



UNIVERSITY OF NAIROBI

EFFECT OF FINANCIAL LEVERAGE ON PROFIT GROWTH OF NON-FINANCIAL FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

BY
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DECLARATION

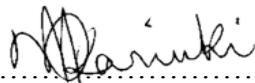
I declare that this research proposal is my original work and has not been submitted for examination in any other university or institution of higher learning.

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ABBREVIATIONS AND ACRONYMS

NSE	Nairobi Securities Exchange
CMA	Capital Markets Authority
ROA	Return on Assets
ROE	Return on Equity
EBIT	Earnings Before Interest and Tax
LTD	Long Term Debt
WACC	Weighted Average Cost of Capital
SMEs	Small and Medium Enterprises
BOD	Board of Directors
SPSS	Statistical Package for Social Sciences
ANOVA	Analysis of Variance
OLS	Ordinary Least Squares

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Leverage in financing policies is the extent to where an entity adopts debt to fund its assets (Rehman, 2013). As businesses expand, their requirement for capital increases and the capacity of the company to finance its investment projects or internal operations may make it cumbersome to rely on equity alone to enhance growth opportunities (Ndubuisi, Juliet, & Onyema, 2019). The competitive nature of the business environment necessitates growth in a company's assets with an aim of increasing economic returns. Andersson and Minnema (2018) argue that profitability is a central aspect in determining the performance of firms; an adequate level of profitability is vital for a company's survival and success. The unpredictable business environment necessitate research on financial leverage to aid in making plausible recommendations on optimal financial leverage.

To understand the theoretical underpinning of the link between the variables in this study, Trade-off Theory, Market Timing Theory, and Agency Theory were used. These theories have conceptual propositions that will facilitate understanding and reaching valid conclusions regarding financial leverage and profit growth. Trade off Theory assumes the inconsequentiality of financing decisions in capital markets with no arbitrage opportunities. It states that operations existing among firms' tax and distress expenditures of debt form the foundation of its capital structure. Such practicability is in explaining the process of establishing the most optimal debt-to-equity ratio and an efficient model for external financing. Market Timing Theory sets the premise of how companies and corporations make investment decisions with regard to whether to use debt or equity models. The responsibility entirely falls on the management to ensure that the most viable initiatives are taken to affirm the performance of a company in a defined economy. It is through this model that an informative overview of how the leverage of a firm affects its profit growth in a specified period. Agency Theory is concerned with the costs associated with the injudiciousness of information shared between the shareholders and their agents, company executives.

The firms in which an individual invests in is determined by the ease of wealth maximization, which in most cases is an overarching aim for investors (Ahmad, Abdullah, and Roslan, 2012). Firms that are not based on financial structures at the stock exchange market in Nairobi are chosen to ascertain the link between financial leverage and profit growth. Although there are

other studies conducted on leverage and profit at the NSE, emphasis has not been laid on profit growth. This paper intends to extend research in this area and provide current information that would be vital to multiple stakeholders on non-financial companies trading their shares at the NSE. The use of non-financial firms together with different theories and concepts, facilitates provision of information on the different areas of self-interest and relationships in a firm, and this contextualizes the designing of governance and control practices for the company in question.

1.1.1 Financial Leverage

Murphy (1968) defined leverage as the proportion of long-term capital represented by the long-term debt. This also relates to the sum of debt used to fund a company's developments (Tempel, 2011). Khan and Jain (2007) posit that leverage emanates from fixed financial costs in a company's earnings. However, these fixed costs do not respond to changes in earnings before interest and taxes (EBIT) or operating profits. Favorable leverage arises when an organization gets higher returns on the assets funded by debt than the fixed charges arising from their usage (Weston and Brigham, 1981). A leverage on finances include both debt and equity within a structure that is established on a firm's capital so that asset acquisition is expected to harness returns that outweigh the fixed costs (interest) payments.

Rehman (2013) proposes the use of financial ratios, in which debt to equity ratio is used. Bei and Wijewardana (2012) argue that there are multiple measures of financial leverage depending on the objective of the analysis. The measurement of financial leverage comprises a ratio of assets and liabilities in totality. Additionally, the comparison is an indicator of what would be left to shareholders in case of liquidation. Murphy (1968) measured leverage as the ratio of long-term debt to total long-term capital. Hamouri, Al-Rdaydeh, and Ghazalat (2018) also adopted total liabilities to total assets ratio as was the case in previous studies such as Anton (2016) and Avarmaa (2011). Some other studies have used book and market values of debt and equity to determine financial leverage (Vengesai & Kwenda, 2017).

1.1.2 Profit Growth

Profit is an integral determinant of a firm's financial performance as it informs the financial statement users about allocation of resources in an efficient manner and answers the most basic questions regarding the economic existence of a business (Pandey, 1994). Profit growth is

considered as an integral overall business growth pointer. Indeed, profit is the amount of money that a firm makes after deducting expenses. Profit growth is measured by a percent-change formula to show the growth of profit from one period to another (Morgan et al, 2009). Profit growth is a concern for both investors and firm executives as it is a primary driver of a firm's stock price (Andersson & Minnema, 2018).

There is no universal formula for explaining the reasons for variability in company profits though the significance of profitability and its drivers have prompted research to offer insights in this area (Andersson & Minnema, 2018). Studies by Baker (1973) and Dewenter and Malatesta (2001) infer that profitability of companies vary based on industry, firm characteristics, as to whether the firms are privately or publicly owned. Profitability has been measured using a variety of monetary parameters such as return on assets (ROA), return on equity (ROE), and EBIT to total assets (Le & Phan, 2017; Shah, 2012; Margaritas & Psillaki, 2010). Brealey et al. (2013) posits that among the factors that aid in explaining how maximum or optimum profitability can be achieved is the choice of the firm's capital structure; and leverage is an imperative measure of capital structure.

1.1.3 Financial Leverage on Profit Growth

Baker (1973) investigated the link amid financial leverage and industry profitability and noted a negative relationship between the two variables. The authors argue that the causal relationship between profitability and leverage may run in both directions; profitability may affect leverage and leverage may affect profitability. Moyer, McGuigan, and Rao (2017) state that companies use financial leverage to expand shareholders' wealth. However, wealth is augmented at increased risk since the choice of debt and equity mix that maximizes profitability is an indeterminate concept on which studies conducted have yielded multifaceted findings.

