CAPITAL STRUCTURE, FIRM CHARACTERISTICS, CORPORATE GOVERNANCE AND FINANCIAL PERFORMANCE OF NON-FINANCIAL FIRMS LISTED AT NAIROBI SECURITIES EXCHANGE IN KENYA

CHIRCHIR FRANCIS KIPKOECH

A Thesis Submitted to the Graduate School in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in Business and Management of Egerton University

EGERTON UNIVERSITY

SEPTEMBER 2024

DECLARATION AND RECOMMENDATION

Declaration

This thesis is my original work and has not been submitted for qualifications at any other academic institution.

Signature Date: 5th September, 2024

Chirchir, Francis Kipkoech

CD11/14676/15

Recommendation

This thesis has been submitted with our approval as Egerton University Supervisors.

Signature ..... Date: 10th September, 2024

Prof. Fredrick M. Kalui

Department of Accounting, Finance and Management Science,

Egerton University

Signature Date: 16th September, 2024

Dr. Justus Tari,

Department of Business Administration,

Egerton University

COPYRIGHT

Copyright © 2024, Francis Kipkoech Chirchir

All rights reserved. No part of this thesis may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without prior written permission of the author or Egerton University.

DEDICATION

I dedicate this thesis to my loving family; my spouse Carol and my sons Meshach, Billy and Wisdom (who missed my close attention as I undertook the study). This study would not have been possible without their constant support, encouragement and most imperatively fervent prayers, which contributed immensely to the success of this study.

AKNOWLEDGEMENTS

Firstly, I would like to acknowledge the almighty Father for the opportunity, good health and the fortitude to pursue this study. I would also like to give special thanks to Egerton University Management Board for giving me a chance to pursue this degree and also for granting me the scholarship, time and other resources which were necessary for the success of this study. This special support and golden opportunity undoubtedly propelled me to reach this scholarly level of achievement.

Secondly, I am deeply indebted to my supervisors; Professor Fredrick M. Kalui and Dr. Justus Tari who have been unstinting in their continuous encouragement and support, particularly, their kind heart to share immense knowledge and experience towards this thesis. Their constructive criticisms, comments and advice were a great inspiration to work tirelessly in order to complete this study. Nonetheless, I solely bear any errors and omissions in this study. Fourthly, I convey my gratitude to the Faculty of Commerce academic staff of Egerton University for their distinct advice and immense encouragement. I also appreciate my fellow PhD students for their moral support throughout the study. Special gratitude further goes to my data analysis experts, for their astute expertise in econometrics and statistics; and for taking their valuable time to give guidance on statistical analysis and interpretation.

Thirdly, I am extremely grateful for the support of my dear wife Carol and my children Meshach, Billy and Wisdom for their consistent encouragement and moral support to keep moving on which was undoubtedly phenomenal. More often, I would hibernate to the libraries and other secluded places for long hours, compromising on my parental role, yet you always appreciated without complain. Special appreciation goes to my parents Mr. and Mrs. Paul Kendagor for their imperative role in my academic life; and to my siblings; Isaac, Beatrice, Mark, Philip and Gladys, I am deeply grateful. To my Uncle Dr. Michael Kangogo who has been instrumental and mentor in my career life; I salute you Sir. To my entire clan-*Tungoi* thanks for your encouragement and moral support to achieve this scholarly milestone. My friends, colleagues and relatives kindly receive my heartfelt gratitude for your support towards completion of this dissertation. Thank you and may God bless you abundantly.

ABSTRACT

Globally, the choice of an optimal capital structure has posed a great challenge to most firms. In Kenya, some firms have achieved optimum levels while others are still faced with serious capital structure issues. Theoretically, there is a general inclination that capital structure employed automatically affects financial performance. It is against this background, that the study sought to establish the effect of capital structure on financial performance, moderating effect of firm characteristics and mediating effect of corporate governance on the relationship between capital Structure and financial performance of non-financial firms listed in Kenya. The specific objectives were: to establish the effect of capital structure on financial performance; establish the moderating effect of firm characteristics on the relationship between capital structure and financial performance; examine the mediating effect of corporate governance on the relationship between capital structure and financial performance; and determine the joint effect of capital structure, firm characteristics and corporate governance on financial performance. The study was grounded on Modigliani and Miller Irrelevance Theory, Trade-off Theory, Pecking Order Theory and Agency Theory. The sample size of the study consisting of 33 (thirty-three) non-financial firms from 2009-2018 were selected using purposive sampling procedure. Longitudinal and cross sectional research designs were used organized as panel data. Data analysis was done using descriptive and inferential statistics aided by STATA software. The findings revealed that: first, capital structure (composite score) had a significant effect on financial performance; secondly, firm characteristics had no moderating effect on the link between capital structure and firm performance; thirdly, corporate governance mediates the link between capital structure and financial performance; lastly, capital structure, firm characteristics and corporate governance had a joint effect on firm's performance. The study brings out an increased understanding on the link between capital structure and financial performance, the use of moderating and mediating variables with prudence so as to achieve optimum financing portfolios. Finally, the study recommends the following; first, the Nairobi Securities Exchange and Capital Market Authorities to ensure financial and corporate governance policies are adhered to; secondly, the government of Kenya should create an enabling environment for investors to increase their asset portfolio and size; and lastly; there should be a synergistic effort by stakeholders to uphold, strengthen and encourage good corporate governance in listed firms in Kenya.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABREVIATIONS AND ACRONYMS

ASEA	African Securities Exchanges Association
ASMC	African Stock Markets Companies
BSZ	Board Size
CS	Capital Structure
CMA	Capital Market Authority
CBK	Central Bank of Kenya
CEO	Chief Executive Officer
CG	Corporate Governance
CMA	Capital Market Authority
DER	Debt Equity Ratio
EASEA	East African Securities Exchange Association
DR	Debt Ratio
EPS	Earnings per Share
ER	Equity Ratio
FAGE	Firm Age
FC	Firm Characteristics
FE	Fixed Effects
FGRW	Firm growth
LLC	Levin-Lin-Chu
MO	Managerial Ownership
NED	Non-Executive Directors
NSE	Nairobi Securities Exchange
RE	Random Effects
ROA	Return on Assets
RMSE	Root-Mean Square Error
SSE	Sustainable Security Exchange
TAN	Tangibility

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Financing is one of the most imperative areas of a firm. Financing decision is a crucial decision made by the finance manager relating to the financing mix of an organization (Brendea, 2011). The finance managers are concerned with the determination of the best financing mix and combination of debt and equity for the firm referred to as capital structure. The analysis of a firm's capital structure decisions started with the famous Modigliani and Miller (1958) irrelevance theorem. Together with Markowitz's portfolio theory, this is regarded by many as the beginning of modern finance. The study of capital structure has a wider relevance than the name suggests since it includes the cost of capital and, hence, capital budgeting issues. It also helps to disclose which projects are easy to finance because they carry much debt (Obuya, 2017). Capital structure is also a major factor in the evaluation of firms' performance. It is concerned with the borrowing and allocation of funds required for the investment decisions (Akeem et al., 2014).

Roshan (2009) argued that finance managers as a way of financing firms, may employ the proportionate relationship between debt and equity. It was further stated that capital structure is an important managerial decision since it affects the shareholder's risk and return, as the market value of the share may be affected by the capital structure decisions. During the process of taking capital structure decisions, managers of corporate firms are required to find solutions on how the investment projects needs to be financed, whether the way they are financed matter, how financing affects the shareholders' risk-return and share value. They may further include areas like; whether an optimum financing portfolio exists in terms of the maximum value to the shareholders, whether an optimal financing strategy can be established in practice for a firm and what factors should a firm consider in crafting effective financing policy.

The financing decision involves two sources from where the funds can be raised; using internal sources of a firm like own savings, such as share capital, retained earnings or borrowing funds from external sources in the form of debenture, loan, bond and so on. While taking financial

decisions, finance managers should take into consideration the risk involved in raising the funds, the cost involved, level of control, the cash flow from operations of the firm and the floatation costs in determining the sources of funds. Therefore, a firm should make a judicious decision regarding where, when and how the funds shall be raised, since, more use of equity may result in the dilution of ownership, whereas higher debt may result in higher risk.

The process of choosing between internal or external source of finance is among the challenging concerns of a firm (Chadha & Sharma, 2015). In the recent decades, capital structure and its effect on firm value is still a puzzle in corporate finance theory and finance literature (Abeywardhana, 2016; Dare & Sola, 2010). Capital structure theories which are highly based on large firms have failed to explain the optimal mix of debt to equity. The choice of capital structure still remains a crucial issue for both large and small firms. The financial decisions set by management are very important in determining the optimal capital structure. The management of the firm itself has to set their capital structure in a way to optimize their firm value. However, firms have different levels of leverage and managers try to achieve the best set to attain an optimal capital structure (Salim, 2012). Many business owners may not know what a capital structure is or why they should even concern themselves with the term, but the concept of capital structure is extremely important.

From the literature review, it is evident that when determining an optimal capital structure, a number of factors including corporate governance practices and firm characteristics have been proposed to explain the variation in capital structure across firms (Booth et al., 2001; Guo & Kumara, 2012). Since everything included in capital structure decisions are also corporate governance tools, then corporate governance practices must be taken into account in determining debt-equity portfolio and the effect on the firm financial performance (Zingales, 2000). The studies on capital structure, firm characteristics, corporate governance and financial performance have received considerable attention in finance literature. It's evident that capital structure has a relationship with corporate governance and firm characteristics, which are the key issues with most firms (Aduda & Omoro, 2015; Martis & Bremen, 2013; Okiro et al., 2018).

1.1.1 Capital Structure

Modigliani and Miller (1958) defined capital structure as the mix of long-term debt, specific short-term debt; common equity and preferred equity maintained by a firm. It further affirmed that a firm's financing is of crucial significance to managers of the firms and also the providers of funds. It is how a firm finances its overall operations and growth through combination of equity, debt, or hybrid securities (Brendea, 2011). Debt is a resource borrowed with the expectation of paying back after a specified period of time. If the specified time is spread a period of more than one year, then it becomes long term debt and if the expected payment period is less or equal to one year then it becomes a short term debt. Since financial capital is an uncertain and scarce, it is a critical resource for all firms and hence suppliers of finance are able to exert control over firms (Kajirwa, 2015).

Pandey (2015) defines capital structure as the diverse ways of financing a firm, which includes the proportionate link between debt and equity. Debt and equity are the two major classes of liabilities, with debt holders and equity holders representing the two types of investors in the firm. Each of these is associated with different levels of risk, benefits, and control. Debt comes in the form of bonds issued or long-term notes payable, while equity is classified as common stock, preferred stock or retained earnings. Explaining the role of debt in a firms' financial performance has been one of the primary objectives of the contemporary research for more than fifty (50) years (Modigliani & Miller, 1958). However, this role remains a questionable subject and puzzle which has attracted the attention of many researchers such as Baum et al. (2015); Berger and Dipatti (2006); Goddard et al. (2005); Kebewar (2012); Margaritis and Psillaki (2010); Nunes et al. (2009); Rao et al. (2007); and Weill (2008).

Since late 1950s studies of Lintner (1956), Hirshleifer (1958); Modigliani and Miller (1958) emerged with much focus on capital structure. In the recent past, capital structure has become the most interesting concerns in the business finance literature which has also been one of the main topic of scholars and business research. The importance of capital structure is derived from the fact that it is strongly related to the ability of firms to fulfill the needs of various stakeholders. The last decade has witnessed continuous development of new theories on the issue of capital

structure, firm characteristics, corporate governance and financial performance. Additional capital structure theories, such as the trade-off and pecking order theories have since emerged over the years. Kraus and Litzenberger (1973), postulated that the trade-off theory assumes that firm's trade-off the benefits and costs of debt and equity financing and finds an 'optimal' capital structure after accounting for market imperfections such as taxes, agency and bankruptcy costs.

The combination of debt and equity in the capital portfolio of firms has been pointed out by various scholars (Abor, 2007; Abor, 2005; Chakraborty, 2010; Zeitun & Tian, 2007) to have a significant effect on the current and future operations of the firm. According to these scholars, debt finance, which is a tax allowable expense, appears to be cheap and minimal since the after-tax cost is lower than equity, hence improves dividend payout ratio and earnings per share. As the debt levels of the firms continue to increase in the capital structure, it increases the after-tax costs and subsequently result in a negative effect on firm's financial performance. Debt and equity are both financing and corporate governance instruments used by the firms (Williamson, 1988). This study is not only helpful to the ongoing debate on issues related to capital structure in non-financial firms, but it will also serve as a foundation for further research studies in this important sector and other related sectors. This study excluded the financial sectors in order to remove any anomalies related with this sectors which are highly regulated by the central bank prudential on liquidity issues, assets' tangibility, capital portfolio and bad debts provision among other parameters (Mwangi et al., 2014).

According to Akeem et al. (2014), Chechet and Olayiwola (2014), Fasood and Masood (2016), Innocent et al. (2014), measured capital structure using debt-equity ratio (DER), interest coverage ratio (ICR) and equity finance which includes both internal and external funding. Abeywardhana (2014), Nwude et al. (2016) capital structure was proxied by debt ratio decomposed as; short term debt ratio (STDR), long term debt ratio (LTDR) and total debt ratio (TDR). The studies also controlled for firm size, assets growth and asset tangibility in analyzing the effect of capital structure (Ahmad et al., 2012; Booth et al., 2001; Campello, 2007; Maggina, 2012). From these studies, it shows that financial performance was measured using return on assets (ROA), return on equity (ROE), earnings per share (EPS) and Tobin's Q according to Kyereboah-Coleman (2007), Nassar (2016); Salim and Yadav (2012). The studies confirmed that

capital structure not only affects the returns a firm earns for its shareholders, but also whether the firm survives less fortunate economic shocks. Capital structure is important for a firm's survival and growth since it plays a crucial role in its financial performance in order to achieve its long-term goals and objectives (Roshan, 2009).

This study measured capital structure using three different dimensions namely: Debt ratio (DR), Equity Ratio (ER) and DER following the studies by Masnoon and Anwar (2012), Berger and Di Patti (2006); Saeedi and Mahmoodi (2011). Although the agency theory postulates a positive effect of leverage on firm efficiency and performance, this might not be true for highly indebted firms. Such firms meet strong financial constraints which may negatively affect financial performance (Michaelas et al., 1999). However, a linear link between debt and financial performance is not consistent with the trade-off theory.

However, corporate managers desire to make optimal capital structure decisions and adopt corporate governance practices that would result in a desired financial performance but more often than not, this objective has not been easy to achieve. Therefore, good financial performance may not be attainable due to failure to achieve proper capital structure portfolio and corporate governance challenges faced by the firms (NSE, 2019). Nevertheless, the government and the private sectors have invested heavily in creating an enabling environment for doing business in Kenya and indeed, some firms have performed exceedingly well as a result and others have faced serious financial and corporate governance issues.

Previous studies investigating capital structure and firm's financial performance reveal mixed, ambiguous and contradictory results. Ameen and Kiran (2017), Ikapel and Kajirwa (2017) revealed that DR and DER had significant negative effect on financial performance as measured by ROA and ROE. Forsaith and McMahon (2002), Hamouri et al. (2018); Adesina et al. (2015) disclosed that ER had significant positive effects on performance. The studies on firm characteristics such as asset tangibility, firm growth and firm age have revealed divergent relationships with financial performance (Too & Simiyu, 2018; Baloch et al., 2015). Consequently, managers and practitioners still lack sufficient research results to guide them on making optimal financing decisions (Mutwol et al., 2011).

Therefore, the finance managers should plan an optimum capital structure for the firm so as to optimize the financial value of the firm. However, empirical studies on capital structure, firm characteristics, corporate governance and financial performance are contradictory, mixed and inconclusive which underscores the need to conduct this study. Despite the effort being made in theorizing capital structure, firm characteristics and corporate governance in non-financial firms as a result of different funding sources and performance, there has not been convincing and conclusive results with regard to the relationships of these variables and firm value. Therefore, this study aimed to filling the research gap evidenced in the literature as a result of unending debate by investigating the moderating effect of firm characteristics and mediating effect of corporate governance on the link between capital structure and financial performance of non-financial firms listed at Nairobi Securities Exchange in Kenya for a period of 10 years (2009 to 2018).

1.1.2 Firm Characteristics

A firm's characteristic refers to a demographic and managerial factors which comprises of part of the firm's internal environment (Zou & Stan, 1998). Generally, firm characteristics are features or specific attributes that distinguish one firm from the other. Firm attributes are numerous; it includes firm size, leverage, liquidity, sales growth, asset growth, turnover, profitability, industry type, firm age, geographical location, asset tangibility, nature of business and any other feature that distinguishes one firm from the other (Subrahmanyam & Titman, 2001). Other attributes include; age, firm size, ownership structure, board characteristics, dividend pay-out ratio, access to capital markets and growth opportunities.

Kogan and Tian (2012) categorized firm characteristics into three main groups which include: Structure related variables, Market related variables and Capital related variables. Moreover, the structure related variables include; Firm size, ownership and firm age. Secondly, the market related factors include; Type of Industry, uncertainty of environment and the market environment. Lastly, capital related factors include; asset growth, liquidity, capital adequacy, operational efficiency, asset quality and asset tangibility. The outcome of the study showed that market related firm characteristics, structured related factors and capital related variables had

positive link on the performance of microfinance firms. On the contrast, micro-finances with optimum capital structure and those that embrace market oriented and diversification strategies were found to be better performers. Liquidity, firm size, leverage and firm age relate positively with financial performance and board size had a negative link to firm performance.

Titman and Wessels (1998) used asset tangibility (measured by fixed assets) as a proxy for firm characteristics. The findings of the study revealed that larger firms with higher level of fixed assets in their financial statement, tend to have higher leverage ratios. The argument could be due to the firms having more collateral, which facilitates provision funds or credit from financial institutions. Campello (2007) also used asset tangibility to measure firm characteristics. The study revealed that firms with more tangible asset portfolio have a higher ability to issue secured debt. Ochingo and Muturi (2018) analyzed firm characteristics of savings and credit cooperatives society in Kenya. The study adopted asset quality, capital adequacy, liquidity and operational efficiency as proxies for firm characteristics.

Penrose (1995) defined firm growth in two diverse ways. Firstly, firm growth is defined as an increase in specific measures, which include growth of certain parameters such as production, sales or exports. Secondly, it was defined as a specific development process, similar to biological processes, resulting in an increase of size or improvements in quality in the firm. Even though there are no immutable rules of defining growth, these firms generally have increased annual assets or revenue growth by more than industry mean period over a sustained period of time. Growth provides additional opportunities, capabilities, revenue and profit. Growth can be organic or from amalgamations, mergers and acquisitions (Maggina & Tsaklanganos, 2012).

Fama and French (2005) argued that firm age can be measured in two different perspectives. Firstly, firm age can be measured by the years of existence from the first listing of the firm, plus digit one to avoid zero ages. This measure, which is called listing age has been widely used by many studies as a proxy for firm characteristic in previous literature (Chun et al., 2008; Mwebia, 2017). Moreover, listing age is more critical since it’s a defining moment in the firm’s life (Shumway 2001). Secondly, firm age is measured by the incorporation age indicated by the years of existence elapsed from the first incorporation of the firm.

Adelegan (2009) noted that the effect of firm size is neutral and that older firms tend to rely more on internal funds to finance their corporate investments than the small and medium firms. New firms require time to acclimatize or adapt to the environment. A new firm needs to catch up with the older firms when their performance is lower than that of the older existing firms in order to have competitive edge in the market. Consequently, it's expected that new firms will show higher rates of growth in productivity than the older firms due to high free cash flow. Hence, firm age is negatively correlated with productivity growth rate since older firms have lower free cash flow.

Therefore, from the above arguments and discussions, this study borrowed from the studies by Loderer and Waelchli (2010); Maina et al. (2017); Mutende et al. (2017); Mulwa (2016) thus adopted assets tangibility (TAN), firm growth (GROW) and listing age (AGElist) as components of firm characteristics. The proxies were selected because the results from previous studies showed significant links with financial performance.

1.1.3 Corporate Governance

The Kenyan code of corporate governance (2016), defines corporate governance as the way in which firms are directed and controlled. Different countries have their own system of corporate governance, reflecting different economic, cultural and legal circumstances. It is the process and structure used to direct and manage the business and affairs of a company towards enhancing business prosperity and corporate accountability with the ultimate objective of realizing long-term shareholder value, whilst taking account of the interests of other stakeholders (CMA, 2016). Using the Agency Theory Approach, Buallay et al. (2017) defined corporate governance (CG) as the processes, customs, policies, laws and institutions that direct the organizations and corporations in the way they act, administer and control their operations. It is also concerned with ways in which all parties interested in the wellbeing of the firm attempt to ensure that managers and other insiders take measures or adopt mechanisms that safeguard the interests of the stakeholders (Guo & Kumara, 2012).

Corporate governance intends to increase the accountability of the entities to all of its stakeholders. Mismanagement of resources can be identified and avoided if the firms are

performing corporate governance practices effectively. Ultimately, corporate governance supports the upgrade of business transparency, which is vital in increasing the trust of shareholders. Good corporate governance is an essential standard for establishing the striking investment environment which is needed by competitive companies to gain strong position in efficient financial markets (Khan, 2011). Fine corporate governance is fundamental to the economies with extensive business background and also facilitates the success for entrepreneurship. The study adopted the internal corporate governance mechanisms including: composition of boards, institutions shareholding and managers' ownership.

The first internationally recognized and widely accepted attempt to establish corporate governance principles was by the organization of economic cooperation and development (OECD, 1999). Corporate Governance works to achieve the goal of the organization and manages the relationship among the stakeholders including the board of directors and the shareholders. It also deals with the accountability of the individuals through a mechanism which reduces the principal-agent problem in the organization. The code of corporate governance Practices (CMA, 2016) in Kenya include additional standards for listed firms. The code recommends the maximum age limit of the directors to be 70 years and the tenure of independent board members not to exceed a cumulative term of 9 years. The Code also stipulates that the board should have a policy to ensure diversity in terms of academic qualifications, demographics, technical expertise, relevant industry knowledge, experience, nationality, age, race and gender. These codes and standards were effective from the year 2016.

The Kenyan Code of corporate governance (2016) stipulates that the size of the board shall not be too large to undermine an interactive discussion during Board meetings or too small such that the inclusion of wider expertise and skills to improve the effectiveness of the Board and the formation of its committees is compromised (CMA, 2016). According to Topal et al. (2014), the board uses its authorities in the frame of regulations, main contract, in-company regulations and policies in line with the authority bestowed on it in the annual general meeting by shareholders. A Board is the body of strategic decision-making, representation and highest executive body of a firm. The aim of the Board is to optimize the firm value while making decisions. The board conducts corporate businesses in such a way as to provide long-term and steady gain for the

shareholders and stakeholders as a whole. They also ensure the continuity of the delicate balance between the shareholders and the need for growth of the firm (CMA, (2016).

However, the Kenyan code of corporate governance guidelines have not specified the optimal size of the board but some empirical studies specified a small board of seven (7) to nine (9) members to function effectively (Lipton & Lorsch, 1992). A smaller board is considered more effective in coordination of activities and in decision making (Yermack, 1996). However, a larger board is considered to be more effective in monitoring and advising managers as organizations exist in complex business environments which require a large pool of expertise. According to Adusei (2011) and Chaghadari (2011) board size was measured by the total number of directors in the firms. Corporate governance is among the key parameters enhancing and improving the growth of economy and investor confidence. It also gives the board a proper incentive and management to pursue the objectives to the best interest of the firm's shareholders and improves effective monitoring of the operations. Effective corporate governance mechanism helps in giving assurance of confidence which is essential for improving operations of the market economy (OECD, 2015).

The current Kenyan code of corporate governance further articulates that the board of directors of each firm shall be responsible for formulating policies, procedures and guidelines, which ensure that all directors, chief executive officers and management are made fully aware of the requirements of the Code and the shareholders of each institution are responsible for the appointment of a competent and dedicated Board of directors (CMA, 2016). The mission of the board is to direct the firm in a proactive manner as the highest authority in decision making while enabling shareholders to gain profit continuously and permanently in the long-term (Dalton et al.,1999).

The company board is a body with various influences both as conductor and as arbitrator, determining the rules of the game, although not within the daily operations. The boards are in charge of expected risk-return profile of strategic choices, short and long term balance of the performance, the fair protection of benefits between shareholders, listing priorities and encouraging innovation along with protecting the balance between inspection and control

functions (Velnampy (2013). Therefore, it is important for the decisions of the board to have a foresighted balance. The obligations of directing, inspecting, rule-making as well as exemplifying necessitate having a strong structure for boards.

From the empirical studies conducted by different scholars, no one corporate governance model is suitable across all economies and firms due to economic and regional dynamics Velnampy (2013). Nonetheless, there are several diverse codes of corporate governance best practices that accounts for diverse legislation, business practices and structures of the board in every economy. In view of the foregoing, various measures which are applicable in a wide range of political, legal and economic environments. Consequently, OECD (2015) postulated some fundamental regulations of corporate governance measures applicable across varied jurisdictions which include: openness, honesty, accountability, trust, fairness and integrity. In the recent decades, scholars have investigated if the whole corporate governance, whether viewed as multiple rating parameters or as analyzed by a mean score (composite) is linked with financial performance.

The tenure of a CEO as a corporate governance measure is also an important determinant of the firm's performance. CEOs are hired on short-term contracts and are more concerned about the performance of the firm during their own tenure causing them to lay emphasis on short and medium-term goals. This tendency of the CEO limits the usefulness of security prices as a proxy for corporate performance (Bhagat & Bolton, 2008). The management of a firm can overcome this problem by linking some incentives for the CEO with the long-term performance of the firm. The legislation that is responsible for regulating the Kenyan capital market was reformed to partially reflect corporate governance principles (CMA, 2015). A key controversy in the corporate governance literature is the impact of CEO duality on firm performance.

The proponents of CEO non-duality criticized such duality on the grounds that there is a problem of monitoring the management by the board if the board Chair and CEO is the same person. CEO duality gives enormous power to the CEO which tends to fail the internal control system and reduces the checks and balances as the CEO may be motivated by self-interest ignoring the interest of various other stakeholders (Tricker, 1994). Good governance principles highlight the fact that the roles of CEO and chairman of the firm should be held by separate individuals.

Velnampy (2013) suggest that involvement of one personality as firm CEO and Chairman would violate the separation of decision management from decision control. Daily and Dalton (1994) concluded that there was a strong and robust positive association between CEO duality and firm bankruptcies.

Managerial ownership (MO) is a situation where the managers own shares in the firm (Saida & Gidado, 2018). In essence, they serve as managers of the firm as well as the firm's shareholders. This implies that, managerial ownership is the number of shares held by those who manage the affairs of the business where they act as an agent of the shareholders. Ownership separation and control and conflicts of interests between the agent (managers) and the principal (owners) are often the main focus of the corporate governance literature (Jensen & Meckling, 1976). However, a narrow definition of corporate governance, which only focused on the classic agency conflict between managers and shareholders, ignores the potential conflicts of interest among other parties (Cornet et al., 2007).

Hence, delegating the responsibility of monitoring management to the board of directors may lead to another agency conflict between the board of directors and shareholders. Boards of directors may also avoid efficient monitoring because they are dependent on managers or simply because they do not have an incentive to put much effort in monitoring managers. While it is true that monitoring by regulators represents an additional governance mechanism; their presence may further complicate governance problems in firms. Thus, the presence of heavy regulations, informational asymmetries, sequences and a conflict of stakeholder interests in firms has a special relevance on the internal corporate governance mechanisms which have the board of directors at its apex (Edward & Nibler, 1999). Brickley et al. (1997) studied on leadership structure on firm’s performance. The results revealed that manager’s ownership improves the financial performance and concluded that managerial ownership is an encouraging aspect for the managers. Fama and Jensen (1983) declared this aspect as “two-edged knife” which has maximum and optimal benefit and enhancement in a firm’s financial performance.

Non-Executive Director (NED) is defined as the level of presence of independent directors or non-executive directors in the whole board of directors (Ali, 2016). The Kenyan code on

corporate governance (2016) stipulates that the board shall appoint a nomination committee that should consist mainly of independent and non-executive board members. Its duty is to propose new nominees for appointment to the board and for assessing the performance and effectiveness of the directors of the firm (CMA, 2016). Independent non-executive directors are described as the "mainstay of good governance", non-executive directors are also considered to be a guarantee of the integrity and accountability of firm's boards. An independent non-executive director is also defined as independent directors who have no affiliation with the firm except for their directorship (Clifford & Evans, 1997).

There is an apparent presumption that boards with significant outside directors will make different and perhaps better decisions than boards dominated by insiders. The Code on corporate governance further recommends, as a best practice, that there needs to be balance on the board of directors with at least one third of the board members being independent directors. This is to ensure the effectiveness of the independent directors in maintaining the objectivity in board decisions. The argument for the need of independent non-executive directors on the board is substantiated from the agency theory which states that due to the separation between ownership and control, managers (given the opportunity) would tend to pursue their own goals at the expense of the shareholders (Jensen & Meckling, 1976). Hence, by having independent non-executive directors on the board, these directors would help to monitor and control the opportunistic behavior of management and assist in evaluating management more objectively.

Corporate governance practices that have been employed by various scholars in their studies included: CEO duality, audit committee independence, board independence, board procedures, transparency, disclosures and auditing (Coleman & Biekpe, 2008; Rashid, 2010). Board Size, Related Party Transactions were employed by Velnampy (2013); Orayo and Ombaba, (2017). Managerial Ownership and Minority Shareholders Rights were used by Azeem et al. (2015) as corporate governance measures. This study adopted board size (BSZ), CEO duality, managerial ownership (MO), and non-executive directors (NED) as mediating variable proxies for corporate governance variable following the studies by Velnampy (2013); Haryono and Paminto (2015); Earnest and Sofian (2013).

1.1.4 Financial Performance

The financial performance of a firm is measured by how wealthy the company owners are at the end of the period compared to the beginning. This can be established using accounting-based ratios derived from annual reports and financial statements, mainly the statement of financial position (balance sheet) and financial performance (income statement) or using data on security market prices (Berger & Dipatti, 2002). More profitable firms should have lower leverage ratios than the less profitable ones as they can to finance their investment opportunities using the firm's retained earnings.

The studies conducted by Akeem et al. (2014); Short et al. (2007); Ameen and Kiran (2017); Martis and Bremen (2013); Abor (2007); Arcas and Bachiller (2008) measured financial performance using variables such as; ROA, ROE and Tobin's Q which were often adopted as proxies for financial performance indicators. These ratios serve as indicators of whether there is achievement of the shareholders' business objective of making them more affluent and the analysis of trends of financial performance over time by comparing the ratios with other competing firms. Charreaux (2001) argued that an adequate measure of performance must give an account of all investment consequences on shareholder's wealth. The main focus of shareholders' business investment is to increase their wealth. Therefore, the measurement of firm performance must give an indication of how better-off the shareholder has become as a result of the investments over a specific period time.

The studies concluded that ROA and ROE ratios are good measures of financial performance since they had consistently shown robust results and have become the key indicators of whether the shareholders' main objective of making them wealthier is being achieved (Okiro et al., 2015). Moreover, these indicators can be used to compare the ratios of the firm with other rival firms or to establish the trends of financial performance over time. The key variable of concern of this study is the firms' profitability as measured by return on assets (ROA). Thus this study adopted ROA as a measured financial performance, since it has proved to be more robust and the most commonly used accounting-based ratio (Goddard et al., 2005; Okiro et al., 2015).

The rationale for selecting non-financial firms in this study was because dissimilar to financial sectors whose capital portfolio is regulated strictly by the Central Bank of Kenya, the regulations of capital holding doesn't apply to non-financial firms notwithstanding that listed firms at NSE falls within the purview of Capital Market Authority. This therefore implies these firms are expressly at liberty to choose any capital structure portfolio which is favorable to finance their activities. This laissez-faire model predisposes non-financial firms to possibilities of being highly geared which may result in financial challenges (Bitok et al., 2011).

Moreover, different from the advanced economies where the systems of capital markets are comparatively developed, effective and highly efficient; the Kenyan capital markets are still at infancy stage on several aspects (Ongore, 2011). Specifically, corporate bonds market is immature and heralds still at low participation stage on the segments of corporate bonds (Mwangi et al., 2014). The consequential effect of this is that when the firms requires external funding (debt) they automatically resort to loans from commercial banks as the ultimate provider of capital. Loans from commercial banks particularly in Kenya were notably characterized by high rates of interest which are burdensome to these firms (Magara, 2012).

1.1.5 Nairobi Securities Exchange

The Nairobi Securities Exchange based in Kenya, is a leading African Exchange and among the fastest-growing economies in the Sub-Saharan Africa. The NSE which was founded in 1954 has a six-decade heritage in listing equity and debt securities in Kenya. It offers a world class trading facility for local and international investors looking to gain exposure to Kenya and Africa's economic growth. NSE demutualized to form a joint security company and self-listed in 2014. The Board and management team of NSE are composed of some of Africa's leading capital markets professionals, who are focused on innovation, economic growth, diversification and operational excellence in the Exchange (NSE, 2019).

NSE is playing a vital role in the growth of Kenya's economy by encouraging savings and investment, as well as helping local and international firms' access cost-effective capital. The operation of the NSE is within the jurisdiction of the Capital Markets Authority of Kenya. It is an affiliate of the World Federation of Exchange, a founder member of the African Securities

Exchanges Association (ASEA) and the East African Securities Exchanges Association (EASEA). It is also a member of the Association of Futures Market and also a partner exchange in the United Nations-led SSE (Sustainable Security Exchange) initiative. Firms can also raise extra finance essential for expansion and development and in order to raise more funds, a new issuer publishes a brochure or a prospectus, which gives all pertinent particulars about the operations and future prospects and states the price of the issue. Nairobi Securities Exchange also enhances the inflow of international capital.

As at December 2018, there was a total of sixty-five (65) listed firms clustered in Agricultural, Automobiles and Accessories, Banking, Commercial and Services, Construction and Allied, Energy and Petroleum, Insurance, Investment, Investment Services, Manufacturing and Allied, Telecommunications and Technology (NSE Handbook, 2019). However, this study focused on non-financial firms thus excluded twenty-five (25) financial firms related to banking, Insurance, investment funds and real estate. From the remaining population of 40 non-financial firms, thirty-three (33) firms were finally considered as the sample for this study since they were in existence for the entire period under study (2009-2018).

1.2 Statement of the Problem

The studies on capital structure, firm characteristics, corporate governance and financial performance have been at the center of great empirical investigations in the field of finance and economics. Specifically, the subject of capital structure has been the subject of research studies in economics fields and business since the first study by Modigliani and Miller (1958). In Kenya, seven (7) firms have been delisted from NSE due to unsatisfactory financial performance and corporate governance challenges since the year 2008. The firms that were delisted include; Unilever Tea Ltd (delisted in 2008), Access Kenya Ltd (delisted in 2013), Rea Vipingo Ltd (delisted in 2015), Marshall East Africa, Hutchings Biemer and A. Baumann (all delisted in 2017) and Atlas African Industries (delisted in 2019).

Furthermore, at least thirteen (13) other firms risk being put on the recovery board, due to poor and declining financial performance, corporate governance issues and the rapid decline of their

share prices (NSE, 2019). These firms including; Uchumi supermarkets, Mumias Sugar Company, Kenya Power, National Bank, Trans-Century, Express Kenya, Sameer Africa Plc, Athi River Mining, EA Cables Ltd, EA Portland Cement Ltd, Home Africa Ltd, Olympia Capital Holdings Ltd and Eveready East Africa Ltd, risk being delisted if they fail to turnaround within the timelines given by Capital Markets Authority. In April 2020, NSE issued further extension of suspension from trading of Mumias Sugar Company and Deacons East Africa shares until further notice. In July 2020, Kenya Airways was suspended from trading its shares at the NSE ahead of its buyout by the government which was awaiting deliberation by Parliament. The challenges of these firms are largely attributed to corporate governance issues and financial struggles with negative working capital, where short term assets fall short of short term liabilities, making it difficult for them to pay their short-term debts and meet their daily financial obligations (NSE, 2019).

Many challenges experienced by the firms put under statutory management recovery unit were largely related to financing and corporate governance issues (Chebii et al., 2014). This situation has led to loss of confidence and investors' wealth in the security markets mainly in developing economies like Kenya. Finance theory and literature suggests that an optimal capital structure leads to good financial performance but there is no consensus yet on how to achieve an optimal capital structure (Abeywardhana, 2015). This study therefore sought to fill this gap by investigating the moderating effect of firm characteristics, mediating effect of corporate governance on the relationship between capital structure and financial performance of non-financial firms listed at Nairobi Securities Exchange, Kenya.

1.3 Objectives of the Study

The general objective of this study was to determine the effect of Capital Structure, Moderating effect of firm characteristics and mediating effect of corporate governance on financial performance of non-financial firms listed at Nairobi Securities Exchange, Kenya.

The specific objectives of the study are as follows;

i. To establish the effect of capital structure on financial performance among listed non-financial firms at NSE, Kenya.
ii. To establish the moderating effect of firm characteristics on capital structure and financial performance among listed non-financial firms at NSE, Kenya.
iii. To examine the mediating effect of corporate governance on capital structure and financial performance among listed non-financial firms at NSE, Kenya.
iv. To determine the joint effect of capital structure, the moderating effect of firm characteristics, mediating effect of corporate governance on financial performance among listed non-financial firms at NSE, Kenya.

1.4 Research Hypotheses

In order to answer the objectives outlined, the following hypotheses were tested:

H_{O1}: Capital Structure has no statistically significant effect on financial performance among listed non-financial firms at NSE, Kenya.

H_{O2}: Firm characteristics has no statistically significant moderating effect on capital structure and financial performance among listed non-financial firms at NSE, Kenya.

H_{O3}: Corporate Governance has no statistically significant mediating effect on the relationship between capital structure and financial performance among listed non-financial firms at NSE, Kenya.

H_{O4}: There is no statistically significant joint effect of capital structure, the moderating effect of firm characteristics and mediating effect of corporate governance on financial performance among listed non-financial firms at NSE, Kenya.

1.5 Justification of the Study

This study contributes to both theoretical and practical knowhow. The study would be beneficial to future researches on financial management especially on making optimum capital structure

decisions in the non-financial firms. The outcome of research would guide management arms of the various non-financial firms on gathering more insights on restructuring and employing sound business strategies as they decide on firm's optimal capital structure policy, corporate governance policies and sanction viable projects that improve security returns and maximize the wealth of the shareholders. The existing firms would be able to appraise their portfolios more efficiently as they would be able to assess the overall risk of their investments and securities returns. The firms may also use ratio analysis to measure their results against other organizations and make judgments concerning management effectiveness and mission impact.

The managers may use ratio analysis to pinpoint strengths and weaknesses from which strategies and initiatives can be formed. The research outcome of this study would improve managers understanding on financial management, corporate governance and trends over time. This may provide key indicators of organizational performance through which a sustainable business and mission can be carried out with effective planning and financial management. This study provides a crucial insight concerning the association between capital structure and financial performance of the non-financial firms. This knowledge would be of significance to scholarly contribution since it may lay the foundation for further research studies. The results may also sensitize practitioners of the industries and enhance financial decision making processes by giving a crucial reference point on requirement by the firms to establish and maintain optimum financial portfolio needed to protect them against prevalent challenges of gearing issues. This would not only optimize the owners' wealth but also boost the confidence of investors in the capital markets of Kenya.

Finally, the results and recommendations would be useful to the CMA, Nairobi Securities Exchange and policy makers in crafting relevant strategies required to consistently evaluate and monitor the financing mechanisms of the firms. This would be attained by establishing specific industry-based debt thresholds that would ensure that the firms aren't exposed to possible risks of financial distress and ineffective corporate governance that results in adverse effects in investors' wealth.

1.6 Scope of the Study

The scope was narrowed to non-financial firms which were in existence for the 10-year period 2009-2018. These firms covered seven (7) sectors which includes; Agriculture, Commercial Services, Automobiles and Accessories, Manufacturing and Allied, Construction and Allied, Energy and Petroleum; and Telecommunication and Technology, which comprises of thirty-three (33) sampled firms. These sectors are among the major forces driving the Kenyan economy hence the reason for the sample.

The firms in the financial sector were not included in the study since they have a tendency of applying off balance sheet policy in revealing their assets and liabilities; since some of the assets and liabilities reported may not be owned by the firm (Altman, 2000). The period 2009 to 2018 was considered relevant since it was within the regime of the global economic recession of 2009, which saw most firms suffer serious financial crisis. As a result, some firms were delisted and others suspended from trading at NSE while others were put under statutory management recovery unit.

