# STAKEHOLDER POWER, CEO DOMINANCE, DEBT TAX SHIELD AND CAPITAL STRUCTURE AMONG FIRMS LISTED IN NAIROBI SECURITIES EXCHANGE, KENYA

# $\mathbf{BY}$

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A THESIS SUBMITTED TO THE SCHOOL OF BUSINESS AND ECONOMICS, DEPARTMENT OF ACCOUNTING AND FINANCE IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF A DEGREE OF DOCTOR OF PHILOSOPHY IN BUSINESS MANAGEMENT-FINANCE OPTION

# **MOI UNIVERSITY**

# **DECLARATION**

# **Declaration by the Candidate**

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# **DEDICATION**

This thesis is dedicated to my late father, Joseph Mutwol Amdany, my mother Catherine Rono Amdany, my wife Eunice Tuitoek and my children Shalyne, Shadrack and Shannia.

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#### **ABSTRACT**

Companies' management faces challenges in determining the best means to raise cash while also meeting various stakeholder interests, such as whether to issue stocks or bonds. The capital structure of a company is made up of these sources of funding. Despite substantial research on the subject, little attention has been paid to the likely interaction of the debt tax shield and CEO dominance on the link between stakeholder power and capital structure. In trying to solve this problem, the study sought to establish the effect of stakeholder power on capital structure mediated and moderated by CEO dominance and debt tax shield respectively. The specific objectives were to determine: the effect of government power, investor power, and creditor power on capital structure and to establish the mediating and moderating effect of CEO dominance and debt tax shield respectively on each of the relationships. The study was guided by the capital structure theories namely; pecking order theory, stakeholder theory, agency theory and static trade-off theory. Positivism research philosophy was used. A panel data and explanatory research design were used to conduct a survey of all the firms listed at Nairobi securities exchange. The total number of registered firms at NSE were 67 which made up the study population. The study focused on 40 firms that met the inclusion exclusion criterion over the period 2008-2020. This gave a total of 520 firm year observations. The study analyzed data obtained from secondary sources using a data analysis schedule. Hausman's test was carried out and the test results showed that, fixed effects model was fit for the study regression analysis. The data was analyzed using both descriptive and inferential statistics. Descriptive statistics showed that firms prefer debt than equity in financing projects. The regression results showed that stakeholder power had a significant effect on capital structure; firm size ( $\beta$ = 0.02, p<0.05), firm age ( $\beta$ = -0.0008, p<0.05), growth opportunities ( $\beta$ = -0.015, p<0.05), government power  $(\beta = 0.245, p < 0.05)$ , creditor power ( $\beta = 0.352, p < 0.05$ ), investor power ( $\beta = 0.0613, p < 0.05$ ), CEO dominance ( $\beta$ = 0.00003, p<0.05), debt tax shield ( $\beta$ = -0.00016, p<0.05) and the mediating effects showed that CEO dominance mediated the relationship between government power and capital structure ( $\beta$ = 0.1533, p<0.05), creditor power and capital structure ( $\beta$ = 0.05, p<0.05) but could not mediate the relationship between investor power ( $\beta$ = 0.00782, p>0.05) and capital structure. The moderating effect of debt tax shield showed that debt tax shield significantly moderated the relationship between government power ( $\beta$ = 0.0058, p<0.05), creditor power ( $\beta$ = -0.0005, p<0.05), investor power ( $\beta$ = -0.0004, p<0.05) and capital structure but could not moderate the relationship between CEO dominance and capital structure ( $\beta$ = -0.000006, p>0.05). Index of moderated mediation supported the moderation effect of debt tax shield on the indirect relationship between creditor power ( $\beta$ = 0.0117, 95% CI= 0.0055; 0.0211) and investor power (β= 0.0076, 95% CI= 0.0039; 0.0133) but failed to support government power  $(\beta = -0.0164, 95\% \text{ CI} = -0.0982; 0.0076)$  and capital structure. The study concluded that firm size, government power, creditor power, investor power and CEO dominance had a positive and significant effect on capital structure and that, increase in these variables significantly increased debt ratio. On the other hand firm age, growth opportunities and debt tax shield had a negative and significant relationship on capital structure. Meaning an increase in these variables significantly reduced debt ratio. The mediating and moderating effects explained and enhanced the relationship between the various stakeholder power variables and capital structure. The study findings were in line with the pecking order theory argument that firms use internal sources and incase of deficits they go for debt and equity as the last resort. The study provided a number of recommendations, including that management create a model that accounts for the interests of the many study stakeholders, company BODs make sure that CEO dominance is monitored in relation to borrowing, and capital market authority eliminate obstacles that may hinder firms from borrowing.

# TABLE OF CONTENTS

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGMENTS	iv
ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	X
LIST OF FIGURES	xi
OPERATIONAL DEFINITION OF TERMS	xii
ABBREVIATIONS AND ACRONYMS	xiii
CHAPTER ONE	1
INTRODUCTION	1
1.0 Overview	1
1.1 Background of the Study	1
1.1.1 Nairobi Securities Exchange	8
1.2 Statement of the Problem	9
1.3 Objectives of the Study	12
1.3.1 General Objective	12
1.3.2 Specific Objectives	12
1.4 Research Hypotheses	14
1.5 Significance of the Study	16
1.6 Scope of the Study	17
CHAPTER TWO	18
LITERATURE REVIEW	18
2.0 Overview	18
2.1 Concept of Capital Structure	18
2.2 Concept of Stakeholder Power	23
2.3 Concept CEO Dominance	27
2.4 Concept of Debt Tax Shield	30
2.5 Theoretical Review	32
2.5.1 Pecking Order Theory	33
2.5.2 The Stakeholder Theory	37

2.5.3 Agency Theory	43
2.5.4 Static Trade off Theory	47
2.6 Empirical Review	51
2.6.1 Government Power and Capital Structure	51
2.6.2 Creditors' Power and Capital Structure	55
2.6.3 Investor Power and Capital Structure	60
2.6.4 Mediating Effect of CEO Dominance and Capital Structure	65
2.6.5 Moderating Effect of Debt Tax Shield and Capital Structure	68
2.7 Control Variables	73
2.7.1 Firm's Size	73
2.7.2 Firm's Age	75
2.7.3 Firm's Growth Opportunities	76
2.8 Conceptual Frameworks	78
CHAPTER THREE	80
RESEARCH METHODOLOGY	80
3.0 Overview	80
3.1 Research Philosophy	80
3.2 Research Design	81
3.3 Target Population	82
3.4 Data Types and Sources	83
3.5 Measurement of Variables	83
3.5.1 Dependent Variable	84
3.5.2 Independent Variables	85
3.5.3 Mediating Variable	86
3.5.4 Moderating Variable	87
3.5.5 Control Variables	88
3.6 Data Analysis	89
3.6.1 Descriptive Statistics	89
3.6.2 Inferential Statistics	90
3.6.2.1 Correlation Analysis	90
3.6.2.2 Regression Analysis	91
3.7 Study Regression Model	92
3.7.1 Model Specification	92
3.8 Diagnostic Analysis	94

3.8.1 Regression Model Assumptions	95
3.8.1.1 Linearity Assumption	95
3.8.1.2 Normality Assumption	95
3.8.1.3 Multicollinearity	96
3.8.1.4 Homoscedasticity	97
3.8.1.5 Autocorrelation	98
3.9 Panel Data Analysis	99
3.9.1 Stationary Tests	100
3.9.2 Fixed and Random-Effects Models	100
3.10 Ethical Consideration	102
CHAPTER FOUR	103
DATA ANALYSIS, PRESENTATION AND INTERPRETATION	103
4.0 Overview	103
4.1 Descriptive Statistics	103
4.2 Diagnostic Tests	106
4.2.1 Linearity Test	107
4.2.2 Normality Test	107
4.2.3 Test for Multicollinearity	108
4.2.4 Homoscedasticity Assumption	109
4.2.5 Serial Autocorrelation Test	109
4.3 Correlation Analysis	110
4.4 Panel Data Analysis	111
4.4.1 Stationarity Test	112
4.4.2 Random and Fixed Effects Test	112
4.4.2.1 Fixed Effects	112
4.4.2.2 Random Effects	114
4.4.3 Hausman Test	116
4.5 Fixed Effects Regression Results	117
4.5.1 Control Variables	117
4.5.2 Direct Effects	119
4.5.3 Indirect Effects	122
4.5.4 Conditional Direct Effects	129
4.5.5 Conditional Indirect Effects	137
4.6 Discussion of the Findings	146

4.7 Hypothesis Testing	162	
CHAPTER FIVE	173	
SUMMARY OF THE FINDINGS, CONCLUSION AND		
RECOMMENDATIONS	173	
5.0 Overview	173	
5.1 Summary of the Findings	173	
5.1.1 Summary of the Descriptive Statistics	173	
5.1.2 Summary of the Correlation Results	174	
5.1.3 Summary of the Regression Results	175	
5.1.3.1 Summary of the Control Variable Results	177	
5.1.3.2 Government Power and Capital Structure	177	
5.1.3.3 Creditor Power and Capital Structure	178	
5.1.3.4 Investor Power and Capital Structure	178	
5.1.3.5 CEO Dominance and Capital Structure	178	
5.1.3.6 Debt Tax Shield and Capital Structure	178	
5.1.3.7 Mediating Effect of CEO Dominance	179	
5.1.3.8 Moderating Effect of Debt Tax Shield	180	
5.1.3.9 Moderated Mediation Effect of Debt Tax Shield through CEO	Dominance	
	181	
5.2 Conclusions	182	
5.3 Recommendations	186	
5.3.1 Policy Recommendations	186	
5.3.2 Practical Implications	187	
5.3.3 Managerial Implication	188	
5.3.4 Theoretical Implication	188	
5.4 Recommendations for Further Research	189	
REFERENCES	190	
APPENDICES	210	
Appendix I: Output Tables	210	
Appendix II: List of Listed Firms in Nairobi Securities Exchange	227	
Appendix III: Data Collection/Analysis Schedule	229	
Appendix IV: Plagiarism Similarity Index	230	
Appendix V: Research Permit NACOSTI	231	

# LIST OF TABLES

Table 3.1: Summary of the Variable Measurements
Table 4.1: Summary Statistics Table of Variables
Table 4.2: Shapiro-Wilk normality test
Table 4.3: Variance Inflation Factor Results
Table 4.4: Studentized Breusch-Pagan Test
Table 4.5: Durbin-Watson test for serial autocorrelation
Table 4.6: Correlation Matrix
Table 4.7: Phillips-Perron Unit Root Test
Table 4.8: Fixed Effects Model
Table 4.9: Random Effect Model
Table 4.10: Hausman Test Results
Table 4.11: Control Variables and Capital Structure
Table 4.12: Direct Variables and Capital Structure
Table 4.13: Control, Independent Variables and CEO Dominance
Table 4.14: Indirect Effects of Government Power and Capital Structure126
Table 4.15: Indirect Effects of Creditor Power and Capital Structure128
Table 4.16: Indirect Effects of Investor Power and Capital Structure129
Table 4.17: Conditional Direct Effect of CEO Dominance and Capital Structure131
Table 4.18: Conditional Direct Effects and Capital Structure
Table 4.19: Moderated Mediation of Government Power and Capital Structure 139
Table 4.20: Moderated Mediation of Creditor Power and Capital Structure142
Table 4.21: Moderated Mediation of Investor Power and Capital Structure144
Table 4.22: Summary of the Control, Direct Effects and Capital Structure Regression
Results
Table 4.23: Summary of the Indirect Effects and Capital Structure Regression Results
Table 4.24: Summary of the Conditional Direct Effects and Capital Structure172
Table 4.25: Summary of the Conditional Indirect Effects and Capital Structure172

# LIST OF FIGURES

Figure 2.1: Conceptual Framework.	79
Figure 3.1: Hayes Model 15	92
Figure 4.1: Modgraph on Moderating Effect of Debt Tax Shield on the Relation	tionship
between CEO Dominance and Capital Structure	132
Figure 4.2: Modgraph on Moderating Effect of Debt Tax Shield on the Relation	tionship
between Government Power and Capital Structure	135
Figure 4.3: Modgraph on Moderating Effect of Debt Tax Shield on the Relational	tionship
between Creditor Power and Capital Structure	136
Figure 4.4: Modgraph on Moderating Effect of Debt Tax Shield on the Relation	tionship
between Investor power and Capital Structure.	137
Figure 4.5: Linearity Test	210
Figure 4.6: Normality Test	211

#### **OPERATIONAL DEFINITION OF TERMS**

- **Capital structure:** This is a crucial decision that managers must make when it comes to the relative amounts of debt and equity they should use to fund actual investment (Sheikh and Wang, 2013).
- **Stakeholder power:** Stakeholders are groups of constituents who have a legitimate claim on a firm (Freeman, 1984). The existence of an exchange relationship establishes this legitimacy (Hill and Jones, 1992).
- Government power: A government is the system that governs an organized community, most commonly a state, but also other entities such as firms.

  To keep the economy under control, the government employs both monetary and fiscal policies (Mokhova & Zinecker, 2014).
- **Creditor power:** loan capital providers and are powerful stakeholders with the ability to influence firms' activities and disclosures (Lu and Abeysekera, 2014).
- **Investor power:** The People who invest their money in capital market (Setiadharma and Machali 2017). They commit capital with the expectation of receiving financial returns.
- **CEO dominance:** This is associated with the power that an individual possesses in relation with his TMT and the possibility to exercise his will (Mascarenhas, 2018).
- **Debt tax shield:** This is a tax saving as a result of tax deductible expense that lower tax revenues (Fischer and Jensen, 2017).

# ABBREVIATIONS AND ACRONYMS

**ASEA:** African Securities Exchange Association

**BOD:** Board of Directors

**CEO:** Chief Executive Officer

**CMA:** Capital Market Authority

**CSR:** Corporate Social Responsibility

**EASEA:** East African Securities Exchange Association

**EAT:** Earnings after Tax

**EBIT:** Earnings before Interest and Tax

**EPS:** Earning Per Share

**FDI:** Foreign Direct Investment

**IOU:** I Owe You

**M & M:** Modigliani and Miller

**MB:** Market to Book Ratio

**MTT:** Market Timing Theory

**NDTS:** Non-Debt Tax Shield

**NGO:** Non-Governmental Organization

**NPD:** New Product Development

**NSE:** Nairobi Securities Exchange

**POT:** Pecking Order Theory

**PVSO:** Performance Vested Stock Option

**R&D:** Research and Development

**ROA:** Return on Assets

**ROE:** Return on Equity

**ROI:** Return on Investment

**SME:** Small and Medium Enterprises

**TMT:** Top Management Team

**TOT:** Trade of Theory

#### **CHAPTER ONE**

#### INTRODUCTION

#### 1.0 Overview

The chapter presents the background of the study, statement of the problem, objectives of the study, research hypotheses, significance of the study, and the scope of the study.

# 1.1 Background of the Study

Corporate organizations finance their operations and assets in order to generate new revenue and profits, which serves as the foundation for future growth. Individual traits of owners, managers, and employees, variety and dynamics of the entrepreneurial team, social capital, consumers and suppliers, and the business environment are all factors that influence corporate success (Gielnik 2017). Growth is crucial in business because it helps companies overcome the disadvantage of being small, which has positive effects on their ability to survive, and because high-growth companies are key generators of both economic growth and technological advances. The capital structure of publicly listed corporations is influenced by the Market-to-Book value, Market-to-Book ratio, EBIT ratio, company size, and tangible assets (Mai and Meng, 2017).

Funding is a critical instrument for every company's success, and getting the correct kind of financing for the business is even more critical (Abbasi, Wang and Abbasi, 2017). Short-term financing is rarely used because there is no certainty that the profit will be realized before the loan matures. In this regard, one of the most essential responsibilities of financial management is long-term finance management, which aims to ensure that the enterprise's economic activity produces good end outcomes (Mustafina et al., 2020).

Capital structure tries to illustrate how publicly traded companies employ a variety of assets and funding sources to fund real investments. The majority of capital structure research has concentrated on the debt and equity proportions found on the right side of corporate balance sheets (Myers, 2001). Therefore, the mix of long-term financial sources used by the company is referred to as its capital structure. Many companies today have a complex capital structure that includes debt, preferred stock, common stock, leases, warrants, convertible bonds, and convertible preferred stock. When earnings are inadequate to cover all profitable investment opportunities, the firm must choose whether to forgo profitable investment opportunities or raise additional money, and the capital structure will often be a mix of stock and debt. A firm can raise new capital either by borrowing, selling additional ownership interests or use retained earnings.

The tradeoff argument, for instance, contends that businesses aim for debt levels that strike a compromise between the tax advantages of more debt and the dangers of potential financial distress. The static trade-off hypothesis states that obtaining zero leverage in the cross-section of firms depends on the time of loan issue (Haddad and Lotfaliei, 2019). When internal cash flow is insufficient to cover capital expenditures, the pecking order hypothesis states that the corporation will borrow rather than issue shares. The free cash flow theory states that when a company's operating cash flow greatly exceeds its lucrative investment prospects, despite the risk of financial crisis, its value will rise. The existence of information asymmetry in emerging economies' financial markets may limit access to foreign sources of funding. As a result, free cash flow may be a more cost-effective source of capital. This advantage may offset, cancel out, or even outweigh the agency costs incurred as a result of excess free cash flow (Nguyen and Nguyen, 2018).

According to Yapa (2017), the choice of financial leverage or capital structure should be explained in terms of how the ratio of debt to equity in a company's capital structure impacts that company's market value. The debt-to-equity ratio of a company can have a big impact on its value and cost of capital. In some industries, the relationship between cost of capital, cost of equity capital, company value, and other financial factors supports the Traditional view, whereas in others, it supports the Modigliani and Miller view (Kaur and Khullar, 2019). More debt capital is used in the capital structure to maximize shareholder value because interest paid is tax deductible and lowers the debt's effective cost.