According to Modigliani and Miller (1958), the valuation of a company is irrelevant to its capital structure given a perfect capital market. They posit that leverage merely serves to apportion cash flows amid debt and equity without affecting the total cash flows to the business. However, this assertion is contestable, hence the varying conclusions about leverage and profitability, since real markets are not perfect. Jensen and Meckling (1976) asserted that conflicts of interest between management, debtholders, and stockholders could result in management investing in less profitable ventures. To curb the conflict of interest, the agency

theory proposes adoption of debt in the capital structure to ensure that interest payments reduce cash available to managers for personal benefit rather than for the investors.

1.1.4 Non-Financial Firms Listed at the Nairobi Securities Exchange

Non-financial firms are companies other than banking and insurance firms. These firms operate in sectors such as Agriculture, investments, petroleum, and other economic sectors. As a pioneer African stock exchange in Kenya, the Nairobi Securities exchange (NSE) has, over the years, undergone immense developments and transformation to promote investments and savings. The NSE allows firms from diverse economic sectors or industries to list their shares on the platform. The NSE has 49 non-financial firms listed on its platform while 16 are banking and insurance firms (NSE, 2019). The NSE has undergone multiple technological and governance changes since its inception; offering debt, equity, and derivatives financial instruments for investors. Different companies, both foreign and local, can list their shares on the platform to promote capital formation and ensure there is a methodical and organized market for financial instruments traded.

Listed firms are companies whose shares are scrutinized by the NSE under the guidance and regulation of CMA, to ensure that information provided regarding their shares is accurate and reliable. The role of the NSE is to act as a neutral platform where investors can get information to facilitate decision-making on where to invest. The non-financial firms encompass about 75% of the total listed companies at the NSE, implying that they form a huge proportion of shares traded on the NSE (NSE, 2019). This aspect informed the choice of non-financial firms for this study.

1.2 Research Problem

Information on financial leverage is vital to multiple stakeholders; with investors using the information on the link between leverage and profit growth to map out their investment plans. Use of financial leverage, besides being beneficial, exposes organizations to financial risk; the supplementary changes in earnings per share arising from use of debt. The changes in financial leverage are vital in informing stakeholders regarding the potential change in earnings per share and when there are changes in the company's operating profits. At the same time, profit growth is essential for organizational expansion and maximization of the wealth of the shareholders. As companies continue with operations to generate profits, the use of debt in redefining their

capital structure is applicable. Nonetheless, the particular debt could be used for research and development, innovation, or for expansion of business processes and units. Financial leverage minimizes the weighted average cost of capital (WACC) thus resulting in augmented net economic benefits to the investors.

According to Njire (2014), several firms have been delisted from the NSE platform on the basis of experiencing diminishing financial performance and failing to adhere to established governance and control requirements for the listed firms. The knowledge on financial optimization has been cited by many scholars as the reason of such diminishing performance as most of the practitioners and managers are not fully positioned for establishing optimal financial decisions for their firms (Maina & Kondongo, 2013; Maroko, 2014; and Wainaina, 2014). It is also argued by Obonyo (2015) that some listed companies have been experiencing profitability problems and hence having little or nothing to declare in the form of earnings per share.

Existing theoretical and empirical studies provide varying conclusions on the association between financial leverage and profit growth in companies (Andersson & Minnema, 2018). Though it is undeniable that there is a relationship between these variables, the debate is on whether a positive or a contrary link existing can compare to a leverage in finances and profitability. Njire (2014) assessed the link between financial leverage on the investments of companies listed at the NSE, noting that a leverage in finance promotes entrepreneurialism and growth. On the contrary, Kimathi, Galo, and Melissa (2015) assessed the association amid financial leverage and the performance of companies at the NSE, noting a negative effect on firm's financial performance especially among exceedingly levered businesses. On the contrary, Khan (2012) and Nunes et al. (2009) found a negative link between total debt and firm's profitability. Therefore, the current research sought to answer the question below:

“Define the relationship between leverage in financing and the rise of year on year profit margins of the non-financial firms listed on NSE”.

1.3 Research Objective

The purpose of this research is to conduct a study investigating effect of financial leverage on growth of profits of firms that are non-financial in their operations listed at the NSE.

Value of the Study

The proposal significantly instructs policy makers in the financial and corporate sector as the theoretical and empirical information presented in this paper will guide on developing policies on enhancing organizational profit growth.

The findings of this study will facilitate improved management of business processes, structuring debt-equity to optimize profit growth. This aspect means that managers, financial advisors, and market analysts in the financial sector will use the scholarly evidence on the link between leverage and profit growth to manage their enterprises better.

The study will add to existing literature in academic and thus, will act as a reference for future scholarly work. This study incorporates information from diverse empirical and ethical studies, with critiques that will inform future studies.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The paper outlines the study's theoretical reviews, determinants of profit growth of non-financial firms, empirical studies, a framework, summary.

2.2 Theoretical Review

Some of the fundamental theoretical designs depicting the topic of the study by exploring their key propositions, how they expound on the current study's relationships among the variables, their practical developments, and their critiques.

2.2.1 Trade off Theory

This model was derived in 1958 by Modigliani and Miller on the assumption that financing decisions are inconsequential in capital markets with no arbitrage opportunities. The authors illustrated that a firm's market value is autonomous based on capital structure attained by maximizing the company's expected return at a more reasonable rate. It is also indicated that the expected stock yield is equivalent to the capitalization rate appropriate for a given stream of equity within a given risk category.

According to Cekrezi (2013), this proposition shows that with the increase in debt-equity ratio a firm will record an increase in its expected return on equity, and this is based on the concept that debt is risk-free. Nonetheless, the risk is increased by leverage thus more return on debt is required by the debt holders and this results to a slowed increase in the return on equity. This position of the model was expanded in 1963 by Modigliani and Miller by incorporating corporate taxes for corporate valuation. The interest tax protects the earnings against financial distress costs, which is facilitated with the aim of having a constructive target capital structure. This theory is significance in explaining the rigorous procedure determining the most optimal debt-to-equity ratio and a practical model for external financing.

2.2.2 The Agency Theory

This theoretical advancement by Jensen and Meckling (1976) explains the relationship between the owners and executives of a company. The model is concerned with the costs associated with the indiscretion of information shared between a firm's shareholders and the executives.

A practical example is the enduring loss of incentive mechanisms and representatives performance, which are motivating factors for improved financial performance. According to Mitnick (2013), the implication of this scenario is that the management and owners exhibit conflicts in interests. As a result, a disconnect in functions across the business would lead to an increase in a company's agency costs, which will have an impact on its profitability level.