1.7 Limitations of the Study

Firstly, the focus was on non-financial firms which may limit generalization of the findings to other business jurisdictions, sectors or non-listed firms. The sample of the study was drawn from the population of all firms with complete records. Secondly, during the process of data collection some data providers didn't cooperate especially with respect to corporate governance issues and hence made the study challenging to undertake or get the amount of data required for the study in good time. To avert this, the researcher communicated the rationale and essence of the study in advance to avert any challenge in getting the data required. Thirdly, some of the data collected from the firms contained errors which could result to situations of unbalanced panels. To overcome this challenge, this study only used complete records available from the firm's annual financial reports to avoid unbalanced panels and arriving at biased conclusion. Lastly, some of the data gathered from annual reports and financial statements were insufficient and inconsistent.

To bridge this gap, the researcher collected the missing data from other sources from African Stock Markets Companies (ASMC) apart from NSE, CMA handbooks and publications.

1.8 Operational Definition of Terms

Asset tangibility: Refers to the degree to which the firm is financed by the fixed assets. It can also be understood as the resale value or ease of redeployment of corporate assets in the firm. This study used fixed assets and total assets to analyze asset tangibility.

Board size: Board Size is the total number of board of directors of a particular firm. The study used the number of directors representing the board of the firm to operationalize the variable.

Capital Structure: This is how a firm finance its investments through the mix of debt and equity in a manner that the value of the firm is maximized. This study employed debt ratio, equity-ratio and debt-equity ratio as dimensions of capital structure.

Chief Executive Officer Duality: CEO duality describes situations where the positions of CEO and chairperson of the board are held by the same persons.

Corporate Governance: Corporate governance is described as a combination of policies, laws and instructions influencing the way a firm is managed and controlled. This study employed Corporate Governance as a mediating variable which adopted board size, CEO duality, managerial ownership and non-executive directors as its proxies.

Debt-Equity Ratio: Debt-equity ratio shows how much debt a firm has compared to its assets. A DER ratio of more than one implies that the firm is a leveraged firm; less than one implies that the firm is conservative.

Debt Ratio: Debt ratio is the portion of the firm's assets that is financed by debt. Debt ratio in the study was measured by long term debt and short term debt.

Equity Ratio: Equity-ratio determines the portion of total assets financed by equity (from owners' contributions and the firm's accumulated profits). Equity ratio in the study was measured by shareholders' equity divided by total assets.

Firm age: Firm age is defined as the number of years since the first listing of a firm plus one digit to avoid zero ages.

Firm Characteristics: Firm Characteristics involve numerous attributes of the firms which include; leverage, firm size, asset growth, liquidity, firm age, sales growth, turnover, profitability, industry type, asset tangibility and geographical location among others. This study employed firm characteristics as a moderating variable using three attributes which included; Assets tangibility, firm growth and Firm age.

Firm growth: This is defined as a specific development process, similar to biological processes which results in an increase of size or improvements in quality in the firm. Growth in the firms was measured by the growth in assets of the firm over time.

Financial Performance: Generally, financial performance measures of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. Financial performance in the study was measured by the firms' Return on Assets.

Managerial Ownership: This is a situation where a manager owns shares in the firm they manage. The study measured the variable using the shares owned by top managers of the firms.

Non-Financial Firms: These are firms that provide services that do not include brokering, banking or anything related to investment. They deal with production of market goods and services and their financial transactions are wholly distinct from those of their owners. This study inclined on seven non-financial sectors listed at the NSE.

Non-Executive Directors: Refers to the percentage of the total number of independent non-executive directors to the total number of directors.

Return on Assets: The Return on Assets is a profitability ratio that measures the net income produced by total assets during a period by comparing net income to the average total assets. In this study, ROA measured how efficient a firm manages its assets to produce profits. It is measured as the net profit after tax (net income) divided by total assets.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of both theoretical and empirical studies related to the problem and purpose of the study. It is structured according to the specific objectives on capital structure, firm characteristics, corporate governance and financial performance with the objective of getting a clear understanding and knowledge on the link between capital structure and financial performance of non-financial firms. The empirical literature reviewed on capital structure, firm characteristics, corporate governance and financial performance helped in the identification of the knowledge gap. Lastly, the section outlines the summary of reviewed literature, the research gap and the conceptual framework.

2.2 Theoretical Perspective

This part describes the key theoretical inclination that provide insights on the moderating effect of firm characteristics, mediating effect of corporate governance on the link between capital structure and financial performance. The theories upon which capital structure, firm characteristics and corporate governance are based include; Modigliani and Miller Irrelevance Theory (Modigliani & Miller, 1963); Trade off Theory (Kraus & Litzenberger, 1973); Pecking Order Theory (Myers & Majluf, 1984) and Agency Theory (Berle & Means, 1932). However, the existing theories postulates mixed associations between capital structure, firm characteristics, corporate governance and financial performance of the firm. Some theories disclosed positive links between the variables, while others reveal negative associations yet others found no relationships.

2.2.1 Modigliani and Miller Irrelevance Theory

The irrelevance theory of capital structure was introduced by Modigliani and Miller (1958). The theory states that market value of a firm is determinant of the risk of the underlying assets and its earning power. It further reiterates that the firm market value is not dependent on how they

choose to finance their investments or its dividend payout policy. It was the first breakthrough in relation to the subject of capital structure and its effect on financial performance. They first hypothesized that if markets are perfectly competitive, firm performance will not be related to capital structure, thereby suggesting insignificant link between a firm's capital structure and its performance. They also concluded that the value of the firm is similarly not affected by its financial structure. The presumptions of a perfectly competitive market in this theory disbar the impact of tax, inflation and transaction costs associated with raising money or going bankrupt. Furthermore, they also assume that disclosure of all information is essential, thus there is no information asymmetry. Due to various disapprovals which arose, Modigliani and Miller (1963) issued an alteration to the first theorem, referred to as Modigliani and Miller II. In their revised proposition they incorporated tax benefits as determinants of capital structure. The vital characteristic of taxation is the acknowledgement of interest as a tax-deductible expenditure.

According to Modigliani and Miller (1963) in the revised theory, a firm that respects its tax obligations, benefits from partially offsetting its interest, namely the tax shield, in the form of paying lower taxes. The revised theory indicated that firms can maximize their value by employing more debt due to tax shield benefits allied with the use of debt and hence firms benefit from taking on more leverage. This shows that firm value and firm performance is an increasing function of leverage due to the tax deductibility of interest payments at the corporate level. In reality markets are inefficient, due to taxes, information asymmetry, transaction costs, bankruptcy costs, agency conflicts and any other imperfect elements. When taking these elements into consideration, the theory tends to lose some of its explanatory power.

The relevance of the theory was underscored since it focuses on capital structure which is the main independent variable of the study. The theory proposed that the choice of capital structure may not matter in the evaluation of the financial performance of firms. This means that capital portfolio adopted by the firms may not guarantee a favorable relationship with their financial performances. This gap therefore enhances the need for more investigation so as to establish the nature of link that exist between capital structure and financial performance of non-financial firms.

2.2.2 Trade-off Theory

Trade-off theory was developed by Kraus and Litzenberger (1973). The proponent of the theory enumerated the benefits that accrue in financing with debt capital, especially the aspect of tax advantage. However, it's crucial to note the cost element in financing with debt, which include; the indirect bankruptcy costs and the direct financial distress costs of debt. The theory reiterates that in order to find an optimal capital structure, they trade off the benefits, costs of debt and equity finance factoring the net effect of market imperfections such as taxes, bankruptcy and agency costs. Hence, the theory postulates a positive link between firms' leverage ratios and its performance. This is the trade-off benefit that firms geared towards maximizing value, should focus on when choosing the proper debt-equity portfolio needed to finance their activities. Notwithstanding, there is a maximum leverage point where the marginal benefit of debt declines with further employment of debt finance, whereas the marginal cost increases hence decreasing firm value.

Consequently, the theory further postulates that optimal financing is obtained where the leverage related costs such as financial distress and bankruptcy, balances the with net tax advantage of debt financing, where firm's investment and assets decisions are held constant. In light of this, issuance of equity means drifting away from the optimum capital structure hence it's not advisable. Adopting this theory therefore, could be viewed as setting a target debt-equity ratio with an attempt of gradually achieving an optimum financing structure.

Moreover, trade-off theory suggests that profitable firms with higher levels of retained earnings tend to be highly geared since they can utilize tax shields more effectively on interest hence pays lower taxes. Besides, since these firms have higher profitability, operating profits and lower costs of financial distress. The theory was relevant to the study since it provides a basis for evaluating the optimum capital structure of non-financial firms, where the net tax benefit of financing with debt is taken into account. Moreover, it guides on the optimum point where the marginal benefit of debt decreases with further employment of debt finance, whereas the marginal cost increases hence decreasing financial performance of the firms. The theory further enhanced the study to investigate the nature of effect that exist between capital structure and financial performance.

2.2.3 Pecking Order Theory

Myers and Majluf (1984) developed the pecking order theory of capital structure. The theory states that managers follow a hierarchy when considering sources of finance and priority is primarily from internal sources (retained earnings) to eternal financing (debt and equity financing) as per the principle of least effort, which prefers to raise equity as the last resort means of financing. The theory incorporates the assumptions of information asymmetries and transaction costs. Pecking order theory does not assume an optimal level of capital structure, unlike the trade-off theory. It further recommends that firms adhere to a financing hierarchy so as to minimize cases of information asymmetry among parties. The theory asserts that internal funds which are less risky should be used first and when internal finances have been fully depleted, firms would resort for debt financing. When it's not economically viable to issue any more debt, they would eventually turn to equity as a last financing resource.

Furthermore, pecking order theory anticipates that firms that employ less debt capital are often more profitable and generates more cash flows than those that are highly geared due to heavy interest payments. This theory emphasizes that firms should adhere to an efficient financing hierarchy which prefer the least cost source of retained earnings when available. It further asserts that internal funds are less risky hence should be employed first before opting for debt financing and finally equity as a last resort means of financing. Moreover, when firms require external funding, they prefer employing debt capital instead of equity. Equity finance involves issuing of more shares of an entity, which usually results in a higher level of gearing or indebtedness into the firm. Therefore, the kind of borrowing that a firm opts for can act as an indication for the need of external financing. Since information disparity exists between the managers and investors then non-financial firms may need to adhere to financing hierarchy as postulated by this theory, where internal funds are utilized first before opting for debt financing or equity.

This theory was therefore relevant since it focuses on the financing strategy of firms which guided the study on the optimum capital structure and hierarchy adopted by listed non-financial firms. Further, it provided guidance to the study on the level of information asymmetry/symmetry between parties which may favorably or adversely affect financial

performance of non-financial firms. Moreover, it provided a basis for research on the influence of capital structure portfolio employed on financial performance of non-financial firms.

2.2.4 Agency Theory

The agency theory was developed by Berle and Means (1932), and states that due to a continuous dilution of equity ownership of large corporations, ownership and control has become more separated. This gives professional managers an opportunity to pursue their interest instead of that of shareholders. Agency theory explains the relationship between the principal (shareholders) and the agent of the principal (firm's managers). This postulates that the firm can be viewed as a nexus of contracts between resource holders. An agency relationship arises whenever one or more individual, called principals, hire one or more other individuals, called agents, to perform some service and then delegate decision making authority to the agents.

An optimal debt level in capital structure can be achieved by minimizing the agency costs arising from the divergent interests of managers with shareholders and debt holders. They further proposed that either ownership of the managers in the firm should be enhanced in order to align the interest of managers with that of the owners or use of debt should be motivated to control managers' tendency for excessive extra consumptions. Jensen (1986) presented agency problem associated with free-cash flow and proposed that free cash flow problem can be controlled somehow by increasing the stake of managers in the firm or by increasing debt finance in the capital structure. This arrangement will reduce the amount of "free" cash available to managers and align managers' interest with that of the shareholders.

Hence, firms which are mostly financed by debt gives managers less decision power than those financed by equity, and therefore debt can be used as a control strategy and mechanism, in which financiers and shareholders becomes the principal parties in the corporate governance structure. Sometimes firms opt to use of debt as a control mechanism and strategy to tame the managers not to be exposed to free cash flow. The challenge associated with this mechanism is that managers will enjoy part of the ownership through shares in the firms hence reducing the ownership percentage of the principals. Further, the analytical focus on how to settle corporate governance problems is very narrow and the stakeholders of the firms aren't the only ones to

make investments decisions, hence corporate governance will be affected by the associations among the various stakeholders in the firm. Since there is predisposition for the professional managers to pursue their individual interest instead of that of the shareholders and stakeholders, relevance of the agency theory was critical to the study in investigation of the alignment of interests of the managers with that of the owners. This was further emphasized by analyzing the level of financing with debt as a control mechanism to tame the managers from being exposed to free cash flow and their enhanced stake in order to increase financial performance of the firms.

2.3 Empirical Literature Review

This section involves review and analysis of empirical literature that provides insight on the identification of the research knowledge gap. The section also presents empirical literature on the effect of capital structure, moderating effect of firm characteristics; the mediating effect of corporate governance and financial performance.

2.3.1 Capital Structure and Financial Performance

Obumneme (2023) examined the impact of capital structure on the financial performance of Nigerian oil and gas companies. The study employed an ex-post facto research methodology, the short-term debt to total asset, long-term debt to total asset, total debt to total equity, and return on asset variables were investigated as proxies for capital structure and financial performance, respectively. The study also used an easy sampling strategy to gather secondary data which covered ten-year period 2011 to 2020 and were compiled from the annual financial reports of five (5) Nigerian oil and gas companies. Descriptive statistics, correlation and panel regression analysis were used to analyze the data. The findings of the analysis showed that while long-term debt to total assets has a negative significant influence on return on assets, short-term debt to total assets and total debt to total equity had positive insignificant impacts. According to the findings, managers of oil and gas, firms should reduce the amount of long-term debt since it had a negative effect on the financial performance. Further, they should also exercise prudence when making capital structure decisions.

Oyedekun et al. (2018) sought to establish the effect of capital structure on the financial performance of firms in Nigerian manufacturing sector. The population of the study was all the listed manufacturing companies listed on the Nigerian Stock Exchange and a sample of 10 listed companies was selected. The research design adopted by the study was ex-post facto using four models to analyze the impact of capital structure on firms' performance. The study used balanced panel data of 100 observations from the 10 listed companies for a ten-year period 2007-2016. Descriptive statistics and regression were employed as tools of analysis. The study showed that there was statistically significant and non-significant effect of capital structure on performance variables. Finally, the study recommended that manufacturing companies should adopt a balanced capital structure strategy that will optimize company's performance and corporate value.

Kyereboah-Coleman (2007) investigated on the effect of capital structure on financial performance of microfinance institutions in Ghana. The study employed panel data approach covering the ten-year period 1995-2004 to analyze the data within the framework of fixed- and random-effects techniques. The study used ROE and ROA as performance indicators. STD, LTD and TD were used as capital structure proxies with firm size, risk level and firm age as control variables. The results indicated that most of the microfinance institutions employed high leverage and financed their operations with long-term debt as opposed to short-term debt. Also, highly leveraged microfinance institutions performed better by reaching out to more clientele, enjoyed economies of scale and therefore were able to deal with moral hazard and adverse selection, enhancing their ability to deal with risk.

Marietta (2012) investigated the influence of capital structure on firm's performance of 27 selected companies listed at the NSE excluding banks during the period 2001 to 2010. In the study, capital structure was considered in terms of debt and equity. The focus of the research was to assess the link between debt, equity and age on firm's performance for the selected firms at NSE. The study used financial ratios which included ROE and ROA as measures of firm performance. The study also used debt ratio, equity ratio and profitability to analyze the effect of capital structure on the performance. Multiple regression analysis was employed since it was the best suited for providing a means of establishing quantitative association between variables. The

findings of the study disclosed that while internal funding increased firm growth, external funding had unfavorable effect on the firms and confirmed the propositions against the Agency Cost Theory.

Masavi et al. (2017) sought to investigate the influence of capital structure on financial performance of agricultural firms listed in Nairobi securities Exchange in Kenya. The study adopted longitudinal research design with targeted population being the six agricultural companies listed in NSE. The data was derived from annual financial reports for the period 2010-2014. Desk research instrument was used to obtain the data. Census was carried on the six listed companies. The data was analyzed, to establish the relationship between the variables of the study. Pearson's Correlation Coefficient and Multivariate Regression Analysis were used. The findings of this study revealed that an increment in debt ratio leads to an increment in financial performance, and debt-equity combinations increase result to a significant reduction in after tax profits of the companies and that capital structure affects financial performance. The study recommends that debt ratio and debt-equity be well managed for good performance to be realized.

Farooq and Masood (2016) investigated the effect of capital structure and firm characteristics on firm's value in cement Pakistan companies listed on the Karachi Stock Exchange during 2008-2012. The study selected the appropriate panel econometric technique between fixed effects and random effects in order to analyze the association between capital structure (debt to equity ratio) and firm's value. The results depicted that capital structure had positive and statistically significant association with value of firm which is represented by Tobin's Q. It was evident from the findings that cement companies of Pakistan can increase their value by creating a suitable mix of equity and debt in their capital structure.

Rouf (2015) investigated the financial performance on capital structure for the listed non-financial companies in Dhaka Stock Exchange (DSE) for the period of 2008-2011 under judgment sampling method. The specific aim of this research was to examine the association between the attribute of capital structure and financial performance as measured by ROA and Return on Sales (ROS). Multiple regression models were used to estimate the effect of capital

structure on financial performance. Capital structure was proxied by the debt ratio, debt-equity ratio, current debt ratio, proprietary of equity ratio and current assets proprietors' funds Ratio. The results from the regression analyses revealed that debt ratio, debt-equity ratio and proprietary of equity ratio disclosed negative effect with ROA and ROS.

Adekunle et al. (2010) examined the link between capital structure and financial performance of non-financial firms listed at Nigerian Stock Exchange during the seven- year period, 2001- 2007. Panel data for the selected firms were generated and analyzed using Ordinary Least Squares as a method of estimation. The findings revealed that a firm's capital structure measured by debt ratio, had a negative effect on performance as measured by ROA and ROE. This was consistent with the findings of Yazdanfar and Ohman (2015), Sheikh and Wang (2013), Chechet and Olayiwola (2014) and Nwude et al. (2016) and provided evidence in support of the agency cost.

Martis and Bremen (2013) investigated the impact of capital structure on financial performance and was based on the constituents of 500 large firms listed in American stock market. The research was based on panel estimation covering the periods 2003-2008 and 2003- 2011. The models were based on short term debt ratio (STDR), long term debt ratio (LTDR) and total debt ratio (TDR) as proxies of capital structure, while ROA, ROE and Tobin's Q were proxies to firm's performance. The study established evidence suggested a negative relationship between gearing ratios and ROA and that there was no statistical evidence proposing a link between leverage and ROE. Only short-term debt and total debt seemed to have had a negative effect when analyzing the impact of leverage on the performance measured by Tobin's Q. The results of the study were consistent with Algusin (2015), Baum et al. (2015), Borges et al. (2017), Pouraghanjan et al. (2012) and Vatavu (2015).

Manawaduge et al. (2010) examined the implications of capital structure of corporate entities in an emerging market, Sri Lanka, using panel data regression analysis for a sample of 171 companies. The results demonstrated that most firms at Sri Lankan financed their operations using STD capital as compared to the LTD. The findings provided strong evidence to indicate that debt capital had a negative effect on financial performance. The study also found a negative influence between asset tangibility and the performance indicating inefficient utilization of non-

current assets. The negative performance implications associated with over-utilization of short-term debts and the under-utilization non-current assets provided corporate managers with useful policy direction on appropriate capital structure and operational decisions.

Sheikh et al. (2012), investigated the effect of capital structure on the performance of non-financial firms in Pakistan. Panel econometric techniques namely pooled ordinary least squares (OLS), fixed effects, and random effects were used to investigate the impact of capital structure on performance of non-financial firms listed on the Karachi Stock Exchange Pakistan during 2004-2009. The results indicated that all measures of capital structure (total debt ratio, long and short-term debt ratio) were negatively related to return on assets in all regressions. Moreover, total debt ratio and long-term debt ratio are negatively related to market-to-book ratio under the pooled OLS model, whereas these measures are positively related to market-to-book ratio under the fixed effects model. Short-term debt ratio was positively related to market-to-book ratio in all regressions, however the relationship was insignificant. The negative association between capital structure and financial performance indicated that agency issues may lead the firms to use higher than appropriate levels of debt in their capital structure.

Kerongo et al. (2020) examined the link between capital structure and financial performance of non-financial firms and how this relationship was moderated by firm size. The study analyzed unbalanced panel data sourced from across 53 firms from the year 2010 to 2017. Total debt to total equity, total equity to total assets, and total debt to total assets were adopted in assessing capital structure of the listed non-financial firms. Firm size was measured using natural logarithm of total sales. The attribute of financial performance was measured by Tobin's Q. The data was analyzed using descriptive statistics and regression model analyses. Multiple regression models were adopted to ascertain the direction and level of the associations. The study revealed that gearing ratio had a significant positive link on the firms' performance.

Olokoyo (2013) examined the association between capital structure and financial performance of Nigerian listed firms. Empirical results based on 2003 to 2007 accounting year and marketing data for 101 quoted firms in Nigeria lend some support to the pecking order and tradeoff theories of capital structure. The study employed panel data analysis by using fixed-effect estimation,

random-effect estimation and a pooled regression model. The usual identification tests and Housman's Chi-square statistics for testing whether the fixed effects model estimator is an appropriate alternative to the random effects model were also computed for each model. The firm's debt ratio was found to have a negative significant effect on the firm's performance as measured by ROA. An interesting finding was that all the gearing measures had a highly positive significant association with Tobin's Q. This was consistent with the results of Akinyomi (2013) and Babalola (2014) and Abbu-Abbas (2015).

Mwangi et al. (2014) investigated the link between capital structure and the performance of non-financial companies listed at the NSE) for 7 years (2006-2012). The study sought to establish whether there exists an optimal capital structure and how various capital structure decisions, both short-term and long-term, affect business performance. The study employed an independent non-experimental research design and applied panel data models (random effects). Feasible generalized least square regression results revealed that capital structure had a significant negative link with performance measured by ROA and ROE. The results were consistent with Siro (2013, Karanja (2014) and Koech (2013). The results of the study revealed that the higher the debt ratio, the less the financial performance as measured by return on equity (ROE) which supports the use of equity finance (capital injection) rather than borrowing (debt finance). This is justified by the fact that the benefits of debt financing are less than its cost of funding.

Akeem et al. (2014) examined the effect of capital structure on firm's performance with a case study of 10 manufacturing companies in Nigeria from 2003 to 2012 with the purpose of providing a critical appraisal of the need and importance of capital structure. Descriptive and regression research technique was employed to consider the impact of some key variables such as total debt to total asset (TD) and Total debt-equity ratio (DE) used as variables of capital structure with ROA and ROE as performance measures. The study found that capital structure components (total debt and debt-equity ratio) were negatively associated to performance.

Winn (2014) investigated the effect of optimal debt-to-equity ratio on stock returns. The study estimated the value function for each firm using regression analysis and affirmed that firms which were optimizing returns had a concave value function where market value was dependent

on the debt-equity ratio and debt to equity ratio squared. The results revealed that firms with the smallest debt to equity margin values attained higher returns than firms with the largest margin values. Larger margins had a negative impact on returns, which suggested that companies that minimize debt-to-equity margins and consequently stay close to their optimal debt-to-equity ratio will experience higher stock returns.

Salamba (2015) assessed the influence of capital structure on SMEs performance in Tanzania particularly in Dodoma Municipality. The sample size selected was 100 SMEs stratified into textile shops, food vending, hardware and general supplies and secretarial and stationery. Simple Regression Analysis and Karl Pearson Coefficient of Correlation were used to determine the relationship between the independent and dependent variables with respect to the impact of the capital structure and SMEs performance. The findings revealed that capital structure had negative impact on SMEs profitability and had a positive and significant impact on SMEs liquidity. From the study findings, increase in debt finance on capital structure, decreases firm's financial performance. On the other hand, increase in debt financing resulted in the increase in liquidity of the firm consistent with the findings of Forsaith and McMahon (2002).

Adesina et al. (2015) investigated the influence of post-consolidation capital structure on the financial performance of Nigeria quoted banks. The sample for the study consisted of ten (10) Nigerian listed banks at the Nigerian Stock exchange for a period of eight (8) years (2005-2012). The study employed profit before tax as a measure of performance and equity and debt finance as independent variables. Ordinary least square regression analysis of secondary data revealed that capital structure had a significant positive link with the financial performance. This indicated that the management of the firms consistently used debt and equity capital to enhance their financial performance.

Ikapel and Kajirwa (2017) analyzed the effect of capital structure on financial performance of state owned Sugar Firms in Kenya. The specific objective was to determine the effect of long term debt on financial performance of state owned Sugar Firms. A retrospective research design was used. Pearson product moment correlation coefficient was used to assess for significant relationship between dependent variable (ROA) and the independent variable, long term debt. A

simple linear Regression model was adopted to identify significant predictors of ROA controlling for confounders. The results of the study indicated a significant negative relationship between long term debt and financial performance as measured by ROA, which was consistent with Masavi et al. (2017) and Ali (2013).

Ameen and Kiran (2017) sought to establish the impact of capital structure on firm's profitability of cement sector of Pakistan. Panel data of 18 firms listed on the Karachi Stock Exchange and data taken for a period of ten years as from 2006 to 2015. A set of variables were used to indicate capital structure which includes; Debt/Equity Ratio, Debt Ratio, Interest Coverage Ratio (ICR), Short term debt ratio, and Long term debt ratio and for Profitability; Return on Asset and Return on Equity. The variables were analyzed by correlation and regression. The results demonstrated that total debt ratio and long term debt ratio had negative and significant relationship with financial performance, which was consistent with Rouf (2015). The study concluded that short term debt ratio had a positive significant relationship with ROE.

Nassar (2016) examined the effect of capital structure on the financial firm performance of industrial firms in Turkey. The annual financial reports of 136 industrial companies listed on Istanbul Stock Exchange (ISE) were used which covered a period of eight years from 2005-2012. A multivariate regression analysis was applied to test the relationship between capital structure and financial performance. To measure firm performance, the study used indicators such as ROA, ROE and EPS as well as DR as capital structure variable. The results revealed that there was a negative significant association between capital structure and financial performance.

Salim and Yadav (2012), investigated the effect capital structure on financial performance of 237 Malaysian listed firms, using four of accounting based measures of firm performance (ROA, ROE, EPS and Tobin Q). The study employed panel data procedure for the firms on the Bursa Malaysia Stock exchange for the period 1995 through 2011. The empirical tests revealed that capital structure (TD and STD) negatively affected performance as measured by ROE, which is consistent with Ebaid (2009) which recorded the same results. The results of the study suggested that there was a significantly positive relationship between Tobin s Q and capital structure measured by short term debt (STD).

Hatem (2017) studied effect of capital structure maturity on firm's performance for firms in Malaysia and Mexico. Debt maturity was measured by three ratios (the long term capital structure, the short term capital structure and total debt ratio). The study used a sample of 116 firms from Malaysia and 92 firms from Mexico over a period of 7 years (2005-2011). The results revealed insignificant effect of the long term capital structure ratio on firm performance specifically for Mexico. The results of total debt ratio were mixed and inconclusive. The study found that firms with higher short term capital structure ratio are less profitable.

Hamouri et al. (2018) investigated the effect of capital structure upon growth of Jordanian firms. Total of 91 firms from Jordan was analyzed using panel data regression method for 10-year period (2006-2015). The findings of the study showed insignificant effect between capital structure measured by debt ratio and financial performance measured by growth of assets. Further, the results revealed a significantly positive correlation with financial performance as measured by growth of sales. Similar positive results were evidenced by Basit and Irwan (2017), Palacios et al. (2016) and Anton (2016).

Ogenche et al. (2018) investigated the effect of capital structure on financial performance of Consumer Goods Firms Listed in the NSE, Kenya. The study used panel data which targeted 12 firms listed at NSE. The data was extracted from annual financial reports used to compute the statistical ratios. A dynamic panel data regression model and E-views software were employed in data analysis. The results indicated that debt ratio had a negative significant effect on financial performance of the listed firms. From the findings of the study, it was concluded that debt ratio and firm size variables were the key parameters towards the association between capital structure and the firm's performance.

2.3.2 Firm Characteristics, Capital Structure and Financial Performance

Pouraghajan et al. (2012) analyzed firm characteristics of Iranian companies using asset tangibility. Abbas et al. (2013) in their studies used asset tangibility (measured by fixed assets) as a proxy for firm characteristics which focused on textile sector firms in Pakistan. Other studies including Musah (2019); Mwangi and Birundu (2015); Zeitun and Tian (2007) also used asset tangibility in their studies as a proxy for firm characteristics. This study used asset tangibility

measured by fixed assets a proxy for firm characteristics following the studies by Baloch et al. (2015); Campello (2007); Mwangi and Birundu (2015); Muigai (2017).

Vries (2010) studied the effect of firm characteristics and economic factors on Capital structure of South African Listed industrial firms. The study was conducted to cover a period of 14 years, from 1995 to 2008. The study carried out a census for all firms listed on the industrial sector, as well as those firms that were delisted during the selected period. The findings of the study revealed that the growth of firms and the interest rate was attributed to firm characteristics and economic factors, respectively.

Ondigo (2016) investigated the moderating effect of Firm Characteristics on the relationship between Corporate Governance and Financial Performance of commercial banks in Kenya. The findings of the study revealed that Firm Characteristics did not moderate the relationships between Corporate Governance and Capital Adequacy; Corporate Governance and Management Capacity as well as Corporate Governance and Liquidity. Firm Characteristics however moderated the relationships between Corporate Governance and Asset Quality as well Corporate Governance and Composite Financial Performance (CAMEL ratio). From the results, firm characteristics moderated the link between corporate governance and financial performance of commercial banks in Kenya.

Booth et al. (2001) investigated the effect of asset tangibility and financial performance. The results of their study revealed that there is a positive and significant relationship between asset tangibility and financial performance. A firm with large amount of fixed assets can borrow at relatively lower rate of interest, by providing the security of these assets to creditors as collateral and as such boosting their financial operations (Martis & Bremen, 2013; Titman & Wessels, 1998). The study revealed that firms with more tangible assets have a higher ability to issue secured debt thus underscoring the moderating role of firm characteristics on the relationship between capital structure and financial performance.

Campello (2007) investigated the effect of assets tangibility and financial performance under external financing in Canada. From the study, the performance of externally-funded investment

was driven by the post-financing value or re-deploy ability of the assets outside the firm. More precisely, the study showed that the component of investment explained by external financing was associated with superior firm product market performance, valuation, and accounting returns. Subsequently to financing, asset tangibility turned out to be high. In contrast, economic outcomes associated with external funding were markedly poorer when asset tangibility was low. Noteworthy, these dynamics were not observed for internally-funded investment. From the inferences, the firm observed superior firm performance under external financing when assets were more tangible and this held for both new outside equity and debt financing.

Ochingo and Muturi (2018) studied the effect of firm characteristics on financial performance of savings and credit cooperatives society in Kenya. Specifically, the study investigated the effect of asset quality, operational efficiency, capital adequacy and liquidity on savings and credit cooperative society (SACCO) financial performance. The study employed descriptive research design and a census of the population was used over a period of three years (2013-2015). Panel regression analysis was employed to show the link between firm characteristic and financial performance of SACCO's in Kenya. Results of the study revealed that capital adequacy, asset quality, operational efficiency and liquidity had positive significant link on financial performance of SACCO's in Kenya.

Musah (2019) investigated the nexus between asset tangibility and the financial performance of non-financial firms listed on the Ghana Stock Exchange (GSE). Specifically, the study sought to; examine the association between tangibility and the firms' financial performance as measured by return on assets, determined the connection between tangibility and the firms' financial performance as measured by ROE; and sought to find out the affiliation between tangibility and the firms' financial performance as measured by ROCE. This study was a quantitative study as it aimed to classify features, quantify them in terms of numbers and create a statistical model to test hypothesis and explain observations. The study was correlational in nature and the results revealed a positive link between asset tangibility and firms' financial performance.

Fairfield et al. (2003) explored the relationship between assets growth and firm performance. The study disaggregated growth in net operating assets into accruals and growth in long-term

operating assets. Whether growth is in current assets or long-term net operating assets, the study found that the market's apparent mispricing of accruals related to investors inability to correctly assess the implications of growth in net operating assets for future profitability. The findings further showed that assets growth had a positive link with the performance of the companies. It further stated that strategies for firm growth vary in terms of their degrees of novelty, uncertainty and synergy. The modes of firm growth included replication (growth by 'more of the same'), diversification and internationalization. Growth strategies can be implemented using organic growth or through acquisitions. The desire for growth was necessary though insufficient condition and often can be a challenge but the availability of growth opportunities to be seized is crucial for the firms. While sustainable growth is rare, firms cannot always translate their ambitions into growth, but should pay attention to critical decision points.

Ahmad et al. (2012) investigated the impact of capital structure on profitability and growth in cement sector of Pakistan. The firm's growth was measured by the firms' assets growth estimated as the annual percentage changes of assets of the firm. Rimo and Panbunyuen (2010) measured the firm growth using sales growth proxy which represents the extent to which a company increases its sales yearly. It was measured as current year's sales minus previous year's sales divided by previous year's sales. It was further argued that the growth opportunity of the firm can be described as the growth of the total asset of the firm. The greater the growth opportunity of the firm the better their value and especially since they have high potential of effectively diversifying their growth opportunity to further perform better.

Maggina and Tsaklanganos (2012) examined assets growth and firm performance. The study provided evidence drawn from publicly traded companies in Greece on the predictability of assets growth with respect to firm performance. Discriminant analysis and a logit specification was used to test the hypothesis. The findings showed that assets growth was predictable at 87.5 percent rate in large companies which was high compared those in other prediction variables such as bankruptcy, qualified audit reports and going-concern opinions. The findings clearly indicated that asset growth can be predicted and the models are discriminating. This study purported to discriminate companies with positive asset growth from companies with negative asset growth.

Loderer and Waelchli (2010) analyzed firm age and performance using a dataset consisting of 10,930 listed US firms. The prior belief would seem to be that age benefits performance. However, firms learn about their abilities and about how to do things better as they age. Furthermore, the available empirical evidence shows that life expectancy increases with age, and that better firms survive. However, investors' uncertainty gets resolved over time as the firm grows older and leaves an increasingly revealing financial track record. Declining risk implies declining required rates of return. Hence, performance could appear to deteriorate with age when in fact the driving factor is declining risk. Age could therefore correlate with diversification, and thereby indirectly with performance. The study revealed that as firms get older, their returns continue to deteriorate. On the contrary, Coad et al. (2013) found that older firms enjoy higher productivity and profits.

Soliman (2019) examined the moderating effect of firm characteristics on the association between accounting conservatism and cash holdings. The study focused on Egyptian listed firms in Egyptian Stock Exchange (EGX), especially EGX 100, for six-year period from 2013-2018; it covered 11 main sectors, 125 firms and 703 unbalances panel data observations. This study discussed and investigated the answers for three questions, the first question was about the direct association between conservatism and cash, the next was on the moderating effect of firm characteristics on this association and lastly, was about the effect of adopting Egyptian Accounting Standards (EAS) since 2016 on the last association. The findings indicated that; conservatism had a negative effect on cash holdings; only firm size had a moderating and positive effect on the association between conservatism and cash holdings; firm leverage, firm growth opportunity, and firm managerial ownership do not have a moderating effect on the last association.

Mutende et al. (2017) investigated the moderating role of firm characteristics on the link between free cash flows and financial performance of firms listed at NSE, Kenya. The study investigated the effect of firm characteristics on the link between free cash flows and financial performance. The firm characteristics considered in the study were firm size and age. The study used panel data from all listed firms for the period 2006-2015. The findings of the regression analysis showed that free cash flows have a significant positive effect on financial performance; while

firm characteristics had a negative significant moderating effect on the association between free cash flows and financial performance. The study recommended that firm managers, shareholders and practitioners should focus more on the need for firms to generate more FCF.

Njiraini et al. (2021) investigated the moderating effect of Firm Characteristics on the Relationship between Electric Power Outage Dynamics and Financial Performance of Manufacturing Firms in Kenya. The study focused on determining the effect of firm characteristics on the link between electric power outage dynamics and financial performance of manufacturing firms in Kenya. From a population of 447 manufacturing firms, a sample size of 138 firms was drawn using stratified random sampling methodology. The findings of the study showed that the link between electric power outage dynamics and financial performance of manufacturing firms was not significantly moderated by firm characteristics. The outcome of the study enriched the existing knowledge on electric power outage dynamics in relation to firm characteristics and financial performance.

Mutunga and Owino (2017) examined the moderating effect of firm size on the link between micro-economics factors and financial performance of manufacturing firms in Kenya**.** The specific objective was to establish effect of operations practices and firm financial performance, and to establish the moderating effect of firm size on the link between micro factors and financial performance. The macro economic factors included operational practices, production capacity, management practices. Agency theory was used as the foundational theory, with enforcements from wealth maximization theory and the resources based theory. The research design was descriptive research design and data was collected using a self-administered questionnaire, from a population of 180 manufacturing firms in Kenya. Correlation and regression techniques were adopted to analyze the data. The results of the study indicated a positive significant relationship between micro factors on firm financial performance. The results revealed that association between micro factors and firm financial performance was moderated by firm size and further established that firm size and firm financial performance were positively and significantly related. The conclusion of the study indicated that there was a positive relationship between the moderating effect of firm size on the link between micro-economic factors and manufacturing firms' financial performance.

Mboi et al. (2018) sought to establish the moderating effect of firm characteristics on the link between capital structure and financial performance of Medium-sized and Large Enterprises listed at NSE in Kenya. The study employed secondary data consisting of annual financial reports from 60 large enterprises and 30 medium-sized enterprises totaling to 90 enterprises for 6-year period 2011-2016. SDTAR, LDTAR and TDTET were used as capital structure proxies; ROE and ROA as proxies for financial performance while size and age represented firm characteristics. Multiple regressions were applied to establish the extent of the effect of firm characteristics on the link between capital structures and financial performance. The study established significant positive moderating effect of firm characteristics on the association between capital structures and financial. However, size and age reduced the explanatory powers of accounting for the variability in ROE while they increased explanatory powers for ROA. In conclusion the study found that decrease in ROE and increases in ROA were attributed to change in size and age.

Kisengo and Kombo (2014) investigated the effect of firm characteristics (firm age and size) on performance of the microfinance Sector in Nakuru, Kenya. The study adopted correlational research design and carried out census survey which was done on the 48 institutions registered with Association of Microfinance Institutions (AMFI) and operating in Nakuru. The study summarized the data on firm characteristics and organizational performance using descriptive statistics. The association between firm characteristics and financial performance of MFIs was examined using correlation and the effect of firm characteristics on the performance of micro-finances was determined by regression analysis. The findings revealed that size and age had a significant positive effect on performance of microfinance institutions (MFIs).

Mwebia (2017) investigated the effect of selected firm characteristics on financial performance of firms listed at the NSE from 2011 to 2015. The study was based on resource based theory, Trade-off theory and organizational theory. The study used descriptive research design and employed multivariate regression analysis to analyze the data. The findings indicated that leverage had moderate relationship with financial performance, while asset tangibility and size had strong positive correlation with financial performance. Firm age on the other hand, was

statistically significant in affecting financial performance consistent with the results posted by Kaguri (2013).

Too and Simiyu (2018), investigated the effect of firm characteristics on financial performance of insurance firms in Kenya. The study investigated the impact of firm size, ownership structure, firm age and capital structure on financial performance of insurance firms in Kenya. The study used a descriptive survey research design and secondary panel data was obtained from the financial statements of insurance companies in Kenya, company annual reports and Insurance Regulatory Authority reports. The study established that firm size had an inverse effect on financial performance of insurance companies while firm ownership had no significant effect. In addition, the study found that capital structure and firm age had a positive significant effect on financial performance of insurance companies consistent with Kisengo and Kombo (2014), Kaguri (2013) and Mwebia (2017).

2.3.3 Corporate Governance, Capital Structure and Financial Performance

Velnampy and Nimalthasan (2023) investigated the effect of Corporate Governance Practices, Capital Structure on Firm Performance of Sri-Lankan Listed Manufacturing Companies. The main objective of the study was to examine the relationship between corporate governance practices, capital structure and financial performance in listed manufacturing firms in Sri Lanka. The study was initiated on corporate governance practices, capital structure and firm performance with the samples of 25 manufacturing companies using the data representing the periods of 2008–2012. Leadership structure, board committee, board meeting, board size, board composition, were used as the determinants of corporate governance practices whereas debt equity ratio (DER) was used as the measure of capital structure and ROE and ROA were employed as the measures of firms' financial performance. The study found that determinants of corporate governance were not correlated to the capital structure and financial performance measures of the organization. The results of the regression model revealed that corporate governance had no effect on companies' financial performance as measured by DER, ROE and ROA.