Equity is the money invested by shareholders and presents long-term financing since it does not obligate to an effective repayment, though the firm may choose to distribute funds to the owners in the form of cash dividends as there is no legal requirement to do so. This is the associated return expected by the shareholders for the sustained risk, which is dependable on the firm's profitability. However, if this return does not meet the shareholders expectations the company will not be necessarily in a situation of bankruptcy. Equity value has a bigger impact on earnings per share than debt equity ratio, according to Lucky et al. (2017). Earnings belong to the owners and can be given to them as cash dividends or reinvested in the business. Owners believe that reinvesting profits back into the business will raise the company's value and, consequently, the value of their shares. There is no one consistent theory of debt equity selection, according to Myers (2001), and no reason to assume one.

Equity finance, which has a higher risk tolerance, has a more positive effect than debt financing in terms of both economic uptrend and decline. Equity holders are not compelled to split their profits with debt holders because debt investors receive a predetermined return. They also have certain rights, such as the ability to elect the board

of directors, who will function as an agent to monitor the performance of the firm's managers (Zhang et.al, 2017).

Debt, on the other hand, refers to the money invested in businesses by creditors, and it implies an obligation and an effective payment, which is usually linked to an interest rate and a maturity date. Debt financing has become a widespread occurrence in the corporate world around the world, according to Onchong'a, Muturi, and Atambo (2016). It provides a platform for commercial firms to fill funding gaps caused by a lack of internal resources to fund their investment and operating activities. Before commencing on debt financing for investment, managers must assess the level of liquidity, liquidity drift, and interest rates (Mtunya, Ngare and Nkansah-Gyekye, 2018). Creditors expect the amount of interest and principal, as well as specified legal commitments, to be paid back as pledged if a company decides to finance its activities with debt; failing to do so may result in legal action by creditors. Failure to pay can also lead to financial distress, which is when a company makes decisions under duress in order to meet its legal responsibilities to its creditors. Financial distress is negatively influenced by leverage (Masdupi, Tasman and Davista 2018, July). These decisions may not be in the best interests of the owners of the firm. According to Feng et al. (2007), there are three main reasons why companies borrow money. One, it brings in money. Additionally, because interest payments are tax deductible, the debt tax shield increases the company's worth. Finally, the mandatory interest payment on debt reduces the agency cost of managerial proclivity to waste money on bad investments. On the negative side, debt can expose a company to bankruptcy costs, and leverage can cause managers to avoid profitable investments in order to minimize wealth transfer to bond holders.

The more money a company borrows, the more it is committed to repaying in interest and principal, whether it is profitable or not. As these commitments grow, so does the risk to the common shareholder, who receives a dividend only after all other financial obligations have been met (Mcmenamin, 2005).

The company determines the proportion of equity and debt to total capital based on its financial position and ability to raise such capital. Equity issues in developing countries may be utilized to recapitalize existing assets through debt restructuring or control transfers as opposed to funding growth. (Kim, Ko and Wang, 2019). The financial management should ensure that the firm's capital structure maintains a healthy mix of debt and equity financing, taking into account the specific conditions of the business. While borrowing money makes financial sense, a company should avoid becoming unduly reliant on it because it raises its risk. Equity ratio, debt ratio, and solvability are the most important capital structure indicators. These ratios define the amount of stock and debt used to finance a company's assets, as well as the company's ability to repay its debt. Debt finance is used more frequently by larger organizations and those with more fixed asset investments than by profitable businesses and those with more tangible assets (Arsoy and Naumoski, 2016).

Every business's capital structure is a critical decision; the benefits and drawbacks of these decisions play a significant part in deciding the company's future, as incorrect judgments will have negative consequences. Many previously profitable businesses have suffered losses as a result of unwise decisions. Managers should encourage investment decisions that generate positive net cash flows and avoid using debt to cover asset financing deficits excessively (Imhanzenobe and Adeyemi, 2020).

Financial managers must understand how their capital structure decisions effect their companies' values. The best finance combination is one that maximizes the firm's worth. Every company strives to have the best capital structure possible in order to increase profitability, lower overall capital costs, and hence increase value. Only firms with less information asymmetry are allowed to arrange equity offerings (Sony and Bhaduri, 2020). Firm management should use caution when combining stock and debt to improve the firm's success. Investing in a company's common stock is risky. Earnings before interest and taxes (EBIT), often known as operating income, fluctuates significantly as the economy grows or contracts. Financial risk is involved. When companies use debt financing, their returns to shareholders are more variable; ordinary shareholders need a greater rate of return to compensate for the increased financial risk.

The capital structure varies depending on numerous aspects, including industry, tax regulations, asset type, financial distress costs, future uncertainty, and firm life cycle borrowing decisions. These variables are largely determined by stakeholder categories and interests.

Stakeholder theory, according to Freeman, Wicks, and Parmar (2004), starts with the idea that values are a necessary and explicit aspect of doing business. It invites managers to discuss their understanding of the benefits they bring to the organization and what unites its major stakeholders.

The firm receives funding from investors. They expect the company to maximize the risk-adjusted return on their investment in exchange. Shareholders have an important role in overseeing the companies in which they own stock. They communicate with the other stockholders. They can collect confidential information from management and distribute it to other shareholders (El-Masry et al., 2008). The information asymmetry

concept between shareholders and managers proposed by Feng et al. (2007) states that if managers are more informed than shareholders about the company's prospects, they will be enticed to sell fresh shares only when they are overvalued. Shares will be revalued negatively as a result of this fear. Stock prices will always react negatively to equity shares in this case. Managers that work in the best interests of their shareholders will always avoid issuing additional stocks in favor of less risky debt. This means that high-growth companies, especially those with low free cash flow, will have high debt ratios. Companies with a lot of debt, according to Ahiadorme, Gyeke-Dako, and Abor (2018), have a harder time getting external financing. These businesses are likely to underinvest, which would result in decreased investments and economic growth for the country on a macro level.

Creditors offer funding to the company in exchange for timely repayment of their debts. Because interest payments on borrowings are a tax deductible expense, debt financing is sometimes seen as a less expensive source of capital than equity. The term debt-tax-shield refers to these savings. In a perfect market, the debt tax savings is equal to the present value of the interest tax savings (Cooper and Nyborg, 2006). Firm value is a positive strong function of debt, according to Kemsley and Nissim (2002), and the net debt tax shield is positively related to time-series variation in statutory corporate tax rates and estimate firm level marginal tax rates.

The government, through tax payers, supplies a national infrastructure to the company. In return, they want corporate citizens to improve rather than degrade the quality of life and to follow the rules of the game established by the public through their legislative representatives. Tax has negligible impact on capital structure, according to Chen, Jiang, and Lin (2014). Faccio and Xu (2015) analyzed the impact of corporate and individual taxes on capital structure using around 500 changes in the statutory rates for

personal and corporate income taxes as natural experiments. In their study, it was discovered that personal and corporation income taxes were both major capital structure predictors. According to Pfaffermayr, Stöckl, and Winner (2013), a company's debt ratio rises when the corporation tax rate rises.

CEOs may use sub-optimal levels of leverage to enrich themselves at the expense of shareholders. Leverage is viewed unfavorably by powerful CEOs, who avoid taking on excessive debt. CEOs, on the other hand, seem to use sub-optimal leverage only when their power is sufficiently concentrated. CEOs that are relatively weak do not appear to avoid using leverage. As a result, the impact of CEO power on capital structure decisions is not uniform. Only when managers have enough power in the organization do agency issues lead to self-serving behavior (Chintrakarn, Jiraporn and Singh, 2014). The debt tax shield affects the capital structure and valuation of businesses in general equilibrium, according to Fischer and Jensen (2019). It's possible that not having a debt tax shield is undesirable because it results in double taxation of interest at both the corporation and the eventual beneficiary regarding the interest payment. Because the debt tax shield lowers the after-tax cost of debt, whether or not it applies to a company's interest expenses has significant consequences for its ideal capital structure. The debt

# 1.1.1 Nairobi Securities Exchange

An important African exchange is the Nairobi Securities Exchange (NSE), which is located in Nairobi, Kenya. The NSE has been listing equities and debt securities for more over six decades, having been founded in 1954. For local and foreign investors interested in Kenya's and Africa's economic development, it offers a world-class trading platform. In 2014, the NSE demutualized and self-listed, with 67 companies

tax shelter also has a first-order influence on the company's dividend.

participating. Its Board of Directors and management team are made up of some of Africa's most experienced capital market experts, all of whom are committed to the Exchange's innovation, diversity, and operational excellence. The Nairobi Securities Exchange (NSE) is helping Kenya's economy thrive by encouraging savings and investment and assisting local and foreign businesses in obtaining low-cost capital. The Nairobi Securities Exchange is governed by Kenya's Capital Markets Authority. It is a founding member of the World Federation of Exchanges, the African Securities Exchanges Association (ASEA), and the East African Securities Exchanges Association (EASEA). The NSE is a partner exchange in the UN-led SSE initiative and a member of the Association of Futures Markets.

### 1.2 Statement of the Problem

Capital is an important component of all types of business activities, which are determined by the size and nature of the company. Various sources of capital can be used to raise funds. The company will earn high profits and be able to pay out more dividends to its shareholders if it maintains a sufficient and adequate level of capital. Firms' face difficulties in determining the appropriate combination of equity and debt that optimizes the advantages of debt while limiting the costs of debt that could put them in financial crisis.

Because it is strongly tied to the firm's value, choosing the best capital structure is a crucial financial management decision. According to Babalola (2012), marginal bankruptcy costs connected with a firm's debt are equivalent with marginal tax advantages at the optimal capital structure. Firms seek the best capital structure possible based on tax benefits and financial crisis risks. Firms are regarded to strive for their goal and might change their structure to signify their future prospects. Increasing debt levels boosts a company's worth by giving the market the impression of greater tax

benefits or reduced bankruptcy expenses. However, the best capital structure for a 100% debt financing is clearly incompatible with current capital structures.

Corporate capital formation is linked to access to financial capital and cost of capital drivers, according to Robb and Morelix (2016), which can have a detrimental influence on profitability. Sosnovska and Zhytar (2018), ensuring firms' financial security is a precondition for assuring their long-term operation and the construction of competitive development criteria in both the internal and external market environments. The efficiency of the procedure depends on creating a top-notch financial architecture as the primary structural component of the business's financial system. There have been numerous academic studies on capital structure. In their study on capital structure and commercial bank shareholder value, Binaebi and Frank (2019) found that gearing had a negative impact on shareholder value, resulting in lower profitability and, as a result, lower earnings for shareholders. Because debt has covered the financing gap, more of the earnings will likely be distributed as dividends rather than kept in the business.

Stronger creditor rights might have negative consequences for highly leveraged enterprises, according to El Ghoul, Guedhami, Kwok, and Zheng's (2018) research paper on Creditor Rights and the Costs of High Leverage. High debt combined with strong creditor rights inhibits sales growth because the possibility of creditors liquidating the company prematurely raises the prevalence of both protective and predatory customer actions. Furthermore, excessive leverage combined with strong creditor rights may make it more difficult for businesses to attract and retain staff.

Guo, Jiang, and Yang (2017) found that the government was effective in establishing industry norms based on government expectations and in creating a value system to favor development by providing economic incentives, policies, and improving the

overall infrastructure and FDI investment environment in their study on the impact of government participation on corporate entrepreneurial activity in Chinese enterprises. According to Muturi (2019), real estate enterprises in Kenya may improve their competitiveness while simultaneously providing cheap housing units while still achieving the requisite return on investment by accepting government restrictions.

Munir, Kok, Teplova, and Li (2017) have published their empirical findings on powerful CEOs, loan financing, and leasing in Chinese SMEs: The CEO power debt relationship and the CEO power-operating lease relationship have threshold effects, according to evidence from the threshold model. When CEO power index falls below a particular threshold, firms utilize more debt financing (and operating leasing); when it rises beyond that barrier, CEOs manipulate the capital structure to pursue their own interests, utilizing less debt financing and operating leasing. Their findings also reveal a positive association between debt and operational leases when CEO power is below a particular threshold, but a negative relationship whenever the power index rises above that threshold.

Kanatani and Yaghoubi (2017) discovered a relatively strong negative relationship between the leverage ratio and a ratio of income tax expense divided by total assets in their investigation on the factors influencing business capital structures in New Zealand. This was due to the tax shield effect arising from the use of debt, as predicted by the trade-off theory. Without the debt tax shield, the base for corporate taxation is larger for a levered firm, resulting in higher tax revenues and lower returns on investing in firm equity. Firm value is a positive, strong function of debt, according to Kemsley and Nissim (2002), and the net debt tax shield is positively related to time-series

variation in statutory corporate tax rates as well as cross-sectional variation in estimated firm level marginal tax rates.

Despite the fact that various scholars have studied capital structure, it remains a conundrum with many unanswered questions. Regarding these studies, there was a gap in the literature. As a result, it was necessary to investigate the impact of stakeholder power, CEO dominance, debt-tax shield, and capital structure of firms listed at Nairobi securities exchange.

# 1.3 Objectives of the Study

# 1.3.1 General Objective

The general objective of the study was to determine the effect of stakeholder power on capital structure mediated and moderated by CEO dominance and debt tax shield respectively of firms listed in Nairobi Securities Exchange.

# 1.3.2 Specific Objectives

The specific objectives were to

- determine the effect of government power on capital structure of firms listed in Nairobi Securities Exchange
- establish the effect of investor power on capital structure of firms listed in Nairobi Securities Exchange
- investigate the effect of creditor power on capital structure of firms listed in Nairobi Securities Exchange
- establish the effect of CEO dominance on capital structure of firms listed in Nairobi Securities Exchange
- investigate the effect of debt tax shield on capital structure of firms listed in Nairobi Securities Exchange

- 6a establish the mediating effect of CEO dominance on the relationship between government power and capital structure of firms listed in Nairobi Securities Exchange
- 6b determine the mediating effect of CEO dominance on the relationship between investor power and capital structure of firms listed in Nairobi Securities Exchange
- 6c investigate the mediating effect of CEO dominance on the relationship between creditor power and capital structure of firms listed in Nairobi Securities Exchange
- 7a determine the moderating effect of debt tax shield on the relationship between government power and capital structure of firms listed in Nairobi Securities Exchange
- 7b establish the moderating effect of debt tax shield on the relationship between investor power and capital structure of firms listed in Nairobi Securities Exchange
- 7c determine the moderating effect of debt tax shield on the relationship between creditor power and capital structure of firms listed in Nairobi Securities Exchange
- 7d establish the moderating effect of debt tax shield on the relationship between CEO dominance and capital structure of firms listed in Nairobi Securities Exchange
- 8a explore the moderating effect of debt tax shield on the indirect relationship between government power and capital structure via CEO dominance of firms listed in Nairobi Securities Exchange

- 8b establish the moderating effect of debt tax shield on the indirect relationship between creditor power and capital structure via CEO dominance of firms listed in Nairobi Securities Exchange
- 8c investigate the moderating effect of debt tax shield on the indirect relationship between investor power and capital structure via CEO dominance of firms listed in Nairobi Securities Exchange

# 1.4 Research Hypotheses

- **H01:** government power has no significant effect on capital structure of firms listed in Nairobi Securities Exchange
- **H02:** investor power has no significant effect on capital structure of firms listed in Nairobi Securities Exchange
- **H03:** creditor power has no significant effect on capital structure of firms listed in Nairobi Securities Exchange
- **H04:** CEO dominance has no significant effect on capital structure of firms listed in Nairobi Securities Exchange
- **H05:** Debt tax shield has no significant effect on capital structure of firms listed in Nairobi Securities Exchange
- **H06 a:** CEO dominance does not mediate on the relationship between government power and capital structure of firms listed in Nairobi Securities Exchange
- **H06 b:** CEO dominance does not mediate on relationship between investor power and capital structure of firms listed in Nairobi Securities Exchange

- **H06 c:** CEO dominance does not mediate on the relationship between creditor power and capital structure of firms listed in Nairobi Securities Exchange
- **H07 a:** debt tax shield does not moderate on the relationship between government power and capital structure of firms listed in Nairobi Securities Exchange
- **H07 b:** debt tax shield does not moderate on relationship between investor power and capital structure of firms listed in Nairobi Securities Exchange
- **H07 c:** debt tax shield does not moderate on the relationship between creditor power and capital structure of firms listed in Nairobi Securities Exchange
- **H07 d:** debt tax shield does not moderate on the relationship between CEO dominance and capital structure of firms listed in Nairobi Securities Exchange
- **H08 a:** debt tax shield does not moderate on the indirect relationship between government power and capital structure via CEO dominance of firms listed in Nairobi securities exchange
- **H08 b:** debt tax shield does not moderate on the indirect relationship between creditor power and capital structure via CEO dominance of firms listed in Nairobi securities exchange
- **H08 c:** debt tax shield does not moderate on the indirect relationship between investor power and capital structure via CEO dominance of firms listed in Nairobi securities exchange

# 1.5 Significance of the Study

The findings and recommendations of the study are important to the board of directors who represent the best interests of the shareholders in formulating policies and regulations to ensure that the company management acts on their behalf and makes decisions that are beneficial to the shareholders' best interests, evaluating management performance, and tending to major decisions.

Investors who commit capital with the expectation of receiving financial returns. Since, investors rely on different financial instruments to earn a rate of return and accomplish important financial objectives, therefore, the study findings will help investors analyze possibilities from several perspectives to reduce risk and maximize reward.

Corporate CEOs who are in charge of the organization's overall success and are in charge of making key managerial choices. The study findings are useful to them in assessing risk and formulating company policies that ensure monitoring and minimizing this risk while maximizing corporate profits and shareholder wealth.

Creditors who extend credit to corporations to be repaid in the future. Creditors accepts a degree of risk that corporations may not repay their loans, hence, the study findings are beneficial to them in developing policies that mitigate this risk by indexing interest rates or fees to corporations' credit worthiness and past credit history.