Further developed by Jensen (1986), the agency model expounds on the implications of using debt in financing business operations. Debts lower accessible cash within management restraining their interests, mainly through the business decisions made and actions taken. In such case, debt is used as a controlling element by the business owners, particularly on the opportunistic behaviors of managers by reducing the available free cash flows. As a result, the decisions of investing in potentially negative projects will be prevented as the management will focus on paying off fixed interest payments. The model is relevant to this study as it helps in addressing the process of approving business decisions in response to arising business issues.

2.2.3 The Market Timing Theory

Propounded by Lucas and McDonald (1990), this model is founded around the idea that market performance defines the decision of issuing equity; considering the projection of getting maximum returns from the investment. A firm's management has a responsibility of looking at current conditions in both equity and debt markets when making business decisions. As Boudry, Kallberg and Liu (2010) argue, managers are supposed use any market that presently looks more favorable when in need of financing. Companies check equity standards, understanding roles of fresh stock. The issuance of the fresh stock in a case where a perception of overvalued stock price, and consequently buy back during undervaluation is realized. As a result, such firms record significant growth in profits.

Graham and Harvey (2001) found out that company representatives try to time the equity market as a strategy of profit growth. Important consideration in their stock-issuance decisions was the amount by which the present stock is overestimated or underestimated. According to Baker and Wurgler (2002), the equity market timing is characterized by an importunate impact on a company's capital structure. Notable changes in companies' leverage are positively related to their measure of their market timings. Capital structure and financial performance of a company, mainly through profit growth, are the collective outcome of precedent strategic decisions of timing the equity market. The model is relevant

in this study as it provides an informative overview of how a firm's leverage affects its profit growth within a given period, and this is a significant insight for consideration in the present study.

2.3 Determinants of Profit Growth

Profit growth is a blend of the economic profitability and the defined growth of business free cash flows. In this study, Long term debts to capital, cost of debt, debt to equity ratio, total debt to total asset ratio are explored.

2.3.1 Long-Term Debt to Capital Employed

The relationship is used to show the financial leverage of a company. It is determined by dividing a company's long-term debt with its capital employed. It represents the value of assets employed and can be determined by adding working capital to fixed assets or subtracting a firm's current liabilities from the total assets. Padachi (2006) suggests that with this ratio investors will be in a better position of determining financial risks that a firm has undertaken while investing in particular projects.

2.3.2 Cost of Debt

Generally, this term is used to indicate after-tax cost of debt, but it also implies the cost of debt of a firm before considering taxes paid. The only difference in such scenario is that interest expenses incurred by a business are deductible. It is established by dividing the total amount of interest paid on debts in a given period by the total amount of debts. The rationale behind cost of debt is founded on the idea of tax savings received by a firm from claiming its interest as an expense incurred by the business.

2.3.3 Debt to Equity Ratio

This is an instrumental metric used in evaluating financial leverage of a company. It is determined by dividing the total liabilities of a company by its shareholder equity. With this ratio, one will establish the percentage of firm financing acquired from investors and creditors. Therefore, a higher ratio indicates that the firm is using more creditor financing than investor financing, and the business is relatively riskier in comparison with one that has a lower debt to equity ratio. According to Khadafi, Heikal, and Ummah (2014), a business that is financially

stable is in a better position of attaining higher rates in profit growth given that its obligations of paying off its debts are relatively low.

2.3.4 Total Debt to Total Asset Ratio

This indicates financial leverage of a company by dividing a firm's total debt by total asset. A higher ratio shows that a company has a higher degree of leverage, which is an indication of a relatively higher financial risk. The significance of this ratio is that it illustrates the growth of a firm, especially how it has over time acquired its assets. It is in the interest of investors of ensuring that a firm is solvent, there is enough cash for all current obligations, and in a better position of paying a return on investments made (Barclay, Smith, & Morellec, 2006).

2.4 Empirical Literature Review

Kaumbuthu (2011) sought to investigate the connection between the capital structure of a company and its return on equity; specifically for allied industrial sectors listed at the NSE between 2004 and 2008. A descriptive research design was used and the author found out a negative correlation between firms. However, as noted by Dalbor and Upneja (2002), such results cannot be generalized as other sectors are unique in their structures and in terms of factors affecting the operation of individual firms. There is a need to conduct cross-national research to reach more concrete findings.

Maroko (2014) conducted a study with an objective of ascertaining the effect of capital structure of firms on their financial performance and the focus was on companies listed at the NSE. Secondary sources of data were used in obtaining financial statements with stratified random sampling technique applied for sampling purposes. The findings established a positively significant connection among debt interest, financial leverage, financial performance, and cost of equity. This sets a clear precedent for the present study, particularly when dealing with the element of profit growth and how it is affected by financial leverage. Further studies should entail control variables to determine whether there would be any variations in findings.

Ahmad, Abdullah, and Roslan (2012) carried out a research whose purpose identifies capital structure of companies. Two major sectors, industrial and consumer sectors, were studied in Malaysian equity market. A descriptive research design was used where a sample of 58 companies was used and financial data from 2005 to 2010 extracted for a series of regression

analysis. The study established that both the total and short-term debts are positively related with the return on assets. On the contrary, as noted by the researchers, no significant relationship was noted between short-term debts, long-term debts, and total debt with companies' financial performance. This study needs to be iterated in a different context to reach concrete findings.

Abu-Rub (2012) studied the effect of capital structure of businesses listed at Palestine Stock Exchange on their financial performance. A total of 28 businesses were sampled for the study and their financial information from 2006 to 2010 extracted for analysis. The findings showed a positively significant effect of companies' capital structure on their respective performance evaluation measures.

While attempting to corroborate Miller and Modiglian's (1963) economic theory, the Modigliani–Miller theorem, Maina and Kondongo (2013) examined the effect of a company's debt to equity ratio on its operations; specifically for companies listed at the NSE. Financial information analyzed was from 2002 to 2011 and this was found to be instrumental in attaining reliable results. The findings showed that corporations listed at the NSE depend on short-term debt for their financing needs. It was also disclosed that debt to equity ratio had statistically significant negative relationship with firms' performance. The findings supported the Modigliani–Miller theorem with an indication that capital structure of a company is positively significant with its performance.

Ahmad, Salman, and Shamsi (2015) explored on the connection between financial leverage and profitability of companies in the Pakistanis cement sector. Financial data was collected from 18 cement manufacturers within the period of 2005 to 2010, and this comprised of 108 observations. In this study, the Ordinary Least Square model was incorporated for the purpose of establishing a fundamental connection between the studied variables. It was noted that financial leverage has a statistically significant negative effect on companies' profitability. This trend was noted at 99% confidence interval. These findings were found to be consistent with the findings from preceding studies; Yoon and Jang (2005) and Wald (1999).