Coleman and Biekpe (2008) examined the relationship Between CEO Duality, Board Size and Board Composition and Firm Performance: Experience from Ghana covering 1990-2001. Specifically, the study examined the impact of board size, board composition and CEO duality on performance measures including ROA, Tobin's Q and growth in sales of non-financial firms listed on the Ghana Stock Exchange. Annual data was used and the analysis done using panel data methodology. The study findings revealed relatively insignificant results on the performance measures and consequently, firms in Ghana were encouraged to maintain smaller board sizes and adopt the two-tier board structure for effective performance.

Ezzi et al. (2023) investigated the mediating role of corporate governance on the link between blockchain technology (BT) and investment efficiency. The research based on a sample of 297 European companies listed in the STOXX Europe 600-years' data covering the 2014 to 2018 period. Feasible generalized least squares (FGLS) results revealed that implemented blockchain technology significantly and positively affected the investment efficiency enterprises. Moreover, the link between blockchain technology and investment efficiency was mediated by corporate governance. The findings suggested that the positive effect of blockchain technology on investment efficiency was more pronounced for firms with good corporate governance practice.

Ronoowah and Seetanah (2023) focused on the direct, mediating and moderating effects of corporate governance and capital structure in their relationships with firm performance (FP). The study employed multivariate panel data regression models to analyze the direct, mediating and moderating effects of the corporate governance and capital structure on the performance of 38 Mauritian listed non-financial firms from 2009-2019. The results revealed that CG had a positive insignificant effect on Return on Equity and Tobin's Q. Capital structure had a negative significant effect on both ROE and Tobin's Q; and supported the pecking order theory. The interaction of corporate governance and capital structure influenced companies' financial performance, but the strength of the moderating effects depended on the performance measure adopted. Both CS and CG had no mediation effects in their link with performance measured by ROE and Tobin's Q. The results further indicated that the portfolio of the high leverage ratio and good governance practices of companies can improve performance and consequently increase investor confidence resulting in a positive reaction on the market share prices.

Hossain et al. (2016) examined the mediating role of corporate governance and corporate image on the financial performance using a sample of 155 firms in the developing economy. This study advanced research on corporate social responsibility (CSR) through investigating the firm financial performance. The model was developed based on legitimacy and institutional theories and considered two important mediating variables: corporate governance (CG) and corporate image (CI). The CSR practices were supposed to affect the CG codes and principles in different contexts, especially in developing countries. The empirical results, based on a sample of 155 firms support the influence of CSR on firm performance; however, the effect was indirect while CG and CI fully mediated this relationship. The results indicated that the CSR engagements enhanced better governance practice and improved CI through establishing good internal controls and monitoring that ultimately enhanced financial performance of the firms consistent with the findings of Okiro et al. (2015).

Itan and Angellina (2022) investigated the link between corporate governance and firm performance, as well as the mediating role of board size and working capital management in the relationship using sampled manufacturing companies listed on the Indonesia Stock Exchange for the period of 2017-2021. The panel regression model was used to analyze research data. Corporate governance was proxied by independent commissioners and ownership structure, while firm performance was measured by ROA and ROE. The mediating variable board size was measured by the number of board of directors and working capital management was measured by average payment period. The results of the study revealed that independent commissioners had a significant positive effect on financial performance as measured by ROA and ROE. While ownership structure also had a significant positive effect on performance as measured by ROA. Moreover, working capital management was proven to have a partial mediating role in the link between independent commissioners and ROA. However, corporate governance (board size) and working capital management was not proven to have a mediating role in the relationship between ownership structure and firm performance.

Aziz and Ramakrishna (2021) examined the mediating role of Corporate Governance on Corporate Social Responsibility and Shareholder Wealth Maximization. The study sought to analyze how corporate governance can mediate the relationship between corporate social

responsibility and financial performance (shareholder wealth maximization). In addition, the study referred to stakeholder theory as the underpinning theory for drawing up the conceptual framework of the relationship between corporate social responsibility, shareholder wealth maximization, and corporate governance. The findings of the study showed that Corporate governance has a significant mediating relationship between firms' management and shareholder wealth maximization.

Rashid (2010) investigated CEO duality and firm performance. It was found that CEO duality would provide the firm with good leadership and it is an indication of firm's stability and it enhances firm communication and ultimately leads to better confidence by the investors about the firm. Mandala et al. (2017) analyzed corporate governance of financial institutions in Kenya using CEO duality and board diversity as proxies for corporate governance and firm size as a control variable consistent with Aduda and Musyoka (2011).

According to Hermalin and Weisbach (2003), the effectiveness in structuring the board is important for governing the firm and also refers to features of corporate boards that are tasked with overall management of the firms. The success or collapse of firms is thus associated with the role performed by the management and firm governance as a process. Board size has been found to vary between one country and another as different countries have varied cultures. Identifying appropriate board size that affects its ability to function effectively has been a matter of continuing debate (Dalton et al., 1999). Some scholars have been in favor of smaller boards. Lipton and Lorsch (1992) support small boards, suggesting that larger groups face problems of social loafing and free riding. As boards increase in size, free riding increases and reduces the efficiency of the board. On the other hand, large boards were supported on the ground that they would provide greater monitoring and advice. In fact, there is no optimal board size but a board should be decided by its effectiveness to operate as a team.

Nawaz and Ahmed (2017) examined the effect of corporate governance and capital structure on firms' financial performance belonging to petroleum sector registered on Pakistan Stock Exchange for the period 2007 to 2015. The study used Multiple Regression model as the statistical technique for examination of hypotheses. The empirical findings revealed that Short

term debt ratio and Long term debt ratio had a significant negative correlation with ROA. This meant that the firms with lesser STD and LTD ratio had higher financial performance. Further, the results disclosed that board size and number of shareholders were insignificantly related with ROA. In addition, the study revealed that ROE had insignificant relationship with all the independent variables namely board size, number of shareholders and short-term debt ratio.

Zabri et al. (2015) analyzed the effect of corporate governance on firm performance from top 100 public listed companies in Malaysia. The study focused on corporate governance practices among Top 100 public listed companies in Bursa Malaysia and the relationship between corporate governance practices with firm performance. Due to the crisis on corporate governance practices, Malaysian Code of Corporate Governance (MCCG) has been introduced as part of the Bursa Malaysia (BMB) listing rules. Two corporate governance's proxies (Board size and Board Independence) were used in testing the hypothesized relationship between corporate governance practices and firm's performance, which was measured by ROA and ROE. Descriptive and correlation analysis were employed to examine the hypotheses in this study. The result showed that board size had significantly weak negative relationship with ROA but it was found to be insignificant to ROE.

Onguka et al. (2019), investigated the impact of corporate control and capital structure on firm performance of Nairobi Securities listed firms. Capital structure decision contributed significantly to creating and growing firm's value and wealth maximization for shareholders while corporate control was believed to be key influencer of the quality of such decision. Trade-off theory was the anchoring theory and regression analysis and correlation analysis were applied to test the hypotheses. The results of the study variables revealed a significant positive linkage between the corporate control and capital structure on firm's financial performance. The findings were in line with previous research findings (Berger & Lubrano, 2006) and also provided further insight on the impact of self-determining variable, corporate control on the capital structure. The study has also applied important mechanism in CCI to study the influence of corporate control on capital structure which provided new insight to the body of knowledge on the relationship thereby enriching the results (Lishenga, 2012; Ongore & K'Obonyo, 2011).

Mandala et al. (2017) determined the effect of board structure on the performance of financial institutions in Kenya and also to find out what the intervening and mediating influence of the tenure of the CEO and firm's characteristics on this relationship might be. Secondary data was collected for a ten-year period from 2006 to 2015. Moderated and stepwise regression models and correlation analysis were adopted for the investigation of the association among the variables. The results of the study revealed that board structure had independent significant influence on performance of financial institutions as measured by Return on Assets and Revenue growth; there was no significant intervening effect of CEO tenure on this relationship; there was a significant moderating effect of firms' characteristics on the relationship; and the joint effect of board structure, CEO tenure and firms' characteristics was significant.

Thuraisingam (2013) examined the association between corporate governance and company performance of financial service industry of Sri Lanka from financial year 2008 to 2011. The study focused on 33 companies which included banks, finance and insurance organizations listed in the Colombo stock exchange. The governance variables and performance variables were tested using Simple Linear Regression model to identify the relationships. Three variables related to corporate governance were included in the study (board size, board composition and audit committee) while performance of the firms was measured by ROA and ROE. The study showed that there was no significant link between corporate governance measures and financial performance measures.

Detthamrong et al. (2017) examined the relationship between corporate governance and firm performance for a panel sample of 493 firms of non-financial firms in Thailand for the period 2001 to 2014. The findings revealed that corporate governance was not associated with financial leverage and firm performance and that Leverage had a positive effect on firm performance. Further, the results of large firms revealed a negative relationship of audit committee size on firm performance while the effect of audit reputation on firm performance was evident from small firms. Moreover, capital structure mediated the effect of audit committee size on firm performance for the large firms.

Wakaisuka (2017) analyzed the effect of corporate governance, firm characteristics and external environment on firm performance of financial institutions in Uganda. A positivist research philosophy and correlation descriptive research designs were adopted in the study. Hierarchical multiple regression analysis was employed to test the hypotheses and furthermore, the partial least square modeling to determine the path coefficients and structural model. The findings showed a statistically positive and significant association between corporate governance and firm performance and a partial mediating effect of firm characteristics on the effect between corporate governance and firm performance. There was no moderating effect of external environment on the relationship between corporate governance and firm performance. The study also revealed a statistically positive and significant joint effect of corporate governance, firm characteristics and external environment on firm performance consistent with Okiro (2014).

Siromi and Chandrapala (2017) investigated whether attributes of corporate governance affect decisions on capital structure of listed companies in Sri Lanka with a sample of 138 non-financial listed companies for 5-year period (2009-2013). Board size, board composition, leadership structure, board committees and managerial ownership were used as corporate governance variables whereas debt ratio as the component of capital structure and ROA and firm size as a control variable. The study tested the variables by multiple regression analysis and the findings showed no significant relationship of corporate governance attributes except board composition and board committee on capital structure. The results further disclosed that board composition had a positive significant link and board committee had a negative link on capital structure.

Ogega (2015) studied the influence of financial performance on ownership structure on commercial banks in Kenya. Secondary data from 2009 to 2013 of the selected commercial banks in Kenya was used to obtain information concerning accounting records and bank ownership. Financial performance of commercial banks in Kenya was positively affected by managerial ownership structure as revealed by the results from the study. The results were consistent with the findings of Brickley et al. (1997) that revealed board ownership improves the financial performance and concluded that the ownership of the board is an encouraging aspect for the board members.

Gitundu et al. (2016) investigated how ownership structure affected the firm performance of the firms domiciled in Kenya. The findings from the study indicated that there were coexisting relationships between financial performance and ownership structures. Return on Sales was positively affected by the Tobin's Q and ownership structure; and negatively affected by efficiency costs. Institutional shareholder and ROA positively affected technical efficiency and cost efficiency was negatively affected by large shareholders. Among individual corporate structures, the non-executive directors had positive significant link on ROA, Tobin's Q and cost efficiency while gender had a negative significant effect on ROA. Moreover, return on sales was affected positively while cost efficiency was affected negatively by the dispersed shareholders.

Waweru and Kiro (2013), investigated the influence of corporate governance and firm specific characteristics on financial performance measured by earnings management. The study used panel data of 148-firm years obtained from the annual financial statements of the 37 firms listed on the NSE in Kenya, the study showed that ownership structure and Board Composition were the main corporate governance measures influencing earnings management of the listed Companies in Kenya. Awan and Abbas (2016) also employed board size, managerial ownership, institutional ownership and ownership structure as corporate governance proxies. Aduda and Musyoka (2011) evaluated corporate governance mechanisms in commercial banks in Kenya using executive compensation as a proxy for corporate governance. Ogega (2015) and Gitundu et al. (2016) measured corporate governance of banking firms using ownership structure.

Guo and Kumara (2012) examined the relationship between corporate governance structures and firm performance of listed firms on Colombo Stock Exchange (CSE) in Sri Lanka. Data was collected from 174 firms in the financial year 2010 and multiple regression analysis was used to examine whether the existing corporate governance mechanisms influenced firm performance of listed firms in Sri Lanka. The findings of the study revealed that board size and proportion of non-executive directors in the board showed a marginal negative link with firm performance. Moreover, the proportion of non-executive directors in a board and financial performance of firm revealed a negative relationship contrary to the findings of previous studies.

Velnampy (2013) investigated the effect of corporate governance on firm performance with samples of 28 manufacturing companies using data representing the periods from 2007 to 2011. The study employed board structure, board committee, board meeting and board size including executive directors, independent non-executive directors, and non-executive directors as the determinants of corporate governance. ROE and ROA were employed as the measures of firm performance. The study concluded that higher number of non-executive directors in the board can enhance the decision credibility and objectivity in the firm. The results of the study were consistent with Mandala et al. (2014) who analyzed corporate governance of financial institutions in Kenya using Non-Executive Directors and board diversity as proxies for corporate governance and firm size as a control variable.

Agency theory suggests that corporate governance together with capital structure decisions affects firm's financial performance and as such mitigates agency conflicts between managers, shareholders and debt holders (Detthamrong et al., 2017). The studies that have explored the mediating role of corporate governance in the relationship between capital structure and financial performance are very scanty. Some studies tested the effect of corporate governance on firm performance separately, while others evaluated the impact of corporate governance on capital structure (Butt & Hasan, 2009; Haque et al., 2011; Wellalage & Locke, 2012) but no study has tested the mediating effect of Corporate Governance on the relationship between Capital Structure and financial performance of non-financial firms listed at NSE.

2.4 Summary of Studies and Research Gap

The empirical studies examining capital structure and financial performance yield mixed and conflicting results. Ameen and Kiran (2017), Martis and Bremen (2013) and Karanja (2014) among others indicated a negative and significant effect of capital structure and financial performances. Other empirical studies demonstrated that increased use of debt financing yields ambiguous and positive effects: Palacios et al. (2016), Sheikh and Wang (2013), Innocent et al. (2014), Basit and Irwan (2017), Hamouri et al. (2018), Muigai (2016), Ikapel and Kajirwa (2017) and Masavi et al. (2017). However, Adekule et al. (2010), Farooq and Masood (2016), Hatem (2017), Saurabh and Anil (2015) and Khalaf (2013) revealed insignificant association between

capital structure and financial performance. From the above studies, it is evident that most studies were conducted in developed economies (Ameen & Kiran, 2017; Martis & Bremen, 2013; Palacios et al., 2016), some covered a very short study period (Khalaf, 2013; Nyakundi, 2016; Sheikh & Wang, 2012), while others focused on one sector only (Karanja, 2014; Saurabh & Anil, 2016; Too & Simiyu, 2018) and majority did not include the role of moderating or mediating variables in their studies.

The empirical studies analyzing firm characteristics and financial performance are varied and inconclusive. Campello (2007), Maggina and Tsaklanganos (2012), Ochingo and Muturi (2018), Mwebia (2017), Booth et al. (2001), Titman and Wessels (1998), Pouraghajan et al. (2012) in their findings indicated a significant positive association between firm characteristics and financial performance. Too and Simiyu (2018) and Ali et al. (2013) revealed that asset tangibility and firm size had insignificant effect on financial performance. The results of Zeitun and Tian (2007) showed that tangibility had negative and significant relationship with a firm's performance. The above studies reveal mixed and inconclusive results hence the need to investigate the influence of capital structure and moderating effect of firm characteristics on financial performance of non-financial firms.

The studies examining corporate governance and financial performance revealed mixed and ambiguous results. The studies by Velnampy (2013), Detthamrong (2017), Okiro et al. (2015), Aduda and Musyoka (2011) revealed a negative relationship between corporate governance and financial performance. Ogega (2015) and Lishenga (2012) indicated positive links among the variables. Furthermore, Gitundu et al. (2016), Ogega (2015) and Lishenga (2012) indicated a positive link between corporate governance and financial performance. Coleman and Biekpe (2008); Guo and Kumara (2012) revealed mixed and inconclusive results between corporate governance and the performance of firms. The above studies reveal mixed and inconclusive results. This study therefore sought to fill this gap by investigating the mediating effect of corporate governance on association between capital structure and financial performance of non-financial firms.

Berger and Lubrano (2006), Haque et al. (2011), Butt and Hasan (2009) and Nyakundi (2016) confirmed that there was a negative significant link between capital structure and corporate governance. Some studies including Sheikh and Wang (2012), Okiro (2014), Wellalage and Locke (2012), Abor (2007) revealed a positive significant association between capital structure and corporate governance of the firms. Other studies including Kumar (2015), Awan and Abbas (2016), Siromi and Chandrapala (2017) indicated mixed or insignificant effect between capital structure and corporate governance.

Some studies have evaluated the effect of capital structure and corporate governance on financial performance (Detthamrong, 2017; Nawaz & Ahmed, 2017; Okiro, 2014); while others have investigated the effect of firm characteristics on firm performance (Booth et al., 2001; Campello, 2007; Ochingo & Muturi, 2018; Titman & Wessels, 1998). In addition, most studies investigated the link of capital structure on financial performance separately and not in an integrated model that interconnects the three variables. In order to bridge these knowledge gaps, this study adopted an integrated model of capital structure, firm characteristics and corporate governance on financial performance. In a nutshell, this study sought to fill the gap by investigating the effect of capital structure, moderating effect of firm characteristics and mediating effect of corporate governance on financial performance of non-financial firms listed at NSE, Kenya. The following table (Table 2.1) helps to describe the summary of studies and the knowledge gaps.

Table 2.1: Summary of Studies and Knowledge Gaps

Researcher (s)	Research Focus and Methodology	Key findings	Knowledge Gaps	Gap to be filled by this Study
Ameen and Kiran (2017)	The effect of capital structure on firm's profitability of cement sector of Pakistan in 18 firms listed at Karachi Stock Exchange from 2006-2015. The study used panel data approach.	The results indicated that Long term debt had negative impact and short term debt has positive effect on performance.	The study was based on cement sector only in Pakistan country.	Current study focused on non-financial sectors at NSE in Kenya.
Martis and Bremen (2013)	Impact of capital structure on firm performance and is based on the constituents of 500 large companies listed in American stock market. The study was based on	Results show a negative significant link between leverage ratios and ROE.	The study was conducted on US large companies where stock markets are developed.	Current study focused on Kenyan economy and included analysis of mediating and moderating variable .

	panel estimation for the period 2003-2011.			
Palacios et al. (2016)	Effects of the capital structure in the performance of manufacturing SMEs located in Aguascalientes State in Mexico. The study employed a quantitative approach using a cross-sectional descriptive study.	Results indicated that internal and external financing sources have significant and positive effect on the performance.	The study was based on manufacturing SMEs only in developed economy – Mexico.	This study included various sectors of the NSE firms and perform a study in less developed economy to establish the effect.
Saurabh and Anil (2016)	The influence of capital structure or financial leverage on firm financial performance of 422 listed Indian manufacturing companies. Ratio analysis and panel data	The results revealed that financial leverage has no effect on the firm's financial performance.	The study narrowed on manufacturing sectors only in India and ignored other sectors.	This study focused on Non-financial firms at the NSE in Kenya which covers 7 different sectors of the economy.

	approach was applied by the study.			
Karanja (2014)	Investigated the effect of capital structure and financial performance of small and medium enterprises in dairy sectors in Kiambu County. Causal research design was employed in the study.	The findings indicate that Debt equity ratio was significant and negatively affect the performance of the SMEs.	The study majored on dairy sectors only and only one proxy for capital structure was employed.	This study narrowed on non-financial firms at NSE and employed panel data approach as it gives more elaborate results.
Kerongo et al. (2020)	Influence of Capital structure on financial performance of non-financial firms listed at NSE.	The results indicated positive significant of leverage on financial performance of firms.	The study used firm size as moderating variable and Tobin's Q as measure for financial performance	Current study used composite of TAN,GRW and Age as moderating variables; a mediating variable and ROA as measure for financial performance.

Kumar (2015)	Examined the association between corporate governance and capital structure in the context of an emerging market economy, India from 1994-2000. The study used firm level times series data.	There was no significant relationship between ownership of directors with capital structure.	The study used only one proxy for corporate governance and the focused was on Indian economy.	This study used panel data set and included CEO duality, board size and NED as mediating variables.
Nyakundi (2016)	Examined the effect of capital structure on corporate governance of companies listed at NSE from 2008-2012. Panel data framework was used.	The results revealed that board size, NED and managerial ownership was negatively related with capital structure.	The study period was 5 years and only one variable (DER) was used as a proxy for capital structure variable.	This study focused on non-financial firms for 10-year period and used DR and ER as measures for capital structure.
Coleman and Biekpe (2008)	Examined the relationship between board size, board composition, CEO	Results revealed relatively inconclusive results.	The study narrowed on corporate governance proxies on performance and the emphasis was on	This study adopted capital structure as independent variable and firm

	duality and firm performance in Ghana from 1990-2001. Panel data methodology was employed.		Ghana's economy	characteristics as moderating variable to examine the effect on the performance.
Gitundu et al. (2016)	Investigated the effect of ownership structure on financial performance of companies in Kenya. The study employed panel data approach.	The findings indicated that NED has significant and positive effect on ROA, Tobin's Q and cost efficiency, while gender had negative effect with ROA.	The focus of the study was on privatized companies and only one proxy for corporate governance was used.	The emphasis of this study focused non-financial firms listed at NSE and adopted four proxies of corporate governance.
Ochingo and Muturi (2018)	investigated the effect of firm characteristics on financial performance of savings and credit cooperatives society (SACCO's) in Kenya from 2013-2015 using	The results indicated asset quality, capital adequacy and liquidity showed positive significant effect on financial performance of Sacco's.	The focus was on Sacco firms and the period of study was only 3 years.	This study covered 10 year period on non-financial firms and corporate governance was adopted as a mediating variable.

	panel regression analysis			
Too and Simiyu (2018)	Investigated the link between firm characteristics and financial performance of insurance firms in Kenya using secondary panel data	The results revealed that firm size had negative effect, while firm age had positive and significant effect on performance.	The emphasis of study was in insurance firms which are financial in nature.	This study included corporate governance as mediating variable and the focus was on non-financial firms at NSE.
Okiro et al. (2015)	Studied the effect of capital structure on the link between corporate governance and firm performance in listed firms in Kenya, Tanzania, Uganda, Rwanda and Burundi from 2009 to 2013.	The findings revealed a significant positive relationship between corporate governance and also positive mediating link capital structure on firm performance.	The study focused on East African Securities Exchange for period of 4 years only.	The study included firm characteristics as a moderating variable and focus was on non-financial firms for a period of 10 years.

2.5 Conceptual Framework

The conceptual framework forms the basis for developing the necessary econometric and financial mathematical models employed following theoretical and empirical literature by Smith, (2004). The conceptual framework comprises the capital structure components which include; DR, ER and DER. The study also incorporated firm characteristics as moderating variable and corporate governance as the mediating variable. Financial performance was measured by ROA as displayed in figure 1.1 below.

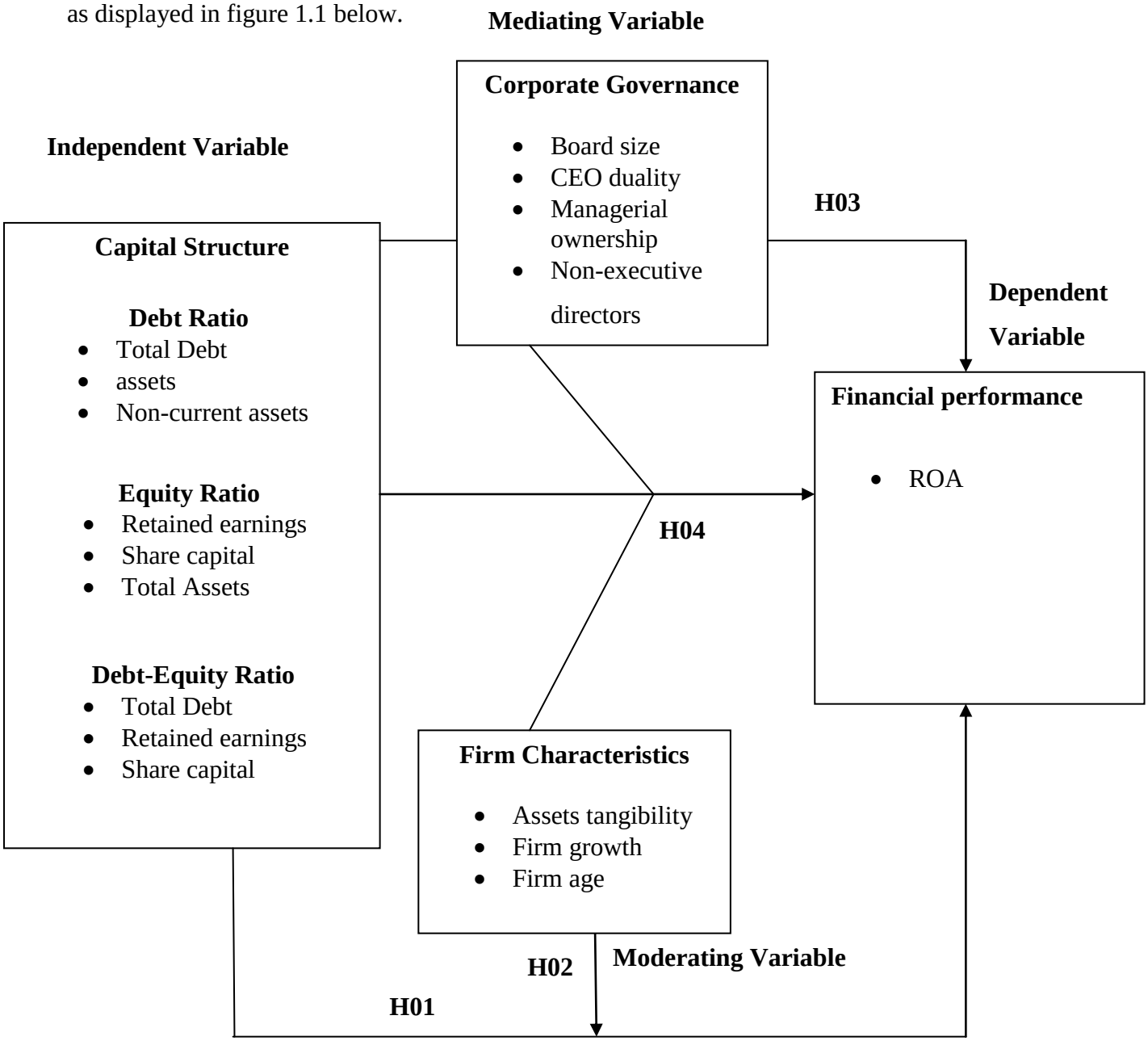


Figure 1.1: Conceptualized Relationship between Capital Structure, Firm Characteristics, Corporate Governance and Financial Performance**.**

The conceptual model disclosed the association between Capital Structure variables, Firm Characteristics, Corporate Governance and Financial Performance of non-financial firms listed at NSE. The dependent variable is financial performance while the independent variable is capital structure conceptualized by Debt Ratio, Equity Ratio and Debt to Equity Ratio.

The conceptual model proposed a negative relationship between capital structure on financial performance, supported by the previous studies on capital structure and financial performance (Ameen & Kiran, 2017; Martis & Bremen, 2013). The model also suggested that the link between capital structure and financial performance was moderated by firm characteristics conceptualized by Asset tangibility, firm growth and firm age. Due to divergent theoretical perspectives, this study tested the moderating effect of firm characteristics on the effect of capital structure and the financial performance. Booth et al. (2001) suggested that firms with more tangible assets have a larger ability to issue secured debt thus underscoring the moderating role of firm characteristics and capital structure on financial performance.

The conceptual model also proposed that the relationship between capital structure and financial performance of firms was mediated by corporate governance which was conceptualized by Board Size, CEO Duality, Managerial Ownership and Non-Executive Directors. Berger and Lubrano (2006) argued that there was a significant association between capital structure and corporate governance hence underscoring the importance of testing the mediation effect. Detthamrong et al. (2017) further suggested that corporate governance, together with capital structure decisions, affect financial performance and as such mitigated agency conflicts between managers, shareholders and debt holders. The model further proposed a joint effect of capital structure, moderating effect of firm characteristics, mediating effect of corporate governance on financial performance of non-financial firms listed at NSE in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section presents the methodology and procedures used in collection, selection, organizing and analyzing the data in a bid to address the problem statement of the study. The section expounded on the following subsections; the research philosophy, research design, target population, sampling design, data collection instruments and procedures employed. Finally, it describes the statistical models adopted to analyze and summarize the data.

3.2 Philosophical Orientation

The philosophical orientation entails the basis of knowledge on which underlying inclination of any study are grounded. It constitutes a set of important assumptions about the way the researcher views the world (Saunders et al., 2007). According to Saunders et al. (2009) there are three most important philosophical assumptions in research namely; epistemology, ontology and axiology. Epistemology is concerned with acceptable knowledge in the field of study. It has two core philosophies namely positivism and phenomenology (Saunders et al., 2009). Positivism approach is a philosophy that seeks real facts of social phenomena that are objective, neutral and predictable with little regard for the subjectivity of individuals. In phenomenological approach, the researcher merely develops ideas through induction and is a participant observer, and tries to understand what is happening and investigates small samples in depth over time.

Positivism is based upon values of reason, truth and validity and focuses purely on facts, gathered through direct observation and experience and measured empirically using quantitative methods, surveys and experiments and statistical analysis (Eriksson & Kovalainen, 2008). Hatch and Cunliffe (2006) related this to the organizational context, stating that positivists assume that what truly happens in organizations can only be discovered through categorization and scientific measurement of the behavior of people and systems and that language is truly representative of

the reality. Under this paradigm, researchers are seen as independent of the research they are conducting, with clear operational definitions, objectives and hypothesis testing.

This study was framed within the positivist research approach which is quantitative in nature. Its main purpose was to describe and explain a phenomenon and empirically establish the relationships between the study variables and drawing conclusions by testing null hypotheses. It is an approach under which knowledge is based on verification by way of using clear operational definitions, objectives, hypothesis testing and replicability. The approach views reality as objective and measurable and therefore, develop hypothesis to show associations and through the observed effect, they are verified or refuted (Cohen et al., 2007). It further suggests that concepts should be operationalized to enable use of quantitative data to test hypotheses drawn from a theoretical framework. This study therefore, met these characteristics and as such adopted this approach which tests the null hypotheses of the study.

3.3 Research Design

Research can be broadly classified into two types of research namely: Quantitative and Qualitative Research which are divided into five major types of Research designs; Descriptive, Correlational, Experimental, Diagnostic and Explanatory research designs (Kothari, 2014). This study employed cross sectional and longitudinal research designs which are both observational research designs. A longitudinal research design is involved with repeated observations of the same variables over long periods of time, while cross sectional studies are carried out once and data is collected from the study population at one point in time (Cooper & Schindler, 2008). Unlike the exploratory research, which ventures into uncharted territories, the explanatory research design sought to discover the associations among different variables is possible, in order to establish the cause-effect associations among the variables and to establish the strength or magnitude of the relationship. A descriptive study involved description of a phenomena or characteristics of a subject population which include; minimum, maximum, mean, standard deviation, skewness and kurtosis. It allows estimates of the proportions of the population that has the said characteristics (Mugenda & Mugenda, 2008).

A cross-sectional survey study involved looking at items in the population which differ on one key characteristic at one specific point in time and that the study will use the entire population as opposed to a sample. This design helped in analyzing the changes and dynamics of the links across the firms and variables over a defined period of time. This design was deemed appropriate and fit since the purpose of the study was to determine the moderating effect of firm characteristics and mediating effect of corporate governance on the link between capital structure and financial performance for a ten-year period. The design assisted in generating the evidence to help in making inferences about associations between capital structure, firm characteristics, corporate governance and firm performance of non-financial firms.

Moreover, the research design was selected since the data collected was in form of financial ratios hence are quantitative in nature. The data was collected at the same time from populations (non-financial firms) which are similar in other characteristics but different in key factors of interest such as age, income levels, or geographic location. The data for each firm was computed then transformed into statistical panels for regression analysis. This model was appropriate since the longitudinal characteristics of the units analyzed constitutes an important ingredient to the study (Kothari, 2014).

3.4 Study Location

The study location was at Nairobi Securities Exchange listed firms in Nairobi, Kenya. Nairobi is the capital city of Kenya (Appendix V), since the data for non-financial firms were available from their database. Nairobi county has a population of approximately 4 million people according to 2019 Kenya population and housing census results (KNBS, 2019).

3.5 Population of the Study

Mugenda and Mugenda (2003) defined that population is a representative of the entire group or individuals, objects or events having a common observable characteristic or a set of people, services, elements, and events, group of things or households that are being investigated (Ngechu, 2004). The population of the study consisted of forty (40) non-financial firms listed at NSE as at 31st December, 2018. In this study, financial firms were excluded since they operate

under different regulations and rules of the Central Bank of Kenya besides the companies Act Cap 486.

3.6 Sample and Sampling Procedure

This study adopted purposive sampling procedure, also known as judgmental sampling. In this type of sampling, the number of non-financial firms was selected deliberately by the researcher and the choice concerning the sample remained supreme. The study specifically adopted the purposive and homogeneous sampling strategy since it allows the researcher to pick the sample according to the nature of the research problem and the phenomenon under study (Saunders et al., 2009). This sampling design was chosen since it removes bias from the selection procedure and results in statistically representative samples. The criterion was that seven non-financial firms from the population were dropped since they were not in existence for the entire period of study to avert the challenge of inconsistency and incomplete data. This criterion resulted in a sample of (thirty-three) 33 firms which were in existence for the entire period of study. The list of the sampled non-financial firms was from various sectors is as displayed in appendix IV. The analysis of the firms was further classified across seven (7) sectors as shown in Table 3.1 below;

Table 3.1: Classification of Non-financial Firms at NSE

S/N	Sector	No. of Firms	% of total Sample
1	Agriculture	6	18.2
2	Automobiles and Accessories	2	6.1
3	Commercial Services	7	21.2
4	Construction and Allied	5	15.2
5	Energy and Petroleum	4	12.1
6	Manufacturing and Allied	8	24.2
7	Telecommunication and Technology	1	3.0
	Total Firms	**33**	**100**

Source: Nairobi Security Exchange (2020)

3.7 Instrumentation

Secondary data collection tool was used to collect capital structure, corporate governance, firm characteristics and financial performance data (Appendix III). The instrument was designed in consultation with finance experts including lecturers in finance and finance professionals. Further, the tool was discussed with corporate financial experts and necessary review was done prior to data collection process in order to ensure the too include all the required information in order to establish the financial ratios.

3.8 Data Collection Procedures

Panel data was collected for 33 non-financial firms from African Stock Market Companies; Capital Markets Authority; Nairobi Securities Exchange's annual financial reports and publications for the 10-year period (2009 to 2018). This period was selected since most firms were delisted or put under recovery unit within this range of time and that most related studies have used a period of between 8 to 12 years. The data was obtained mostly in soft copy and as such the accuracy of information was expected to be high. To commence the process, a proposal approval letter and an introductory letter was obtained from Egerton University's board of post-graduate studies office, to facilitate application for the research permit from National Commission for Science, Technology and Innovation (NACOSTI) to collect data from ASMC, NSE and CMA offices (Appendix VII & VIII). In addition, an ethical approval from Egerton University research ethics committee was sought before application for the research permit at NACOSTI. The data collection method essentially involved reviewing sources from which the data was collected to ensure all data required was obtained.

3.9 Data Analysis

This study used panel financial data for a ten-year period 2009 to 2018 to examine the effect of capital structure, moderating effect of firm characteristics and mediating effect of corporate governance on financial performance. This study used multiple regressions to analyze panel datasets collected from the 33 sampled non-financial firms. Panel regression coefficients were interpreted using STATA statistical tool. Panel data approach also called pooled or combined

data includes elements of both time series and cross sectional data. Panel data has a number of advantages (Damodar & Sangeetha, 2007). First, since panel data relate to individual firms over time, there is bound to be heterogeneity in these units. Secondly, by combining time series of cross section observations, the model gives more detailed data, less collinearity, more variability, efficiency and degrees of freedom. Thirdly, by making data available for several units, panel data can minimize the bias that might result if the study aggregate individuals into broad aggregates. These advantages enriched panel data empirical analysis in ways that would not be possible if only cross-section or time series data were used.

3.9.1 Descriptive Statistics

Mugenda and Mugenda (2008) suggests that data can be presented using statistical techniques, graphical techniques or a combination of both in order to come up with a comprehensive conclusion. The main objective of statistics is to simplify the complexity of the quantitative data and to make them easily intelligible. This study employed descriptive statistics since it was crucial in determining the statistical properties of the model so as to select the proper functional form of the estimable model. Therefore, this study sought to determine the spread of the data which included calculating the mean, standard deviation, standard errors, maximum and minimum values of the variables over time. Charts and graphs were used to present the trends of performance of the firms.

3.9.2 Correlation Analysis

Correlation analysis was used as a pre-estimation diagnostic test for multi-collinearity and association between the dependent and independent variables. Correlation coefficients range between negative one (-1) and positive one (+1) and may be significantly different from zero or not. A significant positive correlation coefficient means that the variables co-move in the same direction and the signage of regression coefficients should be positive. A significant negative correlation coefficient displays that the variables co-move in different directions and the signage of the regression coefficients is negative. A coefficient of zero shows no association between any two variables. If the correlation coefficients are significant and near perfect (positive one) the data regression estimates are affected by multi-collinearity. The variables with near perfect

correlation coefficient give the same information and one of the variables should be dropped in favor of others to avert multi-collinearity. According to Guajarati (2003), pair-wise correlation coefficients less than 0.8 indicates that the problem of multi-collinearity is not severe and is normally ignored. The correlation coefficients with values less than 0.8 were tolerated by the study.

3.9.3 Cointegration Tests

The study carried out unit root tests and when variables were found to be non-stationary, they were tested to determine whether a co-integration relationship existed and it was established that a long-run equilibrium relationship existed between the variables. The co-integration test was used to test the hypothesis that linear combinations of the variables are stationary. Three tests were conducted to assess the existence of co-integration: Panel Pedroni Co-integration, Kao (Engle-Granger based) and Westerlund cointegration tests. The Pedroni cointegration test was based on an examination of the residuals of a spurious regression performed using I (1) variables. If the variables are co-integrated, then the residuals should be I (0). On the other hand, if the variables are not cointegrated then the residuals should be I (1). Pedroni (1999, 2004) and Kao (1991) extend the Engle-Granger framework to tests for integration involving panel data. Further, the study also carried out westerlund co-integration test to confirm whether there exist co-integration relationships among the variables.

When results from the three tests in the study offered strong support for the existence of a co-integration relationship, a VECM is conducted to model the long run relationships following the studies by Pesaran et al. (2001); M'Amanja et al. (2005). To estimate short-run causality among firm characteristics and corporate governance variables, a joint significance test of the lagged variables was conducted using Wald test (Salazar-Núñez et al., 2020). The estimation results may be biased and inconsistent if econometric problems such as heteroscedasticity and correlation of error term occur in the model. Therefore, the diagnostic checking was done to ensure the model is free from econometric limitations.

3.9.4 Model Specification

This study was carried out within a panel estimation framework which provides more information, more variability and less collinearly among the variables. According to Baltagi (2005), the preference of this estimation method is not only because it enables a cross-sectional time series analysis which usually makes provision for broader set of data points, but also because of its ability to control for heterogeneity and endogeneity issues. Therefore, panel data estimation allows for the control of individual-specific effects usually unobservable which may be correlated with other independent variables included in the specification of the link between independent and dependent variables (Hausman, 1978).

The basic framework for panel data regression takes the following form:

$$Y_{it} = \beta X_{it} + \alpha C_{it} + \varepsilon_{it} \quad \text{.....} \quad (3.1)$$

Where: Y= Dependent Variable, β = Coefficient to be estimated, X=Independent Variables, $\alpha = (i = 1 \ldots..n)$ the unknown intercept for each entity (n entity-specific intercepts) C= heterogeneity or individual effect, ε =Error term, *i*=entity and *t*=time.