Governments whose policies affect markets and influence business in ways that often have unexpected consequences. The study findings are useful to government agencies in formulating policies that fine control monetary policy, fiscal policy, bailouts, subsidies and tariffs and currency inflation to change the rules to allow poorly performing companies survive.

Regulatory bodies like; central bank of Kenya, capital market authority and Nairobi securities exchange where different financial instruments are traded, and bringing corporations and governments together with investors. This study findings are important in ensuring that policies are formulated that ensure that trading takes place in fair and efficient manner and important and accurate information transmitted to investors and financial professionals.

Finally, the study findings will also add knowledge on the area of stakeholder power, CEO dominance, debt tax shield and capital structure and the suggested areas for additional study so that upcoming academics and scholars can learn more about these topics.

# 1.6 Scope of the Study

The study sought to look at the effect of stakeholder power on capital structure mediated and moderated by CEO dominance and debt tax shield respectively among listed firms in Nairobi securities exchange. Government power, creditor power, and investor power were used to investigate stakeholder power. The study focused on the three stakeholders who, if disregarded, might cause major difficulties for the organization.

The study focused on Kenyan listed firms at Nairobi securities exchange that have been in operation from 2008-2020 periods. The target population for the study was 67 listed firms in Nairobi securities exchange and 40 firms were surveyed, that were in operation for the period. The study gathered secondary data from these companies' audited financial accounts over the time period. Panel and explanatory approach were used as the research design.

#### **CHAPTER TWO**

#### LITERATURE REVIEW

#### 2.0 Overview

This chapter presents existing literature, concept of stakeholder power, CEO dominance, debt tax shield and capital structure, theories that underpin the study. The relationship between independent and dependent variables was also covered. At the conclusion of the chapter, a conceptual framework will be presented. The concepts are explained at the start of the chapter.

# 2.1 Concept of Capital Structure

Modigliani and Miller initiated the capital structure puzzle in 1958. Since then, the capital structure subject has attracted a large number of scholars who have begun to investigate various capital structure theories. For example, proenca, laureano, and laureano (2014) revealed that the key factors influencing a company's capital structure are profitability, asset structure, and liquidity, and that the negative relationship between debt ratios and profitability indicates that firms prefer to finance their investments internally rather than externally due to the higher risk associated with external financing costs, which is consistent with the pecking order theory. The tradeoff argument, according to the study, is consistent with their findings, which imply that organizations with higher levels of tangible assets are more likely to issue debt since those tangible assets can be used as collateral in the event of failure. Finally, the research found that trade-off and pecking order theories had a significant impact on capital structure. Profitability and asset liquidity, according to Serghiescu and Vaidean (2014), have a detrimental impact on a firm's capital structure. Given that a high level of tangible fixed assets does not offer a guarantee for creditors in the event of a borrower company's default, the tangibility of a company's assets is negatively associated to its debt ratio in developing countries. Explanatory variables that are positively connected with the degree of debt include the company's size and asset turnover. The findings validated the pecking order theory, which states that a prosperous business with a high amount of liquidity will have less debt.

Across both company types and leverage measurements, profitability is adversely connected to leverage uniforms (Yildirim, Masih and Bacha, 2018). Sekar, Gowri and Ramya (2014) determined that a low debt-to-equity ratio indicates a low level of debt in the capital structure, which leads to a reduction in owner funds and confidence since the risk to equity holders increases as the number of loans increases. Also, a company's ROE, ROI, and EPS are negatively correlated with its ROE, debt, and equity, and the value of the company is favorably correlated with its ROE, debt, and equity. Finally, the study found that a company's value rises as a result of a well-balanced capital structure, as evidenced by its EBIT and low cost of capital.

During a financial crisis, when short-term debt replaces long-term debt, business leverage increases. In times of financial crisis, a maturity debt profile heavily dependent on short-term issuances indicates greater financial difficulties at the business level, as the firm is more exposed to rollover risk (Alves and Francisco, 2015). Leverage ratios rise with firm size and fall with profitability, however there is no correlation between tangibility, growth potential, business risk, and leverage ratios. As a result, business size and profitability are important factors in capital structure (Thippayana, 2014).

Manufacturing companies that avoid borrowing money and keep a high amount of equity in their capital mix are more profitable. The real-estate sector relies heavily on equity finance to raise funds (Effendi, 2018). Total debt and short-term debt have negative associations with ROA and ROE, whereas shareholders' equity has a favorable

impact on performance measures. Businesses with a large percentage of fixed assets are less profitable. According to the survey, manufacturing organizations either do not efficiently use their assets or do not have adequate internal funding to make lucrative investments. According to this study, taxes have a good effect on performance measurements. Companies in the manufacturing sector were more profitable when faced with a tax burden, owing to better resource allocation. Inflation, too, had a positive impact on ROA (Vatavu, 2015). Companies sell their assets when inflation is high. High inflation causes businesses to sell off part of their fixed assets, resulting in lower expenses and higher profits. Companies with higher equity ratios and less fixed assets are more lucrative when taxes are high. Finally, the study concludes that businesses only employ debt when they are in financial trouble, face substantial business risks, or are unable to settle owing to a cash shortage. A dynamic revision of the debt ratio in response to a tax cut is predicted by standard capital structure trade-off theory. Neither Corporate Tax nor Inflation Rate have a substantial impact on the Financial Capital Structure, according to Nasution, Siregar, and Panggabean (2017, November).

Financial leverage is higher in companies that engage in higher earnings management operations. High debt would increase the likelihood of poor earnings management (Alzoubi, 2018). As the firm's earnings management reflects the agency conflicts between insider managers and outside investors, debt lowers the agency cost of free flow. In countries with better institutional environments, the link between earnings management and financial leverage is also much less prominent. When it comes to resolving agency conflicts, investors in nations with robust institutional environments rely more on free macro-level institutional arrangements unlike debt (An, Li and Yu, 2016).

According to ljubenovic, Minajlov, and Malinic (2013), the capital structure and impacts of financial leverage in so-called transition economies are still a hot topic. This problem manifests itself differently in each country, depending on a variety of factors. The completion of the privatization process, the progress made in capital market growth, the availability of diverse financing sources, the level of investor protection, legal stability, and managerial quality are the most crucial. Depending on the country, each of these characteristics may have varying degrees of impact on specific businesses.

There are substantial distinctions between developed and emerging markets. Capital markets are becoming more important and influential in today's financial systems. Companies should be able to access more sophisticated and competitive capital markets as a result of economic and financial integration, allowing for faster economic growth (Oprea and Stoica, 2018). In contrast to industrialized markets, undeveloped markets have limited secondary market liquidity, inadequate information transparency, and inefficient primary markets, and delayed price response to new information signals. In such situations, corporate management is frequently confronted with an inflexible capital structure, which is primarily made up of capital and credit sources. Cuervo-Cazurra, Ganitsky, and Mezias (2016) found that undeveloped economies adopting promarket reforms, as well as their underdeveloped pro-market institutions, have an impact on company ownership, capability, and innovation, which drives internationalization and worldwide success.

Nothing is more vital to a startup company than raising funds. However, how money is raised can have a significant impact on a company's performance. This argument might be used to any firm, not only new enterprises. The balance of debt and equity in a firm's capital structure is determined by a number of factors, including the firm's features, the economy, and the management' beliefs and objectives. The first objective for

management is to weigh the various costs and benefits of using both debt and equity. Management will weigh the costs and benefits of combining debt and equity when making their decision. Management will be able to create an appropriate capital structure to optimize the firm's worth. Management will analyze all available financing options and prioritize the least expensive one.

Modugu (2013) defines capital structure as a company's various alternatives for funding its assets. After Modigliani and Miller (1958) established that the decision between debt and stock has no meaningful effect on the firm's value, the concept gained a lot of traction. In the case of ideal capital markets, this claim holds true. There are no frictions in a perfect market, such as transaction and bankruptcy costs. When market imperfections like transaction and bankruptcy costs are taken into account, capital structure becomes more important, and modest adjustment costs can cause profound changes to the capital structure.

The study of capital structure aims to explain how publicly traded companies finance their investments by combining various types of assets. Firm-specific, industry-specific, and institutional factors all influence capital structure decisions. Emerging economies present fascinating situations for investigating a range of institutional characteristics since the variables that impact financing decisions in industrialized countries also influence financing decisions in emerging economies (Huang, kabir, and zhang, 2018).

A company can use various levels/mixes of debts, equity, or other financial arrangements in general. The establishment of Modigliani and Miller's (M&M) theoretical model about corporate capital structure in 1958, which is considered to have produced the turning point for modern corporate finance theory, laid the groundwork

for theories and research on the subject of capital structure. The theory offers understanding into a firm's capital structure decision in a capital market free of taxes, transaction fees, and other frictions (modugu, 2013).

Salim and Yadav (2012) the ratio of long-term debt to total assets, short-term debt to total assets, and total debt to total assets is the capital structure (total debt to total assets) to determine capital structure, Vătavu (2015) employed three debt ratios: total liabilities, long-term liabilities, and short-term liabilities to total assets, as well as the equity ratio, computed as the ratio of total equity to total assets. According to Fosu (2013), Relative leverage (Rlev), which is the difference between each firm's leverage and the average leverage of the industry, is used to calculate capital structure.

In their paper Determinants of capital structure: an empirical study of enterprises in Iran, Alipour Mohammadi and Derakhshan (2015) found that the mean short-term debt ratio (STD) is 61.2 percent and the median is 61.8 percent. The mean long-term debt ratio (LTD) is 11.2 percent, with a median of 6.75 percent, and the mean total debt ratio (TD) is 72.5 percent, with a median of 72.03 percent, demonstrating that debts, particularly short-term debts, are the most important source of funding for Iranian businesses. In his descriptive statistics of leverage proxies in Turkey, Cevheroglu-Acar (2018) reported a low average debt ratio of around 22%.

# 2.2 Concept of Stakeholder Power

According to Fontaine, Haarman, and Schmid (2006), one of the most prevalent ways to distinguish between different types of stakeholders is to examine groups of individuals who have recognizable ties to the business. Friedman (2006), there is a direct link between the definitions of what stakeholders are and the identification of who those stakeholders are. Customers, employees, local communities, suppliers and

distributors, shareholders, creditors, and the government are the primary groupings of stakeholders.

Most experts believe that management's primary financial goal should be to maximize the market value of the company's stock, but this also includes safeguarding the interests of debt holders as well as those of other parties involved, including the government and workers. According to Clarke and Friedman (2016), the maximization of shareholder value has been widely regarded as a definitive instrument for evaluating the performance of public company executives. A deception for achieving a greater share price is the construct of maximizing shareholder value. As a result, it is a critical goal for management to maximize the value of the company's assets in such a way that it improves shareholder wealth while avoiding harm to debt holders and other stakeholders who are essential to the firm's long-term survival. Conflicts of interest can emerge between shareholders, debt holders, and other stakeholders. Given the importance of stakeholders, it's important to look into how stakeholder interests affect a firm's capital structure, as this might affect the firm's value and financial decisions.

For stakeholders, corporations both produce and destroy value (Lankoski, Smith and Van Wassenhove, 2016). In doing so, a company's actions trigger stakeholder judgements and reactions that are difficult to predict unless the company can accurately assess the influence of its operations on stakeholder value, or the value of a result to stakeholders. If managers do not understand how stakeholders evaluate value, their predictions of stakeholder reactions may be incorrect, with potentially disastrous repercussions for the company. In the literature, managers are treated differently. Some see them as stakeholders, while others see them as integral to the organization's

activities and obligations. Managers serve as mediators between employees and investors.

Stakeholder management, according to Nikolova and arsic (2017), is the obligation to serve all stakeholders' interests. Because companies deal with a variety of stakeholders throughout time and in different ways, it is improbable that they will fulfill all of their obligations to any key stakeholder or group. As a result, organizations should develop stakeholder management methods, as multiple stakeholders compete for organizational resources. Furthermore, the type of stakeholders involved and the resource management method used have an impact on the corporate strategy of a firm. When distributing organizational resources, stakeholder management makes it easier to consider persons or groups both inside and outside the company. Stakeholder management encourages appropriate resource allocation among stakeholders in order to create a "win-win" outcome.

According to Sciarelli and Tani (2013), businesses cannot be governed solely on the basis of economic ideals; instead, executives must recognize their companies' societal duties. Humphrey and Mahmood (2013) internal stakeholders and the government continue to lay greater focus on economic and legal obligations for the long-term viability of companies in a changing economy. Civil society activists and non-governmental organizations (NGOs) contend, on the other hand, that businesses should place a greater emphasis on ethical and discretionary obligations.

Stakeholder Management Theory can assist managers in completing this difficult task.

This idea requires managers to account for reciprocal influences between other social actors and business activities, as well as to comprehend the relative consequences.

Consumers, "internal management and employees," rivals, and non-governmental

organizations, according to Park and Ghauri (2015), are the primary determinants of corporate social responsibility in emerging markets.

The conventional distinction between corporate governance systems that prioritize stakeholders and shareholders, according to Ayuso, Rodrguez, Garcia, Castro, and Arino (2014), is equally important for the CSR strategy. CSR's impact on each stakeholder group positively affects global brand equity, according to Torres Bijmolt, Triba, and Verhoef (2012). Furthermore, multinational brands that adhere to local social responsibility policies in communities get significant benefits from the development of BE, strengthening CSR's positive effects on other stakeholders, particularly customers. As a result, it is particularly useful for global brand managers to integrate global strategy with the requirement to meet the needs of local communities when building brand value.

Kim (2014) discovered that admitting a self-serving motive reduces skeptical attribution and increases stakeholders' positive intent to support, work for, invest in, and buy from the company. Companies with a bad image also stress only society-serving motivations while ignoring self-serving motives. According to Salem, Shawtari, Shamsudin, and Hussain (2016), stakeholder knowledge alone will not contribute to the various dimensions of competitiveness. To acquire a competitive advantage, businesses should broaden their focus to include adapting behavior to the interests of stakeholders. Conflicting stakeholder interests present a barrier that must be overcome, Matos and Silvestre (2013) suggested a combination of strategies that encouraged learning and capability building, increased participation of a wide range of local stakeholders, and shifted stakeholder values from a single to numerous goals.

# 2.3 Concept CEO Dominance

The chief executive officer (CEO) is widely considered to be the most powerful person of a corporation. Both the academic literature and the general press are full of claims about the possible impact of a strong CEO on a company's financial performance. It is assumed that a strong CEO will affect the company's performance (Daily and Johnson, 1997). CEO influence, according to Friedman (2014), has ramifications for incentive compensation, reporting quality, business value, and information rents.

The CEO is in charge of a company's or organizations overall success as well as making top-level management choices. They may seek advice on significant issues, but they have final decision-making authority. The Board of Directors holds the Chief Executive Officer personally accountable for the operation of the business. The Board of Directors (BOD) is a group of individuals chosen to represent the stockholders of the corporation. The CEO is frequently a director and, in some situations, the chairwoman of the board. The CEO is also in charge of developing and implementing long-term strategy with the purpose of generating shareholder value. Ning (2020) the more powerful CEOs are more likely to use debt in their capital structure and Jilani and Chouaibi (2021), Given the significantly favorable association between CEO dominance and the risk-taking process, the bank particular risk turns out to be lower the greater the CEO dominance.

The functions and responsibilities of a CEO differ from one firm to the next, and are often determined by the company's organizational structure and/or size. In smaller businesses, the CEO is more hands-on, making lower-level business decisions, for example (e.g., hiring of staff). He or she usually solely handles with high-level business strategy and important company decisions in larger companies. Other roles are handled by managers or departments.

CEO authority should be addressed while establishing boards, according to Combs, Ketchen, Perryman, and Donahue (2007). However, according to Veprauskait and Adams (2013), the CEO's salary and board structure are unrelated to financial performance.

Meng, Melumad, and Baldenius (2014) the relationship between agency challenges and board composition becomes non-monotonic when shareholders are in charge of the board nominating process. To avoid CEO entrenchment, shareholders may form a board of advisers. The board might become more monitor heavy if a strong CEO influences the nomination process. Regulations that strengthen the board's monitoring function might be counterproductive in circumstances where agency problems are severe or if CEO entrenchment is a danger to corporate governance.

Li (2016) discovered strong evidence that the true link between CEO power and subsequent business performance is negative, implying that CEOs in some companies are overpowered. Abernethy, Kuang, and Qin (2015) discovered that companies with strong CEOs attach fewer difficult goals to the initial performance-vested stock option (PVSO) grants to their CEOs. These businesses also seem to implement PVSO programs first, and they do so more frequently when there is a public outcry around executive compensation. According to their research, prominent CEOs try to placate public indignation by implementing PVSOs rapidly, but this does not appear to be the best method for maximizing shareholder value. PVSOs were designed to benefit shareholders by enhancing the link between CEO pay and firm success, according to regulators. However, their findings suggest that powerful CEOs can counteract some of the benefits of PVSOs by influencing their adoption and performance targets. When prominent CEOs are present, Chen (2014) claims that directors with human and social capital will commit more effort to delivering important strategic advice and resources,

and so will encourage R&D investment to improve innovative skills. The power of a CEO, according to Lewellyn and MullerKahle (2012), is positively associated to excessive risk taking.

Brown and Sarma (2007) discovered that companies with overconfident CEOs have a higher risk of a stock price drop than companies with non-overconfident CEOs. The effect of managerial overconfidence on crash risk is more noticeable when the CEO is more prominent within the top management team and when there are greater differences of opinion among investors. Khilji, Khan and Malik (2020) found that when CEOs align their interests with those of shareholders, the risk of an agency problem is reduced, resulting in a lower expense of equity.

CEO authority is adversely connected with the firm's decision to engage in CSR and the extent of CSR activities in the firm, according to Li, Li, and Minor (2016). Furthermore, their findings revealed that CSR activities are value-enhancing in the sense that organizations' value grows as they engage in more CSR activities.

