Mansor, F., Bhatti, M. I., & Khan, H. (2012). Islamic mutual funds' performance: A panel analysis. In *Proceeding of the second Malaysian postgraduate conference*. Queensland, Australia: Bonds University.

Marete, D. (2015). The relationship between firm size and financial leverage of firms listed at Nairobi securities exchange. *The Degree of Master of Business Administration, School of Business. University of Nairobi*

Mburu, E. W. (2018). Determinants of financial distress of non-financial firms listed at the Nairobi Securities Exchange. *MSC project, University of Nairobi*

Modigliani, F. and Miller, M. (1958), "The cost of capital, corporate finance and the theory of investment", *American Economic Review*, 48, 61-97.

Mohamed, A. H. (2017). The effect of financial leverage on performance of manufacturing and allied firms listed at the Nairobi Securities Exchange. *Unpublished MSC project, University of Nairobi*

Moons, K. (2019). Diagnostic studies as multivariable, prediction research.

Mugenda, O. M. & Mugenda, A. G. (2003). Research methods: Quantitative and qualitative Approaches. Nairobi: African Centre for Technology Studies.

Mukaria, H. K., Mugenda, N. G., Akenga, G. M, (2015) Effect of Leverage on Performance of Non-financial Firms Listed at the Nairobi Securities Exchange. *Journal of Finance and Accounting*. 3(5), 132-139. doi: 10.11648/j.jfa.20150305.14

Mule, R. K., & Mukras, M. S. (2015). Financial leverage and performance of listed firms in a frontier market: Panel evidence from Kenya. *European Scientific Journal, ESJ*, *11*(7).

Muritala, T. A. (2013). An Empirical Analysis of Capital Structure on Firm Performance in Nigeria. *International Journal of Advances in Management and Economics*. Available online at www.managementjournal.info, 116–124.

Musau, S. M. (2018). Financial Inclusion and Stability of Commercial Banks in Kenya, *Doctor of Philosophy thesis, Kenyatta University.*

Mwangi, L. W., Muathe, S.K., and Kosimbei, G. (2014). Relationship between Capital Structure and Performance of Non-Financial Companies Listed in the Nairobi Securities Exchange, Kenya. *Global Journal of Contemporary Research in Accounting, Auditing and Business Ethics*, 1(2). 72-90.

Nairobi Securities Exchange - NSE Kenya. (2018). Retrieved from https://www.nse.co.ke

Ogebe, P., Ogebe, J., & Alewi, K. (2013). The Impact of Capital Structure on Firms' Performance in Nigeria. Munich Personal RePEc Archive (MPRA). Retrieved from http://mpra.ub.unimuenchen.de/46173/MPRA Paper No. 46173.

Oketch, J., Namusonge, G., & Sakwa, M. (2018). Effect of Financial Leverage on Performance of Listed Commercial Banks in Kenya. *International Journal of Social Sciences and Information Technology,* 4(2)

Olang'. M. (2017). Effect of Financial Leverage on Profitability of Firms Listed in the Nairobi Securities Exchange. *International Journal of Science and Research (IJSR)* 6(7)

Onaolapo, A.A., & Kajola, S.O. (2010). Capital Structure and Firm Performance: Evidence from Nigeria. *European Journal of Economics, Finance and Administrative Sciences*, 25, 70- 82.

Osborne J.W, Waters, E. (2002). Four assumptions of multiple regression that researchers should always test. Practical Assessment, Research and Evaluation 8.

Otieno, A. K. (2013). Capital structure of listed firms in Kenya: the case of non-financial firms. *Unpublished MBA Thesis-Arts in Economics, University of Nairobi*.

Öztuna, D., Elhan, A. H., Tüccar, E. (2006) Investigation of Four Different Normality Tests in Terms of Type 1 Error Rate and Power under Different Distributions. *Turkish Journal of Medical Sciences*, 36 (3): 171-176

Pandey, I. M. (2010). Financial Management (10th ed.). New Delhi, India: Vikas Publishing House PVT Ltd.

Paul, K. R. (2005). Multicollinearity: Causes, effects and remedies. Retrieved March 25, 2019, From http://ebookbrowse.com/ebooks-2005-2006-msc-trim2-3-multicollinearity-causeseffects-and-remedies-ranjit-pdf-d119034339

Poole, M. A., & O'Farrell, P. N. (1970). The assumptions of the linear regression model

Raza, M. W. (2013). Effect of financial leverage on firm performance. Empirical evidence from Karachi Stock Exchange.

Ross, L. (1977). The Intuitive Psychologist and His Shortcomings: Distortions in the Attribution Process1. In *Advances in experimental social psychology*, 10, 173–220

Scott, J. H., (1976). 'A theory of optimal capital structure', *Bell Journal of Economics and Management Science*, 7(1), 33–54.

Sengupta, K., & Dasgupta, S. (2003). Financial constraints, hurdle rates, and economic activity: implications from a multi-period model.

Shibanda, G., & Okaka, D. (2015). Financial Leverage and Performance of Non-Financial Companies in Nairobi Securities Exchange in Kenya. *Journal of Business and Management,* 17(8), 27-34

Shimenga, M. A., & Miroga, J. (2019). Influence of financial leverage and liquidity on financial performance of manufacturing firms listed at the Nairobi Securities Exchange. *The Strategic Journal of Business & Change Management*, 6 (2), 799 – 814.

Sunday, C. (2008). "The Role of Theory in Research", Division for Postgraduate Studies (DPGS) Post-graduate Enrolment and Throughput Program, University of the Western-Cape

Ur Rehman, S. S. F. (2013). Relationship between Financial Leverage and Financial Performance: Empirical Evidence of Listed Sugar Companies of Pakistan. *Global Journal of Management and Business Research Finance*, 13(8), 33–40. Retrieved from http://journalofbusiness.org/index.php/GJMBR/article/viewFile/1081/992

Velnampy, T., & Niresh, J. A. (2012). The Relationship between Capital Structure and Profitability. *Global Journal of Management and Business Research*, 12 (13), 67- 73.

Youn-Min Chou, Alan M. Polansky & Robert L. Mason (1998) Transforming Non-Normal

Data to Normality in Statistical Process Control, *Journal of Quality Technology*, 30:2, 133-141, DOI: 10.1080/00224065.1998.11979832

Zikmund, W.G. (2003) Business Research Methods. 7th Edition, Thomson/ South-Western.