In the equation above, the heterogeneity or individual effect is C_i which may represent a constant term and a set of observable and unobservable variables. When the individual effect C_i contains only a constant term, OLS estimation provides a consistent and efficient estimates of the underlying parameters (Kyereboah-Coleman, 2007); but if C is un-observable and correlated with X_{it}, then emerges the need to use other estimation method because OLS will give rise to biased and inconsistent estimates. Similarly for endogeneity issues, it is generally assumed that the independent variables located on the right hand side of the regression equation are statistically independent of the disturbance ε_{it} such that the disturbance term ε_{it} is assumed to be uncorrelated with columns of the parameters X_{it} and C_{it} as stated in equation (3.1), and has zero mean and constant variance $\sigma^2 \eta$ (Hausman & Taylor, 1981; Nakamura & Nakamura, 1981). If this assumption is violated, then OLS estimation will yield biased estimates of the underlying

parameters of β (Mayston, 2002). Therefore, endogeneity challenges arise when the independent variables are correlated with the disturbance term ε_{it} (Mayston, 2002; Hausman & Taylor, 1981). In order to circumvent these problems, panel estimation techniques of fixed and random effects will be adopted in this study, in addition to the traditional pooled regression estimation. A decision was made between the fixed and random effect models using the Hausman specification test.

3.9.5 Analytical Regression Models

The regression model adopted by this study was based on the models used by Ram Kumar Kalkani et al. (1998); and Martis and Bremen (2013) with some modifications in the capital structure measures (DR, ER and DER). The research hypotheses were tested by four assumptions of regression models as follows;

The first hypothesis stated that Capital Structure has no statistically significant effect on financial performance of Non-Financial firms listed at NSE. Firstly, the study regressed capital structure components (DR, ER and DER) against financial performance (ROA) for comparison purposes and also to establish the individual effects on financial performance using multiple regression analysis as follows;

$$Y_{ROA} = \beta_o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \text{ ……..……..……..…..} \quad (3.2)$$

Where; Y_{ROA} = Financial performance as measured by ROA. β_o =constant; β_1, β_2 and β_3 =Regression coefficients, X_1, X_2 and X_3 = Debt ratio, Equity ratio and Debt-equity ratio, and ε = error term.

Secondly, the study carried out a simple regression analysis using the composite capital structure (CS) and control variables which includes Board Size (BS) and Asset Tangibility (TAN) against financial performance (ROA) in order to establish whether to fail to accept or fail to reject the null hypothesis as shown in the model below.

$$Y_{ROA} = \beta_o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \quad \text{..... (3.3)}$$

Where; Y_{ROA} = Financial performance as measured by ROA. β_o =constant; β_1 =Regression coefficient, X_1 = CS composite Score; β_2 and β_3 =Regression coefficients of Control Variables; X_2 and X_3 = Board Size and Asset Tangibility; ε = error term.

According to the previous studies reviewed, return on assets (ROA) proofed to be the most robust measure of financial performance (Abor, 2007; Gitundu et al., 2016; Ochingo & Muturi, 2018) hence this superior indicator informed the study whether to reject the null hypothesis. The composite score of capital structure ratios was computed by adding the scores of the items measuring the dimensions of CS and dividing the total score by the total number of items (Pallant, 2010). The composite (mean value) of the ratios were computed by deriving from the annual financial reports of the firms following the studies by Federal (2019) and Agostinelli (2020). The decision whether to fail to accept or reject the null hypothesis was based on the significance of the statistical parameters of capital structure and financial performance (If R^2 values for capital structure, F and t-tests are all significant ($p<0.05$) then capital structure would have significant effect on financial performance).

The second hypothesis stated that firm characteristics have no statistically significant moderating effect on the effect of capital structure on financial performance. The key part of the moderation is the measurement of causal effect of independent variable "CS" on dependent variable Y for different level of moderator variable M. This was tested using hierarchical regression models. Hierarchical regression analysis provides a method for testing contingency hypotheses in which interaction was implied by entering variables into a model sequentially in blocks to determine whether the addition of the potential moderator, interaction term increases the overall fitness of the model (R^2) significantly (Easterby-Smith et al., 2012). Hierarchical regression analysis was used in similar studies (Edwards & Lambert, 2007) to test moderating effect. The following three models were used to test the hypothesis.

$$Y_{ROA} = \beta_o + \beta_1 X_{it} + \varepsilon_{it} \quad \text{..... (3.4)}$$

In the first model, the regression coefficient β_1 measures the simple effects of Capital Structure (X) when the value of firm characteristics (M) = 0 (no interaction effects involved).

$$Y_{ROA} = \beta_o + \beta_1 X_{it} + \beta_2 M_{it} + \varepsilon_{it} \quad \text{(3.5)}$$

In this second model, the regression coefficient β_1 and β_2 measures the interaction effects of capital structure (X) and firm characteristics (M) jointly.

$$Y_{ROA} = \beta_o + \beta_1 X_{it} + \beta_2 M_{it} + \beta_3 XM_{it} + \varepsilon_{it} \quad \text{(3.6)}$$

In the third level, the test of moderation was operationalized by the product term XM (the multiplication between composite scores of Capital structure (X) and firm characteristics (M). In order to test for the moderation in the model, this study tested β_3 (the coefficient of interaction term XM). If β_3 is significant and coefficient of correlation (R^2) increases when the moderator is added, then the conclusion would be that firm characteristics 'M' moderates the effect between capital structure and financial performance. The testing of moderation for observed variables involved the regression model in which the financial performance (Y), was regressed on the interaction term XM and the main effect of X and M. Since both variables X and M were continuous, the study calculated the mean-centred values for X and M where Xi' = (mean of X) and Mi' = (mean of M). Thus, the new variable X and M had a mean of zero creating a new cross product XM = (Xi') * (Mi').

The third hypothesis stated that corporate governance has no statistically significant mediating effect on the effect of capital structure on financial performance. Baron and Kenny (1986) proposed a four step regression approach of measuring the mediating variables. This approach though being used by many researchers has been criticized for not testing the significance of the indirect pathway and missing out on true mediation effect - type II errors (Mackinnon et al., 2007). An alternative, and preferable approach used, calculated the indirect effect and test it for significance. This study adopted the models of Judd and Kenny (1981) which tested the significance of the indirect pathway and true mediation effect. The regression coefficient for the

indirect effect represents the change in Y for every unit change in X that is mediated by D. In this approach, Judd and Kenny (1981) developed two regression models to analyze the indirect effect as follows;

$$Y = \beta_o + \beta_1 X + \beta_2 D + \varepsilon \quad \text{..... (3.7)}$$

$$Y = \beta_o + \beta X + \varepsilon \quad \text{..... (3.8)}$$

Where:

Y= Financial performance (ROA), β_0 = constant, X = Capital structure (composite score), D = Mediating variable (Corporate governance), β_1, β_2 = beta coefficients for X and D respectively, ε = error term

The approach involves subtracting the partial regression coefficient obtained in Model 3.7, β_1 from the simple regression coefficient obtained from Model 3.8, that is β. It should be noted that both coefficients represent the effect of X on Y but that β is the zero-order coefficient from the simple regression and β_1 is the partial regression coefficient from a multiple regression. The indirect effect is measured by the difference between these two coefficients as shown below;

$$\beta_{indirect} = \beta - \beta_1 \quad \text{..... (3.9)}$$

In case the results of the regression analysis show insignificant mediation effect; when p-value of the mediator is greater than 0.05, then study may not proceed to establish the indirect effect by subtracting the partial regression coefficients as demonstrated above since there is no significance. The conclusion of whether there was mediation was determined by fact that; If the effect between capital structure (CS) and financial performance (Y) is significant (t is significant, $p < 0.05$); and the effect between corporate governance (D) and performance is significant (t is significant, $p < 0.05$); then the indirect effect is obtained by getting the difference between the Betas as follows: ($\beta_{indirect} = \beta - \beta_1$) to establish the coefficient. The conclusion would then be

that corporate governance mediates the effect between capital structure and financial performance.

The Fourth hypothesis stated that there is no statistically significant joint effect of capital structure (composite score), moderating firm characteristics and mediating corporate governance on financial performance of non-financial firms. Multiple regression analysis was adopted to test the joint effect of the variables following the studies by Muiru (2019), Ayuo (2018) and Okiro (2014). The study used the following regression model.

$$Y_{ROA} = \beta_o + \beta_1 X + \beta_2 M + \beta_3 D + \varepsilon \quad \text{……..……;……..…….…} \quad (3.10)$$

Y = Financial performance, X_1 = Capital structure M= Firm characteristics, D = Corporate governance; β_1, β_2, and β_3 = Beta coefficients for X, M and D respectively, ε = error term.

The study then collapsed the values of the variables into composite scores and ran tests and analysis in order to establish the joint effect of capital structure, moderating firm characteristics and mediating corporate governance on financial performance of listed firm at NSE, Kenya. The joint effect of Capital Structure, Firm Characteristics and Corporate Governance was determined by checking the statistical significance of each variable (F-test, t-statistic and R^2 are significant; $p<0.05$). F-test was mainly used to determine the overall joint significance of the three variables on financial performance.

The summary of research objectives, hypothesis and inferential statistics to test hypothesis is as presented in table 3.2 below.

Table 2.2: Summary of Objectives, Hypothesis and Analysis Techniques

Objective	Hypothesis	Analytical Methods	Interpretation
1. To establish the effect of capital structure on financial performance among listed non-financial	H01: Capital Structure has no statistically significant effect on	**Multiple Regression model 1** $Y_{ROA} = \beta_o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$ (Model 3.2)	If R^2 values for capital structure; F and t-tests are all

firms at NSE, Kenya.	financial performance among listed non-financial firms at NSE, Kenya.	Where; Y_{ROA} = Financial performance measured by ROA β_o = constant, β_1 β_2 and β_3 = Regression coefficients X_1, X_2 and X_3 = Capital Structure ratios (DR, ER and DER) ε = error term **Multiple Regression model 2** $Y_{ROA} = \beta_o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$ (Model 3.3) Where; Y_{ROA} = Financial performance measured by ROA; β_o = constant, $\beta_{1,}\beta_2, \beta_3$ =Regression coefficients; X_1, X_2, X_3 = Composite CS, BZ and TAN	significant ($p < 0.05$), then capital structure has significant effect on financial performance.
2. To establish the moderating effect of firm characteristics on the relationship between capital structure and financial performance among listed non-financial firms at NSE, Kenya.	H02: Firm characteristics have no statistically significant moderating effect on the relationship between capital structure and financial performance among	Edwards and Lambert (2007) Hierarchical regression: $Y_{ROA} = \beta_o + \beta_1 X_i + \varepsilon$ (Model 3.4) $Y_{ROA} = \beta_o + \beta_1 X_i + \beta_2 M_i + \varepsilon$ (Model 3.5) $Y_{ROA} = \beta_o + \beta_1 X_i + \beta_2 M_i + \beta_3 XM + \varepsilon$	If the change in R^2 after addition of interaction term (moderator 'XM') is significant (R^2 change, F change, and t, are significant, $p < 0.05$), then firm characteristics moderates the effect

	listed non-financial firms at NSE, Kenya.	(Model 3.6) Where; Y = Financial performance β_o = constant, β_1 = Beta coefficients for X^i, β_2 = Beta coefficients for M^i, β_3 = Coefficient interaction term XM, X^i = Capital structure variable, M^i = Firm characteristics, XM = $X^i * M^i$ (Cross product term), ε = error term (Variation due to unexplainable factors)	of capital structure on financial performance.
3. To examine the mediating effect of corporate governance on the relationship between capital structure and financial performance among listed non-financial firms at NSE, Kenya.	H03: Corporate Governance has no statistically significant mediating effect on the relationship between capital structure and financial performance among listed non-financial firms at NSE, Kenya.	Regression models (Judd and Kenny, 1981; Mackinnon et al., 2007) $Y_{ROA} = \beta_o + \beta_1 X + \beta_2 D + \varepsilon$ (Model 3.7) $Y = \beta_o + \beta X + \varepsilon$ (Model 3.8) Y = Financial Performance X = Capital Structure (composite score) D = Corporate Governance β_1 = beta coefficient for X, β_2 = beta coefficient for M ε = error term	If the effect of Capital structure and financial performance is significant (t is significant, $p < 0.05$); the effect between corporate governance and performance is significant (t is significant, $p < 0.05$); Then the indirect effect is obtained by getting the difference between the Betas as follows: $\boldsymbol{\beta}_{indirect}(\boldsymbol{\beta} - \boldsymbol{\beta}_1)$ Then there is mediation effect of corporate

			governance.
4. To determine the joint effect of capital structure, firm characteristics and corporate governance on financial performance among listed non-financial firms at NSE, Kenya.	H04: There is no statistically significant joint effect of capital structure, firm characteristics and corporate governance on financial performance among listed non-financial firms at NSE, Kenya.	Multiple Regression Analysis (Muiru, 2019; Ayuo, 2018 and Okiro, 2014) $Y_{ROA} = \beta_o + \beta_1 X + \beta_2 M + \beta_3 D + \varepsilon$ (Model 3.10) Y = Financial performance X = Capital structure (composite score) M = Firm characteristics (Moderating variable) D = Corporate governance (Mediating variable) β_1 = beta coefficient for X, β_2 = beta coefficient for M β_3 = beta coefficient for D, ε = error term	Joint effect of Capital Structure, Firm Characteristics and Corporate Governance is determined by checking F-test for joint significance of the variables. (If F-test, R^2, and t-statistic are significant, $p < 0.05$).

3.10 Operationalization of Study Variables

The study measured financial performance using Return on Assets (ROA). This study followed the studies by Abor (2007); Ebaid (2009); Saedi (2009); Salim and Yadav (2012) in measuring capital structure using DR, ER and DER as the independent variables for the study. Firm characteristics was the moderating variable and corporate governance the mediating variable. The measurement of variables is summarized in tabular form as shown in table 3.3 below.

Table 3.3: Operationalization of Research Variables

Type of Variable	Definition	Measurement
Capital Structure (Independent Variable)		
Debt ratio (DR)	Its measures the extent of a firm's leverage.	Total debt/Total assets. Where Total debts = STD+LTD; Total assets = Current assets +Non-current assets. (Abu-Abbas, 2015; Nassar, 2016; Olokoyo, 2013).
Equity Ratio (ER)	It measures the portion of firms' resources that are funded by equity holders.	Shareholders' Equity/Total Assets. Where Shareholders' equity= Share capital + Retained earnings. (Chechet & Olayiwola, 2014; Palacious et al., 2016).
Debt-equity ratio (DER)	It is relative proportion of shareholders' Equity and debt used to finance a firm's assets.	Total debt /Shareholder's Equity. (Farooq & Masood, 2016; Saurabh & Anil, 2015).
Moderating Variable (Firm Characteristics)		
Asset Tangibility (TAN)	Degree to which the firm is financed by fixed assets.	Gross fixed assets (Fixed Assets at cost)/Total assets (Baloch et al., 2015; Campello, 2007).
Firm Growth (FGRW)	Assets growth estimated as the annual percentage changes of assets of the firms.	Annual percentage (%) change of total assets – Y2-Y1/Y2*100. (Ahmad et al., 2012; Chadha & Sharma, 2015)
Firm Age (AGElist)	Refers to the number of years (plus one) elapsed since the year of firm's IPO.	Number of years plus one to avoid zero ages (Chun et al., 2008).
Mediating Variable (Corporate Governance)		
Board Size (BSZ)	The number of directors on the board	The total number of members in the

	of a particular firm.	board.
CEO Duality	This is where the chairman of the board and the CEO of the firm is held by the same person.	The number of CEOs serving as the chair of company boards.
Managerial Ownership (MO)	Managerial ownership is the number of shares owned by the board of directors in the firm.	The percentage of share capital held by board of directors to total capital disclosed in the Annual financial reports.
Non-Executive Directors (NED)	A Non-Executive Director is a member of a firm's board of directors who is not part of the executive team.	Proportion of Non-Executive Directors to the total number of directors.
Dependent Variable (Financial Performance)		
Return on Assets (ROA)	Net income produced by total assets during a period by comparing net income to the average total assets.	Net income (Profit after taxes and dividends) /average total assets-(Ystart+Yend)/2 (Baker & Gary, 2005).

3.11 Test of Validity of Study Instrument

The instrument was tested for validity by frequently employing two tests which include; face and content validity. Face validity is the magnitude to which the designed tool appears to measure what was purported to measure (Rovai et al., 2014). Content validity on the other hand, evaluates whether a test is representative of all research aspects of the construct. Face validity and content validity were evaluated in consultation with corporate finance professionals and finance scholars at Egerton University, who reviewed and verified the context and the terms used to ensure clarity and free from ambiguity.

3.12. Diagnostic Tests

Since regression analysis was employed, diagnostic tests were carried out to enhance accuracy of results and remove any bias that was associated with correlation. This relationship might be caused by invariant characteristics between entity and within entity which may affect the results of the dependent variable. This study carried out five diagnostic tests in order to establish whether there was form data distribution, correlation among independent variables, non-consistency in error terms, stationarity of variables and fitness of the regression models.

3.12.1 Hausman Specification Test

Hausman test is a statistical hypothesis test in econometrics used to evaluate the consistency of an estimator when compared to an alternative, less efficient estimator which is already known to be consistent. The test is carried out to establish whether to use random or fixed effect model in panel data analysis (Greene, 2011). In order to circumvent heterogeneity and endogeneity issues, panel estimation techniques of fixed and random effects were adopted in this study, in addition to the traditional pooled regression estimation. A decision was made between fixed and random effect models using the Hausman specification test. A common assumption in panel data models is that each entity has its own individual factors that may affect the independent variables and there are two regression models designed to control firm individual effects (Park & Pincas, 2011). The distinction between the two models is whether the unobserved individual effect is correlated with the independent variables in the model (Bruderl, 2005).

Fixed effects (FE) model is a statistical model in which the model parameters are fixed or are non-random quantities (Greene, 2011). In econometrics and biostatistics, a fixed effects model refers to a regression model in which the group means are fixed (non-random). Fixed-Effects (FE) model is used when analyzing the impact of variables that vary over time. FE explores the relationship between independent and dependent variables within an entity (country, person, firms and so on). Each entity has its own individual characteristics that may or may not affect the independent variables and this will need to be controlled. This is the rationale behind the assumption of the correlation between entity's error term and independent variables. FE removes

the effect of the time-invariant characteristics in order to assess the net effect of the independent on the dependent variable (Torres-Reyna, 2007).

Another crucial assumption of the FE model is that the time-invariant characteristics are unique to the individual (firm) and should not be correlated with other individual characteristics. Each entity is different therefore the entity's error term and the constant (which captures individual characteristics) should not be correlated with the others. If the error terms are correlated, then FE is not suitable since inferences may not be correct and the study may need to model that relationship using random-effect and this is the main rationale for the Hausman test. The Fixed effect model specification can be defined as:

$$Y_{it} = \beta_1 X_{1it} + \beta_2 X_{2it} + \ldots + \beta_k X_{kit} + \alpha_i + \mu_{it} \qquad (3.13)$$

Where:

Y_{it} = The financial performance observed for each entity or firm *i* in time *t*.

X_{it} = the time-variant variable for each entity *i* in time *t*.

$\beta_1 \ldots k$ = the coefficients, where 1…*k*= number of firms

α_i = intercept for each entity *i*,

μ_{it} = error term for each entity *i* in time *t*.

Random effects (RE) Model on the other hand, considers that all or some of the model parameters as random variables in which the group means are a random sample from the population. The rationale behind random effects model is that, unlike the fixed effects model, the variation across entities is assumed to be random and uncorrelated with the independent variables included in the model. The crucial distinction between fixed and random effects is whether the unobserved individual effect embodies elements that are correlated with the

independent variables in the model and not whether these effects are stochastic or not. If the study can prove that the differences across entities (firms) have some influence on the dependent variable, then random effects model should be used. The advantage of random effects is that it can include time invariant variables (like gender). In the fixed effects model these variables were absorbed by the intercept (Greene, 2011).

Random effects model assume that the entity's error term is not correlated with the independent variables which allows for time-invariant variables to play a role as independent variables. In random-effects, the study specifies those individual characteristics that may or may not affect the independent variables. The problem with this approach is that some variables may not be available therefore leading to omitted variable and bias in the model. RE allows generalizing the inferences beyond the sample used in the model (Torres-Reyna, 2007). The Random Effect model specification can be defined as:

$$Y_{it} = \beta_1 X_{1it} + \beta_2 X_{2it} + \ldots + \beta_k X_{kit} + \alpha + \mu_{it} + \varepsilon_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3.13)$$

Where:

Y_{it} = The financial performance observed for each firm *i* in time *t.*

X_{it} = the time-variant variable for each entity *i* in time *t.*

$\beta_1 \ldots k$ = the coefficients where $1 \ldots k$ = number of entities

α_i = intercept

μ_{it} = between entity error

ε_{it} = within entity error

Given the two options of models applicable in analysis of the panel data, the study selected the appropriate model (whether fixed or random effect) which was more relevant and significant based on the outcome of the regression results. The appropriate approach of choosing between Fixed Effect and Random Effect was done by running a Hausman specification test to determine the more efficient model (Borensteina et al., 2010). The study performed both the fixed and random effect regression models, saved the estimates and tested whether the error terms (ε_i) are correlated with independent variables (Greene, 2011). The null hypothesis stated that there was no statistically significant correlation between the individual firm effects and the independent variables; and alternate hypothesis stated that there existed a correlation. The study performed a joint fixed effect and random effect regression analysis; and adopted the most efficient model evidenced by the results obtained.

3.12.2 Multivariate Normality Test

So as to ensure that regression analyses to yield valid and reliable results, the assumption of the study was that there was a normal distribution in the values of the error term. Lack of gaussianity or abnormal errors in the regression is harmful to reliability of estimation and testing procedures. It is necessary to check for the unusual errors in the regression models from both methodological and conceptual perspectives (Alejo et al., 2015). The normality assumption test was crucial and any variance can hamper reliability of the model estimates and testing procedure. Multivariate normality test was carried out to establish normality of the data and the significance of normality of the error components was tested at 5% significance level and 95% confidence level.

3.12.3 Multi-Collenearity Test

Multi-collinearity occurs when independent variables in a regression model are correlated. This study carried out multi-collinearity test to find out if there existed any correlation among the independent variables in order to take the necessary remedial action. In order to test whether the level of multi-collinearity in the estimated analytical models could be tolerated, Variance Inflation Factor (VIF) was adopted. The rule of the thumb is that for level of multi-collenearity to be tolerated, VIF test results must yield a value less than 10 as guided by Robinson and Schumacker (2009). Because multi-collinearity test is applicable only in multiple regression, VIF

statistics were only reported since the regression involved several independent variables. An alternative pair-wise correlation coefficient test of less than 0.8 indicates that the problem of multi-collinearity is not severe and is normally ignored (Gujarati, 2003). The study performed multi-collinearity test and the variables with coefficient correlation of less than 0.8 was tolerated but variables which exceeded the correlation threshold, a robust regression analysis was carried out to correct the multi-collenearity problem.

3.12.4 Heteroscedasticity Test

Heteroscedasticity occurs when a constant variance is not exhibited by the error terms across entities observations (Khan & Hossain, 2010). It is when the standard errors of a variable, monitored over specific amount of time, are non-constant. This problem can be caused by errors of measurements or sub-population differences. Even though Heteroscedasticity does not lead to biased parameter estimates, it can cause errors in regression analysis and other statistical measures which can be incorrectly justified. The study carried out Breusch-Pagan/Cook-Weisberg test by assuming that heteroscedasticity may be a linear function of all the independent variables, a function of their squared values and a function of their cross products. This test was to confirm whether the dataset contained the problem of heteroscedasticity and where the problem was evidenced, the study further carried out a regression analysis with a robust mode so as to eliminate and fix the issue**.**

3.12.5 Panel Unit Root Test

This study employed panel data from NSE and African Stock Market Companies (ASMC). The firms from various sectors were grouped by time (years) which implied that there was repetitive measurement of values. These groups could have their own peculiar characteristics that may be sources of differences in means and variances which could invalidate the data. Panel unit root test was carried out to examine the stationarity of variables in the panel data which combines both time series and cross-sectional information. A variable is said to be stationery if it displays mean-reverting behavior, implying that its mean remains constant over time (Hlouska & Wanger, 2005). Some variables may be non-stationary which means, the series is not mean-reverting and therefore cannot be used in its original form (Oscar, 2007).

The most frequently employed stationarity tests include: Levin, Lin and Chu test (LLC); Pesaran and Shin; Phillips-Perron test (PP), Augmented Dickey-Fuller (ADF), Hadri test and Harris-Tzavalis tests which normally yield the same outcome. However, one test tool may be robust in one dimension and weak in the other, hence researcher's preference on expected outcome must be considered. Levin, Lin and Chu (LLC) test and Harris-Tzavalis unit root tests were adopted to test the magnitude of the stationarity since the tests were considered to be more robust. Therefore, any regression with non-stationary variables is invalid and hence, any time series application must start with testing stationarity of data (Charito, 2010). The rationale of the test is to establish whether the stochastic components of the study contains a unit root or not. The study carried out unit root tests for the variables and where there was existence of unit root, subsequently, lag unit root tests were performed to eliminate the problem. Further, the study examined whether there was a relationship between the variables using a cointegration test (Charito, 2010; Mule et al., 2013).

3.13 Tests for Assessing Model Structure

In order to assess the model structure of the study, Breusch and Pagan Lagrange multiplier (LM) and Wald Chi-square tests were conducted as explained below.

3.13.1 Breusch and Pagan Lagrange Multiplier tests

Breusch and Pagan Lagrange multiplier (LM) tests were used to test whether the fixed effects model is better than pooled OLS model and the appropriateness of the random-effects model relative to the pooled OLS model respectively. The chow test has a null hypothesis that the non-financial firms' fixed effects are equal to zero. Therefore, the rejection of the null hypothesis implies that the fixed effects model should be preferred over POLS model. The LM test's null hypothesis was that firms' random effects are jointly equal to zero, implying that the cross sections are not heterogeneous.

3.13.2 Wald's Chi-square Test

The Wald test works by testing that the parameters of interest are simultaneously equal to zero. If they are, this strongly suggests that removing them from the model would not substantially

reduce the fit of that model. Moreover, a variable whose coefficient is very small relative to its standard error is generally doing less to help predict the dependent variable. The test was conducted to determine whether the panel regression model adequately fitted the data. The criterion is that if the *p*-value is less than 0.05, then it is judged that the model fitted the data. Wald test was performed to confirm if the parameters of interest are simultaneously equal to zero.

3.14 Ethical Considerations

The study was conducted with due consideration of research ethics. According to Jaranit and Adams (2019), ethics refers to the standards or norms of behavior that guide moral preferences about one's behavior and relationship with others. Moreover, ethics is regarded to as the norms of conduct which distinguish between acceptable and unacceptable behavior. All researchers are expected to be committed to ethical principles and professional standards. This is in line with the moral principles guiding research work all the way from inception, completion to publication of the research work. This study first obtained a valid consent (ethical approval) from Egerton University Research Ethics Committee as shown in Appendix V. The researcher then applied for the research permit from National commission for science and Technology Innovation (NACOSTI) which was granted before the commencement of the research work (Appendix VI). The information obtained from the process was treated with utmost confidentiality and objectivity. Furthermore, the researcher ensured that no plagiarism thus all the sources that have contributed immensely to this research have been referenced and acknowledged.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The broad objective of this study was to investigate the effect of capital structure, moderating effect of firm characteristics and mediating effect of corporate governance on financial performance of non-financial firms listed at Nairobi Securities Exchange in Kenya. This chapter thus presents the profiles of descriptive statistics of study variables, verification of the assumptions of statistical tests (diagnostic tests); verification of tests for assessing model structure, cointegration relationship among the study variables, correlation analysis and inferential statistics, tests of hypotheses, discussions and summary of results of the study.

4.2 Descriptive Statistics Results

This part presents the descriptive analyses results of the capital structure, firm characteristics, corporate governance and financial performance (ROA). The data obtained was organized in panels before. The study employed data for ten-year period (2009 to 2018) comprising of 33 non-financial firms with complete data and listed at NSE during the period under study. The results below are presented in tables by the number of observations, minimum and maximum values, mean values, standard deviation, skewness and kurtosis. The study further used line and scatter charts to display the trends over time (2009 to 2018).

4.2.1 Descriptive Statistics Results for Capital Structure

The descriptive statistics of the components of capital structure which includes; debt ratio, equity ratio and debt-equity ratio were analyzed and the results presented below.

4.2.1.1 Debt Ratio

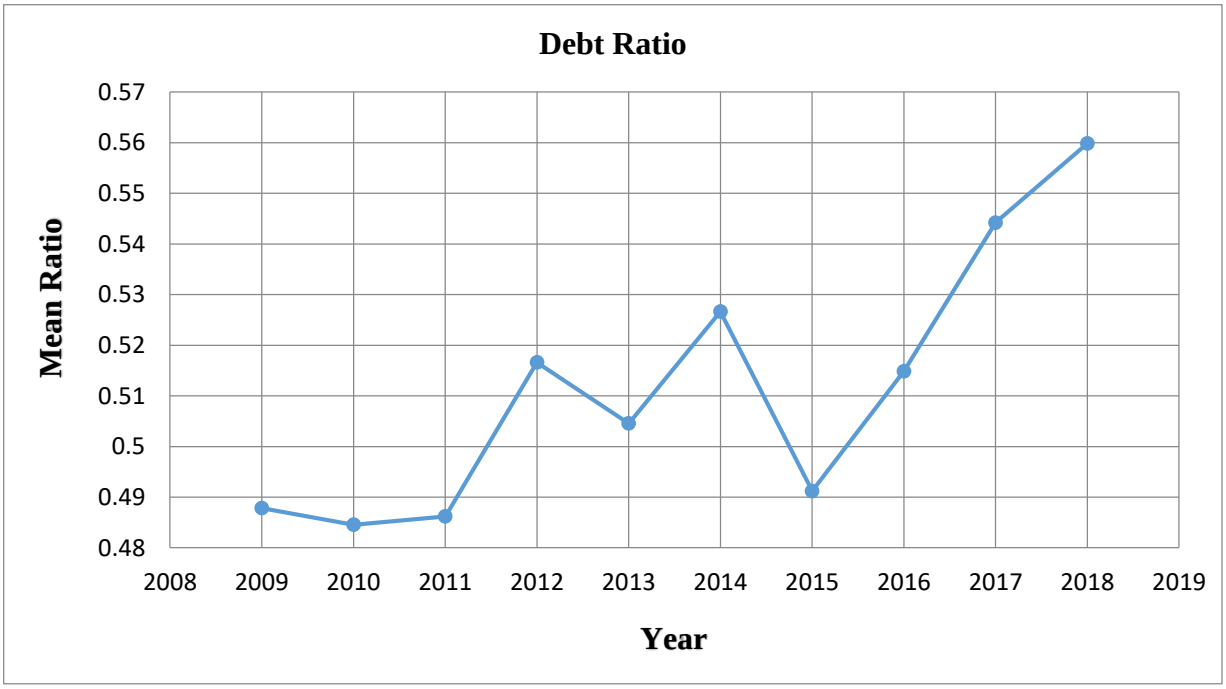
Descriptive Statistics results of debt ratio are as shown in table 4.1 below.

Table 4.1: Descriptive Statistics Results of Debt Ratio

Year	N	Minimum	Maximum	Mean	Std. Dev.	Skewness	Kurtosis
2009	33	0.02	1.190	0.4878	0.2389	0.760	1.623
2010	33	0.14	1.010	0.4845	0.2134	0.570	0.446
2011	33	0.13	1.000	0.4862	0.2107	0.282	-0.538
2012	33	0.18	1.000	0.5166	0.2179	0.507	-0.302
2013	33	0.13	1.000	0.5045	0.2272	0.265	-0.704
2014	33	0.15	1.450	0.5266	0.2758	1.157	2.462
2015	33	0.12	1.030	0.4912	0.2397	0.351	-0.702
2016	33	-0.08	1.420	0.5148	0.3328	0.804	0.667
2017	33	-0.02	1.780	0.5442	0.3971	1.194	1.656
2018	33	0.07	1.870	0.5599	0.4089	1.592	2.706
Overall Mean		0.08	1.275	0.5117	0.2762	0.748	0.731

From table 4.1 results, the use of debt financing had the lowest mean value of 0.4845 in the year 2010 and highest mean value of 0.5598 in the year 2018. Moreover, the standard deviation was highest in the year 2018 at 0.4089 and at lowest in the year 2011 at 0.21065. The overall mean ratio for the period under study was 0.5117 which implies that most non-financial firms were highly financed by debt capital. The skewness was highest at 1.592 in the year 2018 and lowest in the year 2011 at 0.282. Further, the kurtosis was highest in the year 2018 at 2.706 and lowest in the year 2013 at -0.704.

The trend analysis of debt ratio from the year 2009 to 2018 is as displayed in Figure 4.1 below.



Fiqure 4.1: Trend Analysis of Debt Ratio

From Figure 4.1 above, the mean debt ratio had an increasing trend from 2009 at 0.4878 to 2014 at 0.5267 with a decrease in 2015 at 0.4912 and an increase to 0.5598 in 2018.

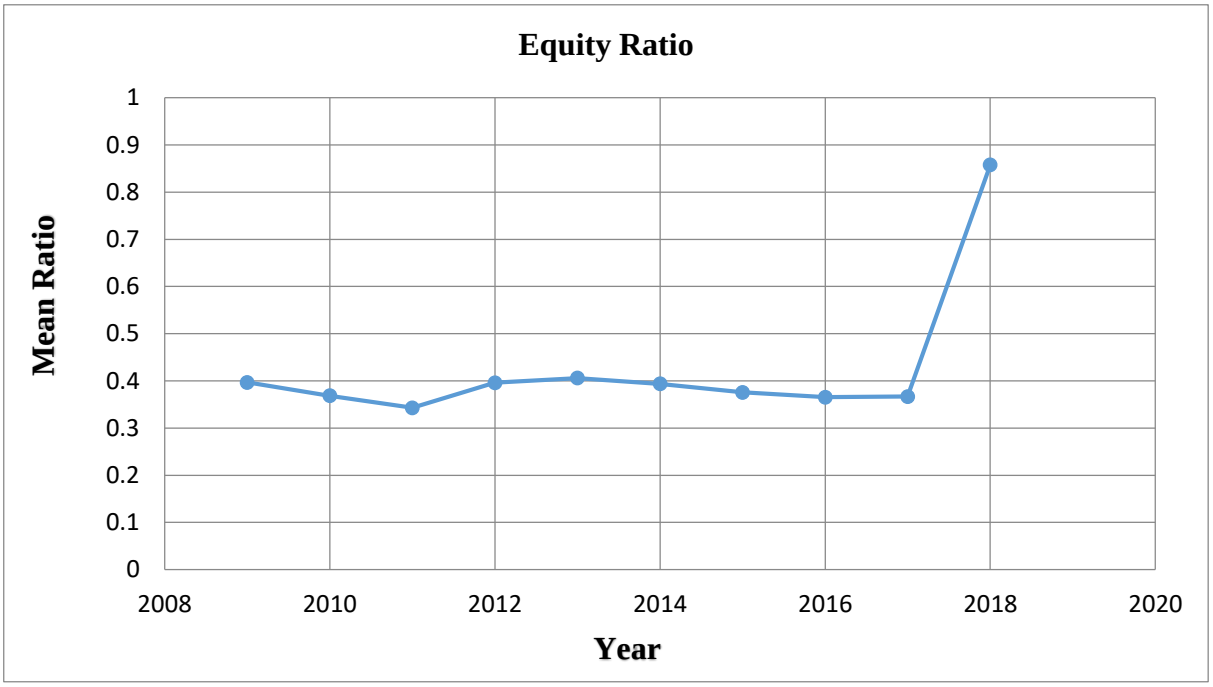
4.2.1.2 Equity Ratio

Descriptive statistics results of equity ratio are as displayed in table 4.2 below.

Table 4.2: Descriptive Statistics Results of Equity Ratio

Year	N	Minimum	Maximum	Mean	Std. Dev.	Skewness	Kurtosis
2009	33	-0.02	0.87	0.3966	0.1997	0.245	-0.229
2010	33	-0.03	0.79	0.3684	0.2119	0.241	-0.801
2011	33	-0.01	0.75	0.3430	0.2427	0.384	-1.173
2012	33	-0.84	3.03	0.3960	0.5543	3.180	16.895
2013	33	-0.02	2.74	0.4060	0.4746	3.883	18.875
2014	33	-0.47	2.74	0.3936	0.5044	3.169	14.787
2015	33	-0.10	0.86	0.3757	0.2724	0.286	-1.112
2016	33	-0.31	0.84	0.3654	0.3026	-0.097	-0.712
2017	33	-0.24	0.84	0.3666	0.2823	0.128	-0.893
2018	33	-1.28	19.0	0.8576	3.2861	5.578	31.733
Overall Mean		-0.33	3.25	0.4269	0.6331	1.699	7.737

From the results of table 4.2 above, the descriptive statistics of equity financing revealed a high mean value of 0.8576 in the year 2018 and lowest mean value of 0.3430 in the year 2011. The statistics also showed that the standard deviation was high in the year 2012 at 0.5543 and lowest in the year 2009 at 0.1997. The overall mean ratio for the period was 0.4269 which means that most firms were fairly financed by equity. Skewness was highest in the year 2018 at 5.578 and lowest in the year 2016 at -0.097. Further, kurtosis was highest in the year 2018 at 31.733 and lowest in the year 2011 at -1.173. Further, trend analysis of equity ratio is as shown in figure 4.2 below.



Fiqure 4.2: Trend Analysis of Equity Ratio

From figure 4.2 above, equity financing of the firms had an overall increasing trend from 2009 at 0.3967 to 2017 at 0.3667 then a sharp increase to 0.8576 in 2018.

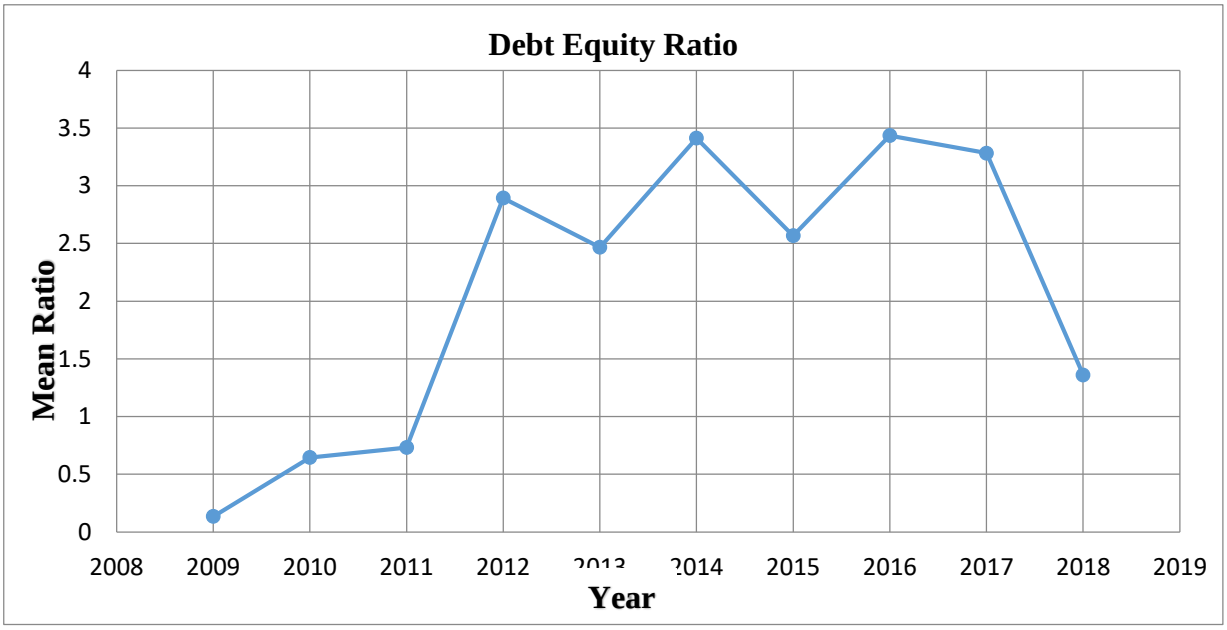
4.2.1.3 Debt-Equity Ratio

The descriptive statistics results of debt-equity ratio are as shown in table 4.3 below.