Jiraporn, Chintrakarn, and Liu (2012) discovered that when the CEO has a stronger position among top executives, the firm uses much less leverage, most likely to avoid the disciplinary processes connected with debt financing. Their findings were significant because they indicated that CEO power influences key company outcomes such as capital structure decisions. Furthermore, they discovered that changes in capital structure have a detrimental influence on company performance for companies with more strong CEOs. Overall, their findings corroborated previous research, implying that strong CEO domination appears to raise agency costs and, as a result, is negative to company value. Naseem, Lin, ur Rehman, Ahmad, and Ali (2019) found that CEOs

with longer tenure are more opportunistic and prioritize their own personal interests over the firm's strategic financial decisions, resulting in agency costs.

# 2.4 Concept of Debt Tax Shield

According to Gao (2016), the capital structure has no bearing on the enterprise value as defined by MM (1958). For taxes, Modigliani and Miller (1963) revised their capital structure irrelevance hypothesis. As a firm takes on more debt, its tax liability is decreased because interest on the debt is a tax-deductible expense. As the debt-to-equity ratio rises, the firm's market value rises by the present value of the interest tax shelter. This means that even if leverage is used to exorbitant levels, the cost of capital will not grow.

Because of the extreme leverage, the cost of capital must rise. Because excessive debt causes markets to react by seeking higher rates of return, this is the case. However, when it comes to business income tax, the higher the rate, the more loan interest can be deducted. As a result, corporations with high tax rates may opt for increased debt to boost their profits. For many organizations, projects, and transactions, the tax benefit from debt represents a large share of total value. Because leverage is now widely used as a source of value added and asset acquisition is becoming increasingly competitive, accurate debt tax shield assessment is greater than ever before. Changes in tax legislation, as well as an increase in international transactions, necessitate a better understanding of how to value debt tax shields under various tax regimes. Oztekin (2015) one school of thought holds that a company's capital structure is the result of a trade-off between the advantages of debt and the costs of debt. The costs of bankruptcy, tax benefits, and agency costs associated with asset substitution, underinvestment, and overinvestment are all common justifications for this trade-off. Increased bankruptcy expenses reduce a company's optimal leverage. Lower debt ratios should be associated

with smaller and less profitable enterprises, firms with larger growth opportunities, firms with fewer physical assets, firms operating in industries with lower leverage, and firms in higher-inflation economies, which are more likely to have higher bankruptcy costs.

MM (1963) supports the idea that a corporation with debt has a higher value than one that is debt-free. As a result of the interest tax credit, it is concluded that debt can yield profits. As a result, the debt tax shield effect is named after it. Excessive leverage, on the other hand, has a tax credit effect as well as the possibility of financial disaster; consequently, businesses should consider their own debt levels (Miller, 1977). Furthermore, if a corporation issues too much debt, this might result in a tax depletion phenomenon, which can subsequently lead to debt extrusion (Ross, 1985). Even though the debt tax break may encourage corporate executives to take on more debt, the larger the debt, the better.

Kliestick et.al (2018) a crucial element of corporate profitability and a factor in determining a company's long-term value is the availability of tax savings (tax shield) as a result of tax-deductible expenses. Business executives, as well as the scientific community, are interested in tax shelters. Businesses are worth more thanks to leverage and tax breaks, but a tax shield shows the difference between a levered and unlevered corporation in terms of value.

According to Doidge and Dyck (2011), when taxes are applied, a leveraged firm suffers a reduced loss because debt provides a tax shield worth Tc D when the debt is permanent. Debt tax shields are less valuable, according to subsequent research that analyzes debt expenses. Miller (1977), shows instances where the tax benefit of debt for the firm is offset by the personal tax disadvantage of debt compared to equity. As a

result, corporations will avoid a pure debt position in order to reduce their weighted average cost of capital and instead seek an optimal combination of debt and equity. The low debt ratios seen in leveraged companies can be attributed to two factors. The debt interest rate is firstly inversely related to the debt to equity ratio. As the company borrows more money, creditors will expect a higher rate of return on the borrowed money. Second, higher debt levels may increase the likelihood of defaulting on interest payments, resulting in bankruptcy. As a result, businesses will seek a level of financing that optimizes the tax benefits associated with larger debt levels while limiting the risk of bankruptcy.

#### 2.5 Theoretical Review

The theoretical framework clarifies a research's direction and anchors it in theoretical notions. The majority of theories, including the Pecking Order Theory, Agency Theory, and Static Trade-off Theory, have attempted to explain capital structure by include frictions that were absent from the original Modigliani and Miller framework, according to modugu (2013). According to Myers (2001), the debt-equity trade-off is not consistently explained, and there is no justification for supposing that it is. However, as previously mentioned, there are various important theories that each help to explain the debt-to-equity structure.

These theories can be classified into two groups: those that forecast the presence of an optimal debt-to-equity ratio for each firm (so-called static trade-off models) and some who assert that the goal capital structure is not well defined (pecking-order hypothesis). As a result, the following theories will be employed to support the research. Some theories that have been proposed include agency theory, stakeholder theory, pecking order theory, and static trade-off theory.

# 2.5.1 Pecking Order Theory

The Pecking Order Model was developed by Myers et al (1984). The pecking order hypothesis states that there is no desirable capital structure. According to their approach, retained earnings are preferable to debt, while debt is preferable to equity. If a company needs external capital, it prefers debt to equity, and equity is only used as a last resort. Managers (insiders) and investors, according to Myers and Majluf (1984), have asymmetric information (outsiders). The capital structure variable in the study was influenced by this idea.

Managers, they claimed, have more inside information than investors and act in the best interests of existing shareholders. As a result of the knowledge asymmetry, the enterprises do not have a predetermined or optimal debt to equity ratio. When it comes to dividends, companies take a conservative approach and rely on debt financing to increase their worth. The ordering, on the other hand, is the result of a number of factors, including agency disputes and taxation. Even when raising outside capital, most companies keep some internal funds (cash and short-term investments). This is so evident that it is rarely taken into account in pecking order assessments. These monies are tacitly believed to be held for purposes other than the theory, such as transactions.

When does equity enter the picture? According to the strict understanding, equity should never be issued after the IPO unless debt has become infeasible for some reason. This gives rise to the concept of "debt capacity." The debt capacity serves to limit the amount of debt that can be carried within the pecking order while also allowing equity to be used.

According to Frank, Goyal, and Shen (2020), the pecking order hypothesis of corporate capital structure postulates that businesses finance deficits wherever possible using

internal resources. Firms get external debt when internal funds are insufficient. External capital is only used as a last option. Some financing trends in the data are consistent with pecking order: enterprises with intermediate deficits choose debt issuance, while firms with very high deficits significantly rely on equity. Others aren't: many equityissuing corporations don't appear to have depleted their loan capacity, and other firms with excess capacity issue equity. According to the idea, there is a sharp distinction in financing strategies between surplus and deficit enterprises, as well as at the debt capacity. Bhama, Jain, and Yadav (2016), the pecking order hypothesis is a good descriptor for deficit firms but not for surplus enterprises. Deficit companies routinely issue debt to cover their shortfalls while keeping their debt ratios under control. Contrarily, surplus businesses have low debt-to-equity ratios and rarely repurchase debt. They usually save money for future growth and other operating requirements. When the combined impact of ambiguity and ambiguity aversion is relatively minor, cash holdings are less desirable but are retained for longer if investors' ambiguity aversion bias is sufficiently strong, according to Agliardi, Agliardi, and Spanjers (2016).

According to Bhama, Jain, and Yadav (2019), deficit enterprises with low debt levels generate considerable sums of debt, demonstrating that the pecking order theory is followed. Deficit enterprises with excessive debt do not change their capital structure by issuing less debt. Because of the prominence of short-term debt in their capital structure, corporations in a surplus situation redeem considerable debt at a very high level.

Bhama, Jain, and Yadav (2018), when businesses are in deficit, age is irrelevant to their standing, and all kinds of businesses continue to issue large sums of debt to make up the difference. In surplus conditions, older enterprises, followed by middle-aged firms,

appear to redeem a higher proportion of debt than younger firms. Young businesses tend to save money for future financing needs because they are still expanding.

Following De Jong et al (2010) a theory about the financing of deficit and surplus circumstances, Park and Jang (2018) to test the pecking order theory, researchers looked into restaurants. They found that restaurants rely more on equity funding, which is consistent with the pecking order puzzle. Restaurants that have a financing deficit rely on equity financing more than restaurants that have a financing surplus. Furthermore, their research found that franchise funds help to fill funding gaps. In the event of a funding shortfall, franchise restaurants utilised less equity financing than non-franchise restaurants. However, both franchise and non-franchise restaurants with financing surpluses had similar financing habits and did not rely on equity financing considerably, demonstrating that the pecking order principle is followed by both sorts of organizations.

Eldomiaty, Azzam, El Din, Mostafa, and Mohamed (2017) found that most companies plan for higher sales growth, but not necessarily at a sustainable rate; when observed and sustainable sales growth occurs, companies persistently reduce debt financing; companies use equity financing to finance sustainable sales growth only in the long run; in the short run, companies use internal financing, such as retained earnings, as a flexible source of financing. Equity financing comes first when it comes to funding current and sustained sales growth, followed by retained earnings, and debt financing comes last.

Jiang, Shen, and Lee (2019) to evaluate the pecking order theory, examine the relationship between the financing deficit and the long-term debt to capital ratio. The empirical research revealed a positive association between finance deficit and changes

in the long-term debt ratio, indicating that the pecking order idea is somewhat justified. They also found that the pecking order theory is significantly harmed by the market timing effect, which strongly encourages listed companies to seek equity investment when their market value is high. Furthermore, the dynamics of state ownership structure of corporations follow the pecking order theory, implying that SOEs prefer long-term debt financing. Finally, the ownership concentration ratio supports the pecking order theory by indicating that dominating shareholders prefer long-term debt financing. Their empirical findings suggest that stock market success has a significant impact on capital structure, that SOEs have better access to long-term debt financing, and that listed enterprises with a more concentrated ownership structure are more likely to use long-term debt.

The relationship between organizations' innovative activities and the hierarchy of financing habits was investigated by Mina and Lahr (2018) in their article. They looked at the role of innovation inputs (R&D), intermediate outputs (patents), and results (product and process innovations) in funding decisions as causes of knowledge inequalities. We examine the impact of innovation on the order of directly observed external capital allocations, as well as the firm's size, age, and human capital. The findings of the study revealed that innovation is significantly linked to a pecking order of rising agency costs, and that the more unclear the innovation signal, the bigger the effect on the hierarchy. Further robustness tests reveal that this link and the related external financing hierarchy arise from the data without imposing an a priori pecking order.

Individual country research revealed that equity matches the financing deficit better than debt for enterprises with financing deficits in Sub-Saharan African nations, according to Chipeta and Deressa (2016). The categorical analysis, on the other hand,

reveals that enterprises operating in the most difficult legal settings appear to use pecking order funding techniques. As the investigation went from the poorest to the strongest legal systems, the magnitude of the pecking order coefficient decreased steadily.

The hypothesis testing results of Agliardi, Agliardi, and Spanjers (2016) based on the link between independent and dependent variables of Chinese listed firms were totally consistent with pecking order theory, while somewhat supporting trade theory. According to Oktavina, Manalu, and Yuniarti (2018), Pecking Order Theory is still used in the ordinary Indonesian family business when it comes to capital structure.

#### 2.5.2 The Stakeholder Theory

The Stakeholder Theory of organizational management and business ethics, which tackles morals and values in managing a company, was first described by Edward Freeman in 1984. According to the principle, a company should generate value for all parties involved, not just shareholders. The theory defines and models the groups that make up a corporation's stakeholders and describes and suggests ways that management might take into account those groups' interests. The stakeholder power interest in the study will be informed by this theory.

The stakeholder theory suggested that corporations should look beyond the shareholder theory of profit maximization, and take into consideration other stakeholder groups that the corporation is associated with, and who contribute to the company's achievements. Shim and welch (2014) recent theories on how corporations advocate for stakeholders' interests and claim that they exist to serve all parties involved rather than just shareholders.

According to Donaldson and Preston (1995) the stakeholder theory is unarguably descriptive. The corporation is described as a constellation of complementary and antagonistic interests with inherent value. The main alternative to value maximization as the business objective is stakeholder theory. According to the stakeholder theory, managers should make decisions that consider the interests of each stakeholder in a company. These stakeholders include local communities, the government, employees, managers, customers, suppliers, and those with financial claims. The major problem with stakeholder theory is that it involves multiple objectives. The financial manager would be unable to decide rationally if they were instructed to maximize various objectives, some of which would be in conflict. That is, corporate managers cannot effectively serve many masters. Purposeful behavior requires the existence of a single-valued objective function.

Stakeholder theory presents contrasting models of the corporation, the input-output model. According to this model, the firm converts inputs from investors, employees, and suppliers into outputs that are beneficial to customers. The stakeholder model of the business also contends that there is no presumptive superiority of one set of interests and advantages over another and that all individuals or groups with legitimate interests participate in an operation in order to benefit from it.

Nikolova and arsic (2017) commonly identified stakeholder groups include shareholders (or owners), employees, customers, suppliers, local community, competitors, interest groups, government, the media, and society at large. A stakeholder approach places emphasis on the value of fostering relationships with those who have an interest in the company (freeman, 1984). Some of these terms particularly society at

large and the idea of community raise serious issues when considered in regard to the importance of organizational accountability to stakeholders.

Stakeholder theory emphasizes that beyond shareholders there are several agents that are interested in firms' actions and decisions. The notion emphasizes how important it is for managers to answer to stakeholders. Managers can include personal values in the creation and execution of strategic strategies thanks to stakeholder theory (Freeman, 1984).

Stakeholders are people or organizations that the corporation either hurt or benefited from, or whose rights have been infringed or need to be respected by the corporation. Firms have several stakeholders which compete for organizational resources; hence, the need for firms to identify strategies for managing stakeholders. The kind of stakeholders who are actively involved and the resource management tactics used have an impact on the corporate strategy of the organization. Stakeholder theory interest from a business-driven perspective covers three tenets: that organizations have stakeholders who have an impact on their activities; that these interactions have an impact on particular stakeholders and the organization; and that major stakeholders' perceptions have an impact on the viability of organizational strategic options.

Therefore, businesses must create appropriate strategies to deal with their major stakeholders. Because some major stakeholders' obligations are unlikely to be met by firms, stakeholders management is necessary.

Friedman (1984) the social responsibility of business is to grow its profits, it was asserted. We need to worry about the enterprise level strategy for the simple fact that corporate survival depends in part on there being some "fit" between the values of the

corporation and its managers, the expectations of stakeholders in the firm and the societal issues which will determine the ability of the firm to sell its products.

The profits and fiduciary duties owed by managers are to shareholders only. The underlying premise of the shareholder theory is that the higher the profits, the higher the taxes and the greater the possibility of contributions to the common sense. Alternatively Freeman (1984) asserts that a corporation has a responsibility to behave in its stakeholders' best interests, especially shareholders. The manager should serve the interests of all stakeholders and should be concerned about all value chain partners. The stakeholder theory provides businesses with a more useful framework for considering risk and entrepreneurial management.

Venkataraman (2019) by highlighting the business as balancing a confluence of cooperative and competitive interests reflecting an extended stakeholder base, the stakeholder approach to management offers a significantly different way to managing companies than the prevalent shareholder approach. This review looks at the different aspects that show up in academic studies linking stakeholder approaches to the topic of sustainable business. Stakeholder theory is portrayed as a highly naturally aligned theoretical framework for furthering the science and practice of sustainability, particularly in its normative and instrumentalist approaches. But depending entirely on a stakeholder approach to achieve sustainability also carries hazards.

Bae, El Ghoul, Guedhami, Kwok and Zheng (2019) high leverage is linked to significant market share losses as a result of unfavorable consumer and competitor behavior. They investigated whether corporate social responsibility (CSR) impacts how customers and rivals engage with businesses and lowers the cost of high leverage. They discovered that CSR helps highly leveraged businesses retain consumers and protect

themselves against competition predation, which minimizes market share losses when firms are highly leveraged. Their findings supported the maximum of shareholder value in CSR.

Schwarzmüller, Brosi, Stelkens, Spörrle, and Welpe (2017) companies regularly have to address opposing interests from their shareholding and non-shareholding stakeholder groups. Their findings demonstrate that (possible) investors take into account the perceived sustainability of doing so for company success as well as the projected costs of pursuing non-shareholder stakeholders' interests when making investment decisions in such circumstances. Participants were more willing to invest in a company that chose to favor non-shareholder stakeholders over shareholder stakeholders (thereby making a decision against their immediate financial interests) in cases of low costs or high sustainability, while the opposite was true in cases of high costs or low sustainability. With their findings, the research broadens the scope of stakeholder theory by considering how individual investors respond to corporate stakeholder management. Additionally, it supports and expands on the Enlightened Stakeholder Theory, which contends that organizations should uphold stakeholders' interests if doing so increases long-term firm value. However, this theory has not yet taken into account the costs associated with upholding stakeholders' claims in such decisions.

Bridoux and Stoelhorst (2014) according to the instrumental stakeholder theory, fairness to stakeholders and company success are positively correlated. Some businesses are successful when they take an objective approach to stakeholder management that prioritizes bargaining power over fairness. Evidence from behavioral economics and social psychology suggests that businesses must deal with a population of potential stakeholders that includes both self-centered stakeholders and so-called

"reciprocators," who care about justice, as well as reciprocators who do not. We argue that an arms-length strategy is better at motivating self-interested stakeholders and attracting and keeping self-interested stakeholders with significant bargaining power than a fairness strategy is at luring, keeping, and inspiring reciprocal stakeholders to produce value.

Bae, Kang, and Wang (2011) they looked at the relationship between a company's employees and the stakeholder theory of capital structure. Their research revealed that companies with low debt ratios treat their employees fairly (as indicated by high employee-friendly evaluations). Their findings held up well under various model assumptions and endogeneity problems. When measuring a company's capacity to treat people fairly by whether it is listed among the 100 Best Companies to Work For in Fortune magazine, the negative correlation between leverage and that ability is also clear. These findings imply that a company's ability or incentive to treat employees fairly is a crucial factor in determining its financing policy.