Sarchah and Hajiha (2013) studied the effect of business growth indicators on company's leverage ratios by investing companies listed at the Tehran Stock Exchange. The study focused on financial information of listed companies for a period of 10 years, from 2002 to 2011. Chow and Hausman tests were used in analyzing data and the findings revealed a negatively

significant effect of sales and profit growth on financial leverage ratios. At the same time, a positively significant effect was noted with asset growth on financial leverage ratios. Therefore, it was concluded that the improvement in profit growth indices results to reduced financial leverage ratios and business risk. At the same time, the increase in a firm's asset growth results to increased financial leverage ratios.

Wainaina (2014) looked at the friendship between financial leverage and performance of top 100 Small and Medium Enterprises in Kenya. In this study, a cross-sectional facet of descriptive research design was integrated with the objective of studying top 100 SMEs in Kenya. The study a sample of 30 SMEs; unsystematically identified as per the research population and financial data for a timeline of 5 years, from 2008 to 2012, was compiled for analysis. Version 20 of SPSS software was used in analysis. The findings showed a positively significant effect between SMEs' debt to equity ratio and their recorded financial performance. The conclusion was that financial leverage of SMEs had considerable effect on their financial performance.

2.5 Summary of Literature Review and Research Gaps

This chapter has provided a comprehensive overview of theoretical framework and empirical studies that anchor the study. A discussion about three key theories: Trade-off Theory, Market Timing Theory, and Agency Theory has offered a better understanding of the theoretical underpinning on the linkage between the study variables. They provide a better and illustrative roadmap for conducting the study. Kaumbuthu (2011), Maroko (2014) Ahmad, Abdullah, and Roslan (2012), and Abu-Rub (2012) have revealed a positively significant effect between capital structure and financial performance of studies companies. Dalbor and Upneja (2002), on the other hand, cautions about generalization of these findings as different sectors are unique, mainly in terms of their structures and how their operations are affected varying factors. Most of the studies have focused on the impact of financial leverage on companies' profitability and general performance and little or no effort has been directed towards profit growth. However, the present study seeks to address this gap by probing the impact of companies' financial leverage on their profit growth. It is also noted that there is limited content in reference to profit growth indices within the Kenyan context; specifically, for non-financial firms listed at the NSE. Consequently, by relating long-term debt to capital employed ratio, cost of debt,

debt to equity ratio, and total debt to total asset ratio to profit growth in terms of asset growth, the present study will address the gap effectively.

2.6 Conceptual Framework

The conceptual framework adopted for this study highlights the relationship between independent variable, which in this case is financial leverage, and profit growth as dependent variable. Various measures of financial leverage, including long-term debt to capital employed, cost of debt, debt to equity ratio, and total debt to asset ratio, are integrated in the study with aim of creating a wider net for data collection through composite scoring model. This will help in forming credible conclusions on the matter. Control variables are comprised on the firm size, age of the company and the board size as these factors affects the level of implementing key financial decisions affecting general performance of a firm.

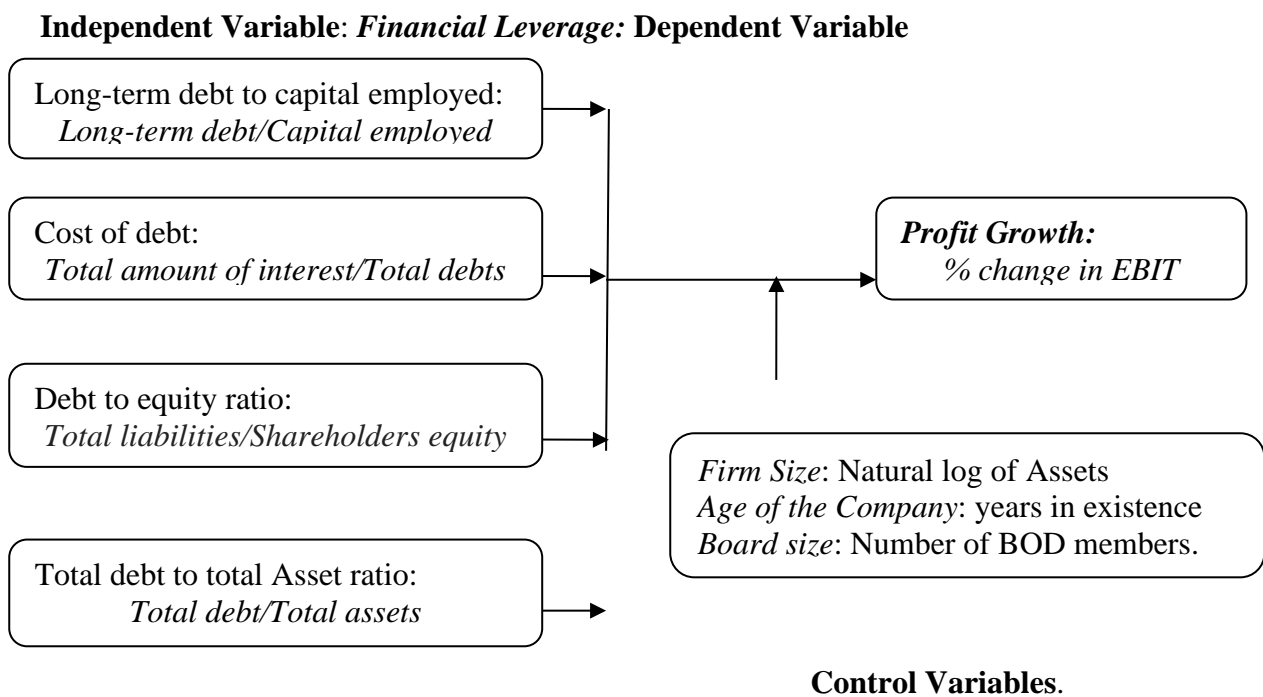


Figure 1. A conceptual framework adopted for the present study.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This section of the paper sets the process for conducting the study. It highlights different sections of the methodology, including: the research design, target population, research instruments, data collection, reliability and validity, data analysis and presentation of results, and inferential statistics.

3.2 Research Design

The study used a descriptive correlation and survey research design in investigating the effect of financial leverage on profit growth for non-financial firms listed at the NSE. As a scientific method of observing and unfolding the performance of a subject without any form of influence, descriptive research design is appropriate for testing and measuring larger samples required for quantitative computation (Williams, 2007). It is also appropriate for elaborating correlations and relationships of various variables without any form of influence on the studied variables.