Table 4.3: Descriptive Statistics Results of Debt-Equity Ratio

Year	N	Minimum	Maximum	Mean	Std. Dev.	Skewness	Kurtosis
2009	33	-46.90	4.75	0.1351	8.5253	-5.568	31.634
2010	33	-32.10	4.60	0.6451	5.9923	-5.397	30.330
2011	33	-76.27	17.00	0.7321	14.3209	-5.090	28.295
2012	33	-1.19	28.12	2.8939	5.1218	4.105	19.229
2013	33	-19.95	15.96	2.4663	5.7680	-0.916	7.879
2014	33	-3.12	23.76	3.4118	5.4215	2.739	8.078
2015	33	-10.31	23.77	2.5672	4.9689	2.184	11.255
2016	33	-6.00	32.17	3.4351	7.5604	2.806	8.368
2017	33	-4.00	25.54	3.2821	5.3195	2.676	9.174
2018	33	-15.55	16.96	1.3603	4.4657	-0.350	10.187
Overall Mean		-21.53	19.26	2.0929	6.7465	-0.281	16.443

From the statistics in table 4.3, debt-equity ratio displayed the lowest mean value of 0.1351 in the year 2009 and highest mean value of 3.4351 in the year 2016, implying that highest level of debt-equity financing was recorded by non-financial firms in the year. The results also revealed that the standard deviation of the firms was highest in the year 2011 at 14.32 and lowest in the year 2018 at 4.47. The overall mean for the ratio was 2.0929 which means that most non-financial firms were highly financed by debt over equity. The skewness was highest in the year 2012 at 4.105 and lowest in 2009 at -5.568. The kurtosis was highest in the year 2009 at 31.63 and lowest in the year 2013 at 7.88. The trend analysis of debt-equity ratio from the year 2009 to 2018 is as displayed in figure 4.3 below.



Fiqure 4.3: Trend Analysis of Debt-Equity Ratio

From Figure 4.3 above, the results of debt-equity ratio indicated that debt-equity financing had a steady increase from the year 2009 at 0.13 to 2017 at 3.28 then decreased to 1.36 in the year 2018. This indicated that the firms employed debt-equity finance at an increasing trend from 2009 to 2017 then a decline in the year 2018.

4.2.2 Descriptive Statistics Results for Firm Characteristics

The descriptive statistics of firm characteristics which included; Asset tangibility, firm growth and listing age are presented below.

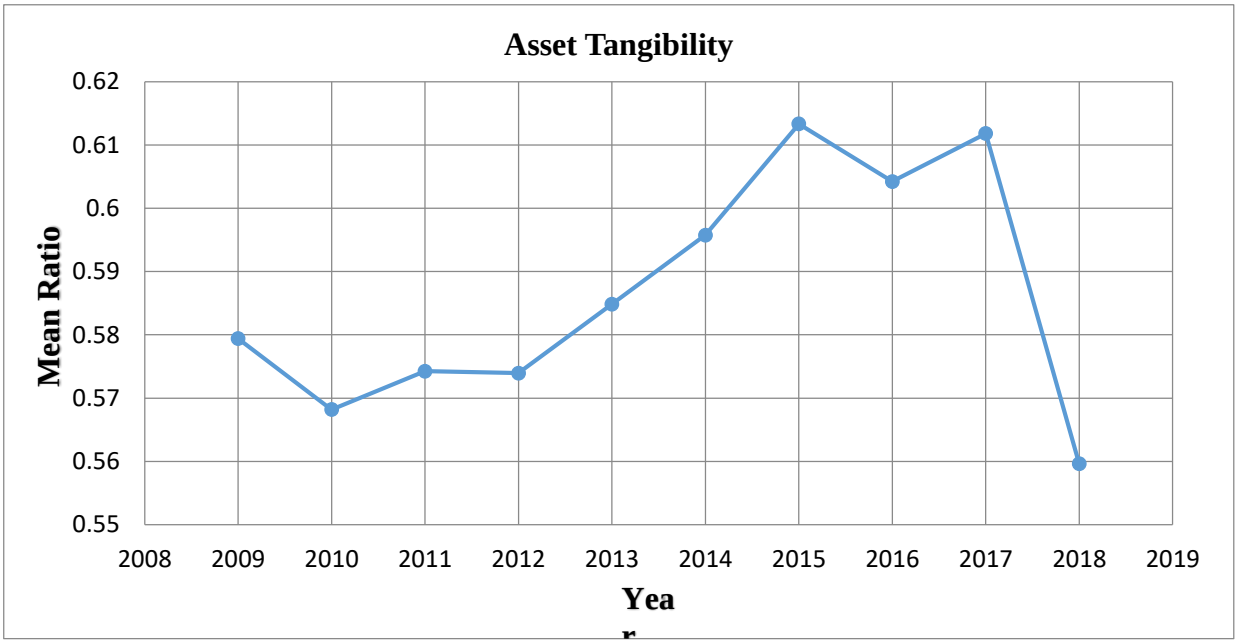
4.2.2.1 Asset Tangibility

Descriptive statistics results of asset tangibility are as shown in table 4.4 below.

Table 4.4: Descriptive Statistics Results of Asset Tangibility

Year	N	Minimum	Maximum	Mean	Std. Dev.	Skewness	Kurtosis
2009	33	0.17	0.97	0.5793	0.2318	-0.356	-1.029
2010	33	0.11	0.87	0.5681	0.2178	-0.598	-0.774
2011	33	0.08	0.88	0.5742	0.2259	-0.610	-0.731
2012	33	0.12	0.88	0.5739	0.2214	-0.454	-0.968
2013	33	0.18	0.91	0.5848	0.2194	-0.415	-1.093
2014	33	0.18	0.93	0.5957	0.2249	-0.344	-1.068
2015	33	0.19	0.94	0.6133	0.2070	-0.316	-0.816
2016	33	0.18	0.94	0.6042	0.2141	-0.253	-0.921
2017	33	0.21	0.93	0.6118	0.2277	-0.261	-1.151
2018	33	-0.20	0.96	0.5596	0.2867	-0.424	-0.172
Overall Mean		0.12	0.92	0.5865	0.2277	-0.403	-0.872

From table 4.4 above, asset tangibility of non-financial firms had the highest mean value of 0.6133 in the year 2015 and lowest mean value of 0.5596 in the year 2018 implying that the non-financial firms were financed by fixed assets as postulated by Baloch et al. (2015) and Campello (2005). The results showed that the standard deviation of the firms was high in the year 2018 at 0.2867 and low in the year 2015 at 0.207. The overall mean ratio was 0.5865 which implies that most non-financial firms had high value of fixed assets compared to other assets. The skewness was highest in the year 2016 at -0.253 and lowest in 2011 at -0.61. Further, the results showed highest kurtosis in the year 2018 at -0.172 and lowest in the year 2018 at -1.151. The trend analysis of asset tangibility is as presented in figure 4.4 below.



Fiqure 4.4: Trend Analysis of Asset Tangibility

Figure 4.4 above displays the results of asset tangibility which reveals a steady increase from the year 2010 (0.5682) to 2015 (0.6133) then a decrease to 0.559 in the year 2018.

4.2.2.2 Firm Growth

The descriptive statistics results of firm growth are as displayed in table 4.5 below.

Table 4.5: Descriptive Statistics Results of Firm Growth

Year	N	Minimum	Maximum	Mean	Std. Dev.	Skewness	Kurtosis
2009	33	0.17	0.97	0.5793	0.2318	-0.356	-1.029
2010	33	0.11	0.87	0.5681	0.2178	-0.598	-0.774
2011	33	0.08	0.88	0.5742	0.2259	-0.610	-0.731
2012	33	0.12	0.88	0.5739	0.2214	-0.454	-0.968
2013	33	0.18	0.91	0.5848	0.2194	-0.415	-1.093
2014	33	0.18	0.93	0.5957	0.2249	-0.344	-1.068
2015	33	0.19	0.94	0.6133	0.2070	-0.316	-0.816
2016	33	0.18	0.94	0.6042	0.2141	-0.253	-0.921
2017	33	0.21	0.93	0.6118	0.2277	-0.261	-1.151
2018	33	-0.20	0.96	0.5596	0.2867	-0.424	-0.172
Overall Mean		0.12	0.92	0.5865	0.2277	-0.403	-0.872

From table 4.5 above, the results showed that firm growth of non-financial firms had the highest mean value of 0.148 in the year 2009 and lowest mean value of 0.0048 in the year 2014 implying that the firms' annual percentage changes in assets had a declining trend. The results further revealed that the standard deviation of the firms was highest in the year 2014 at 0.2628 and lowest in the year 2016 at 0.143. The overall mean rate was 0.0693 which means that generally there was increase and growth in assets of the firms over the period under study. Moreover, the skewness was highest in the year 2017 at 1.295 and lowest in the year 2015 at -1.704. The results also showed highest kurtosis in the year 2011 at 7.335 and lowest in the year 2010 at 0.273. The trend analysis of firm growth is as presented in figure 4.5 below.

Fiqure 4.5: Trend Analysis of Firm Growth

Figure 4.5 above discloses that there was a decline in firms' growth from the year 2009 at 0.1481 to the lowest level in 2014 at -0.0048 and subsequently a slight increase to 0.0281 in the year 2018. The results revealed that the firms' growth as measured by annual changes in the assets exhibited a declining trend over the years of study.

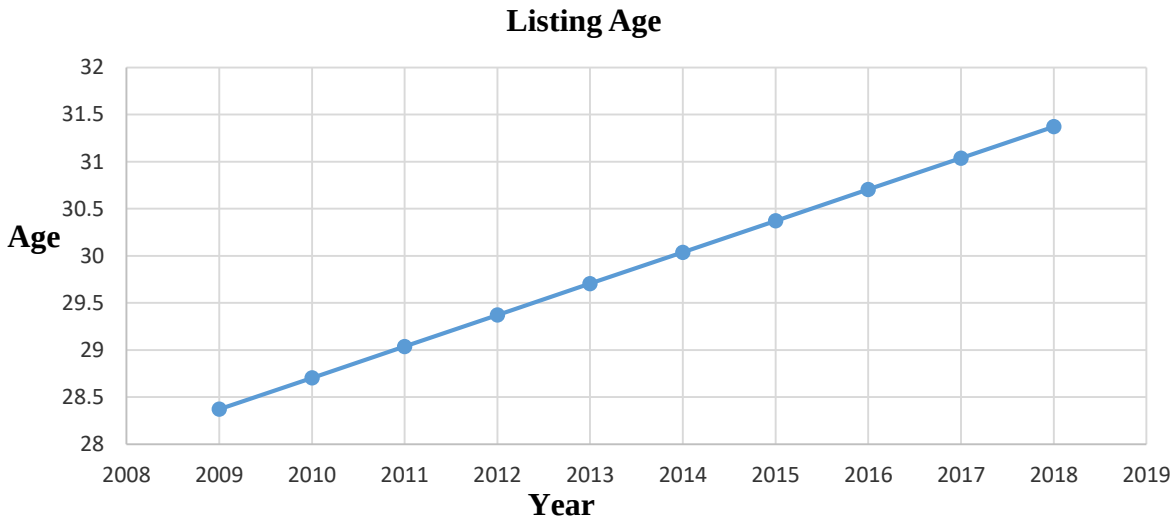
4.2.2.3 Listing Age

The descriptive statistics results of listing age are as displayed in table 4.6 below.

Table 4.6: Descriptive Statistics Results of Listing Age

Year	N	Minimum	Maximum	Mean	Std. Dev.	Skewness	Kurtosis
2009	33	2	60	28.3715	12.6772	-0.9539	2.1993
2010	33	3	61	28.7049	12.2193	-0.9716	2.2498
2011	33	4	62	29.0382	11.7630	-0.9912	2.3057
2012	33	5	63	29.3715	11.3085	-1.0129	2.3677
2013	33	6	64	29.7049	10.8562	-1.0369	2.4365
2014	33	7	65	30.0382	10.4062	-1.0636	2.5132
2015	33	8	66	30.3715	9.9589	-1.0934	2.5988
2016	33	9	67	30.7049	9.5146	-1.1265	2.6945
2017	33	10	68	31.0382	9.0738	-1.1634	2.8017
2018	33	11	69	31.3715	8.6371	-1.2047	2.9219
Overall Mean		6.5	64.5	29.8715	10.6415	-1.0618	2.5089

Table 4.6 presents the results of firm listing age which shows that non-financial firms had lowest mean value of 28.3715 in the year 2009 and highest mean value of 31.3715 years in the year 2018. The results further revealed that the standard deviation of the firms had an overall mean of 10.6415. The overall mean of the listing age was 29.8715 which implies that most firms were over 29 years of existence since listing at Nairobi Securities Exchange. The results further showed a skewness of -1.0618 and kurtosis of 2.5089. The trend analysis of listing age was performed and results is as presented in figure 4.6 below.



Fiqure 4.6: Trend Analysis of Listing Age

From Figure 4.6 above, the results of listing age indicated that the mean age of firms have had an increasing trend from 2009 (32.33 years) to 2018 (41.33 years).

4.2.3 Descriptive Statistics Results for Corporate Governance

The descriptive statistics results for corporate governance which included; board size, CEO duality, managerial ownership and non-executive directors presented below.

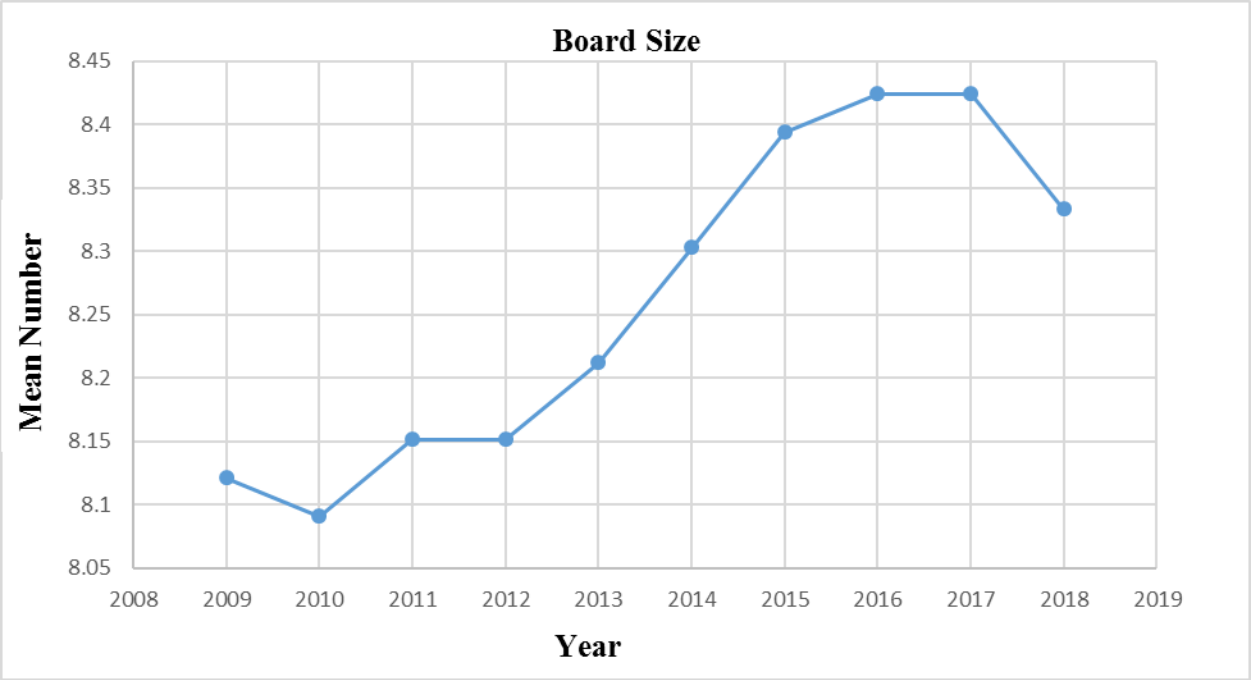
4.2.3.1 Board Size

The descriptive statistics results of board size are as displayed in table 4.7 below.

Table 4.7: Descriptive Statistics Results of Board Size

Year	N	Minimum	Maximum	Mean	Std. Dev.	Skewness	Kurtosis
2009	33	3	13	8.1212	2.7243	0.082	-0.822
2010	33	3	13	8.0909	2.7541	0.148	-0.752
2011	33	3	13	8.1515	2.7964	0.108	-0.873
2012	33	3	13	8.1515	2.7964	0.108	-0.873
2013	33	3	13	8.2121	2.7472	0.111	-0.842
2014	33	4	13	8.3030	2.6514	0.165	-0.856
2015	33	4	13	8.3939	2.5364	0.272	-0.560
2016	33	5	14	8.4242	2.4498	0.437	-0.354
2017	33	5	14	8.4242	2.4625	0.411	-0.387
2018	33	4	14	8.3333	2.5576	0.295	-0.326
Overall Mean		3.7	13.3	8.2606	2.6477	0.2137	-0.665

From Table 4.7 above, the findings of the statistics disclosed that Board Size of the firms had highest mean value of 8.42 in years 2016/2017 and lowest mean of 8.09 in the year 2010. The results further revealed highest standard deviation in the years 2011 and 2012 at 2.79; and lowest in the year 2016 at 2.45. The overall mean of the board size was 8 board members which implies that most firms had the required board size number within the range of 7 to 9 as specified to be effective board size by Lipton and Lorsch (1992). The skewness was highest in the year 2016 at 0.437 and lowest in the years 2011 and 2012 at 0.108. The results also revealed highest kurtosis in the year 2018 at -0.326 and lowest in the year 2011 and 2012 at -0.873. The trend analysis of board size as presented in the figure 4.7 below.



Fiqure 4.7: Trend Analysis of Board Size

Figure 4.7 above reveals that the firms board size had an increasing trend from the lowest mean value of 8.09 in the year 2010 to the highest mean value of 8.42 in the years 2017/2017.

4.2.3.2 Chief Executive Officer Duality

The descriptive statistics results of CEO Duality are as displayed in table 4.8 below.

Table 4.8: Descriptive Statistics Results of Chief Executive Officer Duality

Year	N	Minimum	Maximum	Mean	Std. Dev.	Skewness	Kurtosis
2009	33	0	1.00	0.9697	0.1740	-5.745	33
2010	33	0	0.00	0.0000	0.0000	0.000	33
2011	33	0	0.00	0.0000	0.0000	0.000	33
2012	33	0	1.00	0.9697	0.1740	-5.745	33
2013	33	0	0.00	0.0000	0.0000	0.000	33
2014	33	0	0.00	0.0000	0.0000	0.000	33
2015	33	0	0.00	0.0000	0.0000	0.000	33
2016	33	0	0.00	0.0000	0.0000	0.000	33
2017	33	0	0.00	0.0000	0.0000	0.000	33
2018	33	0	0.00	0.0000	0.0000	0.000	33
Overall Mean		0	0.20	0.1939	0.0348	-1.149	33

Table 4.8, shows that CEO Duality of non-financial firms had a mean value of 0.19 for the years under study. The statistics further revealed that the standard deviation had a mean value of 0.03481. The skewness and kurtosis had mean values of -1.149 and 33 respectively across all the years of study as shown in the table 4.8 above. The trend analysis of CEO duality as shown in the figure 4.8 below.

Fiqure 4.8: Trend Analysis of CEO Duality

From Figure 4.8 above, the statistics of CEO duality discloses that the maximum of digit (1) and minimum of zero (0) as per the findings of the study. The firms with digit (1) meant that they had the CEO also doubling as the chairperson of board of directors. The analysis points out that most non-financial firms under study had the chairman of the board separately and the CEO as an executive position.

4.2.3.3 Managerial Ownership

The descriptive statistics results of managerial ownership as shown in table 4.9 below.

Table 4.9: Descriptive Statistics Results of Managerial Ownership

Year	N	Minimum	Maximum	Mean	Std. Dev.	Skewness	Kurtosis
2009	33	0.008	0.13	0.0390	0.0324	1.125	0.713
2010	33	0.007	0.14	0.0469	0.0374	0.969	0.405
2011	33	0.007	0.14	0.0475	0.0373	0.929	0.381
2012	33	0.007	0.14	0.0475	0.0373	0.929	0.381

2013	33	0.007	0.14	0.0475	0.0373	0.929	0.381
2014	33	0.007	0.14	0.0478	0.0347	0.573	-0.390
2015	33	0.009	0.09	0.0442	0.0265	0.451	-0.986
2016	33	0.009	0.09	0.0448	0.0259	0.479	-0.936
2017	33	0.009	0.09	0.0442	0.0265	0.451	-0.986
2018	33	0.008	0.09	0.0454	0.0291	0.402	-1.195
Overall Mean		0.008	0.12	0.0455	0.0325	0.724	-0.223

Table 4.9 results above, showed that the managerial ownership of non-financial firms had a high mean value of 0.0478 in the year 2014 and a low mean value of 0.039 in the year 2009 implying that the ownership of the firms shares by top managers was small. The results also showed that standard deviation was highest in the year 2010 at 0.0374 and lowest in the year 2016 at 0.0259. The overall mean ratio of managerial ownership was 0.0455 which implies that the board members owned 4.55% of the shares of non-financial firms. Skewness was highest in the year 2009 at 1.125 and lowest in the year 2018 at 0.402. The results also showed highest degree of kurtosis in the year 2009 at 0.713 and lowest in the year 2018 at -1.195. The trend analysis of managerial ownership is as presented in figure 4.9 below.

Fiqure 4.9: Trend Analysis of Managerial Ownership

From figure 4.9 above, the results revealed that the managers' shares were lowest in 2009 at 0.039 and highest in the year 2018 at 0.045. This statistic generally indicated that the managers of the firms had interests of less than 0.05 in the overall firms' ownership.

4.2.3.4 Non-Executive Directors

Descriptive statistics results of non-executive directors are presented in table 4.10 below.

Table 4.10: Descriptive Statistics Results of Non-Executive Directors

Year	N	Minimum	Maximum	Mean	Std. Dev.	Skewness	Kurtosis
2009	33	0.33	0.78	0.6615	0.1016	-1.595	3.243
2010	33	0.33	0.83	0.6678	0.1008	-1.756	4.049
2011	33	0.33	0.83	0.6642	0.1029	-1.589	3.278
2012	33	0.33	0.83	0.6642	0.1029	-1.589	3.278
2013	33	0.33	0.83	0.6572	0.1020	-1.444	3.012
2014	33	0.40	0.83	0.6615	0.0935	-1.068	1.522
2015	33	0.40	0.89	0.6651	0.1154	-0.173	0.411
2016	33	0.40	0.89	0.6609	0.1279	-0.199	0.016
2017	33	0.40	0.89	0.6581	0.1218	-0.275	0.409
2018	33	0.40	0.88	0.6663	0.1150	-0.452	0.035
Overall Mean		0.37	0.85	0.6627	0.1084	-0.014	1.925

From Table 4.10 above, the results showed that non-financial firms had a minimum proportion of 0.33 and maximum of 0.89 composition of the Non-executive directors in the firms' board of directors. The results also disclose a high mean value of 0.668 in the year 2010 and lowest mean value of 0.657 in the year 2013 implying that the composition of the boards of directors is largely composed of non-executive directors. The results also showed that the standard deviation of the firms was highest in the year 2016 at 0.128 and lowest in the year 2014 at 0.093. The overall mean ratio was 0.6627 which implies that over 66% of the boards of directors comprised of non-executive directors which is very crucial to ensure effective and sound management of the firms.

The skewness was highest in the year 2015 at -0.173 and lowest in the year 2010 at -1.756. The outcome also revealed highest kurtosis in the year 2010 at 4.049 and lowest in the year 2016 at 0.016. The trend analysis of non-executive directors as presented in figure 4.10 below.

Fiqure 4.10: Trend Analysis of Non-Executive Directors

From Figure 4.10 above, the results show that the mean ratio of non-executive directors in the board was 0.661 in the year 2009, then decreased to 0.65 in the year 2013 and then increased to 0.667 in the year 2018.

4.2.4 Descriptive Statistics Results for Financial Performance

The descriptive statistics results of financial performance as measured by Return on Asset (ROA) are presented in Table 4.11 below.

4.2.4.1 Return on Assets

The descriptive statistics results of return on assets, the proxy for financial performance are presented in table 4.11 below.

Table 4.11: Descriptive Statistics Results of Return on Assets

Year	N	Minimum	Maximum	Mean	Std. Dev.	Skewness	Kurtosis
2009	33	-0.05	0.30	0.0854	0.0813	0.907	0.588
2010	33	-0.02	0.60	0.1000	0.1161	2.693	10.11
2011	33	-0.12	0.40	0.0906	0.0949	0.817	2.800
2012	33	-0.16	0.40	0.0778	0.1015	0.902	2.757
2013	33	-0.37	0.23	0.0490	0.1031	-2.058	8.140
2014	33	-0.39	0.24	0.0239	0.1165	-1.471	4.322
2015	33	-0.52	0.45	0.0266	0.1644	-0.676	3.642
2016	33	-0.50	0.23	0.0175	0.1524	-1.333	2.941
2017	33	-0.36	0.29	0.0178	0.1379	-0.597	1.464
2018	33	-0.76	0.29	0.0042	0.1823	-2.350	9.152
Overall Mean		-0.33	0.34	0.0493	0.1250	-0.316	4.592

Table 4.11 above, shows that ROA had highest mean value of 0.1000 in the year 2010 and lowest of 0.0042 in the year 2018, implying that most firms had decreased return on assets in the year. The standard deviation of the firm was highest in the year 2018 at 0.182 and lowest in the year 2009 at 0.018. The overall mean ratio was 0.04933 which generally implied that financial performance of most firms had net income ratio of 4.93%. Moreover, skewness was highest in the year 2010 at 2.693 and lowest in the year 2018 at -2.350. The outcome also revealed highest kurtosis in the year 2010 at 10.11 and lowest in the year 2009 at 0.588. The trend analysis of return on assets are as shown in figure 4.11 below.

Fiqure 4.11: Trend Analysis of Return on Assets

From Figure 4.11 above, the findings of Return on Assets indicated that the returns from the firms exhibited a decreasing trend annually.

4.3 Diagnostic Tests Results

Diagnostic tests in the study were carried out to establish whether the data error components were normally distributed; multi-collenearity; non-consistency in error terms and stationarity of variables in panel data analysis as discussed below.

4.3.1 Multivariate Normality Test

This study adopted normality test proposed by Galvao et al. (2013); and further used by Ebner and Henze (2020); following on the advancements of the classical Doornik-Hansen (DH) normality test. If the p-values of the variables falls below 0.05, then the error parameters are normally distributed. From the results for normality test (Appendix IV-1), it was noted that the panel data set was normally distributed as p-value obtained for the variables were highly significant at 5% significance level ($p<0.05$).

4.3.2 Multi-Collinearity Test

Multi-collinearity test was carried out using Variance Inflation Factor (Appendix IV-2) and pair-wise correlations (Appendix IV-3). From the results of VIF, a mean value of 1.19 indicated that the multi-collinearity problems in the dataset could be tolerated since it was less than the threshold of 10.

4.3.3 Heteroscedasticity Test

The results of the Breusch-Pagan/Cook-Weisberg test (Appendix IV-4), revealed significant results and concluded that the dataset set contains the problem of heteroscedasticity. Although the problem of heteroscedasticity does not lead to biased parameter estimates, it can cause errors in regression analysis and other statistical measures which can be incorrectly justified. In order to overome this problem, the study further carried out a regression analysis with a robust mode in order to eliminate and fix the issue. After fixing the problem, the results of Breusch-Pagan tests showed the standard errors of the variables were constant ($chi2=28.97$, $p<0.05$).

4.3.4 Panel Unit Root Test

Levin, Lin and Chu (LLC) and Harris-Tzavalis test was carried out to determine whether a time series data variable was stationary or non-stationary. From results unit root test, it was established that capital structure variables and return on assets were not stationary in the first lag, but were all stationary in the 1^{st} difference level. This means that the variables were not correlated with each other hence fit for the regressions analysis ($p<0.005$) thus failing to accept the null hypothesis which states that the panels contain unit roots. The unit root test was also performed for the moderating and mediating variables using Levin-Lin-Chu unit-root test except for Listing age (Agelist) and CEO duality which were carried out using Harris-Tzavalis due to the nature of the data collected making it impossible to obtain stationarity using LLC. All the panel data were found to be stationary at first lag except for board size, managerial ownership and non-executive director that stationarity was achieved at 2^{nd} difference of unit root tests as shown in the summary of unit root tests (Appendix IV-5).

4.4 Verification Tests for Assessing Model Structure

The study carried out verification tests for assessing the model structure of the study using the following tests: Hausman specification tests and Breusch-Pagan Lagrange Multiplier to choose whether to adopt random or fixed effect. Wald Chi-square test was used to confirm if the parameters of interest were simultaneously equal to zero. The results are as explained below.

4.4.1 Hausman Specification Test

In order for the study to choose either the fixed or random effects of the models, the study performed hausman specification test and the results of the test are presented in statistical tests annexure (Appendix IV: 6-8). The essence of fixed-effects model in the study was to analyze the impact of variables that vary over time and explores the relationship between independent and dependent variables within an entity. Further, fixed effects removes the effect of the time-invariant characteristics in order to assess the net effect of the capital structure components on the financial performance (Torres-Reyna, 2007). The results of the regression analysis under random effects generalized least squares (GLS) model of financial performance (ROA) and capital structure, firm characteristics, Corporate Governance on financial performance are as presented in statistical tests section. The results revealed a strong negative significant negative link between capital structure (measured by debt ratio) and financial performance ($z=-7.85$, $p<0.05$); a strong positive significant link between firm growth (GROW) and financial performance ($z=6.51$, $p<0.05$); and a negative significant association between asset tangibility (TAN) and financial performance ($z=-2.42$, $p<0.05$). The results further disclosed that the model was fit as measured by Wald chi2 (140.52, $p<0.05$).

The results further revealed a strong negative significant negative link between capital structure (measured by debt ratio) and financial performance ($t= -6.84$, $p<0.05$) and Agelist ($t= -3.78$, $p<0.05$). A strong positive significant effect between Equity Ratio (ER) and financial performance; ($t= 2.26$, $p<0.05$); Firm growth ($t= 4.98$, $p<0.05$). The regression results further disclosed that the F-test of fitness of the model was significant (15.32, $p<0.05$). The regression results disclosed an overall R-squared (R^2) of 0.0722 implying that the independent variable, firm characteristics and corporate governance explained 7.22% of the variations of the financial

performance. The remaining 92.78% of the variations in the financial performance of non-financial firms was as a results of other variables not included in the model as displayed by statistical analysis models.

Finally, the study performed a joint regression of the random effects and fixed effects model in order to establish the model to be adopted by the study. The null hypothesis (H0) of hausman specification test stated that there was no systematic difference in the coefficients and the alternate stated that there was a systematic difference in the coefficients of the model. The results of the analysis (Appendix IV-8) revealed that the test was strongly significant at 5% significance level (chir2=34.35, p=0.0001), failing to accept the null hypothesis and thus conclude that there was a systematic difference in model coefficients hence adopting the fixed effects model in the hypothesis regression analysis.

4.4.2: Breusch-Pagan Lagrangian Multiplier test

The study further conducted Breusch-Pagan Lagrange multiplier to test for random effects and the summary of the results are displayed in statistical tests models (Appendix IV-9). The results confirmed that there was evidence of significant differences across firms (chibar2=39.31, p=0.0000) thus failing to accept the null hypothesis which stated that random effect was an appropriate model and concluded that random effect was not an appropriate model for the study.

4.4.3: Results of Wald's Chi-square Test

The study conducted Wald test by testing the parameters of interest to confirm if they were simultaneously equal to zero (Appendix IV-10). From the results of the test, the chi-squared value was generated, as well as the p-value associated with a chi-squared of 0.22 with one degrees of freedom. The test failed to reject the null hypothesis, which stated that the coefficients for composite variable were simultaneously equal to zero, meaning that including the variables in the same model won't create a statistically significant improvement in the fitness of the model.

4.5 Long-Term Relationship among Study Variables

This section presents results on the long run associations among capital structure and financial

performance. Since the variables were purely panel data, the study sought to establish if there exist a co-integration association between the variables by conducting Pedroni test, Kao (Engle-Granger based) test and Westerlund Test.

4.5.1 Cointegration Tests

Co-integration tests were performed using Pedroni test, Kao (Engle Granger based) and Westerlund test (Appendix IV: 11-13) in order to establish if there exists a long term relationship among the variables**.** The summary of the test results is as shown in table 4.12 below.

Table 4.12: Pedroni Test for Co-integration

Type of test	**t-statistic**	**p-value**
Modified Phillips-Perron t	4.8933	0.0000
Phillips-Perron t	-7.8702	0.0000
Augmented Dickey-Fuller t	-9.7215	0.0000

From table 4.12 above, the null hypothesis of Pedroni test is that there is no cointegration among the variables. The results showed that the t-statistic tests for Modified Philips-Peron, Philips-Perron (PP) and Augmented Dickey-Fuller test were all significant at 0.05 significance level (4.8933, p=0.0000; -7.870, *p*=0.0000; & -9.7215, p=0.0000 respectively). Consequently, the null of no cointegration was rejected. Results from the tests offered strong support for the existence of a co-integration association between capital structure and financial performance.

The study also carried out the test using Kao (Engle-Granger based) tests. The null hypothesis of Kao test was that no cointegration exists between return on assets and capital structure. The results of the tests; Dickey-Fuller t, Unadjusted modified Dickey-Fuller t and Adjusted Dickey-Fuller t test were significant at 0.05 significance level (-3.8724, *p*=0.0001; -6.1354, p-0.000 & -7.2574, p=0.0000 respectively). This expressly implied that the null hypothesis of no cointegration was also rejected. The outcome from the tests displayed strong support for the existence of a cointegration as displayed in table 4.13 below.

Table 4.13: Kao (Engle-Granger based) test for co-integration

Type of test	t-statistic	p-value
Dickey-Fuller t	-3.8724	0.0001
Unajusted modified Dickey-Fuller t	-6.1354	0.0000
Adjusted Dickey-Fuller t	-7.2574	0.0000

In table 4.14, the study further carried out westerlund tests to supplement the results of Pedroni and Kao tests. The null hypothesis of the test was that no cointegration exists. The test was performed as shown below.

Table 4.14: Westerlund Test for Co-integration

.xtcoin test westerlund roa dr er der		
Type of test	**t-statistic**	**p-value**
Variance ratio	2.3572	0.0092

The results of table 4.14 above shows that the t-statistic for variance ratio was 2.3572, p=0.0092. The results from the tests further revealed a strong existence of a cointegration relationship among the variables. In conclusion, the results from the three tests (Pedroni, Kao (Engle-Granger based) and westerlund cointegration tests) offered strong support for the existence of a cointegrating relationship between financial performance and capital structure implying that capital structure has a significant long run effects on ROA.

4.5.2 Panel Vector Auto Regression (VAR) Analysis

The panel vector autoregressive (VAR) and vector error correction model (VECM) panel models are used to correct the disequilibrium in the co-integration relationship, as well as to test for long-run and short-run relationship (Ivanov & Lutz, 2005; Mose, 2020). Since the co-integrated variables (capital structure and financial performance) were all stationary after stationarity tests, VAR was applied to correct the disequilibrium issues as shown in table 4.15 below.

Table 4.15: Panel VAR results

Equation	Parms	RMSE	R-sq	F	P>F
ROA	37	0.104335	0.4799	12.57576	0.0000
DR	37	0.153188	0.7504	35.33181	0.0000
ER	37	1.11782	0.1644	0.5641502	0.6889
DER	37	6.63367	0.2398	4.348415	0.0000

From panel VAR results above, the coefficients in the equation ROA, DR and DER are significant at the 5% level, and the coefficients in the equation for ER remain jointly insignificant (P>0.05). From table 4.15 above, the results of the analysis revealed that DER, ER and DR have long-run relationships on ROA.

4.6 Correlation Analysis

Before testing the hypotheses, the assessment of overall associations and correlation between the independent and dependent variables was conceptualized by the study. Correlation analysis was conducted (Appendix IV: 15-16) using pair-wise correlation coefficient technique, partial and semi-partial correlation analysis to establish the existence of link or association among capital structure indicators, firm characteristics indicators, corporate governance indicators and financial performance (ROA) of non-financial firms. The correlation results in table 4.20 demonstrated that there exists a statistically significant link among capital structure indicators, firm characteristics, corporate governance and financial performance of non-financial firms in Kenya. These results provided confirmation which is a necessary precondition for further statistical tests including regression and multiple regression analysis performed on the study hypothesis. Table 4.16 below shows the findings of pair-wise correlation analysis.

Table 4.16: Pair-Wise Correlation Results of Capital Structure, Firm Characteristics, Corporate Governance and Financial Performance.

.pwcorr ROA, DR, ER, DER, TAN, GROW, AGElist, Board Size, CEO Duality, MO, NED, sig. star(5)

	ROA	DR	ER	DER	TAN	GROW	AGElist	Board Size	CEO Duality	MO	NED
ROA	1.0000										
DR	-0.4703*	1.0000									
	0.0000										
ER	0.0807	-0.0410	1.0000								
	0.1435	0.4574									
DER	0.0114	-0.0030	-0.0169	1.0000							
	0.8369	0.9562	0.7597								
TAN	-0.1705*	0.0368	-0.0802	-0.0453	1.0000						
	0.0019	0.5049	0.1461	0.4125							
GROW	0.3933*	-0.1816*	-0.0060	0.0035	-0.0126	1.0000					
	0.0000	0.0009	0.9135	0.9491	0.8198						
AGElist	0.0725	-0.0397	0.0024	-0.0559	-0.1918*	-0.1278*	1.0000				
	0.1889	0.4728	0.9656	0.3115	0.0005	0.0202					
Board Size	0.0025	0.0505	-0.1269*	0.1735*	0.2522*	0.0801	-0.4166*	1.0000			
	0.9644	0.3601	0.0212	0.0016	0.0000	0.1463	0.0000				
CEO Duality	-0.0178	0.0333	-0.0078	-0.0072	-0.2211*	0.0006	-0.1098	0.0365	1.0000		
	0.7468	0.5462	0.8878	0.8963	0.0001	0.9908	0.0462	0.5089			
MO	0.0483	-0.0483	0.0566	-0.0615	0.0275	0.0231	0.0051	-0.0503	-0.0035	1.0000	
	0.4342	0.4347	0.3598	0.3194	0.6563	0.7086	0.9345	0.4153	0.9544		
NED	0.0407	-0.0252	0.0218	-0.0727	0.0139	0.0082	0.0104	0.0087	-0.0006	0.1475*	1.0
	0.5103	0.6835	0.7248	0.2393	0.8218	0.8945	0.8661	0.8879	0.9923	0.0165	

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

The table 4.16 above presents the pair wise correlation between the components of capital structure, firm characteristics, corporate governance and financial performance. The assumption of the correlation is that two variables can have a perfect relationship, but if the association is not linear, a correlation coefficient is not a suitable statistic for determining their association. The

results of pair-wise correlation revealed that some variables exhibited strong negative significant association amongst themselves, others disclosing weak negative significant relationships, while others disclose strong positive significant associations. First, the correlation results between Debt ratio (DR), Asset tangibility (TAN) and financial performance (ROA) established a strong negative significant association (β = -0.47, p = 0.0000; β = -0.17, p=0.002). Other significant negative association among the variables included: DR and GROW (β= -0.182, p=0.001); ER and BSZ (β = -0.127, p=0.02); AGElist and CEO Duality (β = -0.110, p=0.04). Furthermore, there existed a strong positive correlation between GROW (β =0.393, p=0.0000) and the dependent variable (ROA); DER and BSZ (β = 0.174, p=0.002); as shown in the table 4.16 above. The results of the pair-wise correlation also showed that all the coefficients tests were less than the threshold of 0.8 which implied that the problem of multi-collinearity was not severe in the variables and was ignored.

Similarly, partial and semi-partial correlation coefficients which indicated the linear association among capital structure and financial performance of non-financial firms while controlling for the effects the moderating and mediating variables were computed. Partial correlation measures the strength of a relationship between two variables, while controlling for the effect of one or more other variables. The assumption is that two variables can have a perfect relationship, but if the association is not linear, a correlation coefficient is not a suitable statistic for determining their association. The results of partial correlations (Appendix IV-16) showed both the zero-order correlations (correlations without any control variables) of capital structure and the partial correlation of the first two variables (capital structure and firm characteristics) and controlling for the influence of the third variable. The results of the partial and semi-partial correlations, showed that all the coefficient tests were less than 0.8 threshold point hence multi-collenearity problem was ignored.