Tse (2011) their paper's major claim is that shareholder theory is a reliable theory in and of itself. This theory might have been tarnished by certain CEOs who subscribed to it. Contrarily, the stakeholder theoretical framework has not yet made an impact because the notion has not yet been well defined, making it challenging for the framework to be applied in real-world corporate settings.

Ferrary (2019) According to the stakeholder theory, a CEO has a social obligation to a variety of stakeholders (employees, politicians, journalists, citizens, etc.). The CEO crafts a political strategy to address the claims of the various actors, who together make up a political system. His research employs complex networks theory and social network analysis to develop a dynamic theory of stakeholder networks. Corporate

leaders are enmeshed in a network of stakeholders to varied degrees, and this network is susceptible to systemic shocks that may be caused at random or purposefully by the CEO. During an industrial reorganization, this paradigm is used to examine how the employment relationship has changed. The employment contract is not only applicable to contracts involving employers and employees. Instead, this relationship is a part of a network that could include a number of stakeholders. The CEO must develop a political plan to handle the layoff issue when a strategic decision is made to shrink an organization in response to a systemic shock.

# 2.5.3 Agency Theory

Agency theory was developed by Jensen and Meckling (1976). Agency theory is concerned with the conflicting interests of principals and agents. Agency theory holds a central role in the corporate governance literature. When self-interested managers and owners control a business but bear the majority of the wealth impacts, a fundamental tension between them arises. Each of these groups has different interests and objectives. This theory will inform the CEO dominance variable in the study.

The shareholders want to increase their income and wealth. Their interest is with the returns that the company will provide in the form of dividends, and also in the value of their shares. The company's long-term financial prospects determine the value of their shares. Investors are worried about dividends because they affect the value of their shares, but they are even more worried about long-term profitability and financial prospects. The managers are employed to run the company on behalf of the shareholders. However, if the managers do not own shares in the company, they have no direct interest in future returns for shareholders, or in the value of the shares.

Managers are paid and have work contracts. Their primary interests are likely to be the amount of their compensation package and their position as firm managers unless they own shares or unless their compensation is based on revenues or share values. The principal lenders of debt have an interest in the company's managers exercising effective financial management so that the business can pay off its debts in full and on schedule. Agency problems of this kind generate agency costs. A key ingredient in this theory is that outside shareholders cannot costless observe the managers' actions (Laiho, 2011).

Jensen and Meckling (1976) Corporate owners hire managers to carry out a company's managing functions, but because both are motivated by self-interest and the desire to maximize their own utility, a conflict of interest results. As the managers have the effective control of the firm, they have the incentive and the ability to consume benefits at the expense of the owners. According to Jensen and Meckling, agency costs, which include the principal's monitoring expenses, the agent's bonding expenses, and the residual loss, are the costs resulting from the conflict of interests between owners and managers.

Principals' monitoring costs arise from activities designed to limit the agents' harmful actions. The agents' acts to guarantee the principals that they won't conduct specific actions result in bonding expenses. Despite these monitoring and bonding expenditures by the principals and the agents, there will still be a loss caused by the divergence of the decisions taken by the agents and the decisions that would maximize the principals' welfare. The traditional defense was that project managers had to disclose project specifics to outside investors and subject themselves to investor oversight in order to receive outside financing. Panda, & Leepsa (2017) the conflict of interest and agency

cost arises due to the separation of ownership from control, different risk preferences, information asymmetry and moral hazards. Numerous alternatives, including strong ownership control, managerial ownership, independent board members, and various committees, have been listed in the literature as ways to handle agency conflict and its cost. Conheady, McIlkenny, Opong and Pignatel (2015) the essential component of agency theory's prescription for resolving the issues with ownership and control separation in contemporary corporations is an effective board of directors. The degree to which shareholders have faith in the board's ability to carry out its responsibilities is a key indicator of the success or failure of this agency theory tenet.

Managers dislike this process. As a result, managers prefer internal resources to external capital, yet there is no clear trend regarding the relative usage of debt versus equity when seeking external capital. After that, agency theories were created, with Jensen and Meckling (1976) making a significant contribution. Jensen and Meckling (1976) also identified risk shifting as a debt agency issue. The idea is that if the firm is operated on behalf of equity, only cash flows in non-bankrupt states matter. The firm will therefore tend to accept projects that are too risky but with large payoffs in good states.

Gormley and Matsa (2016) following the passage of an antitakeover statute that provides managers with protection, they engage in value-destroying behaviors that lower the stock volatility and distress risk of their companies. When diversifying their holdings, managers focus on companies that are likely to lower risk, have poor reported returns, and have managers that stand to benefit the most from doing so. They proposed that tools commonly employed to encourage managers, such as increased financial leverage and more ownership holdings, aggravate agency problems connected to risk.

According to Hull, and Dawar (2014) Contrary to the principles of agency theory as widely held and accepted in other industrialized as well as emerging economies, leverage has a detrimental impact on financial performance. Jiraporn, Kim, Kim, and Kitsabunnarat (2012) their study's empirical data showed a strong inverse relationship between governance quality and leverage. Firms with inadequate governance had a higher level of debt. It appears that leverage can take the place of corporate governance in resolving interagency disputes. Further, they showed that poor governance quality likely brings about, and does not merely reflect, higher leverage. Their findings were significant because they demonstrated that crucial company decisions, such as capital structure selections, are significantly influenced by the overall effectiveness of corporate governance.

Billett, Hribar and Liu (2015) rises in managerial voting rights and declines in cashflow rights as a result of debt financing costs. As leverage increases, managerial voting rights decline but cash-flow rights increase. Together, the findings showed that while debt costs rise as shareholder and manager interests diverge, their relative drop to equity costs makes debt more alluring to businesses with high potential agency costs of equity.

Rashid (2015) only when agency costs are measured using the "asset utilization ratio" can board independence lower firm agency costs. Additionally, the non-linearity tests imply that, in the case of a medium level of board independence, the advantage of outside independent directors is generally feasible as a factor limiting agency costs. Renders, and Gaeremynck (2012) when there are significant agency conflicts, adopting effective governance is expensive for the majority shareholders and of poor quality. However, once they are in place, robust governance structures combined with a high-quality disclosure environment increase firm value, particularly in businesses with a serious agency conflict.

#### 2.5.4 Static Trade off Theory

The capital-structure irrelevance argument, which was developed by economists Modigliani and Miller in the 1950s after they examined capital structure theory, is the foundation of the static trade-off theory. De Jong, Verbeek and Verwijmeren (2011) according to the static tradeoff theory, businesses aim to reduce their debt levels to a certain level. The debt-tax shield variable in the study will be informed by this idea.

The M&M theory's central tenet is that a company's financial structure has no bearing on its overall worth. In the years prior to Modigliani and Miller (1958), there was no widely acknowledged capital structure theory. They began by presuming that the company has a specific set of anticipated cash flows. When a company decides to finance its assets with a given mix of debt and equity, all it does is distribute the cash flows among the investors. Since investors and businesses are expected to have equal access to financial markets, leverage can be created at home. Any leverage that was desired but not offered may be provided by the investor, and any leverage that the firm assumed but that the investor did not desire may be eliminated. As a result, the firm's leverage has no bearing on its market value.

Their essay subsequently generated both clarity and debate. Theoretically, there are numerous situations in which capital structure irrelevance can be demonstrated. The two forms of capital structure irrelevance propositions are essentially distinct. The traditional arbitrage-based irrelevance propositions offer contexts where investor arbitrage maintains the firm's value independent of its leverage. With multiple equilibrium, a second type of capital structure irrelevance is connected. Equilibrium circumstances in models of this type determine the total amount of debt and equity in

the market. However, the model does not outline how these total amounts are distributed among the firms.

Miller's (1977) famous work is the first to take into account both personal and company taxes when determining an economy-wide leverage ratio, however there are several equilibrium situations in which debt is issued by various enterprises. The 1958 publication also sparked significant investigation into showing irrelevance as a theoretical or empirical issue. The Modigliani-Miller theorem has been proved to be false in a number of situations. Taxes, transaction costs, bankruptcy costs, agency conflicts, adverse selection, lack of reparability between funding and operations, time-varying financial market possibilities, investor clientele impacts, and adverse selection are among the most often employed components.

The original M&M theory has many flaws because it was created on the presumption of completely efficient markets, where businesses do not pay taxes, there are no bankruptcy costs, and there is no asymmetric knowledge. The second iteration of Miller and Modigliani's theory was later developed by integrating taxes, bankruptcy costs, and asymmetric information. The premise of fully efficient markets is used for the first time in this iteration of the M&M Theorem. According to the presumption, businesses operating in an environment with perfectly efficient markets are exempt from paying taxes, there are no transaction costs associated with trading securities, declaring bankruptcy is possible but carries no associated costs, and information is perfectly symmetrical.

The first assertion essentially asserts that the capital structure of the company has no bearing on its value. The capital structure of a firm has no bearing on its value because it is determined by the present value of expected future cash flows. Also, businesses do

not pay taxes in completely efficient markets. As a result, the company with a 100% leveraged capital structure does not profit from interest payments that are tax deductible.

According to the second tenet of the M&M Theorem, a company's cost of equity and level of leverage are directly inversely related. An increase in debt level raises a company's risk of default. As a result, investors typically demand a greater cost of equity (yield) to make up for the increased risk.

On the other hand, the M&M Theorem's second iteration was created to better account for actual circumstances. The current version's assumptions indicate that businesses must pay taxes, that there are costs associated with transactions, bankruptcies, and agencies, and that information is not symmetrical. The first claim asserts that tax benefits from interest payments that are tax deductible increase the value of a leveraged company relative to the value of an unlevered company. The theorem's key justification is that tax-deductible interest payments have a favorable impact on a company's cash flows. The value of a leveraged corporation rises because a company's worth is determined by the present value of its future cash flows.

The second hypothesis for the real-world situation is that the cost of equity and the degree of debt are directly inversely related. However, the existence of tax shelters has an impact on the connection by lessening the sensitivity of the cost of equity to the degree of leverage. Investors are less likely to react negatively to the company taking on higher leverage since it produces the tax shields that improve its value, even if the additional debt still increases the likelihood of a company defaulting.

According to Neugebauer, Shachat and Szymczak (2020) Modigliani and Miller, the dividend policy has no bearing on the law of one price because the market value of the

company is independent of its capital structure. Through the use of two experimental treatment changes, their study put the MM theorem to the test in a complete market with two simultaneously traded assets. The dividend stream is involved in the first variation. The dividend payout order is either identical or independent under this variation. The second form involves an algorithmic arbitrageur participating in the market, or not. They discovered that when dividends are identical, Modigliani-law Miller's of one price can be upheld on average with or without arbitrageur. If the dividend payout order is independent, the law of one price is violated unless the arbitrageur maintains the equilibrium of the asset prices.

Schilling (2017) the Modigliani Miller Theorem argues that, given specific assumptions, companies with various capital structures must have the same values if they have the same return distributions (risk class). The study shown that, when endogenous liquidity risk is taken into account, the bank's risk class varies due to changes in debt ratio and coupons required by depositors, rendering the Modigliani Miller Theorem generally inapplicable. Bank value's capital structure is non-monotone in equilibrium. In particular, the highest risk class is only attained by the bank with all equity financing.

Charness and Neugebauer (2019) Modigliani and Miller proved that if pricing is arbitrage free, repackaging asset return streams to equity and debt has no impact on a firm's overall market value. When returns are perfectly correlated, their research of this invariance theorem in experimental asset markets discovered value invariance for assets with similar risks. When returns have the same expected value but are uncorrelated, the law of one price is broken, making it risky to take advantage of price disparities. In subsequent markets, discrepancies get smaller, but they still exist, even for seasoned traders. Assets trade closer to parity in markets with a high level of overall trader acuity.

Chang (2016) without transaction costs or arbitrage, raising the debt-to-equity ratio for risk-free debt results in an increase in the variance of the rate of return on equity, while raising it for risky debt results in an increase in the variance of the rate of return on debt but has no effect on the probability density function of the rate of return on equity. This result contradicts the second claim made by Modigliani and Miller, according to which the expected rate of return on equity of a leveraged corporation rises proportionately to the debt-to-equity ratio.

# 2.6 Empirical Review

The study examined the past empirical studies in relation to government power, creditor power, investor power, CEO dominance, debt Tax Shield and capital structure.

# 2.6.1 Government Power and Capital Structure

The growing popularization of stakeholder theory among management scholars has offered a useful framework for understanding the multiple and interdepend-dent roles of government and business in an increasingly challenging political and regulatory environment. Despite this development, there hasn't been much focus on the government's obligation to safeguard citizens' rights. In the business government society nexus, governments play four roles: framework, business partner, intervening, and advocate.

In its analysis of the interactions between business and society, the stakeholder theory gives the government just passing consideration. As a matter of fact, the government is frequently viewed as either a non-stakeholder in the foreground or merely one among many stakeholders, with no regard for its special functions and position in the business government society nexus Dahan et al. (2015). According to Graham, leary and Roberts (2014) over time, both total corporate leverage and the leverage of the regulated sector

have mostly stayed steady. Contrarily, uncontrolled enterprises' leverage has dramatically expanded, nearing the level of debt held by regulated firms.

Firms appear to have increased their propensity to use debt financing over the century. Changes in the economic environment plausibly increased firms' willingness to issue, or investors' willingness to hold, corporate debt. These include increased corporate tax rates, reductions in aggregate uncertainty, growth in financial intermediation, and a large reduction in government borrowing. Finally, their study found a negative association between government borrowing and corporate debt issuance with the supply of competing securities, such as Treasury debt shifts the demand curve for corporate debt, affecting overall leverage. Jin (2021) corporate tax can result in lower debt usage, and this relationship is dependent on the size and profitability of the organization, with large firms experiencing more sensitive substitution effects and extremely profitable firms experiencing complementary rather than substitution effects and Panda and Nanda (2020) the effective tax rate has a substantial impact on debt levels.

Schepens (2014) reducing the relative tax advantage of debt has a substantial positive impact on bank equity ratios. Using a difference-in-differences approach, the study showed that the equity ratios of banks increased significantly after the introduction of a tax shield for equity. More specifically, the equity ratio of the average bank in the baseline setup increases with around 15 percent. Change in tax treatment is driven by an increase in bank equity and not by a reduction of activities. Overesch and Voeller (2010) an increase in the debt tax advantage is likely to have a considerable favorable influence on a company's financial leverage. Smaller firms' capital structures react more strongly to changes in the debt tax benefit, and not only corporation taxes are important

for corporate financial planning, but variations in capital income tax rates at the shareholder level also result in significant capital structure changes.

The finding that the increase in equity ratios is driven by an increase in the amount of equity is important for at least three reasons. First, it confirms the potential usefulness of tax shields as a capital regulation tool. Second, given that the tax change also applies to non-financial enterprises, it suggests that the observed increases in equity ratios are unlikely to be caused by a decline in loan demand. Third, the findings also suggest that the increase in capital buffers is not driven by heterogeneity in the pass-through of a contemporaneous increase in ECB policy rates during the treatment period.

Vatavu (2015) taxes have a direct impact on performance indicators. Even while higher taxes are predicted to have an impact on net income, it appears that businesses are more profitable when they are subject to higher taxes, most likely because they manage their resources more wisely. In a similar vein, inflation benefits ROA. Although this means that high profits are related to increased inflation rates, it is more logic to consider that during times of high inflation firms divest their assets. And this would also prove the negative relationship between tangible assets and performance: due to high inflation companies drop some of their fixed assets, consequently some costs, and register more profits.

Taxes can greatly affect the relationship between equity and performance. Results showed that high taxation makes companies with larger equity ratios and limited fixed assets more profitable. This could mean that companies are not motivated to grow, as they do not use their internal funding, nor do they access debt for future investments. However, businesses employ debt when they are facing financial difficulties, significant business risks, or when they are unable to pay because of a cash shortage.

Faccio and Xu (2011) discovered taxes to be a key factor in capital structure decisions. More precisely, they discovered that decisions about capital structure are significantly influenced by both company and individual taxation. Firms tend to increase their leverage when corporate taxes or personal taxes on dividend income increase and tend to reduce leverage when personal taxes on interest income increase. Taxes matter more for capital structure choices in countries with lower tax evasion.

Corporate taxes have an even larger economic impact among profitable firms and firms with positive tax outlays, while personal taxes play a larger role among firms that are more likely to have an individual as the marginal investor. Belkhir (2016) firms operating in countries with relatively more developed financial systems, stronger rule of law, and more regulatory effectiveness operate with greater financial lever-age. More corruption also leads to greater leverage, possibly because it helps in overcoming hurdles, to access to loans, due to deficient collateral and bankruptcy regimes.

Faccio, and Xu (2015) discovered that the capital structure was significantly influenced by both corporation and household income taxes. Taxes appear to be as relevant as other conventional variables in explaining capital structure decisions across Organization for Economic Co-operation and Development (OECD) countries, according to ex post observed summary data. The findings were more significant for businesses that pay corporation taxes, pay dividends, and had businesses where one person is more likely to be the marginal investor.

Alipour, Mohammadi and Derakhshan (2015) debt is expected to benefit from tax rates. A company facing a high effective corporate tax rate has a need for, or will benefit from, taking up more debt to maximize the tax deduction of the debt interest. Firms would prefer debt to other financing resources due to the tax deductibility of interest

payments. The gains from borrowing increase with the rate of tax. Therefore, it is anticipated that the effective tax rate and debt will have a positive relationship. Antoniou et al. (2008) concluded that there is a negative relationship between effective tax rate and debt ratios, arguing that the effect of this rate on capital structure depends on tax regulations of each country. Karadeniz et al. (2009) and too affirmed the negative relationship between effective tax rate and debt ratios. Huang and Song (2006) established that there is no connection between the quantity of debt in the capital structure and the effective tax rate.