3.3 Population and Sample Design

In any given research, the word population indicates a collection of objects, elements, and persons that are the center of attention in a study. In this research, 30 of the 47 non-financial firms, listed at the NSE were analyzed. Their financial data and information was extracted from financial reports published between 2015 and 2019 for analysis.

3.4 Data Collection

Data collection is an instrumental process of collecting and measuring information associated with the targeted variables as defined within the study premise. This process enables a researcher to effectively respond to relevant queries and assess outcomes in establishing conclusions on a subject of study (Amaratunga, Baldry, Sarshar, & Newton, 2002). The study utilized secondary data in conducting the analysis and presentation. This was extracted from the companies' published annual reports, mainly over a period of 5 years; that is from 2015 to 2019. Key statements of shareholders' equity were adopted in computing financial ratios relating to the independent and dependent variables.

3.5 Data Analysis and Presentation of Results

The research used hierarchical multiple linear regression analysis in establishing a fundamental relationship between the studied variables, and this was achieved by using version 23 of the Statistical Software for Social Sciences (SPSS). In determining the appropriate significance of the analytical model, the research used Analysis of Variance (ANOVA). This helped in analyzing the differences recorded in different variables under study. The study results will be presented in figures, bar charts, pie charts and tables for the purpose of facilitating the interpretation of the findings. Since the study involved panel/longitudinal data, an OLS regression analysis will be adopted just like Sarchah and Hajiha (2013). The following analytical model was used:

$$Y_t = \beta_{0n} + \beta_1 X_t + \beta_2 X_t + \dots + \beta_k X_t + \varepsilon_t$$

Where,

Y_t = Response variable (Profit growth for n^{th} firm on t^{th} year).

β_{0n} = Regression constant.

β_k = Regression coefficients for k^{th} variable.

X_t = Explanatory variables (Financial Leverage for n^{th} firm on t^{th} year).

ε_t = Error term.

With the analyzed variables, the equation becomes;

$$PG_t = \beta_{0n} + \beta_1 LTDCR_t + \beta_2 COD_t + \beta_3 DER_t + \beta_4 TDTAR_t + \varepsilon_t$$

The following is a highlight of the study variables and measurements considered in this present study.

3.6 Operationalization of Study Variables.

Table 2 in the next page summarizes the operationalization of the study variables;

Table 2. Research variables of the present study.

Type of Variable	Variables	Variable Units and their Measurements		Sources/Reference
Explanatory/ Independent variables	Financial Leverage	Long-term debt to capital ratio (LTDCR)	Long Term Debt/ {Long Term Debt + Equity}	Dalbor, M. C., & Upneja, A. (2002)'; Murphy (1968).
		Cost of debt (COD) l	Total amount of Interest paid on Debt/ Total amount of Debt.	Khan and Jain (2007).
		Debt to equity ratio (DER)	Total Debt/ Total Equity	Dalbor & Upneja (2002); Khadafi, Heikal, and Ummah (2014).
		Total debt to total Asset ratio (TDTAR)	Total Debt/ Total Asset	Khan (2012) and Nunes et al. (2009).
Response/ Dependent variable	Profit Growth	Asset growth (PG)	{Growth rate of present year – Growth rate of previous year}/ Growth rate of previous year.	Pandey (1994); (Andersson & Minnema, 2018).

3.7 Diagnostic Tests

Diagnostic tests aid in assessing whether the conventions of Ordinary Least Squares (OLS) regression analysis hold. A strong linear relationship should not exist between variables used jointly as regressors in a model (no multicollinearity). The Variance Inflation Factor (VIF, <10) was used to test multicollinearity.

3.8 Test of Significance

In ensuring the findings are accurate and a closer representation of what was intended to be measured, the test of significance was performed at 95% confidence level. The Analysis of Variance (ANOVA) and F- test will be applied with the aim of ascertaining the significance of the study's regression model. An important aspect of investigation is the course of the correlation between the identified research variables. This is achieved by conducting a Pearson correlation analysis. At the same time, the coefficient of determination, R-squared, were used in measuring how close and unique the collected data are found with the defined regression line while T-tests were used in determining key variations in research variables.

CHAPTER FOUR: DATA ANALYSIS, RESULTS, AND INTERPRETATION

4.1 Introduction

This chapter provides an analysis of the collected data, the study's findings, and the interpretation of the results.

4.2 Descriptive Statistics

Table 4.1: Descriptive Statistics

	Minimum	Maximum	Mean	SD
Profit Growth	-.85	33.18	6.2701	6.72291
Long-term Debt to Capital Ratio	.01	6.96	.4315	.88730
Long-term Debt to Asset Ratio	.03	6.41	1.1156	1.48668
Debt/Equity Ratio	.00	7.60	1.5304	1.94024
Cost of Debt	.00	6.83	.3865	1.07402
Firm Size	4.08	10.18	7.4274	1.54673
Age of Firm	20	98	38.63	18.336
Board Size	5	18	9.04	2.833

Source: Research Findings; SD: Standard Deviation

The findings in table 4.1 show that the mean profit growth was 6.27% with a maximum and minimum profit growth of 33.18% and -0.85% respectively. The mean long-term debt to capital ratio was 0.43 while the minimum and maximum long-term debt to capital ratios were 0.01 and 6.96 respectively. The cost of debt averaged 0.3865 or 38.65% while the age of the firm and board size had mean values of 38.63 years and 9.04 members respectively.

4.3 Diagnostic Tests

Diagnostic tests are pre estimation procedures that evaluate whether the assumptions of Ordinary Least Squares (OLS) panel regression analysis hold. In particular, a strong linear relationship should not exist between any variables that are fitted jointly as regressors in a

model (no multicollinearity). Besides this, the data has to meet the assumption of homoscedasticity.

4.3.1 Test for Normality

Normality tests are performed to ascertain whether the samples chosen are different from the entire population. Normality tests can be performed in multiple ways; including use of graphical and statistical approaches. In this study, Shapiro-Wilk and Kolmogorov-Smirnov tests were performed to check the normality of the data. From the findings below, the data is non-normal since the p -value < 0.05 .