4.7 Hypothesis Testing

Hypotheses testing was done through regression analysis. The regression was done through a panel process. Also, a number of alternatives of panel data hierarchical regressions were performed, fixed effects, ordinary least squares commonly called OLS, generalized least squares (GLS), and a dynamic panel. Hierarchical multiple linear regression (HMLR) model was employed in assessing the moderating effect of firm characteristics on capital structure and financial performance as hypothesized in the study at 5% level of statistical significance. Model fitness tests (F-test) on the regression models were then computed to determine the strength of the effect among the variables. These tests included adjusted coefficient of determination (adjusted R), F-tests, and t tests. The data used in running the regression was the averages for all the 10 years per firm. From hausman test performed to establish whether to adopt fixed or random effect, the results revealed that there was a systematic difference in the model coefficients confirming the adoption of fixed effect model in the regression analyses of the study.

4.7.1 The effect of Capital Structure on Financial Performance among listed Non-Financial Firms.

The first objective was to determine the link between Capital Structure on financial performance. The corresponding null hypothesis of the study (H01) was that: Capital Structure has no statistically significant effect on performance. A Hausman test identified Fixed Effect (FE) as the suitable regression model to analyze the effect of capital structure on performance. The FE regression model was employed to control the fixed effects of firm individual characteristics which could influence the performance.

Firstly, the study performed regression analysis between capital structure components (DR, ER and DER) against financial performance as measured by Return on Assets (ROA) in order to establish the nature of effect for comparison purposes, but the conclusion of the hypothesis was based on the regression outcome of the CS composite score and financial performance. The results of the regression model for capital structure components and financial performance are as shown in table 4.17 below.

Table 4.17: Regression Results for Capital Structure Components and Financial Performance.

Variable	Coefficient	Standard error	t-Statistics	p-Value
DR	0.024897	0.015758	1.579982	0.1152
ER	0.042716	0.017491	2.442159**	0.0152
DER	-0.006904	0.002418	-2.854930**	0.0046
Cons	0.037989	0.010048	3.780816	0.0002
Goodness of Fit	R^2 = 0.485743		Adjusted R^2 = 0.406349	
	F = 6.118121		P-value(F) = 0.00000	

Note: ** $p < 0.05$, are significance levels, in which the null hypothesis is rejected. Dependent variable: ROA

The results presented in table 4.17 above shows that the overall R-Square statistic ($R^2 = 0.4857$) and F test statistic (F=6.12, p-value<0.05) which implied that there was overall fitness of the model. This also implied that 48.57% of the variation in financial performance of non-financial firms was explained by debt ratio, equity ratio and debt-equity ratio; and the difference of 51.43% was accounted for by other variables not included in the model. The model also revealed that capital structure as measured by debt ratio had insignificant effect on financial performance implying that the use of debt finance is irrelevant to the performance of non-financial firms supporting the Modigliani and Miller (1958) irrelevance theory of capital structure.

Equity Ratio (ER) as the second component of capital structure disclosed positive significant effect on financial performance of non-financial firms (β=0.042, t=2.44, p-value<0.05) which are consistent with Kerongo et al. (2020). Finally, the results of Debt-Equity Ratio (DER) revealed negative significant effect on financial performance (β= -0.0069, t= 2.85, p-value<0.05). The results corroborated with the results of Ameen and Kiran (2017); Martis and Bremen (2013); Karanja (2014); Yadav and Salim (2012); and Nassar (2016) which concluded that capital structure has negative link with firm financial performance. The empirical results of these studies

revealed that capital structure measured by total debt and short term debt has negative significant effect on financial performance. The estimated formulated equation was derived by substituting the beta coefficients of the regression results in the following form:

$$FP_{it} = 0.038 + 0.025\text{DR} + 0.043\text{ER} - 0.007\text{DER} + \mu_{it} + \varepsilon_{it}$$

The outcome of the equation above implies that a unit increase in the use of debt ratio (DR) results in an increase of financial performance of 2.5 percent; while a unit increase in equity ratio (ER) leads to an increase of 4.3 percent in financial performance; and a unit increase in debt-equity ratio (DER) leads to a decrease of 0.7 percent in financial performance as measured by ROA. This means that non-financial firms needs to strike an optimum level in utilization of debt-equity finance to avert adverse effects on the value of the firms.

Secondly, the hypothesis was tested by performing regression analysis of capital structure composite score (CS) and the control variables namely Board Size (BS) and Asset Tangibility (TAN) against financial performance using fixed effects regression model. The results of the regression analysis are as shown in table 4.18 below.

Table 4.18: Regression Results for Capital Structure (Composite score) and Financial Performance.

Variable	**Coefficient**	**Standard error**	**t-Statistics**	**p-Value**
CS	-0.008924	0.003200	-2.788287**	0.0056
BS	-0.035119	0.006105	-5.752807**	0.0000
TAN	-0.190353	0.031628	-6.018588**	0.0000
Cons	0.429069	0.049207	8.719699	0.0000
Goodness of Fit	R^2 = 0. 547235		Adjusted R^2 = 0.493334	
	F = 10.15265		P-value(F) = 0.00000	

Note: ** $p < 0.05$, are significance levels, in which the null hypothesis is rejected. Dependent variable: ROA

The above results in table 4.18 shows that capital structure composite score (CS) had a significant negative effect on financial performance of non-financial firms (β= -0.0089, t = -2.79, p-value <0.05). The F-statistic of 10.15, p<0.05 revealed that there was overall fitness of the regression model. The estimated formulated equation by substituting the beta coefficients of the regression results in the following form:

$$FP_{it} = 0.429 - 0.009CS - 0.035BS - 0.19TAN + \mu_{it} + \varepsilon_{it}$$

The equation generated above implies that a unit increase in the capital structure composite score leads to a decline in financial performance of 0.09 percent while the constant indicates that financial performance remains at 42.90 percent on assumption that all other factors are held constant. The results also showed an overall coefficient of determination (R^2) of 0.5472 implying that 54.72% of the variation in financial performance was explained by composite capital structure and the control variables while the difference of 45.28% was occasioned by other variables not included in the study. Ferguson (2017) moreover argued that higher coefficients of determination are achieved where small sample size and time-series studies are used as well as pure sciences where an R-squared of 0.6 and above is not unconventional.

The control variables used by the study (Board size and Asset tangibility) revealed that it has negative significant effect on financial performance on non-financial firms (β= -0.035, t = -5.75, p-value <0.05; and β= -0.190, t = -6.02, p-value <0.05 respectively). The findings of the regression results imply that the use of debt and equity finance by non-financial firms leads to decrease in the financial performance of the firms. This means that the financing decisions of non-financial firms were not aligned to optimum financial mix that optimizes the returns and value of the firms. Therefore, an optimum capital structure mix needs to be established in practice so as to optimize firms' value and relevant financial decisions need to be considered so as to achieve optimal capital structure.

This supports the Trade-off theory which postulates that the use of debt may not always be beneficial since there is risk of higher costs of financing and bankruptcy costs that the firm may incur due to market imperfections hence decreasing financial performance of the firms. The

results were consistent with the studies of Karanja (2014); Yadav and Salim (2012); and Nassar (2016) who investigated the relationship between capital structure and firm performance. The empirical results showed that capital structure has a negative effect on financial performance, which is consistent with Ebaid (2009) with similar results. The results were consistent with arguments by Ameen and Kiran (2017); Martis and Bremen (2013) and Karanja (2014).

In conclusion, based on the regression results of capital structure (composite score) on financial performance (R^2=0.54.72; F=10.15, p<0.05; β= -0.009, t = -2.79, p-value <0.05 which were significant) as displayed in table 4.18 above, the study rejected the null hypothesis and concluded that capital structure had statistically significant effect on financial performance.

4.7.2 Moderating effect of Firm Characteristics on the relationship between Capital Structure and Financial Performance among listed Non-Financial Firms.

The second objective was to establish the moderating effect of firm characteristics on the association between capital structure and financial performance. The corresponding null hypothesis H_{02} was that: Firm characteristics has no statistically significant moderating effect on the effect of capital structure on financial performance. The key part of the moderation is the measurement of causal effect of capital structure on financial performance for different level of the moderator 'M' (firm characteristics). The moderator effect was tested using hierarchical regression models. The hierarchical regression analyses were performed guided by the three steps and results displayed as shown in table 4.19 below.

Table 4.19: Hierarchical Regression Analysis (M=0) Step 1.

Variable	Coefficient	Standard error	t-Statistics	p-Value
CS	-0.212598	0.002229	-9.53**	0.0000
Cons	0.158139	0.013018	12.15	0.0000
Goodness of Fit	R^2 = 0. 2211		Adjusted R^2 = 0.2102	
	F = 0.01		P-value(F) = 0.0957	

Note: ** p < 0.05, are significance levels, in which the null hypothesis is rejected. Dependent variable: ROA

In the first step, the hierarchical regression was performed on capital structure and financial performance without adding the moderator variable (M) as shown in table 4.19 above. The results showed that there was no interaction effect since the regression coefficient β_1 measured the simple effect of capital structure when the value of M = 0. The coefficient of determination (R-squared) obtained in the model was 22.11% which explained the level of variation caused by capital structure on the financial performance among listed non-financial firms.

The estimated model for the first regression formulated in the equation took the form:

$$FP_{it} = 0.158 - 0.213CS + \mu_{it} + \varepsilon_{it}$$

In the second step, the firm characteristics, M, was added to the model which is the mean value of firm characteristics (listing age, firm growth and asset tangibility) to test the joint effect of capital structure and the moderator variable (M) as displayed in Table 4.20 below.

Table 4.20: Hierarchical Regression Analysis Results (+M) Step 2.

Variable	**Coefficient**	**Standard error**	**t-Statistics**	**p-Value**
CS	-0.2094616	0.0220652	-9.49**	0.0000
M	-0.157415	0.0553845	-2.92**	0.004
Cons	0.158139	0.013018	12.15	0.0000
Goodness of Fit	R^2 = 0. 2409		Adjusted R^2 = 0.2403	
	F = 0.95		P-value(F) = 0.389	

Note: ** p < 0.05, are significance levels, in which the null hypothesis is rejected. Dependent variable: ROA

The regression coefficients β_1 and β_2 measured the interaction effect of capital structure and the moderator firm characteristics (M) jointly. The coefficient of determination (R^2) obtained in this model was 24.09% up from 22.11% in step 1, indicating a slight increase of 1.98% in the R-Square change. The estimated model for the second regression (step 2) formulated in the equation is as shown below:

$$FP_{it} = 0.207 - 0.209CS - 0.157M + \mu_{it} + \varepsilon_{it}$$

From the above equation form, a unit increase in the use of capital structure by non-financial firms resulted in a decrease of 20.9 percent in the financial performance of the firms; also a unit increase in firm characteristics resulted in a decrease of 15.7 percent in the financial performance. The results implied that firm characteristics which includes; asset tangibility, assets growth and age factor has a negative significant effect on firm performance. The results were consistent with the findings of Too and Simiyu (2018); Ali et al. (2013) which revealed negative link between capital structure and financial performance.

Table 4.21: Hierarchical Regression Analysis Results (+XM) Step 3.

Variable	Coefficient	Standard error	t-Statistics	p-Value
CS	-0.203128	0.034978	-5.81**	0.0000
M	-0.149721	0.063190	-2.37**	0.018
CSM	-0.005643	0.024162	-0.23	0.815
Cons	0.202343	0.027960	7.24	0.0000
Goodness of Fit	R^2 = 0. 2411		Adjusted R^2 = 0.2310	
	F = 0.76		P-value(F) = 0.0000	

Note: ** $p < 0.05$, are significance levels, $p > 0.05$ insignificant in which the null hypothesis is accepted. Dependent variable: ROA

In the third and final step (table 4.21), the testing for moderation at this level included the product term XM, the multiplication between X (CS composite score) and moderator variable (M). The coefficient of determination (R^2) in this step slightly increased to 24.11% from 24.09% in step 2 due to the inclusion of the interaction term CSM. The results of the final regression showed a negative significant moderating effect of firm characteristics (M) on the effect of capital structure on financial performance (β = -0.149, $p<0.05$). The regression results further revealed that the coefficient of the interaction term 'XM' had an insignificant moderating effect on the relationship between capital structure and financial performance ($\beta = -0.005$,

p>0.05). Further, the coefficient of determination (R^2) also disclosed a slight increase of 2% (22.11% in step 1 to 24.11% in step 3).

The estimated model formulated in the equation is as shown below:

$$FP_{it} = 0.2023 - 0.2031CS - 0.1497M - 0.0056XM + \mu_{it} + \varepsilon_{it}$$

In general, the final step (table 4.21) revealed that there was insignificant moderating effect of firm characteristics on the effect of capital structure on financial performance of non-financial firms as revealed by the p-value of the interaction term 'XM' (p>0.05). Since the market value of non-financial firms is mainly determined by its earning power and the risk of its underlying assets, this meant the firms' value was independent of the firm's demographic and managerial variable (firm characteristics). Therefore, non-financial firms may need to pay close attention to the possible risks that may affect their performance and design mitigation strategies by developing risk management policies to avert possible adverse effects.

In conclusion, the study accepted the null hypothesis and concluded that firm characteristics had no statistically significant moderating effect on the effect of capital structure on financial performance (R change=2%; $\beta = -0.005$, p>0.05 as shown in table 4.21).

4.7.3 Mediating Effect of Corporate Governance on the effect of Capital Structure on Financial Performance Among Listed Non-Financial Firms.

The third objective was to examine the mediating effect of corporate governance on the effect of capital structure on financial performance. The corresponding null hypothesis H_{03} was that: Corporate Governance has no significant mediating effect on capital structure and financial performance. The regression coefficient for the indirect effect represented the change in financial performance 'Y' for every unit change in capital structure 'X' that was mediated by corporate governance 'D'. First, the study regressed capital structure (composite score) against financial performance to establish the nature of effect before the mediation process. The study first performed regression analysis of capital structure and financial performance to establish the zero order coefficient results before adding the mediator variable (corporate governance 'D') as shown in table 4.22 below.

Table 4.22: Regression Results for Capital Structure and Financial Performance (D=0) Step 1.

Variable	Coefficient	Standard error	t-Statistics	p-Value
CS	-0.212598	0.022298	-9.53**	0.0000
Cons	0.158139	0.013018	12.15	0.0000
Goodness of Fit	R^2 = 0. 2218		Adjusted R^2 = 0.2211	
	F = 2.58		P-value(F) = 0.0070	

Note: ** $p < 0.05$, are significance levels, in which the null hypothesis is rejected. Dependent variable: ROA

After performing the first regression analysis on capital structure and financial performance, the study then added mediating variable (corporate governance) to the first model in order to test the mediating effect on capital structure and financial performance. Corporate governance (D) and capital structure were regressed against financial performance to establish the mediating effect as shown in table 4.23 below.

Table 4.23: Regression Results for the Mediating Effect of Corporate Governance on Capital Structure and Financial Performance (+D) Step 2.

Variable	Coefficient	Standard error	t-Statistics	p-Value
CS	-0.005310	0.002232	-2.38**	0.041
D	-0.092534	0.023662	-3.91**	0.004
Cons	0.303640	0.062019	4.89	0.000
Goodness of Fit	R^2 = 0. 5107		Adjusted R^2 = 0.4372	
	F = 6.94		P-value(F) = 0.000	

Note: ** $p < 0.05$, are significance levels, in which the null hypothesis is rejected. Dependent variable: ROA

In the second step above (Table 4.23), the mediator variable corporate governance composite score (D) was introduced to the model and the results revealed a negative significant mediation effect on financial performance (β= -0.092534, t = -3.91, p-value < 0.05). The significance

mediation effect of corporate governance was occasioned by the fact that in the recent decades, corporate governance problems have become more entrenched in most non-financial firms which has seen some firms delisted due to failure to settle their corporate governance issues perennially causing management impairments in the firms. In addition, since the shareholders of the firms are not the only ones who make investments decisions, therefore corporate governance was also affected by the associations among the various stakeholders in the firms.

This study followed Judd and Kenny's indirect pathway approach for testing the mediation effect which involved subtracting the partial regression coefficient obtained in the second step (table 4.23) , β_1 = -0.0053; from the simple regression coefficient obtained in first step (table 4.22), β = -0.2125, of which both coefficients represented the effect of capital structure 'CS' on financial performance 'Y' but notably, β is the zero-order coefficient from the simple regression and β_1 is the partial regression coefficient from a multiple regression. Since the statistic of the p-value from table 4.23 above revealed significant mediating effect of corporate governance on the effect of capital structure on financial performance, the study proceeded to establish difference between these two coefficients denoted by $\beta_{indirect} = \beta - \beta_1$ as follows;

$$\beta_{indirect} = -0.2125 - (-0.0053) = -0.2072$$

The above indirect effect of $\beta_{indirect}$(-0.2072) means that an increase of one unit of corporate governance results in the decrease of financial performance of firms by 20.72% confirming the fact that unresolved corporate governance issues adversely affects the link between capital structure and firm performance. This further means that the firms' corporate governance as measured by board size, CEO duality, managerial ownership and non-executive directors have negative significant mediating effect on the relationship between capital structure and financial performance of non-financial firms.

Baron and Kenny (1986) approach was used to test the null hypothesis that Corporate Governance has no mediating significant effect on the relationship between capital structure and financial performance. The findings of the study support the agency theory concept developed by

Berle and Means (1932) which postulates that due to a continuous dilution of equity ownership of large corporations, ownership and control has become more separated hence corporate governance may not be yielding desirable results since it gives professional managers of firms an opportunity to pursue their interest instead of that of shareholders. The results of the study were consistent with Zabri et al. (2015); Ogega (2015) and Thuraisingam (2013) which concluded that corporate governance measures have significant effect on financial performance of firms. It was thus inferred that when capital structure becomes an instrument of corporate governace, not only in debt and equity portfolio, but also how to make decisions and manage the firms; that it must be factored in when making optimum financing decisions.

In conclusion, the test of the mediation effect revealed that corporate governance had significant indirect effect on financial performance (R^2 =0.5107; β = -0.093, p-value <0.05; see table 4.23 above); therefore rejecting the null hypothesis and concluded that corporate governance has staistically significant mediating effect on the effect of capital structure on financial performance.

4.7.4 Joint effect of Capital Structure, Moderating Firm Characteristics and Mediating Corporate Governance on Financial Performance Among Listed Non-Financial Firms.

The fourth objective was to determine the joint effect of capital structure, moderating effect of firm characteristics, mediating effect of corporate governance on financial performance. The hypothesis on the other hand, stated that there was no statistically significant joint effect of capital structure, moderating effect of firm characteristics and mediating effect of corporate governance on financial performance of non-financial firms. The study performed multiple regression analysis to test for the joint effect following the studies by the studies by Muiru (2019), Ayuo (2018) and Okiro (2014) as displayed in table 4.24 below.

Table 4.24: Multiple Regression Results of the Joint effect of Capital Structure, Firm Characteristics and Corporate Governance on Financial Performance.

Variable	Coefficient	Standard error	t-Statistics	p-Value
CS	-0.007275	0.002844	-2.56**	0.011

M	-0.010340	0.004171	-2.48**	0.013
D	-0.095725	0.030495	-3.14**	0.002
Cons	0.423625	0.075889	5.58	0.0000
Goodness of Fit		R^2 = 0. 5013	Adjusted R^2 = 0.4417	
		F = 8.41	P-value(F) = 0.0000	

Note: ** $p < 0.05$, are significance levels, in which the null hypothesis is rejected. Dependent variable: ROA

The results from table 4.24 above shows that the overall R-Square statistic (R^2) is 0.5013 which means that the joint variables explains 50.13% changes in the financial performance of non-financial firms while the difference of 49.87% are accounted for by other factors not included in the model. The F-test statistic (F=8.41, p-value<0.05) implies that the three variables (capital structure, firm characteristics and corporate governance) are jointly significant in explaining the variance in the financial performance of non-financial firms as measured by ROA. Further, the results showed that capital structure, firm characteristics and Corporate Governance all revealed a negative significant effects with financial performance (β_1 = -0.0073, p=0.000; β_2 = -0.010, p=0.013; and β_3 = -0.096, p=0.000 respectively) By substitution of the beta coefficients, the estimated formulated equation from the analysis is as shown below;

$$Y_{it} = 0.424 - 0.007CS - 0.010M - 0.096D + \varepsilon$$

In conclusion, the results of F-test statistic and coefficient of determination (R^2 =0.5013, F=8.41, p-value<0.05, see table 4.24) implies that capital structure, firm characteristics and corporate governance are jointly not equal to zero (jointly significant). Thus, the study rejected the null hypothesis and concluded that there was a statistically significant joint effect of capital structure, moderating effect of firm characteristics and mediating effect of corporate governance on the financial performance of non-financial firms listed at NSE, Kenya.

4.8 Summary of Hypotheses Tests

The test of hypotheses started with identifying the best fit model that satisfied regression assumptions. The Fixed effect model was found to be the most appropriate to test the hypotheses. The test of hypothesis started with testing the effect of capital structure on financial performance of non-financial firms. Secondly, the moderating effect of firm characteristics in the relationship between capital structure and financial performance was tested. Thirdly, the study tested the mediating effect of corporate governance in the relationship between capital structure and financial performance. Lastly, the joint effect of capital structure, firm characteristics and corporate governance on the financial performance of listed non-financial firms and the results presented in summary of hypothesis tests as shown below. The results of the hypotheses tests are as presented in summary of hypothesis tests as shown in table 4.25 below.

Table 4.25: Summary Results of Hypotheses Testing

Hypothesis	Results	Conclusion
H01: Capital Structure has no statistically significant effect on financial performance among listed non-financial firms at NSE, Kenya	The model was generally significant with F-test statistic and coefficient of determination (R^2 =0.5472; F=10.15, p-value <0.05). The model further showed that capital structure (composite score) had a negative significant effect on financial performance (β = -0.009 t= -2.79, p-value<0.05).	H01: Rejected the null hypothesis
H02: Firm characteristics have no statistically significant moderating effect on the relationship between capital structure and financial performance among listed non-financial firms at NSE, Kenya.	The coefficient of the interaction term (XM) CS (composite score and moderating variable revealed insignificant effect on financial performance (β = -0.0056, t= -0.23, p-value>0.05). This implied that firm characteristics had insignificant moderating effect on the effect of capital structure on financial performance.	H02: Accepted the null hypothesis
H03: Corporate Governance has no statistically significant	The results of the coefficient of determination (R^2), F-test and the coefficients of the variables revealed that	H03: Rejected

mediating effect on the relationship between capital structure and financial performance among listed non-financial firms at NSE, Kenya.	corporate governance had significant mediating effect on the effect on the relationship between capital structure and financial performance (R^2=0.5107, and β = -0.093, p-value<0.05).	the null hypothesis
H04: There is no statistically significant joint effect of capital structure, moderating firm characteristics and mediating corporate governance on financial performance among listed non-financial firms at NSE, Kenya.	The regression results of coefficient of determination, F-test and coefficients of variables revealed that there was a significant joint effect of the three variables (capital structure, firm characteristics and corporate governance on financial performance of non-financial firms ($R^2 = 0.5013$, F=8.41, p<0.05; β_1 = -0.007, p<0.05; β_2 = -0.010, p<0.05; β_3 = -.096, p<0.05).	H04: Rejected the null hypothesis

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study sought to investigate the effect of capital structure, moderating effect of firm characteristics and mediating effect of corporate governance on financial performance of non-financial firms listed at NSE, Kenya. In order to achieve this, specific objectives and matching hypothesis were developed by the study. The effect of the variables was conceptualized into a conceptual framework. Data was collected and analyzed using descriptive statistics, trend analysis, correlation t-tests and regression models. The results of the study were compared to theoretical propositions and the previous empirical studies and discussed in their context. The results also supported several theoretical postulations but also refuted some. The study has drawn several conclusions and recommendations. This chapter presents a summary of the findings, the conclusions, implications and recommendations for future studies.

5.2 Summary of Findings

This study employed capital structure as the independent variable, firm characteristics as the moderating variable, corporate governance as the mediating variable and financial performance as measured by Return on Assets (ROA) as independent variable. The study developed four objectives and hypotheses which were tested, inferences interpreted and conclusions drawn on the results thereof. Theoretical literature and empirical studies were reviewed to establish the link to the previous findings and the theories on which the study was based. In Methodology, a sample population of 33 firms were investigated for a 10-year period (2009 to 2018). A positivist research philosophy and cross sectional and longitudinal research designs, were used in the study. Preliminary statistical tests were undertaken among which were: validity test of the study instruments, descriptive statistics such as mean, standard deviation and correlation analysis. The study performed diagnostic tests in order to establish whether there was form data distribution, correlation among independent variables, non-consistency in error terms, stationarity of variables

and fitness of the regression models. Hausman test was also undertaken to confirm whether to adopt fixed or random effect model in panel data analysis.

Theoretically, it's evident that a negative link exists between capital structure and financial performance. The first null hypothesis, H01 stated that there is no statistically significant effect of capital structure on the financial performance. From the results, the study rejected the null hypothesis and concluded that capital structure (composite score) has a negative significant effect on the financial performance. This study therefore confirmed that capital structure had a negative effect on financial performance, implying that the use of capital structure as measured by the composite of debt ratio, equity ratio and debt equity ratio decreases the financial performance of non-financial firms.

The second objective was based on the moderating effect of firm characteristics on the effect of capital structure on financial performance. A conclusion was drawn that firm characteristics had no significant moderating effect on the link between capital structure and financial performance of non-financial firms. This implies that firm characteristics components which include: asset tangibility, firm age and firm growth had insignificant effect on the financial performance of the firms. This then meant that the firms performance was not dependent on the inclusion of the firm characteristics components in the model.

The third objective was to determine the mediating effect of corporate governance on the relationship between capital structure and financial performance. The results of the mediation tests showed that corporate governance had statistically negative significant mediating effect on the link between capital structure and financial performance, rejecting the null hypothesis. The significance of the mediation effect of corporate governance was possibly as a result of dilution of firms' ownership and failure to align the interest of managers with that of the firm hence leading to adverse effect on financial performance of non-financial firms as postulated by agency theory. Non-financial firms may need to embrace the better corporate governance practices in order to improve overall performance of the firms. Strong corporate governance minimizes the agency problems, promoting goal congruence and implies that management teams must work together to achieve the goals of the firm.

The final objective was to find out if a joint effect exists between capital structure, firm characteristics and corporate governance on the financial performance was significant. The results of the study showed that there was a statistically significant joint effect of capital structure, moderating effect of firm characteristics and mediating effect of corporate governance on the financial performance. From the results, the study rejected the null hypothesis and a concluded that there was a joint effect of capital structure, moderating effect of firm characteristics, mediating effect of corporate governance on the financial performance of non-financial firms. The results of the study contributed to the body of knowledge about the understanding of the link between capital structure, moderating effect of firm characteristics, mediating effect of corporate governance and financial performance. Moreover, the results confirmed the findings of previous studies that found negative significant effect between capital structure and financial performance.

5.3 Conclusions

Theoretically, there is a nexus between capital structure and financial performance of non-financial firms. The findings of the first objective revealed a negative significant relationship between capital structure and financial performance as measured by capital structure composite score, implying that the use of debt and equity finance by non-financial firms leads to decrease in the financial performance of the firms. The results supported the propositions by the Trade-off theory which stated that higher leverage means that the firm has higher commitments to fulfill its future obligations, in terms of principal and interest payments hence leading to adverse effects on firm's financial performance. Moreover, higher leverage ratios also lead to higher costs relating to firms' financial distress. The theory further postulated that the use of debt may not always be beneficial since there is risk of higher costs of financial obligation and bankruptcy costs that the firm may incur due to market imperfections hence decreasing financial performance of non-financial firms. Moreover, higher leverage ratios also lead to higher costs relating to firms' financial distress.

The second objective was to establish the moderating effect of Firm characteristics on the relationship between Capital Structure and financial performance. The corresponding null

hypothesis (H02) was that: Firm characteristics have no moderating significant effect on the relationship between capital structure and financial performance of non-financial firms. The moderating effect of firm characteristics was tested by the addition of the interaction term 'XM' between the composite capital structure variable and the moderator variable. The coefficient of determination (R^2) showed that the moderator variable accounts for slight variations in the financial performance. In general, the model revealed that the interaction term 'XM' had no significant statistically moderating effect of firm characteristics on the association between the capital structure and financial performance of non-financial firms.

The third objective was to investigate the mediating effect of Corporate Governance on the effect between Capital Structure and financial performance. The results of the regression analysis rejected that null hypothesis and cofirmed that corporate governance had statistically negative significant mediating effect on the effect between capital structure and financial performance of non-financial firms. The results implied that the firms should strive to resolve corporate governance issues and financing strategies to avert adverse effects on financial performance and overall welfare of non-financial firms.

The final objective was to determine the joint effect of capital structure, firm characteristics and corporate governance on financial performance. The corresponding hypothesis stated that there was no statistically significant joint effect of capital structure, moderating effect of firm characteristics and mediating effect of corporate governance on financial performance of non-financial firms. Multiple regression analysis was performed to establish the joint effect among the variables. From the regression results, there was a joint effect of capital structure, moderating effect of firm characteristics and mediating effect of corporate governance on the financial performance of non-financial firms. The overall joint significance was implied by the F-statistic which had a significant p-value thus rejected the null hypothesis. This further disclosed that capital structure, firm characteristics and corporate governance were jointly significant which explains the variation in financial performance of non-financial firms.

5.4 Policy Implications and Recommendations

5.4.1 Policy Implications

This study has imperative implications on policies relating to; the Kenyan code of corporate governance, financing management policy and other policies provided by Capital Market Authority of Kenya. The results of the study revealed statistically negative significant effect of capital structure on financial performance of listed non-financial firms in Kenya. The results supported the arguments by Ameen and Kiran (2017); Martis and Bremen (2013) and Karanja (2014) which also indicated negative significant relationship between capital structure and financial performance. The results of the study further supported the propositions of Trade-off theory which states that there is a maximum point where the marginal benefit of debt declines with further increases in debt financing, whereas the marginal cost increases hence reduction in the performance of the firms. Further, the theory also elucidates that issuing equity means moving away from the optimum capital structure hence may result in adverse effects on financial performance. This study contributes to the empirical evidence supporting the understanding of the relationship between capital structure components and financial performance of non-financial firms listed at Nairobi Security Exchange.

This study also investigated the moderating effect of firm characteristics on the effect of capital structure and financial performance on non-financial firms listed at NSE. The results of the analysis showed that firm characteristics had insignificant moderating effect on the effect of capital structure on financial performance. The results corroborate with findings of previous studies; Too and Simiyu (2018) and Ali et al. (2013) which concluded that firm characteristics had insignificant effect on financial performance. The results further indicated that firms with debt finance have a strong negative effect on firms' financial performance. This further meant that firm characteristics including Asset Tangibility, Firm growth and firm age have no moderating effect on the relationship between capital structure and financial performance of non-financial firms listed at NSE. The study has implications on financial policy which include rules and principles that govern financial activities of the non-financial firms especially on the class of assets to be retained and the overall growth of the firms.

Further, the study analyzed the mediating effect of corporate governance on the effect of capital structure on financial performance of non-financial firms. The results of partial mediation analysis disclosed that corporate governance had significant mediation effect on the effect of capital structure on financial performance. This study further contributes to policy implications of good corporate governance as an effective way of improving firms' financial performance. Firms should strive at enhancing the good corporate governance rating in order for the value of the firm to be increased. Improving corporate governance involves having the optimal boards, inclusion of independent board of directors, ensuring transparency of the board's shareholding and outlining clear roles of the CEOs.

Finally, the integrated model that investigated the joint effect of capital structure, moderating effect of firm characteristics and mediating effect of corporate governance on financial performance was analyzed. The results revealed a significant joint effect of the variables on financial performance of the firms. This supports the Modigliani and Miller theory (1963), Trade-off Theory and Agency theory which suggests that employment of capital structure, firm characteristics and corporate governance have a joint significance and adds value to financial performance of non-financial firms, hence maximizing shareholder's wealth.

5.4.2 Policy Recommendations

The research results of the first objective revealed a negative significant relationship between capital structure and financial performance of non-financial firms. The association is enhanced when the moderating effect firm characteristics and mediating effect corporate governance are taken into consideration. Therefore, non-financial firms need adopt optimal capital structure and good financial policies in an effective way in order to improve financial performance of the firms. The results of the moderating effect firm characteristics emphasized that optimal capital structure must meet the institutional conditions and financial management policies regulating effective operations and proper financial reporting. Good financial management practices stipulate that a firm should promote a good level of optimal capital structure, assets tangibility and favorable growth of the firm to ensure the going concern of the firms is not at risk.

The results of the study disclosed that the mediating variable (corporate governance measures which include: board size, CEO duality, managerial ownership and non-executive directors) had significant mediating effect with the financial performance of non-financial firms. Consequently, firms should strive at enhancing strong corporate governance rating so that the firms' value may be enhanced. Improving corporate governance involves having the standard number of board of directors, representation of non-executive board of directors, making fully disclosing managerial shareholdings and also if the CEOs also serves as the chairpersons of the board of directors.

Finally, the integrated model not only enriches the existing academic framework of capital structure (CS) through combining firm characteristics and corporate governance (CG), but also brings a new way to further include other crucial mediating measures into capital structure in order to enhance performance. That is, the study provides an initial integration model to improve the effectiveness of corporate governance and suggests a more comprehensive understanding of the capital structure since previous studies have ignored the critical role of mediating variables that can have significant moderating effects on the effectiveness of capital structure.

In conclusion, there is need to enhance the quality of corporate financial reporting in the annual reports of the firms as stipulated in the International Financial Reporting Standards (IFRS) and the Kenyan code of corporate governance policies. The information in the reports should be accurate, complete and of high quality, because it often yields a positive effect on the financial and investment decisions of financial providers and stakeholders. There is also need for improvement of compliance levels in corporate governance practices in so far as the non-financial firms are concerned which requires a paradigm shift in corporate culture of non-financial firms. It is also vital that directors discharge their mandate within the common law effectively and oversee compliance with legislative practices. It is also recommended that the Capital Market Authority continues to sensitize the firms listed at Nairobi Securities Exchange and encourage compliance with all financial policies, provisions, legal practices and the corporate governance codes.

5.5 Suggestions for Further Research

Further Research on capital structure and financial performance study is necessary to address the challenges and limitations faced by this study and to bridge the knowledge gap and broaden the corpus relating to capital structure, especially for non-financial firms. In the process of obtaining some of the secondary data, particularly regarding corporate governance indicators from the annual audited financial reports was a big challenge, since the information was mostly not conclusively reported. In reporting annual financial information, the firms were guided by the International Financial Reporting Standards (IFRS) which requires disclosure of the notional amounts and other crucial information about the firm and its operations. Firms should clearly disclose the size of their boards, whether CEO also doubles up as a board chair (CEO duality), the shareholding of the board of directors (Managerial ownership) and the number of non-executive directors (NED) in the firms. Most of the non-financial firms doesn't disclose this vital information in full, yet it's a critical disclosure requirement which is keeping with freedom of information as per the provisions of the constitution. The regulatory bodies including CMA should ensure enforcement of this key requirement to enable future researchers obtain relevant data.

In this study, firm financial performance was measured using the most robust and widely used accounting measure, Return on Assets (ROA). Future researchers should broaden the operationalization of financial performance to include other accounting measures like ROE and market measures (Tobin's Q and EPS) so as to enhance comparability of the results. Future studies also need to consider using self-directed learning (SDL) estimation of regression analysis as opposed to ordinary least squares (OLS) estimation to test both short run and long run relationships of the variables to establish whether this relationship exists. Moreover, future researchers may consider inclusion of other internal and external parameters of the firms, to test their moderating or mediating effect on the link between capital structure and financial performance.

Further, this study should be replicated in the financial firms, privately held firms and other sectors, different geographical regions and also in other developed and under-developed

countries to determine the nature of relationship. The replication of this study could further establish whether the findings hold true for other sectors, firms or countries with different cultural, regulatory, governance and management contexts. This will enrich the body of knowledge and widen understanding on the link between capital structure and financial performance of firms in diverse environments and contexts.

REFERENCES

Abdul, 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. https://doi.org/10.5296/IJAFR.V2I1.1825

Abdur, R. M. (2015). Capital Structure and Firm Performance of Listed Non-Financial Companies in Bangladesh. *The International Journal of Applied Economics and Finance, 9*(1), 25-32. https://ssrn.com/abstract=2621143

Abeywardhana, D. K. (2016). *Impact of Capital Structure on Firm Performance: Evidence from Manufacturing Sector SMEs in UK. SSRN:* https://ssrn.com/abstract=2816499

Abor, J. (2005). The effect of Capital Structure on Profitability: An Empirical Analysis of Listed Firms in Ghana. *Journal of Risk Finance, 6* (5), 438-445. https://doi.org/10.1108/15265940510633505

Abor, J. (2007). Corporate governance and financing decisions of Ghanaian listed firms. *The International Journal of Business in Society, 7*(1), 83-92. https://doi.org/10.1108/14720700710727131

Abu-Abbas, D. B. (2015, August 15). *Financial Leverage and Firm Performance Evidence from Amman Stock Exchange.* https://www.anzam.org/wp-content/.

Adesina, J. B., Nwidobie, B. M., & Adesina, O. O. (2015). Capital structure and financial performance in Nigeria. *International Journal of Business and Social Research, 05*(02), 21-31. http://thejournalofbusiness.org/index.php/site/article/view/710/499

Adekunle, Onaolapo., & Kajola, S. O. (2010). Capital structure and firm performance: Evidence from Nigeria. *European Journal of Economics, Finance and Administrative Sciences, 25*, 70-82.

Aduda, J., & Musyoka, L. (2011). The relationship between executive compensation and firm performance in Kenyan banking industry. *Journal of Accountancy. 3*(6), 130-139. http://www.academicjournals.org/JAT

Adusei, M. (2011). Board Structure and Bank Performance in Ghana. *Journal of Money, Investment and Banking, 19,* 72-84.

Agostinelli, S. N. (2020). *"Predictors of Financial Responsibility Composite Scores at Catholic Colleges and Universities"*. Graduate Student Theses, Dissertations, & Professional Papers. https://scholarworks.umt.edu/etd/11529

Alejo, J., Galvao, A, Montes-Rojas, G., & Sosa-Escudero., W. (2015). Tests for normality in linear panel-data models. *The Stata Journal 15*(3), 822–832. https://hdl.handle.net/10419/127687

Alghusin, N. A. (2015). Do Financial Leverage, Growth and Size Affect Profitability of Jordanian Industrial Firms Listed? *International Journal of Academic Research in Business and Social Sciences*, *5*(4). http://dx.doi.org/10.6007/IJARBSS/v5-i4/1580

Ali, A., Zahid, B., Shahid, M., & Akram, M. N. (2013). Determinants of Firm's Financial Performance: An Empirical Study on Textile Sector of Pakistan, *Business and Economic Research, Macro think Institute, 3*(2), 76-86. https://doi.org/10.5296/ber.v3i2.3958

Ali, M. (2016). Impact of Corporate Governance on Firm's Financial Performance (A Comparative Study of Developed and Non-Developed Markets). *Arabian Journal of Business and Management Review*, *6*(6). https://doi.org/10.29226/TR1001.2018.7

Ali, K. A. (2013). *The Impact of Financial Leverage on Firm Performance: The Case of Non-Financial Firms in Kenya.* https://chss.uonbi.ac.ke.

Ahmad, Z., Hasan, N. A., & Roslan, S. (2012). Impact of Capital Structure on Profitability: An Empirical Analysis of Cement Sector of Pakistan. *International Review of Business Research Papers, 8*(5), 137-155.

Akeem, L. M., Terer, E. K., & Kinyanjui, M. W. (2014). Effects of Capital Structure on Firm's Performance: Empirical Study of Manufacturing Companies in Nigeria. *Journal of Finance and Investment Analysis*, *03*(04), 39-57. http://www.scienpress.com/

Akinyomi, O. J. (2013). Effect of Capital Structure on Firms Performance: Evidence from Nigerian Manufacturing Company. *International Journal of Innovative Research and Studies, 3*(4), 999-1005.

Altman, E. I. (2014). *Predicting financial distress of companies: revisiting the Z-score and zeta nodels.* Stern School of Business, New York University, 9-12.

Ameen, A., & Kiran, S. (2017). Effects of Capital Structure on Firm's Profitability: Evidence from cement sector of Pakistan. *Research Journal of Finance and Accounting*, *08*(07), 222-284.

Anton, S. G. (2016). The Impact of Leverage on Firm Growth. Empirical Evidence from Romanian Listed Firms. *Review of economic and Business studies*, *09*(02), 147-158. https://doi.org/10.1515/rebs-2016-0039

Awan, A. G., & Abbas M. G. (2016). Capital Structure, Corporate Governance, and Firm Performance in Pakistan. *Journal of Poverty, Investment and Development*, *02*(01), 9-23.