Degryse, de Goeij and Kappert, (2012) measured government power interest using corporate tax and personal tax payments defined by tax rate, Chao, Hu, Munir and Li, (2017) used Tax Rate Firm's practical income tax rate which is compulsory to report in annual reports, Faccio and Xu, (2015) focused on a standard MILLER TAX INDEX (Miller (1977)), to measure corporate and personal taxes, defined as [1 – (1 – CORPORATE TAX) × (1 – PERSONAL DIVIDEND TAX)/ (1 – PERSONAL INTEREST TAX)], Ernst, Richter and Riedel, (2014) used effective tax rate and Zirgulis, and Sarapovas, (2017) measured using effective average tax rates.

# 2.6.2 Creditors' Power and Capital Structure

Creditor is an individual or institution that lends money. In corporations, this forms the company financial leverage. According to Cortez, and Susanto, (2012) when creditors are faced by the problem of being unable to monitor the firm's behavior carefully, they would demand higher yield to compensate for such risk and firms face a higher contraction costs in the public market. This is why larger firms that are presented with a lower degree of asymmetric information, face lower risk and prefer to issue corporate bonds instead. On the other hand, smaller firms who face a higher degree of information asymmetry and have more growth options in their investment opportunity, are more

likely to borrow from banks and creditors because they mitigate adverse selection problems.

According to Ishari and Abeyrathna (2016) a business that receives debt capital funding is obligated by law to pay interest on the debt at the agreed-upon rate; this obligation cannot be discharged until the debt capital is repaid. Increasing use of debt in the capital structure also increases financial risk and bankruptcy cost to the shareholders. Because the life of the firm and its management depends on the happiness of the shareholders, the management of the company must focus more on the maximization of shareholders' wealth within these two competing legal obligations. Thus the management of the company should consider how financing of required funds affect the shareholder risk, return and value of the firm. Roberts and Sufi (2009) show that when creditors use their acceleration and termination powers to raise interest rates and reduce credit availability in response to debt covenant violations, net debt issuance activity drops off quickly and persistently, demonstrating that incentive conflicts between companies and their creditors have a significant impact on corporate debt policy. When the borrower's alternative sources of finance are expensive, creditor activities have the greatest impact on debt policy.

According to oino (2013) firms seek target leverage. The dependence of a firm's leverage level of firm characteristics has usually been interpreted in favour of either the trade-off theory or the pecking order theory. Profitability is negatively associated with leverage which is consistent with the prediction of Myers' pecking order hypothesis rather than the trade-off theory. Also, large firms appear to be highly leveraged, which supports the agency theory in that as firms grow in size, owners become devoid of control and hence will prefer debt so that managers can be committed to interest payment obligations. El Ghoul, Guedhami, Kwok and Zheng (2021) found that Strong

creditor protection helps less leveraged businesses, but it hurts highly leveraged businesses by raising negative responses from consumers, competitors, and staff. Creditor rights have a greater negative impact on high-leverage costs in nations with developed debt markets and banking systems, but are largely inconsequential in countries with developed stock markets and low information asymmetry and Singh, Jadiyappa, and Sisodia (2021) found that strengthening creditors' rights had a negative impact on debt ratio and debt heterogeneity, but a good impact on long-term debt maturity structure.

The existence of growth opportunities places greater demand of funds. If the internal funds are not sufficient, firms resort to external finance including debt. A majority of empirical evidence argues that firms in developed countries prefer long term debt, which could be due to developed capital market. The result also depicts that to a certain extent, capital structure theory is portable across countries. This is because there are those factors like profitability and size that have been found to be significantly across developed countries. Goh (2017) when businesses raise a large amount of outside funding, the preference for equity (as opposed to debt) rises along with the degree of conservatism. We do not observe a comparable difference when we look at the cost of debt, but the drop in the cost of equity associated with conservative is bigger for large equity issuers than for large debt issuers. In addition, the association between conservatism and the issuance of equity (versus debt) is stronger when there is greater information asymmetry between firms and shareholders.

Lau et al. (2016) under cash-flow existence leverage is deemed counterproductive. The cash-flow implications are supported by conventional capital structure theories. The tradeoff theory implies that volatility of cash flow tends to affect the financial distress

cost, which would make firms reluctant to borrow. Debt levels are greater at companies with higher cash flow volatility, although this relationship is only favorable for companies with the worst operating cash flow results (Harris and Roark, 2019). Signaling theory implies that firms with higher cash flow signal their performance with a higher leverage. According to the pecking order idea, there is a negative correlation between internal cash flow and borrowing needs for businesses. Free cash flow, on the other hand, typically denotes low growth prospects and, hence, more overinvestment issues. According to the idea of agency, debt can be employed by businesses with high free cash flow but limited development prospects to keep an eye on the agency connection between management and shareholders. Because cash flow is a resource with minimal transaction costs, it is very important (Dufour, Luu and Teller, 2018).

Lewis and Tan (2015) while managers depend on their information advantages to time the market, future stock return also reflect the realization of news that managers cannot forecast ex ante. Thus, tests based solely on future stock return may not have sufficient power to detect managerial attempts to time the market. In addition, certain firm characteristics may affect both debt-equity choices and future stock return. We find that when analysts are reasonably positive about the long-term growth prospects of their company, managers issue more equity relative to debt. The debt-equity timing hypothesis predicts that equity issuers will receive lower returns at subsequent earnings announcements than debt issuers.

Antwi, Mills & Zhao (2012) the study's findings show that long-term debt is the main factor influencing a firm's value in an emerging country, and equity capital as a component of capital structure is significant to a firm's value. According to the study's findings, corporate financial decision-makers should use more long-term debt than

equity capital to finance their operations because it has a greater impact on a company's worth.

Sundaresan, Wang and Yang (2015) demonstrated that decisions about financing and projected endogenous default have a major impact on how firms choose to exercise their growth options and their leverage strategies. The business's capacity to use hazardous debt to borrow against its existing assets and expansion choices has a significant impact on its investment tactics and value. Quantitative analysis revealed that the firm constantly picks conservative leverage in line with empirical findings to reduce the impact of debt-overhang on the decisions made about the exercise of future growth possibilities. Finally, they discovered that different debt structures had highly varied debt-overhang implications, hence debt seniority and debt priority structures have conceptually large and empirically significant implications for growth-option exercising and leverage decisions.

Cronqvist, Makhija, and Yonker (2012) discovered that when it comes to leverage decisions, businesses act in a manner consistent with how their CEOs act personally. When evaluating CEO turnover rates and company and personal leverage in the cross-section, data on CEOs' leverage reveals a positive, strong, economically meaningful relationship. The findings were in line with an endogenous preference-based matching of CEOs to firms as well as CEOs imprinting on the enterprises they manage, especially when governance is weaker. The financial performance of the companies that CEOs run can be somewhat explained by their personal behavior.

Ozdagli (2012) revealed that investment irreversibility reduces the relationship between book-to-market values and returns and that tax deductibility of interest payments increases effective investment irreversibility. This offers a distinct and original

mechanism for demonstrating how, in addition to the Modigliani-Miller paradigm, financial leverage influences stock returns. The article contends that a significant portion of the value premium can be explained by market leverage rather than operating leverage or investment irreversibility.

Cho, El Ghoul, Guedhami, and Suh, (2014) provided evidence that creditor protection is a significant country-level driver of corporate capital structure using firm-level data from 51 countries. Also found that under strong creditor protection, firms tend to substitute safe capital (i.e., shareholders' equity) for long-term debt.

Shah, Shah, Smith, and Labianca, (2017) measured creditor rights using Djankov et al., (2007) creditor rights index (CR), Lu and Abeysekera, (2014) used Total debts/total assets ratio, Daher (2017) measured creditor power by Net debt issuance and Feldhütter, Hotchkiss and Karakaş, (2016) used cross-sectional analysis to show that the premium increases are related to proxies for the importance and nature of creditor control. Defined for a bond on a daily basis as (bond price - CDS implied bond price)/ (bond price), where bond price is the average daily price of the bond, using only bond trades with a transaction volume ≥ \$100,000. The CDS implied bond price is calculated by discounting the promised bond cash flows using a zero coupon curve constructed from CDS quotes.

### 2.6.3 Investor Power and Capital Structure

An investor is any individual or other entity, such as a company or mutual fund, who commits funds in the hope of earning a profit. Investments are used by investors to increase their capital and/or generate income in retirement, such as with an annuity.

The goal of a corporate firm in the present is to increase shareholder respect. The majority of the time, the stock price varies over time and dividend payments are used

to estimate shareholder wealth. To accomplish this, the firm ought to view point of its impact on the value of the firm. There exist numerous components which affect the firm value and shareholder wealth. In such variables capital structure is one. In order to invest in initiatives, the company must raise money, and as a result, the future cash flows from such projects will increase the firm's value and, ultimately, the wealth of its shareholders. Karismawati and Suarjaya (2020) dividends have a minor positive effect on capital structure and Susilawati and Suryaningsih (2020) found that the debt-to-equity ratio has no impact on stock prices since most investors are more interested in the company's ability to finance with debt than the amount of debt.

Due to the need to determine the amount of funding to be raised as well as the source from which it is to be raised, this entails a capital structure choice (Venugopal and Reddy, 2016). Jozwiak (2015) dividend payout ratio is a negative function of profitability and leverage. Vatavu (2015) the manufacturing businesses that maintained a high percentage of equity in their capital mix and refrained from borrowing money were the most profitable ones. Performance metrics are positively impacted by shareholders' equity, whereas ROA and ROE are negatively impacted by total debt and short-term debt. Acheampong, Agalega and Shibu (2014) when using the aggregate industry data, the analysis found a negative and substantial link between leverage and stock return. However, the link was unstable at the individual firm level.

Chen, and Malaquias (2018) when the market is highly volatile, shareholders of exclusive funds are prioritized more than other investors. Businesses with a high proportion of fixed assets report lower profits. Data showed that businesses hardly ever use debt with long maturities. Moreover, sometimes they operate without long-term debt over a few years. Therefore, the decision of accessing borrowed funds for their growth opportunities would be an exceptional one. Margaritis and Psillaki (2010) there

is no evidence that ownership type influences leverage decisions, despite the fact that higher debt in the capital structure is frequently connected with more concentrated ownership.

Krüger (2015) showed that investors respond strongly negatively to negative events and weakly negatively to positive events. Investors certainly value "offsetting CSR," or good CSR news about companies with a track record of having bad stakeholder relations. Positive CSR news, which is more likely to be the outcome of agency issues, has the opposite effect and is not well received by investors. Finally, their research showed that investor reaction to CSR news is more significant when it contains more legal and economic information.

Venugopal and Reddy (2016) the capital structure choice is the most important one because it directly affects the firm's profitability. It goes without saying that a business's primary goal should be to provide benefits. Maximizing profits is a step in the process of creating wealth. The process of maximizing wealth is one that takes time. It refers to the firm's value, which is reflected in the stock price. The findings of their analysis demonstrated a positive correlation between the capital structure (debt equity ratio) and the firm's profitability, market value, and shareholder wealth, however this correlation is not statistically significant. Mujahid, and Akhtar (2014) demonstrated a positive correlation between the capital structure and both firm financial performance and shareholder wealth.

Jiraporn and Gleason (2007) illustrated how the strength of shareholder rights affects capital structure. Their empirical evidence suggests that leverage and shareholder rights are inversely related, and that businesses should choose larger debt ratios where shareholder rights are more constrained. This is in line with the predictions of agency

theory, which holds that leverage helps resolve agency issues. The regulated firms, however, do not exhibit this negative relationship. They claim that because regulations already serve to reduce agency conflicts, the use of leverage to limit agency expenses is less important.

Kempf, Manconi and Spalt (2017) for business activity, investor attention is important. Companies with "distracted" shareholders are more prone to announce value-destroying acquisitions that diversify their business. Additionally, they are more likely to reduce dividends, more likely to issue opportunistically timed CEO stock options, and less likely to fire their CEO for subpar performance. Companies with disinterested shareholders experience unusually low stock returns. Together, these trends support a theory in which the unrelated shock redirects investor focus, causing a temporary relaxation of monitoring restrictions.

Crisóstomo, de Freitas Brandão and López-Iturriaga (2020) demonstrated that the quality of board composition and corporate governance are negatively impacted by ownership concentration. Large controlling shareholders may employ private benefits of control by undermining the company governance structure and board composition in accordance with the expropriation effect on principal-principal agency disputes. The substitution effect suggests that controlling owners could execute management oversight directly instead of through powerful boards, reducing agency conflicts with managers. Finally, the ability of large shareholders other than the main block holder is not enough to contest his/her power to shape the corporate governance system. The work provides evidence of the prominence of the principal-principal agency problem in an emerging market, by analyzing the effect of ownership concentration over the quality of the corporate governance system, and also that other large non-controlling shareholders are not able to contest the power of the main block holder.

Eisdorfer, Giaccotto and White (2015) showed that higher compensation leverage and inside debt have a significant negative impact on dividend payments net of stock repurchases; and that the negative effect of pension on dividend is significantly diminished when pensions are protected in a pre-funding rabbi trust. Dividend payments are also significantly lower when manager compensation depends more heavily on pension payouts. The impact of this agency behavior on company performance was further demonstrated.

Courteau, Di Pietra, Giudici and Melis (2017) it has been demonstrated that controlling shareholders are advantageous because they typically have a long-term stake in the company, are prepared and able to closely supervise the actions of senior managers, and reduce the costs of agency between shareholders and management (agency costs of Type I). However, they are also in a position to expropriate the firm's assets, especially when they are actively involved in management (agency costs of Type II).

Liu and Tian, (2012) their study on controlling shareholders, expropriations, and firms' leverage decision discovered that companies with excessive control rights have more excess leverage and that their controlling shareholders use the resources for tunneling rather than investing in projects with a positive net present value. They stated that controlling shareholders borrow excessive amounts of money to tunnel via related party transactions and inter-corporate loans in developing countries where there is little legal protection for creditors and shareholders. Additionally, the privatization of these economies can lessen the excessive leverage and related tunneling behavior of the dominating shareholders.

Lu, and Abeysekera, (2014) defined investor power as Percentage of shares owned by the largest shareholder, Ting, (2013) measured using the percentage of shares held by institutional investors, Mallin and Melis, (2012) used Governance Index and Takacs Haynes, Campbell, and Hitt, (2017) measured as the mean of shareholder return.

## 2.6.4 Mediating Effect of CEO Dominance and Capital Structure

Theorists have long assumed that CEOs have heterogeneous talents and abilities that map into firm performance. Chintrakarn, Jiraporn and Singh (2014) they looked at how powerful CEOs perceive leverage, which was inspired by agency theory. Due to the agency conflict, CEOs could utilize less-than-ideal amounts of leverage to advance their own personal interests at the expense of shareholders. They discovered that great CEOs avoid heavy debt and see leverage adversely. CEOs, though, don't seem to use less-than-ideal leverage until their power is firmly consolidated. CEOs that are somewhat weak don't tend to avoid leveraging. Thus, the impact of CEO authority on choices regarding the capital structure is not monotonic. Their findings suggest that agency issues only arise in self-serving behavior when managers have sufficient power within the organization.

Faccio, Marchica and Mura (2016) it has been shown that companies led by women CEOs have lower leverage, less erratic profitability, and a higher likelihood of surviving than similarly situated companies led by men CEOs. A statistically and economically significant decrease (increase) in company risk-taking is also linked to the change from male to female CEOs (or vice versa). Their findings held up when endogenous matching between firms and CEOs was taken into account using a number of econometric methodologies. They also noted that it appears that this risk-aversion tendency affects the capital allocation process in a way that causes distortions. Ting, Azizan and Kweh (2015) leverage is significantly and negatively correlated with measures of CEO personal qualities such CEO overconfidence based on CEO profile

photo, CEO age, and CEO prior experience. However, CEO education level and CEO tenure are significantly and positively related to leverage. They discovered that female CEOs take more risks than male CEOs do in the CEO-age group. With respect to CEO education level, they showed that younger CEOs, female CEOs, and longer-serving CEOs are risk takers and more aggressive.

Huang, Tan & Faff (2016) found that firms with overconfident CEOs tend to adopt a shorter debt maturity structure by using a higher proportion of short-term debt (due within 12 months). Even if such a funding method has a large liquidity risk, overconfident CEOs continue to act in this manner. Septiawan, Ahmad and Kurnianti (2022) the tenure of a CEO has a significant impact on the capital structure of a company. Boubakri and Ghouma (2010) when there is a high danger of expropriation and poor creditor rights, debt covenants have a negative influence on loan costs and Fahlenbrach (2009) if a company's governance is usually poor, the compensation contract might assist align the interests of shareholders and the CEO.

Serfling, (2014) established a link between CEO age and stock return volatility that is unfavorable. The study's further research showed that elder CEOs lower corporate risk by using less hazardous investment strategies. Older CEOs, in particular, retain lower operating leverage, make more diversifying acquisitions, manage businesses with more diverse activities, and spend less on R&D. Additionally, company risk and the riskiness of business policies are lowest when the CEO and the next-most-powerful executive are both older and are highest when these managers are both younger. Results showed that CEO and firm risk preferences typically align, despite the fact that senior CEOs favor less risky investment practices. Last but not least, discovered that a trading strategy that goes long in a portfolio of stocks made up of companies headed by younger CEOs and short in a portfolio of stocks made up of companies led by older CEOs will

produce positive risk-adjusted returns. Overall, the results implied that CEO age can have a significant impact on risk-taking behavior and firm performance. Ulfa, Suprapti and Latifah (2021) A practical contribution to the government, especially the Directorate General of Taxes, is that a long CEO tenure might result in tax evasion. The longer the CEO term, the more tax avoidance there will be.