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Profit	.253	150	.000	.798	150	.000
Growth						

a. Lilliefors Significance Correction

When the normality plots were plotted, the findings are the same with an indication that the data was non-normally distributed as shown in the chart below;

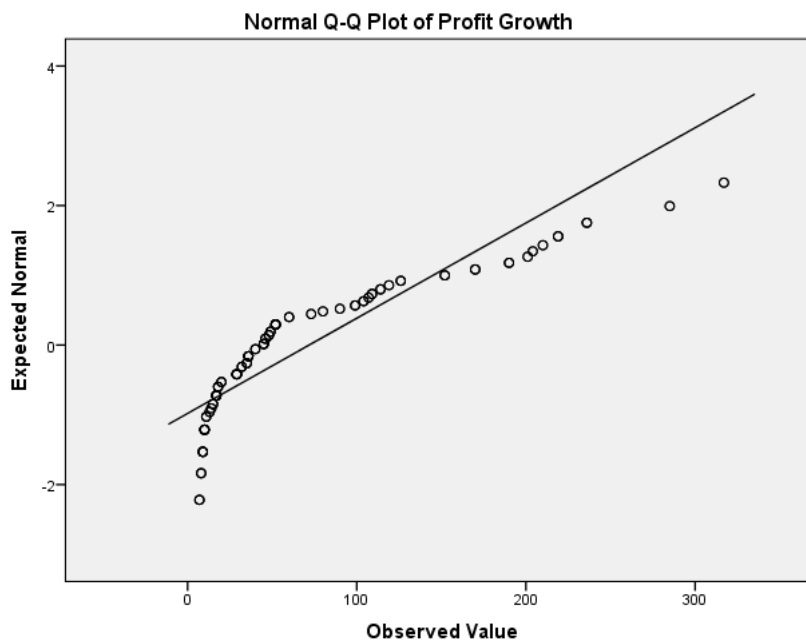


Fig. 4.1 Normal Q-Q Plot.

4.3.2 Test for Homoscedasticity

The study provides a spread of the residuals ought to be fairly constant at each point of linear model.

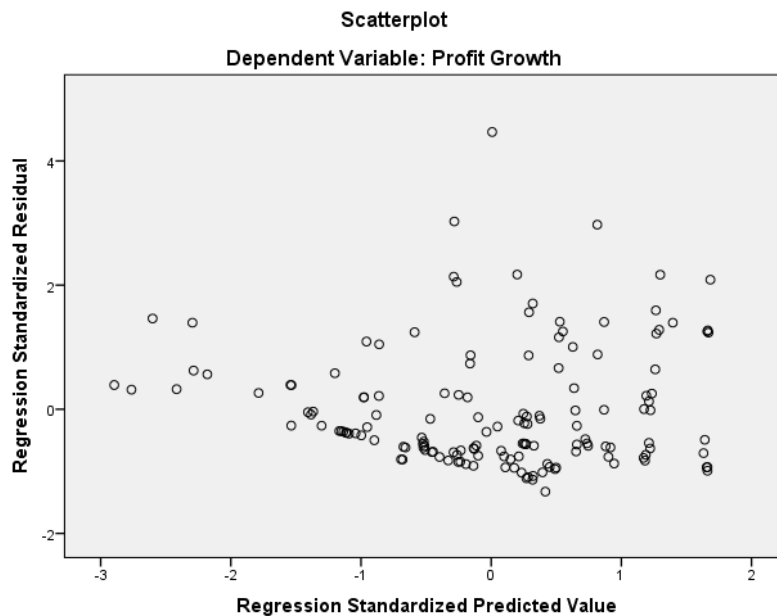


Figure 4.2: Residual Plot.

Source: Research Findings

The residual plot shows that the data points do not point to a given direction thus an indication that there is no heteroskedasticity. This assertion means that the assumption of homoskedasticity is upheld i.e the assumption that the variance around the regression line for all the independent variables is the same. Put in other words, homoscedasticity is a situation where the error term is the same across firm's strengths validating the regression model. In situations where the data analyzed suffers from heteroscedasticity, there would be a huge error term between the independent variables thus making the findings from the analysis unreliable.

4.3.3 Test for Multicollinearity

Multicollinearity is an aspect within predictor variables correlating such that their effect on the dependent variable is indistinguishable. To test for multicollinearity, a correlation coefficient of less than 0.8 would be considered a good fit for the results to be relied on. The VIF test can

also be performed to test for multicollinearity. The following table shows the findings for VIF as being <10; a confirmation that there is no multicollinearity among the predictor variables.

Table 4.2: VIF statistics for Multicollinearity Test

Variable	VIF
Firm Size	1.979
Age of Firm	1.292
Board Size	1.399
Longterm Debt to Capital Ratio	1.352
Longterm Debt to Asset Ratio	1.404
Debt/Equity Ratio	1.254
Cost of Debt	1.089

4.4 Correlation Analysis

Table 4.3: Correlation Matrix

Variable	1	2	3	4	5	6	7
1 Profit Growth	1						
2 Long-term Debt to Capital Ratio	-.233**	1					
3 Long-term Debt to Asset Ratio	-.189*	.405**	1				
4 Debt/Equity Ratio	-0.094	-0.069	0.087	1			
5 Cost of Debt	-.196*	-0.006	-0.132	-0.050	1		
6 Firm Size	-.419**	.371**	.354**	.315**	0.072	1	
7 Age of Firm	-0.117	.207*	0.101	-0.019	0.072	.439**	1
8 Board Size	.256**	-.229**	-.388**	0.023	.178*	-.400**	-.172*

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

**. Correlation is significant at the 0.05 level (2-tailed).*

The correlation matrix above shows that all variables except board size have a negative correlation with profit growth. However, long term debt to capital ratio, long term debt to asset ratio, cost of debt, firm size, and board size have a significant correlation with profit growth as their p-values are less than 0.05.

The findings indicate that there is a weak, negative, and statistically significant relationship between profit growth and long-term debt to capital ratio, as shown by the correlation coefficient of -0.223. Long term debt to capital ratio has a weak and negative but statistically significant correlation with profit growth (with a correlation coefficient of -0.189. On the other hand, debt to equity ratio has a weak and weak but statistically significant correlation with profit growth as shown by the coefficient of -0.0945. Cost of debt shows a weak and negative but statistically significant correlation with profit growth as indicated by the correlation coefficient of -0.196. Firm size has a moderate and negative correlation with profit growth, and is statistically significant as shown by correlation coefficient of -0.419. Like debt to equity ratio, the age of the firm has a weak and negative but statistically insignificant correlation with profit growth; with a coefficient of -0.11689. Board size is the only variable with a weak and positive, and statistically significant correlation with profit growth; with a coefficient of 0.256.

4.5 Regression Analysis

This section highlights the model summary, analysis of variance, and correlation coefficients.