Ayuo, A. O. (2018). *Effect of Entrepreneurship Education On Intention of Engineering Students in Technical and Vocational Education and Training Institutions in Kenya.* www.ir-library.egerton.ac.ke.

Azeem, M. R., Kouser, H. A., & Saba, I. (2015). Paradoxical Role of Corporate Governance in Firm Performance: New Evidence from Financial Crisis 2008. *Pakistan Journal of Social Sciences (PJSS), 35* (2), 519-531.

Aziz, F. A., & Ramakrishnan, S. (2021). The Mediating Role of Corporate Governance on Corporate Social Responsibility and Shareholder Wealth Maximization. *International Conference on Applied Economics and Social Science,* 263-269.

Babalola Y. A. (2014). Triangulation Analysis of Capital Structure and Firms' Performance in Nigeria. *East Ukrainian National University*, *69*(12), 75-82.

Bhagat, S., & Bolton, B. (2008). Corporate governance and firm performance. *Journal of Corporate Finance, 14*(3), 257-273. https://doi.org/10.1016/j.jcorpfin.2008.03.006

Baker, T. L. (1994). *Doing Social Research* (2nd ed.). New York: McGraw-Hill Inc.

Baker, H. K., & Gary N. P. (2005). *Understanding Financial Management*. Blackwell Publishing.

Baron, R. M., & Kenny, D. A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

Basit, A., & Irwan, N. F. (2017). The Impact of Capital Structure on Firms Performance: Evidence from Malaysian Industrial Sector. A Case Based Approach. *International Journal of Accounting & Business Management, 5*(2), 131-143.

Baum, C. F., Schafer, D., & Talavera O. (2015). The Effects of Short-Term Liabilities on Profitability: The Case of Germany, *Money Macro and Finance (MMF) Research Group Conference 2006.*

Baxter, N. (1967). Leverage, risk of ruin and the cost of capital. *Journal of Finance, 22*, 395-403.

Berger, A. N., & B. Dipatti. (2006). Capital Structure and Firm Performance: *A New Approach to testing Theory and Application to Banking industry, 30,* 065-102. https://doi.org/10.1016/j.jbankfin.2005.05.015

Berk, J., & DeMarzo, P. (2007). Corporate Finance and financial performance. *Financial Markets and Portfolio Management*, *21*(4), 487-489.

Bitok, J., Masulis, R., Graham, J., & Harvey, C. (2011). The Determinants of leverage at the Nairobi Stock Exchange, Kenya. *Asian Business and Management Conference*, New Delhi.

Booth, L., Aivazian, V., Demirgruc-Kunt, A., & Maksimovic, V. (2001). Capital structures in developing countries. *The Journal of Finance, 56*(1), 87-130.

Borenstein, M., Hedges, L.V., Higgins, J.P., & Rothstein, H.R. (2010). A basic introduction to fixed-effect and random-effects models for meta-analysis. *Res Synth Methods, 1*(2), 97-111.

Borges, J. M., De-Sarvas, L. A., Oliveira, J. R., & Ribeiro, K. C. (2017). Long-Term Debt and Performance in Crisis Times: Evidences of Firms from Brazil and Latin America. *Revista Catarinense da Ciência Contábil*, *16*(47), 87-96.

Brendea, G. (2011). Capital Structure Theories: A Critical Approach. *Studia Ubb Oeconomica*, *56*(2), 29-39.

Brickley, J. A., Coles, J. L., & Jarrell, G. (1997). Leadership structure: separating the CEO and Chairman of the Board. *Journal of Corporate Finance, 3,* 189-220.

Buallay, A., Hamdan, A., & Zureigat, Q. (2017). Corporate Governance and Firm Performance: Evidence from Saudi Arabia. *Australasian Accounting and Business and Finance Journal, 11*(1), 78-98. http://dx.doi.org/10.14453/aabfj.v11i1.6

Butt, S. Ali., & Hasan, A. (2009). Impact of Ownership Structure and Corporate Governance on Capital Structure of Pakistani Listed Companies. *International Journal of Business & Management, 4*(2). https://doi.org/10.5539/ijbm. v4n2p50

Campello, M. (2007, January 16). *Asset Tangibility and Firm Performance under External Financing: Evidence from Product Markets.* National Bureau of Economic Research.: https://ssrn.com/

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

Chaghadari, M. F. (2011). Corporate Governance and Firm Performance**.** *International Conference on Sociality and Economics Development, 10,* 484-489.

Chakraborty, I. (2010). Capital structure in an emerging stock market: The case of India. *Research in International Business and Finance, 24*(3), 295-314. https://doi.org/10.1051/shsconf/20173413003

Chebii, E.K., Kipchumba, S.K., & Wasike, E. (2014). *Relationship between Firms Capital Structure and Dividend Payout Ratios: Companies Listed at Nairobi Stock Exchange.* Kabarak University First International Conference 2011.

Chechet, I., & Olayiwola (2014). Capital Structure and Profitability of Nigeria Quoted Firms. *Journal of economic and Business, 3*(1), 139-158.

Chukwudi, E. J. (2018). Effect of Firms' Growth Indices on Profitability of Food & Beverage Firms in Nigeria. *Research Journal of Finance and Accounting, 9*(7), 222-847.

Clifford, P., & Evans, R. (1997). "Non-Executive Directors: A Question of Independence Corporate Governance: *An International Review*, *5*(4), 224-231.

CMA, (2016). *Code of Corporate Governance for Listed Companies.* Retrieved from http://www.cma.or.ke.

Coad A. (2016). Strategies for Firm Growth. *The Palgrave Encyclopedia of Strategic Management. Palgrave Macmillan, London.* Accessed from https://link.springer.com/

Coad, A., Segarra, A., & Teruel, M. (2013). Like milk or wine: Does firm performance improve with age?, *Structural Change and Economic Dynamics, Elsevier*, 24, 173-189.

Cohen, L., Manion, L., & Marrison, K. R. (2007). *Research Methods in Education*, (6th ed.). Routledge.

Coleman, A. K., & Biekpe, N. (2008). The Relationship between Board Size, Board Composition, CEO Duality and Firm Performance: Experience from Ghana. *Corporate Ownership and Control, 4*(2). 114-122. https://doi.org/10.22495/cocv4i2p11

Cornet, M., Marcus J., & Tehranian, H. (2007). Corporate Governance and Pay-for-Performance. *Earnings Management Journal of Corporate Finance, 15*(1), 412-430. https://doi.org/10.1016/j.jfineco.2007.03.003

Cuong, N. T. (2014). Threshold effect of capital structure on firm value: Evidence from seafood processing enterprises in the South Central region of Vietnam. *International Journal of Finance & Banking Studies, 3*(3), 14-29. https://doi.org/10.20525/ijfbs.v3i3.186

Daily, C. M., & Dalton. R. D. (1994). Corporate Governance and the Bankrupt Firm: An Empirical Assessment. *Strategic Management Journal, 15,* 643-654.

Dalton, D. R., Daily, C. M., Johnson, J. L., & Ellstrand, A. E. (1999). Number of directors and financial performance: A meta-analysis, *Academy of Management Journal*, *42* (6), 674-686.

Damodar, N. G., & Sangeetha, G. (2007). *Basic Econometrics* (4th ed.). Tata McGraw-Hill Education Pvt. Ltd, New Delhi, India.

Dare, F. D., & Sola, O. (2010). Capital Structure and Corporate Performance in Nigeria Petroleum Industry: Panel Data Analysis. *Journal of Mathematics and Statistics, 6*(2) 168-173. https://doi.org/10.3844/jmssp.2010.168.173

Defond, M., & Hung, M. (2004). Investor protection and corporate governance. Evidence from worldwide CEO turnover, *Journal of Accounting Research, 42*(2).

Detthamrong, U., Chancharat, N., & Vithessonthi, C. (2017). Corporate governance, capital structure and firm performance: Evidence from Thailand. *Research in International Business and Finance, 42,* 689-709. https://doi.org/10.1016/j.ribaf.2017.07.011

Dogan, M. (2013). Does firm size firm profitability affect? Evidence from Turkey. *Research Journal of Finance and Accounting, 4*(4), 53-59.

Easterby-Smith, M., Thorpe, R. & Jackson, P. (2011). *Management Research*. London: Sage.

Ebaid, I. E. (2009). The Impact of Capital Structure choice on firm performance: Empirical evidence from Egypt. *Journal of Risk Finance, 10*(5), 477-487. https://doi.org/10.1108/15265940911001385

Ebner, B., & Henze, N. (2020). Tests for multivariate normality. A *critical review with emphasis on weighted L2-statistics,* 29**,** 845–892.

Edwards, J. R., & Lambert L. S. (2007). Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. *Psychological Methods, 12*, 1-22.

Edwards, J., & Nibler, M. (1999). Corporate governance in Germany: the role of banks and ownership concentration, *Economic Policy*, *15*(3), 231-237.

Ezzi, F., Abida, M., & Jarboui, A. (2023). The Mediating Effect of Corporate Governance on the Relationship Between Blockchain Technology and Investment Efficiency. *Journal Knowledge Economics, 14*(1), 718–734. https://doi.org/10.1007/s13132-022-00892-4

Fairfield P., Whisenant, S., & Yohn, T. (2003). Accrued earnings and growth: implications for future profitability and market mispricing. *The Accounting Review, 78*(1), 353-371.

Fama, F. E., & French, K. R. (2005). Financing decisions: who issues stock? *Journal of financial economics, 76*, 549-582.

Fama, F., & Jensen, M. C. (1983). Separation of Ownership and Control. *Eugene Journal of Law and Economics, 26*(2), 301-325.

Farooq, M. A., & Masood, A. (2016). Impact of Financial Leverage on Value of Firms: Evidence from Cement Sector of Pakistan. *Research Journal of Finance and Accounting*, *7*(9).

Federal S. A. (2019). *Financial Responsibility Composite Scores.* Retrieved from https://studentaid.ed.gov/sa/about/data-center/school/composite-scores.

Ferguson, T.S. (2017). *A Course in Large Sample Theory* (1st ed.). Routledge. https://www.taylorfrancis.com/books/

Forsaith, D. M., & McMahon, R. (2002). *Equity financing patterns amongst Australian manufacturing SMEs:* Flinders University of South Australia, School of Commerce.

Galvao, A., Montes-Rojas, G.V., Sosa-Escudero, W., & Wang, L. (2013). Tests for skewness and kurtosis in the one-way error components model, *Journal of Multivariate Analysis*, 122, 35-52.

Gitundu, E.W., Kiprop, S.K., Kibet, L.K., & Kisaka, S.E. (2016). The effect of ownership structure on financial performance of privatized companies in Kenya. *African Journal of Business Management, 10*(4), 75-88. https://doi.org/10.5897/AJBM2015.7949

Goddard, J., Tavakoli M., & Wilson J. (2005). Determinants of profitability in European manufacturing and services: Evidence from a dynamic panel data. *Applied Financial Economics (15),* 269-282. https://doi.org/10.1080/09603100500387139

Goyal A. M. (2013). Impact of Capital Structure on Performance of Listed Public Sector Banks in India. *International Journal of Business and Management Invention, 2*(10), 35-43.

Greene, W.H. (2011). *Econometric Analysis*, (7th ed.). Prentice Hall.

Gujarati, N. D. (2003). *Basic Econometrics* (4th ed.). New Delhi, DN: McGraw Hill.

Guo Z., & Kumara U. K. (2012). Corporate Governance and Firm Performance of Listed Firms in Sri Lanka. *Procedia - Social and Behavioral Sciences,* 40, 664 – 667

Hamouri, B., Al-Rdaydeh, M., & Ghazalat, A. (2018). Effect of financial leverage on firm growth: empirical evidence from listed firms in Amman stock exchange. *Investment Management and Financial Innovations*, *15*(2), 154-164. http://dx.doi.org/10.21511/imfi.15(2).2018.14

Handoo, A., & Sharma, K. (2014). A study on determinants of capital structure in India. *IIMB Management Review*, *26*(3), 170-182. https://doi.org/10.1016/j.iimb.2014.07.009

Hatem, B. S. (2017). Effect of Debt Maturity on Firm Performance: An International Comparison. *International Journal of Economics and Finance*, *9*(5). https://doi.org/10.5539/ijef.v9n5p106

Haque, F., Arun, T. G., & Kirkpatrick, C. (2011). Corporate governance and capital structure in developing countries: a case study of Bangladesh. *Applied Economics, 43*, 673-681. https://doi.org/10.1080/00036840802599909

Harris, M., & Raviv, A. (1991). Capital structure and the informational role of debt. *The Journal of Finance, 50* (2), 321-349.

Hausman, J. A. (1978). Specification tests in econometrics. Econometrica: *Journal of the Econometric Society*, *46*(6), 251-271.

Hays, F. H., De L., Stephen, A., Gilbert, Jr., & Arthur, H. (2009). Efficiency Ratios and Community Bank Performance", *Journal of Finance & Accountancy*, *1*(1).

Heinrich, R. (2002). *Complementarities in Corporate Governance*, Springer Publisher, Berlin

Hermalin, B. E., & Weisbach, M. S. (2003). Boards of directors as an endogenously determined institution: A survey of the economic literature. *Economic Policy Review, 9* (1), 7–26.

Hirshleifer, J. (1958). On the theory of optimal investment decision. *The Journal of Political Economy, 66* (4), 329-352.

Hossain, M. M., Alagir, M., & Alam, M. (2016). The Mediating Role of Corporate Governance and Corporate Image on the CSR-FP Link: Evidence from a developing country. *Journal of General Management, 41*(3), 33-51. https://doi.org/10.1177/030630701604100303

Ikapel, O. F., & Kajirwa, I. H. (2017). Analysis of long term debt and financial performance of state owned sugar firms in Kenya. *International Journal of Commerce and Management Research*, *3*(2), 108-111.

Innocent, E. C., Ikechukwu, A. C., & Nnagbogu, E. K. (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. https://doi.org/10.9790/5933-0531725

Itan, I., & Angellina, B. (2023). The Mediating Role of Board Size and Working Capital Management in Corporate Governance on Firm Performance. *Journal of Accounting, Finance and Auditing Studies, 9*(1), 172-198. https://doi.org/10.32602/jafas.2023.008

Ivanov, V., & Lutz, K. (2005). A Practitioner's Guide to Lag Order Selection for VAR Impulse Response Analysis. *Studies in Nonlinear Dynamics and Econometrics,* 9(1), 1-36.

Jaranit K., & Adams P. (2019). Ethical consideration of the research proposal and the informed-consent process: An online survey of researchers and ethics committee members in Thailand. *Accountability in Research Policies and Quality Assurance, 26*(3), 176-197.

Jensen, M.C. (1986). Agency Costs of the Cash flow, Corporate Finance and Takeovers. *American Review*, *76*(2), 323-329.

Jensen, M. E., & Meckling, W. H. (1976). Theory of Firm: Managerial Behavior, Agency Cost and Ownership Structure. *Journal of Financial Economics*, *3,* 305-360.

Johnsson T. (1989). A procedure for stepwise regression analysis. *Statistical Papers, 33,* 21-29.

Judd, C.M., & Kenny, D.A. (1981). Process Analysis Estimating Mediation in Treatment Evaluations. *Evaluation Review, 5*, 602-619.

Kabajeh M., Nu'aimat S., & Dahmash F. (2012). The Relationship between the ROA, ROE and ROI Ratios with Jordanian Insurance Public Companies Market Share Price. *International Journal of Humanities and Social Science, 2*(11*).*

Kaguri, A. W. (2013). *Relationship between firm characteristics and financial performance of life insurance companies in Kenya*. https://chss.uonbi.ac.ke.

Kajirwa, H. I. (2015). Effects of Debt on Firm Performance: A Survey of Commercial Banks Listed on Nairobi Securities Exchange. *Global Journal of advanced Research,* 2(6), 1025-1029.

Kang, E., & Zardkoohi A. (2005). Board Leadership Structure and Firm Performance, Corporate Governance: *An International Review*, *13*(6), 785-799.

Karadeniz, E., Yilmaz K. S., Balcilar, M., & Beyazit O. Y. (2009). Determinants of capital structure: evidence from Turkish lodging companies. *International Journal of Contemporary Hospitality Management*, *21*(5), 594-609. https://doi.org/10.1108/09596110910967827

Karanja, M. G. (2014). *The effect of Capital Structure on Financial Performance of Small and Medium Enterprises in Dairy Sector in Kiambu County.* www.uonbi.ac.ke.

Kebewar, M., & Shah, S. M. (2012). *The Effect of Debt on Corporate Profitability: Evidence from French Service Sector.* SSRN: https://ssrn.com/abstract=2191075.

Khan, A., & Hossan E. (2010). Dynamic Model Estimation in Econometrics. *Journal of International Econometrics*, *9*(6), 1-25.

Khan, H., (2011). A Literature Review of Corporate Governance. *International Conference on E-business, Management and Economics, 25* (1), 1-5.

Khalaf, A. T. (2013). The Relationship between Capital Structure and Firm Performance: Evidence from Jordan. *Journal of Finance and Accounting*, *1*(3), 41-45. https://doi.org/10.11648/j.jfa.20130103.11

Kenya National Bureau of Statistics (2019). *Kenya National Bureau of Statistics.* www.knbs.or.ke/

Kerongo, M., Nyamute, W., Okiro, K., & Duncan, E. (2020). The Effect of Capital Structure on Financial Performance with Firm Size as a Moderating Variable of Non-Financial Firms Listed at the Nairobi, Kenya. *European Scientific Journal August 2020 edition. 16*(22), 1857-7881. http://dx.doi.org/10.19044/esj.2020.v16n22p139

Kisengo, Z.M., & Kombo, H. (2014). Effect of Firm Characteristics on Performance of the Microfinance Sector in Nakuru, Kenya. *International Journal of Science and Research*, *3*(10), 1791-1799.

Kothari, C. (2014). *Research methodology: methods and techniques. Jaipur, Rajasthan, India*: New Age International Publishers, New Delhi. www.researchgate.net.

Koech, S. K. (2013). *The Effect of Capital Structure on Profitability of Financial Firms Listed at Nairobi Securities Exchange*. https://chss.uonbi.ac.ke.

Kogan, L., & Tian, M. (2012). Firm Characteristics and Empirical Factor Models: A Data-Mining Experiment. *International Finance Discussion papers*, 1070.

Kraus, A., & Litzenberger, H. R. (1973). A state Perspective Model of Optimal Financial Leverage. *The Journal of Finance, 28*(4), 911-922.

Kumar J., (2015). Capital Structure and Corporate Governance. *Journal of Entrepreneurship Organization Management. 4*(3), 1-9. http://dx.doi.org/10.4172/2169-026X.1000143

Kyereboah-Coleman (2007). 'Impact of capital structure on the performance of micro-finance institutions', *The Journal of Risk Finance, 8*(1), 56-71. https://doi.org/10.1108/15265940710721082

Linck, J., Netter, J., & Yang, T. (2009). The effects and unintended consequences of the Sarbanes–Oxley Act on the supply and demand for directors. *The Review of Financial Studies, 22*(8), 3287–3328.

Lintner, J., (1956). Distribution of income of corporation among dividends, retained earnings, and taxes. *American Economic Review*, 46, 97–1 13.

Lipton, M., & Lorsch, J. W. (1992). A Modest Proposal for Improved Corporate Governance. *Business Lawyer, 1* (1), 59–77.

Lishenga, J. (2012). Corporate governance reaction to declining firm performance: Evidence from NSE. *African Journal of Business Management, 1* (1). http://erepository.uonbi.ac.ke:8080/xmlui/handle/

Loderer, C., & Waelchli, U. (2010). "Firm age and performance," *European Financial Management, 36*(4), 345-367. https://dx.doi.org/10.2139/ssrn.1342248

Luca, Z. (2017). *How to Better Evaluate the Goodness-of-Fit of Regressions.* Accessed from www.theanalysisfactor.com.

MacKinnon, D.P., Fairchild, A.J., & Fritz, M.S. (2007). Mediation analysis. *Annual Review of Psychology, 58*, 593-614. https://doi.org/10.1146/annurev.psych.58.110405

Magara, M. N. (2012). *Capital structure and its determinants at the Nairobi Securities Exchange.* Doctoral dissertation, University of Nairobi, Kenya. www.uonbi.ac.ke.

Maggina, A., & Tsaklanganos, A. (2012). Asset growth and firm performance. Evidence from Greece. *The International Journal of Business and Finance Research*, *06*(02), 113-124.

Maina, E. K., Gachunga, H., Muturi, W., & Ogutu, M. (2017). Influence of Firm Characteristics on the Impact of Disclosure and Transparency in the Performance of Companies Listed in Nairobi Securities Exchange. *International Journal of Scientific Research and Management, 5*(9), 6994-7007.

M'Amanja, D., Lloyd, T., & Morrissey, O. (2005). Fiscal aggregates, aid and growth in Kenya: a vector autoregressive (VAR) analysis, *Credit Research Paper 5*(7).

Manawaduge, A. S., De Zoysa, A., & Chandrakumara, P. (2010). *Capital structure and its implications: Empirical evidence from an emerging market in South Asia.* https://ro.uow.edu.au/commpapers.

Mandala, N., Kaijage, E., Aduda, J., & Iraya, C. (2017). Board Structure, CEO Tenure, Firms Charactersitics and Performance of Financial Institutions in Kenya. *European Scientific Journal November*, *13*(31), 39-63. http://dx.doi.org/10.19044/esj.2017

Margaritis, D., & Psillaki, M. (2010). Capital structure, equity ownership and firm performance. *Journal of Banking & Finance*, *34*(3), 621-632. https://doi.org/10.1016/j.jbankfin.2009.08.023

Marietta, S. M. (2012). *The Effect of Capital Structure on Firms' Performance: A Case of Selected Firms' Listed in Nairobi Securities Exchange, Kenya.* www.uonbi.ac.ke.

Martis, R. N., & Bremen, M. V. (2013). *Capital Structure and Firm's Financial Performance an Empirical Analysis of the S & P 500.* https://www.semanticscholar.org/paper.

Masavi, J. M., Kiweu, M., & Kinyili, J. (2017). Capital structure and financial performance of agricultural companies listed in Nairobi Securities Exchange, Kenya. *International Journal of Economics, Commerce and Management*, *21*(4), 653-665.

Mboi, C. S., Muturi, W., & Wanjare, J. (2018). Moderating Effect of Firm Characteristics on the Relationship Between Capital Structure and Financial Performance of Medium-sized and Large Enterprises in Kenya. *Journal of Economics and Sustainable Development, 9*(18), 112-132.

Miller, M. (1977). The Cost of Capital, Corporation Finance and The Theory of Finance, *American Economic Review*, *48*(3), 291-297.

Modigliani, F., & Miller, M. H. (1963). Income Taxes and the Cost of Capital: A Correction. *The American Economic Review*, *53*(3), 433-443.

Modigliani, F., & Miller, M. (1958). The Cost of Capital, Corporation Finance and the Theory of Investment. *American Economic Review*, *48*(3), 261 - 297.

Monks, R., & Minow, N. (2001). *Corporate Governance (2nd Ed.).* Blackwell Publishers, Oxford.

Morin, R., & Jarrell, S. (2001). *Driving Shareholders Value: Value-Building Techniques for Creating Shareholder Wealth.* McGraw-Hill Publishers, Sydney

Mose, N. (2020). Government expenditure and regional economic growth: The direction of causality. *Asian Journal of Economics, Business and Accounting*, 18(4), 9-17. https://ssrn.com/abstract=3903776

Mugenda, O. M., & Mugenda, A. G. (2008). *Social science research: Theory and principles.* Acts Press, Nairobi.

Mugenda., & Mugenda. (2003). Research Methods: *Quantitative and Qualitative Approaches* (Revised ed.) African Centre for Technology Studies.

Muigai, R. G. (2017). Moderating Effect of Firm Size on the Relationship between Capital Structure and Financial Distress of Non-Financial Companies Listed in Kenya. *Journal of Finance and Accounting. 5*(4), 151-158. https://doi.org/10.11648/j.jfa.2017

Muiru, M. W. (2019). *Foreign Exchange Risk Hedging Techniques, Firm Specific Factors, Corporate Governance and Financial Performance of Listed Firms in Kenya.* www.ir-library.egerton.ac.ke.

Mule, R. K., Mukras, M. S., & Oginda, M. N. (2013). Ownership Concentration and Financial Performance of Listed Firms in Kenya. *European Scientific Journal*, *9* (2), 184-211.

Mulwa, J. M. (2016). Moderating effect of Firm Characteristics in the Financing Diversification–Performance nexus among Credit Unions in Kakamega County,

Kenya. *International Journal of Management and Information Technology, 11*(5), 2988-2993.

Muritala, T. A. (2012). An empirical analysis of capital structure on firm's performance in Nigeria. *International Journal of Advance in Management and Economics, 1*(5), 116-124.

Mutende, E. A., Mwangi, M., Njihia, J.M., & Ochieng, D.E. (2017). The moderating role of firm characteristics on the relationship between free cash flows and financial performance of firms listed at the Nairobi securities exchange. *Journal of Finance and Investment Analysis*, *6*(4), 55-74.

Mutunga, D. & Owino E. (2017). Moderating Role of Firm size on the relationship between Micro Factors and Financial Performance of Manufacturing Firms in Kenya. *Journal of Finance and Accounting, 1*(1), 14 - 27. https://stratfordjournals.org/journals/

Mwangi, M., & Birundi E. M. (2015). The Effect of Capital Structure on the Financial Performance of Small and Medium Enterprises in Thika Sub-County, Kenya. *International Journal of Humanities and Social Science*, *5*(1), 151-155. http://hdl.handle.net/11295/81390

Mwangi, L. W., Makau, M. S., & Kosimbei. (2014). Relationship between Capital Structure and Performance of Non-Finanacial Companies Listed in the Nairobi Securities Exchange, Kenya. *Global Journal of Contemporary Research in Accounting, Auditing and Business Ethics*, *1*(2), 72-90. http://hdl.handle.net/11295/75058

Mwebia, R. K. (2017). *The effects of selected firm characteristics on financial performance of listed Nairobi Securities Exchange in Kenya*. https://chss.uonbi.ac.ke.

Myers, S. C. (1984). The Capital Structure Puzzle, *Journal of Finance,* 34(6), 575–592.

Nairobi Securities Exchange (2019). *Nairobi Securities Exchange.* www.nse.co.ke/

Nassar, S. (2016). The impact of capital structure on Financial Performance of the firms: Evidence from Istanbul. *Journal of Business and Financial Affairs, 5*(2), 167-173. http://dx.doi.org/10.4172/2167-0234.1000173

Nawaiseh, R. S. (2015). Do profitability and size affect financial leverage of Jordan industrial listed companies? *European Journal of Business and Innovation Research, 3*(5), 1-12.

Nawaz, K., & Ahmad, N. (2017). The Effect of Corporate Governance and Capital Structure on Firms' Performance: Investigation on Petroleum Sector in Pakistan. *Journal of Independent Studies and Research, 1*(15), 51-68. https://ssrn.com/abstract=3055916

Njiraini W.W., Mwangi M., Kaijage E., & Ganesh P. (2021). Moderating Effect of Firm Characteristics on the Relationship between Electric Power Outage Dynamics and Financial Performance of Manufacturing Firms in Kenya. *European Scientific Journal, 17*(1), 256-273. https://doi.org/10.19044/esj.2021.v17n1p256

Nunes, P. M., Serrasqueiro Z. M., & Sequeira T. N. (2009). Profitability in Portuguese service industries: a panel data approach. *The Service Industries Journal, 2*(9), 693-707. https://doi.org/10.1080/02642060902720188

Nwude, E. C., Itiri, I. O., Agbadua, B. O., & Udeh, S. N. (2016). The Impact of Debt Structure on Firm Performance: Empirical Evidence from Nigerian Quoted Firms. *Asian Economic and Financial Review, 6*(11), 647-660. https://doi.org/10.18488/journal.aefr/2016

Nyakundi K. M., (2016). *Relationship between Capital Structure and Corporate Governance of Companies Listed at the Nairobi Securities Exchange.* https://chss.uonbi.ac.ke.

OECD, (2015). *Principles of Corporate Governance. OECD.* www.oecd.org.

OECD, (1999). *Principles of corporate governance.* http://www.encycogov.com.

Obumneme, R. A., Taiwo, A. M., Victor, E. I., & Nurudeen, S. Y., (2023). Impact of capital structure on financial performance of oil and gas firms in Nigeria. *Future Business Journal, 9*(11), 2-9. https://doi.org/10.1186/s43093-023-00186-4

Obuya, O. D. (2017). Debt financing Option and financial performance of Micro and Small Enterprises. A Critical Literature Review. *International Journal of Business and Management. 12*(3), 221-227. http://dx.doi.org/10.5539/ijbm.v12n3p221

Ochingo, M. A., & Muturi, W. M. (2018). Effect of firm characteristics on financial performance of savings and credit cooperatives society in Kenya. *The Strategic Journal of Business & Change Management. 5*(1), 769-784. http://dx.doi.org/10.61426/sjbcm.v5i1.651

Ogega, D.O. (2015). *The Effect of Ownership Structure on the Financial Performance of Commercial Banks in Kenya*. http://chss.uonbi.ac.ke/

Ogenche, R., Githui, T., & Omurwa, J., (2018). Effect of Capital Structure on Financial Performance of Consumer Goods Firms Listed in the Nairobi Securities Exchange. *Journal of Finance and Accounting, Vol. 2*(1), 57-74. https://stratfordjournals.org/journals/index.php/

Okiro, K., Aduda, J., & Omoro, N. (2015). The Effect of corporate Governance and Capital structure on Performance of firms Listed at the East African Community Securities Exchange. *European Scientific Journal, 11*(7), 504-533.

Okiro, K. (2014). *Corporate governance, capital structure, and regulatory compliance on performance of firms listed at the East African community securities exchange.* https://chss.uonbi.ac.ke.

Olokoyo, F. O. (2013). Capital Structure and Corporate Performance of Nigerian Quoted Firms: A Panel Data Approach. *African Development Review, 25*(3), 358-369. http://dx.doi.org/10.1111/j.1467-8268.2013.12034.x

Ondigo, H. O. (2016). *The relationships among Corporate Governance, Risk Management, Firm Characteristics and Financial Performance of commercial banks in Kenya.* https://chss.uonbi.ac.ke.

Ongore, V., & K'Obonyo, P. (2011). Effects of selected Corporate Governance Characteristics on firm performance: Empirical Evidence from Kenya. *International Journal of Economics and Financial Issues, 1*(3), 99-122.

Ongore, V. O. (2011). The relationship between ownership structure and firm performance: An empirical analysis of listed companies in Kenya. *African Journal of Business Management, 5*(6), 2120-2128. https://doi.org/10.5897/AJBM10.074

Onguka, D., Kaijage, E., Iraya, C., & Kisaka, S. (2019). Influence of Corporate Control on Capital Structure for Companies Listed at the Nairobi Securities Exchange. *International Journal of Economics and Finance, 11*(2), 68. https://doi.org/10.5539/ijef.v11n2p68

Oscar, T. R. (2007). *Panel Data Analysis Fixed and Random Effects using Stata*. http://www.princeton.edu.

Ogboma, K. (2019). *Effect of Corporate Governance on the financial performance of manufacturing companies in Nigeria*. https://www.academia.edu.

Orayo, J. A., & Ombaba, K. M. (2007). Empirical analysis on financial performance of listed firms in commercial and service sector in Kenya: corporate boards, do they matter? *Africa International Journal of Management Education and Governance, 2*(2), 10-29. www.oasiseduconsulting.com

Oyedokun, G. E., Job-Olatuji, K. A., & Sanyaolu, W. A. (2018). Capital Structure and Firm Financial Performance. *Accounting & Taxation Review,* 2(1), 56-71. http://www.atreview.org

Pandey, I. M. (2015). *Financial Management*. New Delhi, India: Vikas Publishing House Pvt Ltd.

Palacios, H. A., Carrillo, E. P., & Guzman, G. M. (2016). The Effects of the Capital Structure in Performance: Empirical Study on Manufacturing Smes of México. *Journal of Business & Economic Policy, 3*(1), 22-28.

Pallant, J. (2007). *SPSS survival manual. Berkshire:* McGraw Hill/Open university press.

Pallant, J. (2010). SPSS Survival Manual: *A Step by Step Guide to Data Analysis using SPSS. Open University Press Perspective.* Open University: Edward Elgar Publishers.

Pandya, B. (2016). Impact of Financial Leverage on Market Value Added: Empirical Evidence from India. *Journal of Entrepreneurship, Business and Economics, 4*(2), 40-58. http://scientificia.com/index.php/JEBE/article/view/42

Park, C. W., & Pincus, M. (2001). Internal versus external equity funding sources and earnings response coefficients. *Review of Quantitative Finance and Accounting, 16*(1), 33-52. http://dx.doi.org/10.1023/A:1008336323282

Penrose, E. T. (1995). *The Theory of the Growth of the Firm*: Oxford University Press.

Pedironi, P. (1999). Critical value for cointegration tests in heterogenous panels with multiple regressors. *Oxford Bulletin of Economics and Statistics,* 61, 653-670.

Pedroni, P. (2004). Panel cointegration: asymptotic and finite sample properties of pooled time series test with an application to the PPP hypothesis. *Econometric Theory, 20*(3), 597-625.

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, *16*(3), 289-326. https://www.jstor.org/stable/2678547

Peter, G. T., & Bagshaw, K. B. (2014). Corporate Governance Mechanisms and Financial Performance of Listed Firms in Nigeria: A Content Analysis. *Global Journal of Contemporary Research in Accounting, Auditing and Business Ethics, 1*(2), 103-128.

Pouraghajan, A., Malekian, V., & Bagheri, M. M. (2012). The relationship between capital structure and firm performance evaluation measures: Evidence from the Tehran Stock Exchange. *International Journal of Business and Commerce, 1*(9), 166-181.

Rashid, A. (2010). CEO Duality and Firm Performance: Evidence from a Developing country. *Corporate Ownership & Control*, *8*(1), 163-175. http://dx.doi.org/10.22495/

Rao, N. V., Al-Yahyaee K. M., & Syed L. A. (2007). Capital Structure and financial performance: Evidence from Oman. *Indian Journal of Economic and Business 6*(1), 1-14.

Rimo, A., & Panbunyuen, P. (2010). *The effect of company characteristics on working capital management: A quantitative study of Swedish listed companies*. www.researchgate.net/

Robinson, C., & Schumacker, R. E. (2009). Interaction Effects: Countering Variance Inflation Factor and Interpretation Issues. *Multiple Linear Regression View Points*, *35*(1), 6-11.

Ronoowah, R.K., & Seetanah, B. (2023). The moderating and mediating effects of corporate governance and capital structure on firm performance: empirical evidence from an emerging market. *International Journal of Managerial Finance*, *49*(9), 1377-1399. https://doi.org/10.1108/MF-08-2022-0382

Roshan, B. (2009). *Capital Structure and Ownership Structure: A Review of Literature. The Journal of Online Education*, SSRN: https://ssrn.com/abstract=1337041.

Rouf, M. A. (2015). Capital Structure and Firm Performance of Listed Non-Financial Companies in Bangladesh. *International Journal of Applied Economics and Finance, 9*(1), 25-32. https://ssrn.com/abstract=2621143

Rovai, A.P., Baker, J.D., & Ponton, M.K. (2014). *Social Science Research Design and Statistics: A Practitioner's Guide to Research Methods and SPSS Analysis*. Chesapeake, VA: Watertree Press.

Salamba, J. J. (2015). *Impact of capital structure on performance of Smes in Tanzania: A case of SMEs in Dodoma municipality.* http://scholar.mzumbe.ac.tz/bitstream/

Salim, M., & Yadav, R. (2012). Capital Structure and Firm Performance: Evidence from Malaysian Listed Companies. *Procedia-Social and Behavioral Sciences*, *65*, 156-166. https://doi.org/10.1016/j.sbspro.2012.11.105

Saeedi, A., & Mahmoodi I. (2011). Capital structure and firm performance: Evidence from Iranian companies. *International Research. Journal of Finance and Economics*, *70*(3), 20-29.

Saidu, A., & Gidado, S. (2018). Managerial Ownership and Financial Performance of Listed Manufacturing Firms in Nigeria. *International Journal of Academic Research in Business and Social Sciences, 8*(9), 1227–1243. https://doi.org/10.6007/IJARBSS

Salazar-Núñez, H., Venegas-Martínez, F., & Tinoco-Zermeño, M. (2020). Impact of energy consumption and carbon dioxide emissions on economic growth: Cointegrated panel data in 79 countries grouped by income level. *International Journal of Energy Economics and Policy*, *10*(2), 218-226.

Sami, H., Wang, J., & Aremu, O. S. (2010). Corporate governance and merger activity in the Nigerian banking sector. *Journal of Economics*, *1*(2), 91-97. http://dx.doi.org/10.1080/09765239.2010.11884928

Saunders, M., Lewis P., & Thornhill, A. (2009). *Research methods for business students (5th ed.).* Accessed from https://eclass.teicrete.gr.

Saunders, A., & Marcia, M. C. (2011). *Financial Institutions Management: A Risk Management Approach.* Accessed from https://books.google.com/books/

Saurabh, C., & Anil, K. S. (2016). Capital Structure and Firm Performance: Empirical Evidence from India. *The Journal of Business Perspective*, *19*(4), 295-302. http://dx.doi.org/10.1177/0972262915610852

Sheikh, N. A., & Wang, Z. (2013). The impact of capital structure on performance: An empirical study of non-financial listed firms in Pakistan. *International Journal of Commerce and Management, 23*(4), 354-368. https://doi.org/10.1108/IJCoMA-11-2011-0034

Sheikh, N. A., & Wang, Z. (2012). Effects of corporate governance on capital structure: empirical evidence from Pakistan, *Corporate Governance*, *12(5),* 629-641. https://doi.org/10.1108/14720701211275569

Short, J. C., Ketchen, D. J., Jr, Palmer, T. B., & Hult, G.T. (2007). Firm strategic group and industry effects on performance. *Strategic Management Journal, 28*(2), 147-167.

Shumway, T. (2001). Forecasting bankruptcy more accurately: A simple hazard model. *Journal of Business, 74*, 101-124. https://doi.org/10.1086/209665

Siro, R. O. (2013). *Effect of Capital Structure on Financial Performance of firms Listed at the Nairobi Securities Exchange.* Accessed from: *https://*chss.uonbi.ac.ke.

Siromi, B., & Chandrapala, P. (2017). The Effect of Corporate Governance on Firms' Capital Structure of Listed Companies in Sri Lanka. *Journal of Competitiveness, 9*(2), 19-33. http://dx.doi.org/10.7441/joc.2017.02.02

Soliman, W. S. (2019). The Moderating Effect of Firm Characteristics on the Association Between Accounting Conservatism and Cash Holdings. *International Journal of Accounting and Financial Reporting, 9*(4), 216-308. http://dx.doi.org/10.5296/ijafr.v9i4.15887

Stiglitz, J. E. (1985). Information and Economic Analysis: A Perspective. *The Economic Journal*, *95*, 21.

Subrahmanyam, A., & Titman, S. (2001). Impact of Liquidity and Profitability of Insurance Companies in Ghana. *Journal of Finance, 56*, 239-241.

Thuraisingam, R. (2013). The Effects of Corporate Governance on Company Performance: Evidence from Sri Lankan Financial Services Industry. *Journal of Economics and Sustainable Development, 4*(17), 103-109.

Titman, S., & Wessels, R. (1988). The Determinants of Capital Structure Choice. *The Journal of Finance*, *43*(1), 1-19. https://doi.org/10.1111/j.1540-6261.1988.tb02585.x

Too, I. S., & Simiyu, E. (2018). Firms characteristics and financial performance of general insurance firms in Kenya. *International Journal of Business Management & Finance, 1*(39), 672-689.

Torres-Reyna, O. (2007). *Panel Data Analysis of Fixed and Random Effects using Stata.* http://dss.princeton.edu/training/

Tricker, R. (1994). *International Corporate Governance: Text Readings and Cases,* Prentice Hall, Singapore.

Vatavu, S. (2015). The Impact of Capital Structure on Financial Performance in Romanian Listed Companies. *Procedia Economics and Finance, 32,* 314-322. https://doi.org/10.1016/S2212-5671(15)01508-7

Velnampy, T. (2013). Corporate Governance and Firm Performance. A Study of Sri Lankan Manufacturing Companies. *Journal of Economics and Sustainable Development*, *4*(3), 228-235.