Korkeamäki, Liljeblom and Pasternack (2017) identified a link between the personal leverage of CEOs and their companies' leverage. The relationship is mostly driven by CEOs with longer tenures and CEOs who hold multiple positions. For those CEOs who have a portion of their personal fortune linked to the company, the connection is noticeably less. The connection is further weakened by the presence of block holders. John and Litov (2010) Entrenched managers are more likely to employ debt financing and have higher leverage ratios. Naseem, Lin, Rehman, Ahmad and Ali (2019) the debtto-equity ratio mediates the relationship between CEO attributes and firm success to some extent. Debt financing acts as a mediating factor in the relationship between CEO narcissism and business innovation performance. CEO narcissism can improve the performance of a company's innovation through debt funding. Cianci and Kaplan (2010) showed that judgments about management were influenced by both manipulated factors simultaneously, that judgments about management's intentions for explaining poor performance serve as a partial mediator for judgments about management's reputation, and that investors' assessments of the company's future performance are influenced by management's explanations.

Duru, Iyengar and Zampelli (2012) revealed that highly leveraged companies are less likely to base CEO compensation decisions on return on equity (ROE) or ROE-based accounting performance criteria. Estimates also show that companies are less likely to employ ROE-based criteria for CEO incentive plans if they have less debt covenants,

higher debt interest rates, and a higher share of executive pay in the form of stock options. Companies are encouraged to link CEO pay to performance measurements like return on assets (ROA) in order to achieve the best possible balance between the agency costs of debt and equity due to the competing interests of corporate stakeholders, particularly between stockholders and creditors.

Brown and Sarma, (2007) CEO compensation package, computed as the natural logarithm of the ratio of the CEO's total annual compensation to the firm's total assets, was used to assess CEO supremacy, Chao, Hu, Munir and Li, (2017) used CEO power index, first factor of using standard or discrete PCA of four CEO power-related variables: CEO duality, CEO-Founder, CEO ownership, and CEO pay slice, Ting, (2013) used four sources of CEO power, Jiraporn, Chintrakarn, and Liu, (2012) used CEO's pay slice (CPS) and Zagonov and Salganik-Shoshan, (2018) used CPS as the proportion of the total annual compensation received by the CEO relative to that of the top five highest paid managers in a firm. Accordingly, ceteris paribus, the higher the pay slice, the more dominant the CEO.

### 2.6.5 Moderating Effect of Debt Tax Shield and Capital Structure

A permitted deduction from taxable income can lower income taxes, which is known as a debt tax shield. Decades of discussion over company valuation and the cost of capital have been sparked by the debt tax shield. Modigliani and Miller made the initial claim that the tax advantages of debt raise corporate value and lower the cost of using debt capital in 1963. In response, Miller argued in 1977 that businesses should use high interest rates to distribute the tax benefits of debt to creditors in order to make up for the personal tax disadvantages of debt. Others have suggested that the costs of debt-related financial difficulties should at least partially balance the tax advantages. Fisher et.al (2017) the debt tax shield raises the risk-free rate for a given level of the

corporation tax rate, accelerates economic growth, and widens the gap between lifetime consumption choices for families. The debt tax shield thus contributes to a higher macroeconomic growth rate at the expense of a higher degree of inequality among households in the economy.

Gao (2016) Debt tax shield has a substitution effect on company debt because it is adversely correlated with corporate debt levels and lower debt levels are accompanied by larger debt tax shield. Non-debt tax shield effect is affected by the property rights and industrial characteristics. Compared with the non-state-owned enterprises, NDTS effect is more significant in the state owned enterprises; Compared to non-high and new tech enterprises, In high-tech businesses, NDTS is more effective. Saif-Alyousfi, Md-Rus, Taufil-Mohd, Taib, and Shahar (2020) the findings reveal that tax-shield has a strong negative influence on debt measurements and Lei (2020) the debt tax shield and debt ratio are determined to be highly positive. Blouin, Core and Guay (2010) additional debt would result in far fewer tax benefits for businesses than previously believed.

Abel (2015) the marginal benefit of the interest tax shield associated with an additional dollar of debt is totally outweighed by the marginal cost associated with an increased risk of default as a result of an additional dollar of debt if the tax rate is extremely low. The firm will take advantage of the tax shield offered by interest deductibility, but will only borrow as much as it can without exposing itself to any possibility of default. If the tax rate is sufficiently high, the marginal benefit of the interest tax shield associated with an additional dollar of debt completely overwhelms the marginal cost associated with increased exposure to default resulting from an additional dollar of debt. In this case, the firm borrows as much as lenders are willing to lend.

Zaman (2017) conventional corporate taxation policy is a trigger for cheaper debt financing. This would efficiently serve the purposes of restraining negative impact of interest and promoting profit and loss sharing, thereby facilitating sustainability, social justice, and resource parity. The presence of a dividend tax shield enhances firm value, especially when firms avoid debt to the maximum extent. This is subject to the findings that firms employing debt in the presence of a dividend tax shield tend to lose firm value and are more prone to bankruptcy. Dividend tax deductibility and business market capitalization have a positive relationship. In the presence of the dividend tax shield, there is reduced cost of bankruptcy and distress. In every case, firms avoiding leverage are found to be more stable and consistent in their market value. Avoiding debt, combined with the benefit of the dividend tax shield, results in an equitable and sustainable firm financing solution. Biased tax regulations must be abolished and reframed to serve the purpose of overall welfare of the society.

Kliestik, Michalkova and Kovacova (2018) existence of tax shelters as a result of taxable expenses is a key element influencing an enterprise's profitability and rentability. In the long-term horizon, it represents a relevant and a significant generator of corporate value. According to their research, imperfect markets are evidenced by the fact that the value of tax shield is less than the sum of the debt value and the tax rate. Based on these findings, the study concluded that it is incorrect to reclassify the Slovak economy while taking into account the positive evolution of traditional macroeconomic indicators and using a straightforward comparative analysis in the context of the dynamic development of the emerging markets. The Slovak economy holds the designation of an emerging economy sui generis, which creates a platform for evaluating a variety of economic capabilities and mechanisms in light of the specified particularity.

Zaman, Hassan, Akhter and Brodmann (2019) their findings showed that professionals believe the interest tax shield to be incompatible with the principles of maqasid al Shariah in Islamic finance. They discovered that the interest tax shield prevents equity funding and impediments the goal of promoting general human wellbeing. Fischer, and Jensen (2017) their study model revealed that the debt tax shield raises the risk-free rate, accelerates economic growth, and widens the gap between households' lifetime spending opportunities. Additionally, they demonstrate how the debt tax shield influences the trade-off between the objectives of achieving both rapid economic growth and low inequality, and they quantify this trade-off.

Salubi, and Marcella (2016) suggested that business size is negatively connected with tax shield, tangibility is negatively correlated with tax shield, and vice versa. Furthermore, the result showed that there is a significant relationship between interest tax shield, long term, short term and total borrowings of the firms studied. Based on their findings, they recommended among others, that equity capital financing should be encouraged among listed companies since this could be used as basis for further borrowing. In addition, companies should utilize a mixture of short and long-term debts in order to have the most optimal tax shield for their debts.

Krause and Lahmann (2016) discovered that only with a proportional loss distribution on interest and principal payments is the discount rate for tax savings, i.e., the conditional expected return on tax savings, always equal to the discount rate of debt. The discount rate of tax savings behaves differently than the discount rate of debt if losses are dispersed in accordance with one of the priority assumptions, and both discount rates are equal only under very specific circumstances.

According to Arsov & Naumoski (2016) the choice of the optimal leverage ratio were related to the debt tax shield. The tax shield resulting from interest payments should induce increased use of debt. The importance of tax shields critically depends on the level of tax rates. One should bear in mind that the relative tax burden in many countries today is significantly lower than the one that prevailed in the times of Modigliani's and Miller's work. Also, the empirical studies in many cases have so far failed to prove the utilization of tax shields by the companies in this respect, mostly because they have been based on debt/equity ratios, rather than on incremental borrowing decisions. Tanui (2021) Capital structure and institutional ownership have a sizable interaction effect on financial performance via corporate diversity and Khan and Quaddus (2020) the relationship between the funding mix and business performance was found to be mediated by capital structure. The results of additional moderated mediation analyses revealed that the financial situation had a moderating effect on this mediation effect.

Curry and Zul Fikri (2022) Domestic Product (GDP), Debt to Equity Ratio (GDER), and Loan to Deposit Ratio (LDR) all decreased as a result of GDP (GLDR). The GDP's moderation of DER and LDR has an impact on the company's financial performance. In other words, economic conditions have a noticeable impact on both the capital structure decision and the enhancement of the company's financial position. Dewi, Amboningtyas and Paramitha (2017) results shows that dividend payout ratio moderates the relationship between firm size, capital structure, liquidity, profitability, and solvability to company value. Angkasajaya and Mahadwartha (2020) both the impact of short-term debt on Tobin's Q and the impact of long-term debt on financial performance are moderated by the number of BOD. Because of the number of BOC, the ratio of short-term debt to total assets has a dampening influence on financial performance.

Kliestik, Michalkova, and Kovacova, (2018) measured debt tax shield as TS = T. RD.D where; TS - value of tax shield, T - corporate tax rate, RD - cost of debt, D - market value of debt, Couch, Dothan, and Wu, (2012) VTS (constant debt without risk of default) = (TC ×C)/rf Where; C is constant interest expense, TC constant corporate tax rate, and rf constant risk-free rate rf, the value of interest tax shields is the present value of a perpetual annuity, Sritharan, (2015) measured as total tax (annul tax expenses) to earnings before interest and Belkhir, Maghyereh and Awartani, (2016) measured Tax shield (TAX) as Current income taxes to Income before taxes.

### 2.7 Control Variables

Control variables are the variables that when performing study, researchers try to maintain everything the same. In a standard research setup, a researcher measures the effect an independent variable has on a dependent variable. To properly measure the relationship between a dependent variable and an independent variable, other variables, known as extraneous or confounding variables, must be controlled.

Control variables are essential to fully comprehend the link between independent and dependent variables, even though they are not the primary focus of a researcher. Extraneous variables might skew the findings of a study if they are not controlled for in a research effort. Control variables can accurately aid the researcher in testing the value of an independent variable when applied properly. This study will control for firm's age, industry, and firm's size.

### 2.7.1 Firm's Size

The type of relationships a company has both inside and outside of its working environment is significantly influenced by its size. The larger a firm is, the greater the influence it has on its shareholders. Firm size has been empirically found to be strongly

positively related to capital structure. Kurshev and Strebulaev (2015) discovered four effects of firm size on leverage. In order to make up for less frequent rebalancing, small businesses chose larger leverage when refinancing. At the end of the restructuring periods, their lower levels of leverage are a result of their lengthier waiting periods between refinancing. Leverage and business size have a bad intertemporal relationship within a single refinancing cycle. Finally, it was discovered that many businesses choose not to use leverage. The examination of the dynamic economy shows that size and leverage have a positive connection in cross-section, which means that fixed financing costs help to explain the stylized size-leverage relationship. When we take into account the existence of unlevered enterprises, the relationship, however, changes sign.

González and González (2011) argues that different small, medium-sized, and large enterprises have different levels of confidence in the Trade-Off Theory (TOT) and Pecking-Order Theory (POT) to explain financing decisions. The results indicated that pecking-order forecasts for small enterprises had a higher degree of validity and were partially consistent with both theories. Smaller businesses are more sensitive to the POT's predictions on the negative impact of profitability and the favorable impact of investment possibilities and intangible assets on company debt. However, as revealed by the TOT, there are no differences between small and large enterprises in terms of how quickly they adjust to the target leverage. Niresh and Thirunavukkarasu (2014) firm size and profitability of listed manufacturing enterprises do not appear to be correlated. Additionally, it demonstrated that firm size has little bearing on the profitability of the listed industrial enterprises. Santosa (2020) found that a firm's size has a large and negative impact on its capital structure. Sunardi, Husain and Kadim

(2020) found that the size of the firm has a favorable and significant impact on the debt policy.

Lim (2012) it is anticipated that firm size and leverage will have a favorable connection. Larger firms turn out to be more diversified than smaller firms; therefore it is less prone to the risk of default. Large firms usually prefer long-term debt issuance while the small choose the short term. For countries with low costs of financial distress, the correlation between firm size and leverage is not significantly positive. The informational disparities between insiders and outside investors may also be related to size. Larger businesses typically share more business-related information with the public than do smaller businesses.

### **2.7.2** Firm's Age

Noordin (2014) the majority of academics concur that firm age affects firm growth. They asserted that risk rate will decrease over time and firm survival will rise with firm age. It is due to the perception that young businesses lack the managerial resources and skills necessary to achieve economies of scale.

According to Chang, Ding, Lou and Yang (2020) the marginal effects of book value of leverage and market value of leverage on green firm investment can be mitigated by larger firms and older firms. Their results provided new contributions focusing on how green firm-specific size and age affect the leverage-investment nexus. Qureshi, Imdadullah and Ahsan (2012) discovered that size, growth, and leverage had an adverse connection, which is consistent with the pecking order idea (POT). Devi and Devi (2014) their study found positive correlation among financial leverage and corporate profitability, and firm size and corporate profitability.

Vithessonthi and Tongurai (2015) discovered that the impact of leverage on operating performance is non-monotonic in size and dependent on firm size. The study year-by-year cross-sectional regression results showed that the effect of leverage on performance is positive for small firms and is negative for large firms. The study panel regression results demonstrated that leverage has a negative influence on performance across firm size subsamples. Lambey, Tewal, Sondakh, and Manganta, (2021) found that firm age has no significant and positive impact on leverage and Nguyen, Dang, Phan, and Nguyen (2020) showed that in a fixed effect regression, financial leverage exhibits a negative connection with business age.

Ezeoha and Botha (2012) Firms with higher collateral values are likely to face fewer borrowing restrictions and so have more access to medium- and long-term debts. The link between firm age and debt financing is non-monotonic. Robustness tests also showed that investments in assets that are acceptable to external creditors as collateral have a considerable impact on a firm's access to financing markets at its start-up and maturity stages. These findings suggested that debt financing policies could be more critical for firms in the start-up and maturity stages.

# 2.7.3 Firm's Growth Opportunities

Growing businesses impose a bigger demand on the company's internally generated funds, according to pecking order arguments. Consequentially, firms with relatively high growth will tend to issue securities less subject to information asymmetries, i.e. short-term debt. This should lead to firms with relatively higher growth having more leverage. Because, companies with fast growth need to borrow more and are able to borrow more. According to the AT, a company's financing is a means for management and investors to address the issue of free cash flow. According to this notion, businesses

with more potential for growth have higher debt (Alipour, Mohammadi and Derakhshan, 2015).

Acaravci (2015) suggest that companies with strong potential for future growth should employ more equity financing since a company with higher leverage is more likely to forgo lucrative investment opportunities. Because they have better incentives to prevent underinvestment and asset substitution, which can result from stockholder-bondholder agency conflicts, firms with more investment possibilities should have less leverage, according to the trade-off model. According to the trade-off theory, leverage and investment possibilities have a bad relationship. Additionally, the pecking order idea contends that a company's growth is adversely correlated The Factors Affecting Capital Structure Evidence of the capital structure from the Turkish Manufacturing Sector 161. Growth possibilities may be viewed as assets that increase a company's value but are not taxable and cannot be secured by collateral. According to the agency problem, a company's capital structure and growth are incompatible. As a result, companies with strong development potential may decide against issuing debt altogether, and leverage is anticipated to have a detrimental impact on growth potential.

Köksal & Orman, (2015) according to the trade-off theory, leverage and company growth have a negative relationship. Growth companies' intangible assets imply that when there is financial hardship, they lose more of their value. The pecking order theory, however, forecasts a favorable relationship between leverage and growth. This is because high growth enterprises' demand for external financing rises as a result of the likelihood that internal finances won't be adequate to support investment possibilities. Despite varied findings, the majority of empirical research suggests a negative relationship between leverage and growth. Mukhibad, Subowo, Maharin, and Mukhtar (2020) the set of investment opportunities has a detrimental impact on debt

policy and Botta (2020) Over-leveraged enterprises, on the other hand, suffer from a debt overhang, which forces them to cut back on investments and, as a result, experience lower performance.

Firms that undergo rapid growth in their sales often need to increase their capital assets. That is, high levels of growth in companies generate more future cash needs, but also the needs to retain more profits. According to Trade-off Theory, if retained benefits have a high growth increase, it is necessary to issue more debt to maintain the objective debt/equity ratio. Debt and growth are anticipated to have a positive relationship. Pecking Order Theory predicts a similar link. So, if costs of the financial difficulties are grave, the company may consider issuing equity to finance the real investments or pay debts. Consequently, growth causes a change in terms of the funding of new capital to debt because more funds are needed to reduce agency problems (Gomez, Rivas and Bolaños, 2014).

### 2.8 Conceptual Frameworks

The independent variables for the study are; government power interest, investors' power interest, and creditors' power interest, and CEO dominance is the mediating variable while debt tax shield is the moderating variable and capital structure being the dependent variable.

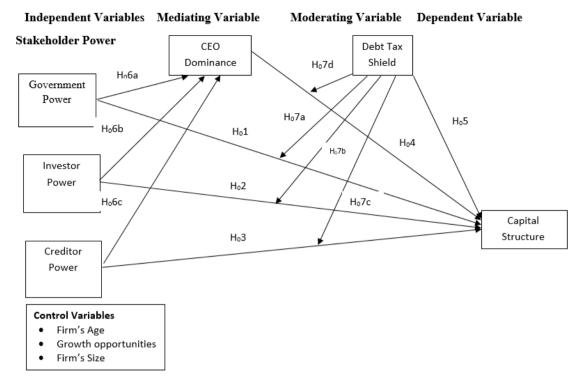


Figure 2.1: Conceptual Framework.

**Source: Hayes Model 15.** 

#### **CHAPTER THREE**

#### RESEARCH METHODOLOGY

#### 3.0 Overview

This chapter presents the explanation of the procedures used to conduct the research investigation. It is organized under the following sections: research design, research site, population, sampling techniques, research instruments, and data collection procedures and data analysis.