Table 4.4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F	Change	df1	
1	.436 _a	.190	.174	6.11143	.190	11.436	3	146	.000
2	.486 _b	.236	.198	6.02024	.046	2.114	4	142	.082

a. Predictors: (Constant), Board Size, Age of Firm, Firm Size

b. Predictors: (Constant), Board Size, Age of Firm, Firm Size, Cost of Debt, Longterm Debt to Capital Ratio, Debt/Equity Ratio, Longterm Debt to Asset Ratio

c. Dependent Variable: Profit Growth

Table 4.4 shows that the control variables board size, age of the firm, and firm size explain 19.0% of the variation in profit growth as shown by model 1. The effect of the independent variables when board size, age, and size of the firm are not controlled is 23.6%. However, then board size, age of the firm, and firm size are controlled, the independent variables explain only 4.6% of the change in a company's profit growth; as shown by the R-square change in model 2 above.

In the table 4.4, the R, the coefficient of correlation, represents the strength of the relationship between the observed and model-predicted values of the dependent variable. In model 1; where the control variables and correlated with profit growth, the correlation is weak as shown by 0.436; this is the same even with the other predictor variables in model 2; as shown by the weak correlation coefficient of 0.486. The coefficient of determination, R square shows that 19.0% variation in profit growth is explained by the model (when control variables are run against profit growth) but when control variables are run together with other predictor variables, the model explains 23.6% variation in profit growth. The adjusted R-squared shows the effect of increasing predictor variables in the model; the change from 0.190 and 0.23 to 0.174 and 0.198 is an indicator that adding predictor variables had a significant effect on how the model predicts the relationship between financial leverage determinants and profit growth in this study.

4.6 Analysis of Variance

Table 4.5 below shows is supported by the significance levels of 0.000 which is less than the 0.005; an implication that the overall regression model significantly predicts the relationships between the variables under consideration. The analysis of variance table is used to show whether the model used in the regression analysis is a good fit; in this case, both model 1 (for control variables) and model 2 (when both predictor and control variables are analyzed), there is an indication that both models are statistically significant in explaining the relationship between the independent and dependent variables in this case; financial leverage proxies and profit growth.

Table 4.5: Analysis of variance table

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1281.386	3	427.129	11.436	.000 ^b
	Residual	5453.037	146	37.350		
	Total	6734.423	149			
2	Regression	1587.879	7	226.840	6.259	.000 ^c
	Residual	5146.543	142	36.243		
	Total	6734.423	149			

a. Dependent Variable: Profit Growth

b. Predictors: (Constant), Board Size, Age of Firm, Firm Size

c. Predictors: (Constant), Board Size, Age of Firm, Firm Size, Cost of Debt, Long-term Debt to Capital Ratio, Debt/Equity Ratio, Long-term Debt to Asset Ratio

4.7 Regression Coefficients

Table 4.6: Regression Coefficients

Model	B	Std. Error	t-value	P-value	Lower Bound	Upper Bound
1 (Constant)	-3.761	3.721	-1.011	.314	-11.115	3.593
Firm Size	1.798	.387	4.641	.000	1.032	2.563
Age of Firm	-.015	.015	-.998	.320	-.043	.014
Board Size	-.248	.193	-1.283	.201	-.629	.134
2 (Constant)	.014	4.450	.003	.997	-8.782	8.811
Firm Size	1.539	.449	3.430	.001	.652	2.425
Age of Firm	-.017	.015	-1.163	.247	-.046	.012
Board Size	-.340	.206	-1.654	.100	-.747	.067
Long-term Debt to Capital Ratio	-.656	.646	-1.015	.312	-1.933	.621
Long-term Debt to Asset Ratio	-.043	.393	-.109	.913	-.820	.734
Debt/Equity Ratio	.001	.285	.004	.996	-.561	.564
Cost of Debt	-1.282	.479	-2.676	.008	-2.229	-.335

Dependent variable: Profit Growth; 95% confidence level

Table 4.6 above portrays a linear relationship between the predictor variables and the dependent variable. The results show that only cost of debt at a significance level of 0.008 (p-value <0.05) and firm size with a significance level of 0.001 have a significant effect on profit growth with firm size explaining a standardized 35.4% change in the model while cost of debt explains -20.5%. Age of firm, board size, long term debt to asset ratio, and long-term debt to capital ratio have negative but insignificant effects on profit growth as shown by their p-values greater than 0.005. On the other hand, debt to equity ratio has a negligible insignificant effect on profit growth.

The predictors that had insignificant relationships with profit growth include; age of the firm (-9.7%, with p-value of 0.247), board size (-14.3%, with p-value of 0.100), long-term debt to capital ratio (-8.7%, with p-value of 0.312), long-term debt to asset ratio (-9.00%, with p-value of 0.913), and finally debt to equity ratio that had no significant effect at all (0.00%, with p-value of 0.996).

4.8 Interpretation of Findings

The findings of the research show a negative and significant relationship between financial leverage (for cost of debt, with a p-value < 0.05) but Long-term Debt to Capital Ratio and Long-term Debt to Asset Ratio have negative insignificant effects on profit growth (p-value > 0.05). Besides this, Debt/Equity Ratio shows an insignificant positive relationship with profit growth. These findings corroborate the argument of Myers (2002) that using a high level of debt could be beneficial to the firm through the tax shield though this also increases the risk of financial distress in case the firm fails to repay the creditors on time. Muhoro (2013) investigated the link between financial leverage and firm performance and found out that there was an insignificant relationship between leverage and performance among construction and allied companies.

The results of the study show that the independent variables have a cumulative positive influence on the dependent variable; this is indicated by the positive correlation coefficients of 0.436 and 0.486 for control variables and other predictors respectively. The overall effect of predictors (when control variables are included) on profit growth is 23.6%. The R-square value of 19.0% is an indicator of how much variation in profit growth is explained by control

variables, namely bank size and board size, and age of the firm. When these variables are controlled, the independent variables explain only 4.6% variation in profit growth as shown by the R-square change in Table 4.4. Correlation analysis showed that all the chosen variables had weak or moderate correlation with profit growth other than the board size that had a positive and statistically significant correlation with profit growth.

The regression results show that firm size and cost of debt have a significant effect on profit growth with each having a p-value of 0.001 and 0.008 respectively (less than 0.05). However, while firm size accounts for 35.4% change in a company's performance in terms of profit growth, cost of debt has an effect of -20.5% on profit growth. Existing literature provides inconsistent findings on the relationship between size and performance. For instance, Penrose (1959) argued that firm size can influence in diverse ways due to their economies of scale, economies of scope, varied capabilities, and ability to raise more funds. The author noted that these features enable larger firms to perform better than smaller ones. However, Banz (1981) and Singh and Whittington (1968) argued that firm size is negatively correlated with performance as sustaining growth as the company grows becomes difficult. It could also be argued that as a firm expands, it reduces its cost of capital and thus increased profit growth (Gaur and Gupta, 2011).