Velnampy, T., & Nimalthasan, P. (2013). Corporate Governance Practices, Capital Structure and Their Impact On Firm Performance: A Study On Sri Lankan Listed Manufacturing Companies. *Research Journal of Finance and Accounting, 4* (8), 69-79.

Wakaisuka, J. (2015). *Corporate governance, firm characteristics, external environment and performance of financial institutions in Uganda.* Accessed from: *https://*chss.uonbi.ac.ke.

Warrad, L., & Omari, R. A. (2008). The Impact of Activity Ratios among Industrial Sectors' Performance: Jordanian Case. *Research Journal of Finance and Accounting*, *6*(6), 173-177.

Waweru, N. M., & Riro, G.K. (2013). Corporate Governance, Firm Characteristics and Earnings Management in an Emerging Economy. *Journal of Accounting and Management Auditing Review*, *11*(1). 43-64. http://repository.dkut.ac.ke:8080/

Weill, L. (2008). Leverage and Corporate Performance: Does Institutional Environment Matter? *Small Business Economics, (30),* 251-265. https://doi.org/10.1007/s11187-006-9045

Wellalage, N. H., & Locke, S. M. (2012). *Corporate Governance and Capital Structure Decision of Sri Lankan Listed Firms.* https://www.researchgate.net/publication/

Winston, P., & Novi, S. B. (2018). Firm characteristics and capital structure adjustment. *Investment Management and Financial Innovations*, *15*(2), 129-144. http://dx.doi.org/10.21511/imfi.15(2).2018.12

Williamson, O. E. (1988). Corporate finance and corporate governance. *Journal of Finance, 43*(3), 567-591. http://dx.doi.org/10.1111/j.1540-6261.1988.tb04592

Winn, C. D. (2014). *Optimal Debt-to-Equity Ratios and Stock Returns*. *All graduate Plan Band Other Reports.* https://digitalcommons.usu.edu/gradreports.

Yazdanfar, D., & Ohman, P. (2015). Debt financing and firm performance: an empirical study based on Swedish data. *The Journal of Risk Finance*, *16*(1), 102-118. https://doi.org/10.1108/JRF-06-2014-0085

Yermack, D. (1996). Higher Market Valuation of Companies with a Small Board of Directors. *Journal of Financial Economics, 40,* 185–211. https://doi.org/10.1016/0304-405X(95)00844-5

Zabri, S. M., & Ahmad, K. (2015). Corporate Governance Practices and Firm Performance: Evidence from Top 100 Public Listed Companies in Malaysia. *Economics and Finance, 35*, 287-296. https://doi.org/10.1016/S2212-5671(16)00036-8

Zeitun, R., & Tian, G. (2007). Capital structure and corporate performance: evidence from Jordan. *Australasian Accounting, Business and Finance Journal*, *1*(4), 40-61. http://dx.doi.org/10.14453/aabfj.v1i4.3

Zingales, L. (2000). In search of new foundations. *Journal of Finance*, *55*(4), 623-653. https://doi.org/10.1111/0022-1082.00262

APPENDICES

Appendix I: Data Collection Sheet

Secondary annual data for the 33 non-financial firms listed at NSE will be collected from 2009-2018 using the data sheet as shown below: Name of the Firm …….

ANNUAL DATA (YEARS)											
Capital Structure	**Sub-Variables**	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Debt Ratio	Short term loan										
	Long-term loan										
	Current assets										
	Non-current assets										
Equity Ratio	Retained earnings										
	Share capital										
	Total assets										
Debt-Equity Ratio	Total Debt										
	Shareholders' Equity										
Firm Characteristics											
Asset Tangibility	Gross fixed assets (Fixed Assets at cost)										
	Total Assets										
Firm Growth	Total assets in Year 1										
	Total assets in Year 2										
Firm Age	No. of years since IPO										
Corporate Governance											
Board Size	Total number										

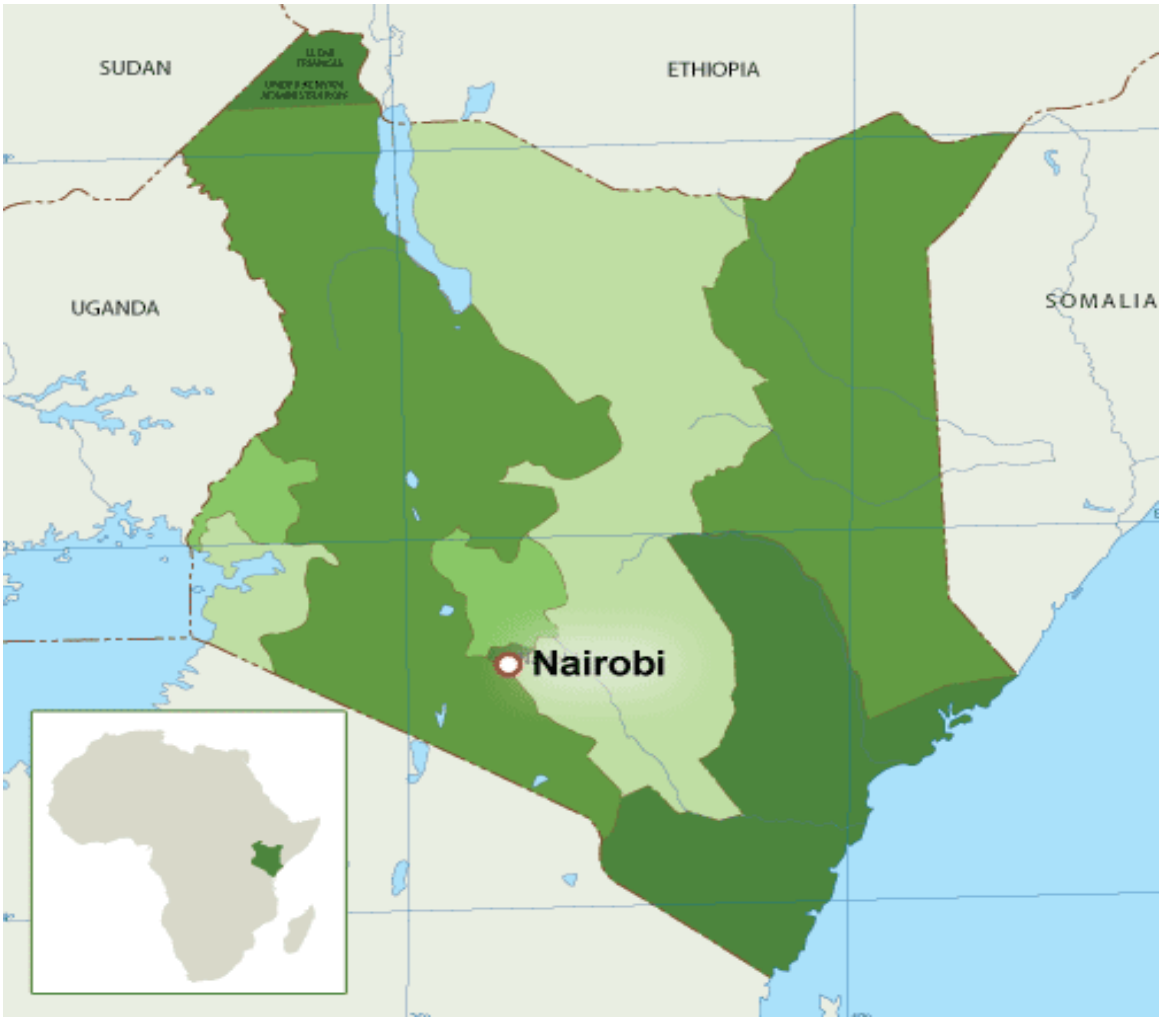
	of board of directors										
CEO Duality	**CEO Role:** Indicate if CEO is chairman of the board or CEO only										
Managerial Ownership	Share Capital held by the board										
Non-Executive Directors	Number of Non-Executive Directors										
Financial Performance											
ROA	Net income										
	Total assets at year start										
	Total assets at year end										

Appendix II: Non-Financial Firms Listed at the NSE

Agricultural	**Year of Listing**
1. Eaagads Limited	1972
2. Kapchorua Tea Co. Ltd	1972
3. Kakuzi Ord.	1951
4. Limuru Tea Co. Ltd	1967
5. Sasini Ltd	1965
6. Williamson Tea Kenya Ltd	1972
7. REA Vipingo Plantations Ltd	1995
Automobiles and Accessories	
8. Car and General (K) Ltd	1950
9. Sameer Africa Ltd	1969
Commercial Services	
10. Express Ltd	1978
11. Kenya Airways Ltd	1996
12. Nation Media Group	1973
13. Standard Media Ltd	1954
14. TPS Eastern Africa (Serena) Ltd	1997
15. WWP Scan group Ltd	2006
16. Uchumi Supermarkets Ltd	1992
17. Scan group Ltd	2006
18. Longhorn Publishers Ltd	2012
19. Atlas Development and Support Services	2014
20. Nairobi Business Ventures Ltd	2012

Construction and Allied	
21. Athi River Mining	1997
22. Bamburi Cement Ltd	1970
23. Crown Berger Ltd	1992
24. E.A Cables Ltd	1973
25. E.A Portland Cement Ltd	1972
Energy and Petrolium	
26. KenolKobil Ltd	1959
27. Total Kenya Ltd	1988
28. KenGen Ltd	2006
29. Kenya Power and Lighting Co. Ltd	1972
30. Umeme Ltd	2012
Manufacturing and Allied	
31. B.O.C Kenya Ltd	1969
32. British American Tobacco Kenya Ltd	1969
33. Carbacid Investments Ltd	1972
34. East African Breweries Ltd	1972
35. Mumias Sugar Co. Ltd	2001
36. Unga Group Ltd	1971
37. Eveready East Africa Ltd	1967
38. Kenya Orchards Ltd	1959
39. Flame Tree Group Holdings Ltd	2015
Telecommunication and Technology	
40. Safaricom Limited	2008

Appendix III: Study Location



Appendix IV: Statistical Analysis Models

APPENDIX IV-1: Multi-variate Normality Test

Doornik-Hansen Test		Chi2 (2) Prob>chi2=
ROA	108.66	0.0000
DR	65.68	0.0000
ER	40493.57	0.0000
DER	217.99	0.0000
TAN	33.98	0.0000
GROW	79.91	0.0000
Listing Age	34.553	0.0000
Board Size	302.174	0.0000
Managerial Ownership	257.10	0.0000
Non-Executive Directorship		123.01 0.0000

APPENDIX IV-2: Multi-collenearity Test Using Pair-Wise Correlation Analysis

```
. pwcorr ROA DR ER DER TAN GROW AGEliat CEODuality dBoardSize dMO dNED
```

	ROA	DR	ER	DER	TAN	GROW	AGEliat
ROA	1.0000						
DR	-0.4703	1.0000					
ER	0.0807	-0.0410	1.0000				
DER	0.0114	-0.0030	-0.0169	1.0000			
TAN	-0.1705	0.0368	-0.0802	-0.0453	1.0000		
GROW	0.3933	-0.1816	-0.0060	0.0035	-0.0126	1.0000	
AGEliat	0.0725	-0.0397	0.0024	-0.0559	-0.1918	-0.1278	1.0000
CEODuality	-0.0178	0.0333	-0.0078	-0.0072	-0.2211	0.0006	-0.1098
dBoardSize	0.0011	-0.0305	0.0264	-0.0207	-0.0766	0.0589	-0.0524
dMO	0.0483	-0.0483	0.0566	-0.0615	0.0275	0.0231	0.0051
dNED	0.0407	-0.0252	0.0218	-0.0727	0.0139	0.0082	0.0104

	CEODua~y	dBoard~e	dMO	dNED
CEODuality	1.0000			
dBoardSize	0.0665	1.0000		
dMO	-0.0035	-0.0128	1.0000	
dNED	-0.0006	-0.2653	0.1475	1.0000

APPENDIX IV-3: Multi-collenearity test using Variable Inflation Factor (VIF)

```
. vif
```

Variable	VIF	1/VIF
BoardSize	1.57	0.638373
NED	1.29	0.775376
AGElist	1.27	0.784848
TAN	1.20	0.830313
MO	1.14	0.876119
CEODuality	1.12	0.893642
DR	1.09	0.913617
GROW	1.07	0.932407
DER	1.07	0.938737
ER	1.04	0.966050
Mean VIF	1.19	

APPENDIX IV-4: Linear Regression test for Heteroscedasticity (Robust Mode)

```
. reg ROA DR ER DER TAN GROW AGElist BoardSize CEODuality MO NED, robust

Linear regression                               Number of obs =       330
                                                F( 10,   319) =      8.72
                                                Prob > F      =    0.0000
                                                R-squared     =    0.3717
                                                Root MSE      =    .10596
```

ROA	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
DR	-.1767435	.0320401	-5.52	0.000	-.2397802	-.1137068
ER	.0079952	.0050736	1.58	0.116	-.0019867	.0179771
DER	-.0004407	.0007782	-0.57	0.572	-.0019718	.0010904
TAN	-.102013	.0294734	-3.46	0.001	-.1599999	-.0440262
GROW	.2067659	.0425114	4.86	0.000	.1231277	.290404
AGElist	.0007607	.0003572	2.13	0.034	.0000578	.0014635
BoardSize	.0035782	.002782	1.29	0.199	-.0018952	.0090516
CEODuality	-.0404721	.0172811	-2.34	0.020	-.0744714	-.0064728
MO	.5120191	.1611944	3.18	0.002	.1948806	.8291576
NED	.0204325	.0713138	0.29	0.775	-.1198723	.1607373
_cons	.0896518	.0537975	1.67	0.097	-.0161909	.1954946

APPENDIX IV-5: Summary of Unit Root Tests

Variable	**Capital Strutcure**		
	Unadjusted t	Adjusted t*	p-value
Debt Ratio	-1.5715	25.8731	1.0000
Stationary (1st Diff.)	-2.3301	-0.0478	0.008
Equity Ratio	1.7837	31.3096	1.0000
Stationary (1st Diff.)	-2.9283	-13.6392	0.0000
Debt Equity Ratio	-0.2119	34.2998	1.0000
Stationary (1st Diff.)	-6.5299	2.9423	0.0000
	Firm Characteritics		
TAN	-9.9908	-4.4498	0.0000
GROW	-11.1123	-3.578	0.0002
Listing Age [Harris-Tzavalis]	Z statistic-13.3265		0.0000
	Corporate Governance		
Board Size [2nd Diff]	-12.4027	-2.8106	0.0025
CEO Duality [Harris-Tzavalis]	Z statistic-15.1564		0.0000
Managerial Ownership [2nd Diff]	-16.9982	-4.567	0.0000
Non-Executive Director [2nd Diff]	-14.8327	-3.8405	0.0001
	Return on Assets		
ROA	0.9746	3.51E+01	1.0000
Stationary (1st Diff.)	-5.8603	3.2142	0.0000

APPENDIX IV-6: Random Effects GLS Regression model

```
Random-effects GLS regression                   Number of obs      =       330
Group variable: Firms                           Number of groups   =        33

R-sq:  within  = 0.2849                         Obs per group: min =        10
       between = 0.4648                                        avg =      10.0
       overall = 0.3497                                        max =        10

                                                Wald chi2(10)      =    140.52
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000
```

ROA	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DR	-.2011129	.0256217	-7.85	0.000	-.2513306	-.1508953
ER	.009126	.0051262	1.78	0.075	-.0009211	.0191732
DER	-.0003293	.0007971	-0.41	0.680	-.0018916	.001233
TAN	-.100591	.041634	-2.42	0.016	-.1821921	-.01899
GROW	.1872382	.0287543	6.51	0.000	.1308808	.2435956
AGElist	-.0002722	.0006692	-0.41	0.684	-.0015839	.0010395
BoardSize	-.0021776	.0040085	-0.54	0.587	-.0100341	.0056789
CEODuality	-.0422103	.0648042	-0.65	0.515	-.1692242	.0848037
MO	.2537423	.2419841	1.05	0.294	-.2205379	.7280225
NED	.0934674	.0788076	1.19	0.236	-.0609925	.2479274
_cons	.1509095	.0719868	2.10	0.036	.009818	.292001
sigma_u	.05261902					
sigma_e	.09219543					
rho	.2457024	(fraction of variance due to u_i)				

APPENDIX IV-7: Fixed Effects Regression Model

```
Fixed-effects (within) regression               Number of obs      =       330
Group variable: Firms                           Number of groups   =        33

R-sq:  within  = 0.3237                         Obs per group: min =        10
       between = 0.0140                                        avg =      10.0
       overall = 0.0722                                        max =        10

                                                F(9,288)           =     15.32
corr(u_i, Xb)  = -0.7211                        Prob > F           =    0.0000
```

ROA	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
DR	-.2031716	.0296847	-6.84	0.000	-.261598	-.1447451
ER	.0115339	.0051098	2.26	0.025	.0014767	.0215911
DER	-.0000307	.0008102	-0.04	0.970	-.0016253	.0015638
TAN	-.1132939	.062899	-1.80	0.073	-.2370939	.0105062
GROW	.1493439	.0299689	4.98	0.000	.0903581	.2083297
AGElist	-.0070693	.0018713	-3.78	0.000	-.0107524	-.0033862
BoardSize	-.0098543	.007959	-1.24	0.217	-.0255195	.0058109
CEODuality	0	(omitted)				
MO	-.0013181	.29487	-0.00	0.996	-.5816916	.5790553
NED	.0720165	.110506	0.65	0.515	-.1454852	.2895183
_cons	.498692	.1328025	3.76	0.000	.2373055	.7600785
sigma_u	.13597859					
sigma_e	.09219543					

APPENDIX IV-8: Summary of Hausman Specification Test

```
. hausman fe re
```

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
DR	-.2031716	-.2011129	-.0020586	.0149903
ER	.0115339	.009126	.0024079	.
DER	-.0000307	-.0003293	.0002986	.0001448
TAN	-.1132939	-.100591	-.0127028	.0471476
GROW	.1493439	.1872382	-.0378942	.0084454
AGElist	-.0070693	-.0002722	-.006797	.0017475
BoardSize	-.0098543	-.0021776	-.0076767	.0068759
MO	-.0013181	.2537423	-.2550604	.1684992
NED	.0720165	.0934674	-.0214509	.0774657

```
                b = consistent under Ho and Ha; obtained from xtreg
     B = inconsistent under Ha, efficient under Ho; obtained from xtreg

  Test:  Ho:  difference in coefficients not systematic

               chi2(9) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                       =       34.35
             Prob>chi2 =      0.0001
             (V_b-V_B is not positive definite)
```

APPENDIX IV-9: Breusch-Pagan Lagrange multiplier

```
Breusch and Pagan Lagrangian multiplier test for random effects

        ROA[Firms,t] = Xb + u[Firms] + e[Firms,t]

        Estimated results:
                         |       Var     sd = sqrt(Var)
                ---------+------------------------------
                     ROA |   .0173251        .1316249
                       e |      .0085        .0921954
                       u |   .0027688         .052619

        Test:   Var(u) = 0
                                chibar2(01) =    39.31
                            Prob > chibar2 =   0.0000
```

APPENDIX IV-10: Breusch-Pagan Lagrange Multiplier

.lrtest n1n2 Likelihood –ratio test
Assumption: n1 nested within n2
LR chi(1) = 0.22
Prob > chi2 = 0.6410

APPENDIX IV-11: Pedroni Test for Co-integration

```
. xtcointtest pedroni roa dr er der

Pedroni test for cointegration
------------------------------

Ho: No cointegration                    Number of panels      =     33
Ha: All panels are cointegrated         Number of periods     =      9

Cointegrating vector: Panel specific
Panel means:          Included          Kernel:          Bartlett
Time trend:           Not included      Lags:            1.00 (Newey-West)
AR parameter:         Panel specific    Augmented lags:  1
-------------------------------------------------------------------------
                                        Statistic        p-value
-------------------------------------------------------------------------
 Modified Phillips-Perron t               4.8933          0.0000
 Phillips-Perron t                       -7.8702          0.0000
 Augmented Dickey-Fuller t               -9.7215          0.0000
-------------------------------------------------------------------------

.
```

APPENDIX IV-12: Kao (Engle-Granger based) test for co-integration

```
. xtcointtest kao roa dr er der

Kao test for cointegration
--------------------------

Ho: No cointegration                    Number of panels      =     33
Ha: All panels are cointegrated         Number of periods     =      8

Cointegrating vector: Same
Panel means:          Included          Kernel:               Bartlett
Time trend:           Not included      Lags:                 1.39 (Newey-West)
AR parameter:         Same              Augmented lags:       1
------------------------------------------------------------------------------
                                        Statistic             p-value
------------------------------------------------------------------------------
 Modified Dickey-Fuller t                -0.4110               0.3405
 Dickey-Fuller t                         -3.8724               0.0001
 Augmented Dickey-Fuller t               -0.3501               0.3631
 Unadjusted modified Dickey-Fuller t     -6.1354               0.0000
 Unadjusted Dickey-Fuller t              -7.2574               0.0000
------------------------------------------------------------------------------

.
```

APPENDIX IV-13: Westerlund Test for Co-integration

```
. xtcointtest westerlund roa dr er der

Westerlund test for cointegration
------------------------------------------------------------------------------
Ho: No cointegration                     Number of panels      =        33
Ha: Some panels are cointegrated         Number of periods     =        10

Cointegrating vector: Panel specific
Panel means:          Included
Time trend:           Not included
AR parameter:         Panel specific
------------------------------------------------------------------------------
                                        Statistic       p-value
------------------------------------------------------------------------------
 Variance ratio                          2.3572          0.0092
------------------------------------------------------------------------------

.
```

APPENDIX IV-14: Panel VAR results

Equation	Parms	RMSE	R-sq	F	P > F
roa	37	.184335	0.4799	12.57576	0.0000
dr	37	.153188	0.7584	35.33181	0.0000
er	37	1.11782	0.1644	.5641582	0.6889
der	37	6.63367	0.2398	4.348415	0.0020

APPENDIX IV-15: Pair-Wise Correlation

```
. pwcorr ROA DR ER DER TAN GROW AGElist BoardSize CEODuality dMO dNED, sig star(5)
```

	ROA	DR	ER	DER	TAN	GROW	AGElist
ROA	1.0000						
DR	-0.4703*	1.0000					
	0.0000						
ER	0.0807	-0.0410	1.0000				
	0.1435	0.4574					
DER	0.0114	-0.0030	-0.0169	1.0000			
	0.8369	0.9562	0.7597				
TAN	-0.1705*	0.0368	-0.0802	-0.0453	1.0000		
	0.0019	0.5049	0.1461	0.4125			
GROW	0.3933*	-0.1816*	-0.0060	0.0035	-0.0126	1.0000	
	0.0000	0.0009	0.9135	0.9491	0.8198		
AGElist	0.0725	-0.0397	0.0024	-0.0559	-0.1918*	-0.1278*	1.0000
	0.1889	0.4728	0.9656	0.3115	0.0005	0.0202	
BoardSize	0.0025	0.0505	-0.1269*	0.1735*	0.2522*	0.0801	-0.4166*
	0.9644	0.3601	0.0212	0.0016	0.0000	0.1463	0.0000
CEODuality	-0.0178	0.0333	-0.0078	-0.0072	-0.2211*	0.0006	-0.1098*
	0.7468	0.5462	0.8878	0.8963	0.0001	0.9908	0.0462
dMO	0.0483	-0.0483	0.0566	-0.0615	0.0275	0.0231	0.0051
	0.4342	0.4347	0.3598	0.3194	0.6563	0.7086	0.9345
dNED	0.0407	-0.0252	0.0218	-0.0727	0.0139	0.0082	0.0104
	0.5103	0.6835	0.7248	0.2393	0.8218	0.8945	0.8661

	BoardS~e	CEODua~y	dMO	dNED
BoardSize	1.0000			
CEODuality	0.0365	1.0000		
	0.5089			
dMO	-0.0503	-0.0035	1.0000	
	0.4153	0.9544		
dNED	0.0087	-0.0006	0.1475*	1.0000
	0.8879	0.9923	0.0165	

APPENDIX IV-16: Partial and Semi-partial correlations of ROA with independent Variables

Partial and semipartial correlations of ROA with

Variable	Partial Corr.	Semipartial Corr.	Partial Corr.^2	Semipartial Corr.^2	Significance Value
DR	-0.4450	-0.3924	0.1980	0.1540	0.0000
ER	0.0912	0.0723	0.0083	0.0052	0.1463
DER	0.0076	0.0060	0.0001	0.0000	0.9042
TAN	-0.1991	-0.1605	0.0396	0.0257	0.0014
GROW	0.3414	0.2869	0.1166	0.0823	0.0000
AGElist	0.1364	0.1088	0.0186	0.0118	0.0294
BoardSize	0.1724	0.1382	0.0297	0.0191	0.0058
CEODuality	-0.0285	-0.0225	0.0008	0.0005	0.6507
dMO	0.0335	0.0265	0.0011	0.0007	0.5943
dNED	0.0282	0.0223	0.0008	0.0005	0.6537

APPENDIX IV-17: Capital Structure (Composite Score) and ROA

Dependent Variable: ROA
Method: Panel Least Squares
Date: 08/02/24 Time: 18:13
Sample: 2009 2018
Periods included: 10
Cross-sections included: 33
Total panel (balanced) observations: 330

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.429069	0.049207	8.719699	0.0000
DER	-0.008924	0.003200	-2.788287	0.0056
BS	-0.035119	0.006105	-5.752807	0.0000
TAN	-0.190353	0.031628	-6.018588	0.0000

Effects Specification

Cross-section fixed (dummy variables)

Root MSE	0.045713	R-squared	0.547235
Mean dependent var	0.056286	Adjusted R-squared	0.493334
S.D. dependent var	0.068040	S.E. of regression	0.048431
Akaike info criterion	-3.114680	Sum squared resid	0.689598
Schwarz criterion	-2.700234	Log likelihood	549.9223
Hannan-Quinn criter.	-2.949364	F-statistic	10.15265
Durbin-Watson stat	1.672017	Prob(F-statistic)	0.000000

APPENDIX IV-18: Capital Structure (Components) and ROA

Dependent Variable: ROA
Method: Panel Least Squares
Date: 08/02/24 Time: 18:26
Sample: 2009 2018
Periods included: 10
Cross-sections included: 33
Total panel (balanced) observations: 330
White diagonal standard errors & covariance (no d.f. correction)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.037989	0.010048	3.780816	0.0002
DER	-0.006904	0.002418	-2.854930	0.0046
ER	0.042716	0.017491	2.442159	0.0152
DR	0.024897	0.015758	1.579982	0.1152

Effects Specification

Cross-section fixed (dummy variables)
Period fixed (dummy variables)

Root MSE	0.048719	R-squared	0.485743
Mean dependent var	0.056286	Adjusted R-squared	0.406349
S.D. dependent var	0.068040	S.E. of regression	0.052424
Akaike info criterion	-2.932785	Sum squared resid	0.783255
Schwarz criterion	-2.414727	Log likelihood	528.9096
Hannan-Quinn criter.	-2.726139	F-statistic	6.118121
Durbin-Watson stat	1.439605	Prob(F-statistic)	0.000000

APPENDIX IV-19: Hierarchical Regression Model

```
. xtreg roa X M XM,fe

Fixed-effects (within) regression               Number of obs      =       330
Group variable: period                          Number of groups   =        10

R-sq:  within  = 0.2423                         Obs per group: min =        33
       between = 0.7450                                        avg =      33.0
       overall = 0.2411                                        max =        33

                                                F(3,317)           =     33.78
corr(u_i, Xb)  = 0.0625                         Prob > F           =    0.0000

------------------------------------------------------------------------------
         roa |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
           X |  -.2031286   .0349782    -5.81   0.000    -.2719473   -.1343099
           M |  -.1497212   .0631902    -2.37   0.018    -.2740464    -.025396
          XM |  -.0056435   .0241618    -0.23   0.815    -.0531813    .0418942
       _cons |    .202343   .0279607     7.24   0.000     .1473311    .2573549
-------------+----------------------------------------------------------------
     sigma_u |   .0316333
     sigma_e |  .11274324
         rho |  .07297895   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(9, 317) =     2.59              Prob > F = 0.0069

Model.      R2          F()df            P           R2change    F(df) change      p
1.          0.2211      90.90(1,319)     0.000
2.          0.2409      50.80(2,318)     0.000       0.0198      40.1 (1,318)      0.0004
3.          0.2411      33.78(3,317)     0.000       0.0002      17.02(1,317)      0.0003
```

APPENDIX IV-20: Mediating Effect of Corporate Governance on CS and ROA

Dependent Variable: ROA
Method: Panel Least Squares
Date: 08/03/24 Time: 12:05
Sample: 2009 2018
Periods included: 10
Cross-sections included: 33
Total panel (balanced) observations: 330
White cross-section (period cluster) standard errors & covariance (no d.f. correction)
WARNING: estimated coefficient covariance matrix is of reduced rank
Standard error and t-statistic probabilities adjusted for clustering

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.303640	0.062019	4.895891	0.0009
DER	-0.005310	0.002232	-2.378506	0.0413
CCG	-0.092534	0.023662	-3.910699	0.0036

Effects Specification

Cross-section fixed (dummy variables)
Period fixed (dummy variables)

Root MSE	0.047520	R-squared	0.510741
Mean dependent var	0.056286	Adjusted R-squared	0.437181
S.D. dependent var	0.068040	S.E. of regression	0.051044
Akaike info criterion	-2.988677	Sum squared resid	0.745181
Schwarz criterion	-2.482131	Log likelihood	537.1317
Hannan-Quinn criter.	-2.786623	F-statistic	6.943188
Durbin-Watson stat	1.561921	Prob(F-statistic)	0.000000

APPENDIX IV-21: Joint Effect of Capital structure, Firm Characteristics and Corporate Governance on Financial Performance

Dependent Variable: ROA
Method: Panel Least Squares
Date: 08/03/24 Time: 14:34
Sample: 2009 2018
Periods included: 10
Cross-sections included: 33
Total panel (balanced) observations: 330
White diagonal standard errors & covariance (no d.f. correction)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.423625	0.075898	5.581477	0.0000
CCG	-0.095725	0.030495	-3.139005	0.0019
CFC	-0.010340	0.004171	-2.479041	0.0138
DER	-0.007275	0.002844	-2.558388	0.0111

Effects Specification

Cross-section fixed (dummy variables)

Root MSE	0.049196	R-squared	0.501332
Mean dependent var	0.057334	Adjusted R-squared	0.441709
S.D. dependent var	0.069779	S.E. of regression	0.052138
Akaike info criterion	-2.966669	Sum squared resid	0.750265
Schwarz criterion	-2.556851	Log likelihood	493.8336
Hannan-Quinn criter.	-2.802841	F-statistic	8.408329
Durbin-Watson stat	1.629450	Prob(F-statistic)	0.000000

Appendix V: Research Ethical Approval

EGERTON UNIVERSITY

TEL: (051) 2217808 P. O. BOX 536

FAX: 051-2217942 EGERTON

EGERTON UNIVERSITY RESEARCH ETHICS COMMITTEE

EU/RE/DVC/009

Approval No. EUREC/APP/170/2022 ***29th* March, 2022**

Francis Kipkoech Chirchir
P.O.BOX 536
20115,
EGERTON.

Dear Francis,

RE: ETHICAL APPROVAL: CAPITAL STRUCTURE, FIRM CHARACTERISTICS, CORPORATE GOVERNANCE AND FINANCIAL PERFORMANCE OF NON-FINANCIAL FIRMS LISTED AT NSE, KENYA

This is to inform you that ***Egerton University Research Ethics Committee*** has reviewed and approved your above research proposal. Your application approval number is ***EUREC/APP/170/2022.*** The approval period is ***29th March, 2022 –30th March, 2023.***

This approval is subject to compliance with the following requirements;

i. Only approved documents including (informed consents, study instruments, MTA) will be used.
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by ***Egerton University Research Ethics Committee***.

iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to ***Egerton University Research Ethics Committee*** within 72 hours of notification

iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to ***Egerton University Research Ethics Committee*** within 72 hours

v. Clearance for Material Transfer of biological specimens must be obtained from relevant institutions.

vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.

vii. Submission of an executive summary report within 90 days upon completion of the study to ***Egerton University Research Ethics Committee***.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://oris.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely.

Prof. R. Ngure

CHAIRMAN, EGERTON UNIVERSITY RESEARCH ETHICS COMMITTEE

RMN/BK/

Appendix VI: Research Licence

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **572700**

Date of Issue: **19/May/2022**

RESEARCH LICENSE

This is to Certify that Mr.. FRANCIS KIPKOECH CHIRCHIR of Egerton University, has been licensed to conduct research in Nairobi on the topic: CAPITAL STRUCTURE, FIRM CHARACTERISTICS, CORPORATE GOVERNANCE AND FINANCIAL PERFORMANCE OF NON-FINANCIAL FIRMS LISTED AT NAIROBI SECURITIES EXCHANGE, KENYA for the period ending : 19/May/2023.

License No: **NACOSTI/P/22/17485**

572700

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013

The Grant of Research Licenses is Guided by the Science, Technology and Innovation

(Research Licensing) Regulations, 2014 CONDITIONS

1. The License is valid for the proposed research, location and specified period
2. The License any rights thereunder are non-transferable
3. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research
4. Excavation, filming and collection of specimens are subject to further necessary clearence from relevant Government Agencies
5. The License does not give authority to tranfer research materials
6. NACOSTI may monitor and evaluate the licensed research project
7. The Licensee shall submit one hard copy and upload a soft copy of their final report (thesis) within one year of completion of the research
8. NACOSTI reserves the right to modify the conditions of the License including cancellation without prior notice

National Commission for Science,
Technology and
Innovation off Waiyaki
Way, Upper Kabete,
P. O. Box 30623, 00100 Nairobi, KENYA
Land line: 020 4007000, 020 2241349, 020 3310571, 020 8001077
Mobile: 0713 788 787 / 0735 404 245
E-mail: dg@nacosti.go.ke
/ registry@nacosti.go.ke
Website:
www.nacosti.go.ke

Appendix VII: Proposal Approval

EGERTON UNIVERSITY
Tel: Pilot: 254-51-2217620
254-51-2217877
254-51-2217631
Dir.line/Fax 254-51-2217847
Cell Phone

P.O. Box 536 - 20115
Egerton, Njoro, Kenya
Email: bpgs@egerton.ac.ke
www.egerton.ac.ke

OFFICE OF THE DIRECTOR GRADUATE SCHOOL

CD11/14676/15 **4th January, 2022**

Ref:..... **Date.....**

Mr. Francis Kipkoech Chirchir
Dept. of AFMS
Nakuru Town Campus
NAKURU

Dear Mr. Chirchir

RE: CORRECTED PROPOSAL

This is to acknowledge receipt of softcopies of your corrected proposal entitled: **"Capital Structure, Firm Characteristics, Corporate Governance and Financial Performance of Non-Financial Firms Listed at Nairobi Securities Exchange, Kenya."**

You are now at liberty to commence your fieldwork. However, note the following: -

1. You must register each semester.
2. Pay your fees every semester.
3. Submit progress reports every four (4) months (Masters) or six (6) months (PhDs). Without this, your thesis/project will not be accepted. Forms are available at the Board.
4. You are expected to publish one (1) paper (Masters) or two (2) papers (PhD) in peer-reviewed journal and present them before issuance of "Intent to Submit Thesis/Project" form by the Board.

NB: Please provide a **HARD COPY** of the proposal duly signed by the supervisors for the file.

Thank you.

Yours sincerely

DIRECTOR, BOARD OF POST GRADUATE STUDIES
13 JAN 2022
EGERTON UNIVERSITY P.O. Box 536-20115 EGERTON

Prof. Nzula Kitaka
DIRECTOR, BOARD OF POSTGRADUATE STUDIES

c.c. Dean, Commerce
COD, AFMS

Supervisors

NK/vk

Transforming Lives Through Quality Education

Appendix VIII: Request For Research Permit

EGERTON UNIVERSITY
Tel: Pilot: 254-51-2217620
254-51-2217877
254-51-2217631
Dir.line/Fax: 254-51-2217847
Cell Phone

P.O. Box 536 - 20115
Egerton, Njoro, Kenya
Email: bpgs@egerton.ac.ke
www.egerton.ac.ke

OFFICE OF THE DIRECTOR GRADUATE SCHOOL

CD11/14676/15 **4th January, 2022**

Ref:..... **Date**.....

The Director General
National Commission for Science Technology and Innovation,
P. O. Box 30623-00100
NAIROBI.

Dear Sir,

RE: REQUEST FOR RESEARCH PERMIT – MR. FRANCIS KIPKOECH CHIRCHIR REG. NO. CD11/14676/15

This is to introduce and confirm to you that the above named student is in the Department of Accounting, Finance & Management Science, Faculty of Commerce, Egerton University.

He is a bona-fide registered PhD student in this University. His research topic is **"Capital Structure, Firm Characteristics, Corporate Governance and Financial Performance of Non-Financial Firms Listed at Nairobi Securities Exchange, Kenya."**

He is at the stage of collecting field data. Please issue him with a research permit to enable him undertake the studies.

Your kind assistance to him will be highly appreciated.

Yours faithfully,

13 JAN 2022

Prof. Nzula Kitaka
DIRECTOR, BOARD OF POSTGRADUATE STUDIES

NK/vk

Transforming Lives Through Quality Education

Appendix IX: Abstracts of my Publications

Publication I: Capital Structure and Financial Performance of Non-Financial Firms Listed at Nairobi Securities Exchange, Kenya.

Publisher: International Journal of Research and Innovation in Social Science Vol.8, No.7 (2024)
https://dx.doi.org/10.47772/IJRISS.2024.807046

Francis Kipkoech Chirchir, Fredrick M. Kalui, Justus Tari

Abstract

Globally, the choice of an optimal capital structure has posed a great challenge to most firms. In Kenya, some firms have achieved optimum levels while others are still faced with serious capital structure issues. Theoretically, there is a general inclination that capital structure employed automatically affects financial performance. It is against this background, that the purpose of the study was to determine the effect of capital structure on financial performance of non-financial firms. Specifically, the study sought to establish the effect of capital structure on financial performance. Theoretical literature postulates conflicting relationship between capital structure and financial performance which has underscored the usefulness of panel dataset in the study. This study employed both cross sectional and longitudinal research designs, organized as panel data. The sample population of the study consisted of thirty-three (33) non-financial listed firms. This study only used data from the 2009 to 2018 annual financial reports. The study adopted purposive sampling procedure in the determination of the sample size and Quantitative data from annual financial reports of the firms. STATA statistical tool was adopted in the data analysis. The hypotheses were tested using regression analysis and correlation analysis. The findings of the study disclosed that the effect of Debt Ratio (DR) and Debt-Equity Ratio (DER) on firms' financial performance (ROA) was statistically significant. Further, the results of Equity Ratio showed that the effect of equity finance on financial performance was not statistically significant. The study not only contributed to understanding the association between capital structure and financial performance in Kenya, but at the same time confirms the findings of previous studies which revealed significant and insignificant links between capital structure and financial performance.

Keywords: Capital Structure, Financial Performance, Nairobi Securities Exchange.

Publication II: Firm Characteristics and Financial Performance of Non-Financial Firms Listed at Nairobi Securities Exchange, Kenya.

Publisher: International Journal of Academic Research in Business and Social Sciences. Vol.14, No. 6 (2024)

http://dx.doi.org/10.6007/IJARBSS/v14-i6/21984

Francis Kipkoech Chirchir, Fredrick M. Kalui, Justus Tari

Abstract

This study investigated the effect of firm characteristics on financial performance of non-financial firms listed at the Nairobi Securities Exchange for the period from 2009 to 2018. The firm characteristics examined included: Asset tangibility, Firm growth and Firm age. This study used both cross sectional and longitudinal research designs, organized as panel data. The sample population of the study consisted of thirty-three (33) non-financial listed firms. The study employed purposive sampling procedure in the determination of the sample size and data from annual financial reports of the firms, African Listed Companies, Nairobi Securities Exchange publications and Capital market Authority handbooks. The data collected was analyzed using STATA which was basically descriptive, correlation and regression analysis. The findings of the study showed a significant negative effect of asset tangibility on financial performance as measured by return on assets. The findings also revealed a significant positive effect of firm growth on ROA. On firm age, the findings indicated a significant negative effect on ROA. The study revealed that asset tangibility and firm growth had significant effects on financial performance. The study also found that the age of the firm is critical and significant when determining the effect on financial performance of non-financial firms. The study recommended that, listed non-financial firms should maintain a considerable degree of fixed assets and increase other assets to minimize heavy maintenance costs which decrease financial performance of the firms.

Keywords: Firm Characteristics, Financial Performance, Nairobi Securities Exchange.