The results showed that cost of debt has a significant influence on profit growth and this is in line with the trade-off theory in which levered firms are likely to perform better due to the marginal benefits associated with tax savings since interest is deductible from taxable profit. The -20.5% influence of cost of debt to performance of non-financial firms at the NSE is an indicator that as the cost of financing increases, a company's performance declines. These findings are consistent with the theoretical assertion of the pecking-order and market timing theories in which proponents argue that companies would prefer to use cheaper sources of financing moving up the ladder from internal financing using retained earnings, using debt, and finally external equity (Mabrouk and Boubaker, 2020).

The ratios show insignificant relationships with profit growth as shown by their p-values > 0.05. These findings indicate that different proxies of financial leverage yield different relationships with profit growth. These findings affirm prior research by Afolabi et al. (2012) who found out that debt ratio and Debt/equity ratio have a positive and significant effect on

performance while interest coverage ratio had a positive but insignificant effect on performance.

CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary, conclusions, and recommendations for the research. The paper also highlights some limitations of the study and suggestions for further research.

5.2 Summary

The aim of the study was to establish the relationship between financial leverage and profit growth among non-financial firms listed at the NSE. The control variables included firm size, age of the company, and the board size. The researcher randomly sampled 30 out of the 49 listed non-financial companies. The rationale for the choice of 30 companies is based on David and Sutton (2014) assertion that a rule of the thumb for validity and reliability of the findings for analysis should be at least 30.

The data was tested for multicollinearity and heteroscedasticity prior to analysis and the findings showed that the data was fit for analysis; it passed the homogeneity test and there was no multicollinearity among the independent variables. Descriptive statistical analysis indicated that the mean profit growth was 6.27% for the non-financial firms over the 5-year period. During the same period the minimum value of profit growth was -0.85% while the maximum value was 33.18%. The mean age of the firms considered was 38.63 years with a minimum age of 20 and maximum of 98 years. The size of the board of directors ranged from 5 to 18 with an average of 9.04. The average values for proxies of financial leverage in this study (long-term debt to capital ratio, long-term debt to asset ratio, cost of debt and debt to equity ratio) were 0.4315; 1.1156; 6.83 and 7.60 respectively.

Correlations between Long-term debt to capital ratio and profit growth was negative (-0.233) and significant at 0.05 significance level. Long-term debt to asset ratio (-0.189), debt to equity ratio had a positive but insignificant relationship with profit growth at 0.0945 while board size had a significant positive effect on profit growth (0.256). Age of the firm, firm size and cost of debt had negative relationships with profit growth. Regression analysis showed that financial leverage, when firm size, board size, and age of the firm are controlled, accounts for only 4.60% of the variation in profit growth. It is worth noting that the only significant proxy for financial leverage in this study was the cost of debt; which accounted for -20.5% change in profit growth. Control variables accounted for 19.0% of the change in profit growth. The ANOVA summary

shows the model as fit for analyzing the link between the predictor and dependent variables; shown by the significance < 0.005 .

5.3 Conclusions

The study examined how financial leverage relates to profit growth of non-financial firms listed at the NSE using secondary data. The results indicate that there is a statistically significant negative link between financial leverage (proxied by the cost of debt) and profit growth. However, the results indicate that long-term debt to capital ratio, debt to equity ratio, and long-term debt to asset ratio show insignificant relationships with profit growth. In particular, the cost of debt's influence on profit growth confirm the argument of Myers (2002) on static trade-off theory.

Regarding control variables, the study indicated that they account for 19.0% of the variation in profit growth. Specifically assessed, Size of the firm has a significant positive effect on profit growth (shown by Beta of 0.354 and p-value < 0.05). Age of the firm and board size have negative but insignificant relationship profit growth (Beta of -0.097 and p-value > 0.05 and Beta of -0.143, p-value > 0.05) respectively. As such, controlling these variables significantly altered the extent to which profit growth is influenced by the predictor variables; the proxies of financial leverage in this study.

5.4 Recommendations

From the findings, financial leverage, especially measured with cost of debt, has a statistically significant negative effect on profit growth. The rest of the predictor variables such as long-term debt to capital ratio, long term debt to asset ratio show negative but insignificant effects on profit growth while debt to equity ratio has a positive statistically insignificant effect on profit growth. The management of firms ought to determine the appropriate debt level that they can manage to enjoy the benefits of tax shield and reduce financial distress or bankruptcy costs.

Profit growth is an imperative goal for an organization and this has an implication that management ought to pursue financing needs that will enable it achieves this goal. In light of the market-timing theory and trade-off theory, a mix of debt and capital can be used to increase a firm's profits without heavily being overburdened by debt. While attaining profit growth is not only pegged on the financial leverage, it is recommended that organizations pursue other

avenues of increasing profits such as product differentiation and innovation to increase sales and eventually their profits.

Age and size of the firm have negative effects on profit growth in this study implying that firms need to adopt newer and innovative ways of doing business (even as they age) so that they can compete favorably with others in their industry. On size, firms should expand at a rate that they can manage their costs; such as the financing costs, so that the negative effects associated with leverage do not eat into their profits and lead to a slowed financial performance.

5.5 Limitations of the Study

This study focused on non-financial firms listed at the Nairobi Securities exchange meaning that the findings may not be applicable to other companies, especially those in the financial and banking sector. The study also limited the research to 2015 to 2019 implying that previous changes in the economy that might have necessitated use of a certain degree of leverage might not have been captured.

5.6 Suggestions for Further Research

The findings of the research note that only 4.60% change in profit growth (when firm size, board size, and age of the company are controlled) is explained by financial leverage in non-financial firms listed at the NSE. This could be an indication that there are other qualitative or quantitative factors that influence profit growth. The study thus, recommends that subsequent studies should assess other variables and their influence on profit growth.

The study emphasized on non-financial firms listed at the NSE only. Subsequent studies can evaluate companies from different securities exchanges in Africa to ascertain whether there are any transnational differences. Besides this, researchers can include all listed firms rather than focusing on non-financial firms only.

The study period for future studies can be increased to 10 years or more to make a comparative analysis of existing research and see whether there any noticeable variations in findings.

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