## 3.1 Research Philosophy

According to Saunders, Lewis and Thornhill (2009) research philosophy refers to a system of beliefs and assumptions about the development of knowledge. Even though it sounds quite profound, when you start your investigation, you are actually performing the following: gaining expertise in a specific topic. Even though the knowledge growth you are undertaking is not as spectacular as the creation of a novel theory of human motivation, you are nonetheless creating new information by finding a solution to a particular issue in a particular company.

Žukauskas, Vveinhardt and Andriukaitienė (2018) a researcher's way of thinking that leads to the discovery of fresh, trustworthy information regarding the subject of their research is known as their scientific research philosophy. In other words, it serves as the foundation for the research, which also includes the formulation of the problem, selection of the research approach, and the collecting, processing, and analysis of the data. The paradigm of scientific research, in turn, consists of ontology, epistemology methodology, and methods. The researcher's philosophical stance should be connected to the social science phenomenon being studied. In the field of research, several philosophical approaches are possible; therefore, this study was based on positivism

research philosophy since, the study sought to investigate the effect of stakeholder power interest on capital structure mediated and moderated by CEO dominance and debt tax shield among Kenyan listed companies that adhere to the natural scientist's philosophical perspective and involve using observed social reality to generate generalizations that resemble laws (positivism). It guarantees clear-cut information that is accurate. The term "positivism" denotes the significance of what is asserted or provided. This underlines the positivist emphasis on the use of a strict scientific empiricist methodology to produce data and facts that are free from prejudice or human interpretation. This entails adopting situation where organizations and other social entities are real in the same way as physical objects and natural phenomena are real. Only phenomena that are observed and measured would result in the generation of reliable and significant data, according to an epistemological approach that focuses on finding observable and quantifiable facts and regularities. This study was based on causal relationships that created law-like generalizations like those produced by scientists.

### 3.2 Research Design

Akhtar (2016) the structure of the study can be thought of as the research design. It serves as the binding agent for every component of a research endeavor. It is a proposal for the research project. A research design is the organization of parameters for data collection and analysis with the goal of balancing economy and method with relevance to the study purpose.

Depending on the goal of the study, many research design types may be employed. This study adopted panel and explanatory research design. Panel data in this study provided a clear snapshot of the outcome and the characteristics associated with it, at a specific

point in time, focused on studying and drawing inferences from existing differences between the various listed firms under the study, focused on finding relationships between variables at one moment in time, also allowed use of data from a large number of subjects and, estimated prevalence of an outcome of interest because the sample was taken from the whole population. Repeated observations were obtained while the study tracked the same sample across time. This helps clarify the nature and scope of causal links while describing changing patterns. This made it possible to measure how variables changed over time. Panel data enabled the study get close to the kinds of causal explanations and permitted the measurement of differences or change in a variable from one period to another. The study measurements was taken on each variable over 13 year's periods (2008-20120).

### 3.3 Target Population

The target population comprised of 67 firms that are listed in Nairobi securities exchange over the period between 2008 and 2020. The 13-year study period was long enough to examine how capital markets matured over time because, after NSE implemented its Wide Area Network (WAN) platform on December 17, 2007, brokers and investment banks could now conduct trades remotely using terminals connected to the NSE trading engine in their offices. Additionally, on February 1, 2008, NSE announced the extension of the trading day. Trading would commence from 9.00am and close at 3.00pm each working day. A number of firms were dropped after failing to meet this requirement. The companies were categorized according to their industry. The study's inclusion exclusion criteria focused on levered firms and which were in operation within the 2008-2020 period. 27 companies were eliminated because they didn't fit the requirements. As a result, the final sample surveyed consisted of a balanced

panel of 40 firms over a period of 13 years. Therefore, there was 520 firm-year observations for the firms listed in NSE.

## 3.4 Data Types and Sources

Secondary data was used in the study. Martins, da Cunha and Serra (2018) every data set that the author has not personally collected or analyzed is referred to as secondary data. Secondary data may include data that has been previously gathered and is under consideration to be reused for new questions. Vartanian (2010) secondary data set typically covers a broad sample of individuals or entities and is generally representative of some broader population. There are some good reasons for using secondary data, including being less costly, available for no cost on the internet or through arrangement with the sponsoring organization or government agency and take far less time to organize. Also, it covers a broad array of topics and quality of these data sets from reputable organizations is high and the sample size and the number of discrete units of data collected for each sample member are much higher.

The data was from the secondary sources. Clark (2013) the best known secondary data sources are government surveys, administrative records, business records, personal papers and diaries, newspapers and publications such as company reports and planning documents. The detailed information regarding government power, investor power, creditor power, CEO dominance, debt tax shield, capital structure and control variables was collected from the published company reports, planning documents and audited financial statements of the sample firms listed in Nairobi stock exchange.

#### 3.5 Measurement of Variables

The study sought to investigate the effect of stakeholder power, CEO dominance, debt tax shield and capital structure of listed firms in Nairobi securities exchange. The variables were grouped into dependent variable (capital structure), independent variable (stakeholder power), mediating variable (CEO dominance) and moderating variable (debt tax shield).

### 3.5.1 Dependent Variable

Due to the connection between a regulated firm's investment and financial decisions and the regulators' pricing decisions, capital structure plays a significant role in rate regulation. First, regulatory commissions determine rates based on the firm's degree of investment and capital structure, taking investors' interests into consideration in addition to ratepayers'. In turn, the capital market values the stock and debt of the regulated firm based on its capital structure, investments, and current and proposed regulatory regulations. Second, the regulated firm makes its financial and investment decisions in advance of regulatory guidelines and responses from the capital market.

Capital structure was measured using debt ratio (Daher, 2017), (Salim and Yadav, (2012) and (Vătavu, 2015). Debt ratio is defined as book debt scaled by total assets, where book debt is calculated as the sum of short term debt and long term debt. The study will use book debt rather than market debt in the analysis because firms seem to be more concerned about book leverage ratios than market leverage ratios particularly when adjusting leverage ratios towards target. According to Chao, Hu, Munir and Li (2017) executives' pay more attention to book values when setting financial policies, book values are less volatile than market values and hence provide better guidance regarding capital structure and market values create a substantial quantity of irrelevant noise to capital structure decisions.

### 3.5.2 Independent Variables

Government power is associated with corporate taxes, personal taxes and regulations. Through taxation, governments extract a sizeable share of the cash flows of the firms in their jurisdictions.

This study adopted Degryse, de Goeij and Kappert, (2012), Chao, Hu, Munir and Li, (2017), Ernst, Richter and Riedel, (2014) and Zirgulis, and Sarapovas, (2017) measure of corporate tax and personal tax payments using effective tax rate, given by effective tax rate = total taxes paid/earnings before taxes.

Alipour, Mohammadi, and Derakhshan (2015) Effective tax rate Tax rate has a predicted positive impact on debt. A company facing a high effective corporate tax rate has a need for, or will benefit from, taking up more debt to maximize the tax deduction of the debt interest. Therefore, a positive relationship is expected between effective tax rate and debt. Moreover, based on TOT, income tax is positively associated with debt.

Antoniou, Guney and Paudyal (2008) the gains from borrowing increase with the rate of tax. Therefore, a positive relationship between the effective tax rate and leverage is expected. However, the implication of tax on capital structure choice depends upon the tax policy objectives especially when the tax system is designed to favor the retention of earnings against dividend payout, or vice versa.

Creditor power is derived through borrowing by firms. Feldhütter, Hotchkiss and Karakaş, (2016) Creditors play an increasingly active role in corporate governance as credit quality declines. For instance, when a covenant is broken, creditors' control rights change, allowing them to influence managerial choices. Creditor control can have an impact on managerial choices as businesses enter a serious state of distress, which could affect the value of debt claims, the type of restructuring that might take place, and the

distributions to creditors in the case of a restructuring. In many cases, a default leads to a change in control in which creditors become the new owners of a firm through distributions of stock in a restructuring.

This study measured creditor power using net debt issuance defined as the difference between book debt at year t and book debt at year t-1 scaled by total assets (Daher, 2017) and (Lu and Abeysekera, 2014)

Investor power is derived from the use of equity financing. Mallin and Melis, (2012) Shareholders are the providers of risk capital and as such they need to be able to protect their investment by ensuring that a competent board is in place to manage the company and to ensure that effective strategies are in place for the company's overall corporate performance and long-term sustainability.

The study measured investor power as the mean of shareholder return defined as change in share price over the year plus dividends divided by beginning-of-the-year price (Takacs Haynes, Campbell, & Hitt, 2017).

### 3.5.3 Mediating Variable

CEO dominance is the capacity of an individual to exert their will and is associated with the firm operations and performance. Dominance is in principle an objective fact of behavior. It is the demonstrated ability of one person to impose their will on others. Hence, dominance has meaning only in a social or organizational context. The CEO behavior may favour firms operations hence, good performance indicators. In corporate context, a decision in which an individual is very likely to wish to exert dominance is in the determination of their personal compensation.

One of the serious problems has been an overreliance on perceptual indicators of power and a lack of objectivity in the resulting measures. Several other studies argue in favor of more objective power indicators. One way to capture CEO power more objectively is to examine his relative compensation among top executives (Jiraporn, Chintrakarn & Liu, 2012).

This study adopted Brown and Sarma, (2007) measure of CEO dominance using CEO compensation package, calculated as the natural logarithm of the ratio of CEO total annual remuneration to the firm's total assets. CEO remuneration is calculated as the base salary + directors fees + performance bonuses + allowances and non-cash benefits. Total assets is a measure of the size of the firm.

A high ratio of CEO compensation to total assets indicates that the firms expects a very large contribution from that person compared to the size of the firm and or that the CEO has considerable influence over the decisions of the board.

# 3.5.4 Moderating Variable

Debt tax shield is a tax deductible advantage of debt. Öztekin, Ö. (2015) Debt tax shields play an important role in determining the capital structure. Fischer and Jensen (2019) documents that companies' capital structure decisions are significantly affected by taxes and the debt tax shield. The tax benefits of leverage should increase the value of reaching and maintaining the leverage target.

This tax shield of interest provides inducement to firms to have debt finance, and payment of debt interest expense leads to rise firm's value. Firms take advantage of leverage to finance their investment due to tax advantages of debt financing.

This study measured debt tax shield as  $TS_{t-1} = T$ . RD.D. (Kliestik, Michalkova, and Kovacova, 2018).

### 3.5.5 Control Variables

The following variables were controlled as they may have systematic influence on the capital structure. They were controlled to enable a clearer view of the influence of the independent variables as well as the mediator and the moderating variables on dependent variable. Size was measured as the natural log. of total assets (Acaravci, 2015), age was measured as the difference between the current year and the year of firm creation according to registration of the firm (Coad Segarra and Teruel 2013) and growth opportunities was measured as assets growth, which was calculated by subtracting current year assets from that of the previous year and dividing the result by previous year assets (Alipour, Mohammadi and Derakhshan, 2015).

**Table 3.1: Summary of the Variable Measurements** 

Variable	Definition	Reference
Capital structure	Debt ratio: defined as book debt scaled by total assets, where book debt is calculated as the sum of short term debt and long term debt.	(Daher, 2017), (Salim and Yadav, (2012) and (Vătavu, 2015).
Government power	Effective tax rate: Given by total taxes paid/earnings before taxes.	Degryse, de Goeij and Kappert, (2012), Chao, Hu, Munir and Li, (2017), Ernst, Richter and Riedel, (2014) and Zirgulis, and Sarapovas, (2017)
Investor power	mean of shareholder return: defined as change in share price over the year plus dividends divided by beginning-of-the-year price	Takacs Haynes, Campbell, and Hitt, (2017).
Creditor power	Net debt issuance: Defined as the difference between book debt at year t and book debt at year t-1 scaled by total assets	(Daher, 2017) and (Lu and Abeysekera, 2014)
CEO Dominance	CEO compensation package: calculated as the ratio of CEO total annual remuneration to the firm's total assets.	Brown and Sarma, (2007)
Debt Tax Shield	Tax savings: calculated as tax savings scaled by total assets	(Kliestik, Michalkova, and Kovacova, 2018).
Firm Size	Natural log. of total assets	(Acaravci, 2015)
Firm Age	the difference between the current year and the year of firm creation according to registration of the firm	Coad Segarra and Teruel, (2013)
Growth Opportunities	Assets growth, (current year assets-previous year assets)/previous year	(Alipour et.al 2015).

# 3.6 Data Analysis

Data analysis refers to a variety of specific procedures and methods. It is a process. Meaning that data analysis involves goals; relationships; decision making; and ideas, in addition to working with the actual data itself. Data analysis includes ways of working with information (data) to support the work, goals and plans. This study used both descriptive and inferential statistics.

# **3.6.1 Descriptive Statistics**

The goal of descriptive statistics is to describe quantifiable traits of a group of items.

The total, counts and percentages in subsets, the median, the arithmetic and geometric

means, the range, and the standard deviation are among the characteristics that are widely utilized. Determining numerical values for these traits, summarizing them, and displaying them in tables, graphs, and charts are some of the descriptive statistics techniques, and charts (Wyllys 1978). Descriptive statistics was used in the study analysis to show the degree of firm characteristics and capital structure. This was analyzed through the use of mean, median, standard deviation, minimum and maximum values.

#### 3.6.2 Inferential Statistics

The methods of inferential statistics center around the process of examining a sample of data about some set of entities of interest, such a set is called a population and, through use of the evidence available in the sample, making an inference about some characteristic of the population. The goals are to make correct inferences, to avoid incorrect inferences, and to have a clear idea of just how likely it is that a particular inference is correct. The usual path to this goal is to make explicit a statement, called a statistical hypothesis, concerning the population characteristic and then to apply a statistical technique to the evidence in the sample in order to reach a decision either to accept or reject the hypothesis Wyllys (1978). This study used correlation analysis and fixed effects regression analysis to draw inferences about the population characteristics.

# 3.6.2.1 Correlation Analysis

According to Gogtay and Thatte (2017) the association or relationship between two (or more) quantitative variables is indicated through correlation analysis. The key premise of this analysis is that the quantitative variables have a straight line [linear] connection. It assesses the intensity or amount of an association between the variables as well as the direction of the association, similar to measures of association for binary variables. The end result of a correlation analysis is a Correlation coefficient whose values range from

-1 to +1. When two variables have a correlation coefficient of 1, they are perfectly related in a positive [linear] way; when they have a correlation coefficient of 1, they are perfectly related in a negative [linear] way; and when they have a correlation coefficient of 0, there is no linear relationship between the two variables being studied. Correlation analysis was applied using Pearson's Product Moments correlation to test the relationship and usability of variables and to draw inference in relation to the relationship, strength, extent of association between the study variables.

## 3.6.2.2 Regression Analysis

According to Montgomery, Peck and Vining (2012) regression analysis is an iterate procedure in which data lead to a model and a fit of the model to data is produced. The quality of the fit is then investigated, leading either to modification of the model or the fit or to adoption of the model. An implied cause-and-effect relationship between the variables is not implied by a regression model. Even while there may be a significant empirical link between two or more variables, this cannot be used as proof that the regressor variables and the answer are connected causally. To establish causality, the relationship between the regressors and the response must have a basis outside the sample data. Fixed effects model regression analysis was used in the study to aid in confirming a cause and effect relationship.

# 3.7 Study Regression Model

The study adopted Hayes Model 15 (Moderated mediation with moderation of the b-path and the c'-path/direct effect)

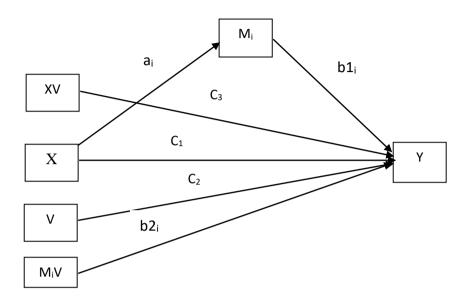


Figure 3.1: Hayes Model 15.

**Source: Hayes Model 15** 

Conditional indirect effect of X on Y through  $M_i = a_i(b1_i + b2_i v)$ 

Conditional direct effect of X on  $Y = C_i + C_3 V$ 

# 3.7.1 Model Specification

### **Control Variables**

$$CSit = \beta_0 + \beta_1 AGE_{it} + \beta_2 IND_{it} + \beta_3 FSZ + \varepsilon it....Model 1$$

### **Direct Effects**

$$CSit = \beta_0 + C + \beta_1 GPI_{it} + \beta_2 IPI_{it} + \beta_3 CPI_{it} + \varepsilon it.$$

$$CSit = \beta_0 + C + \beta_1 GPI_{it} + \beta_2 IPI_{it} + \beta_3 CPI_{it} + \beta_4 CEOD + \varepsilon it.$$

$$Model 3$$

$$CSit = \beta_0 + C + \beta_1 GPI_{it} + \beta_2 IPI_{it} + \beta_3 CPI_{it} + \beta_4 CEOD + \beta_5 DTS + \varepsilon it.$$

$$Model 4$$

$$CEODit = \beta_0 + C + \beta_{6a} GPI_{it} + \beta_{6b} IPI_{it} + \beta_{6c} CPI_{it} + \varepsilon it.$$

$$Model 5$$

### **Indirect Effects**

$$CSit = \beta_0 + C + \beta'_1 GPI_{it} + \beta'_2 IPI_{it} + \beta'_3 CPI_{it} + \varepsilon it.$$
 Model 6

#### Moderation of the b-Path

### **Moderation of the Direct Effects**

# **Moderation of the Indirect Effects**

Where:

CS = capital structure

AGE = firm age

IND = firm industry

FSZ = firm size

GPI = Government Power Interest

IPI = Investor Power Interest

CPI = Creditor Power Interest

CEOD = CEO Dominance

DTS = Debt Tax Shield

 $\beta$  = Coefficients

 $\beta'$ = coefficients of the direct effects of the mediation given by ( $\beta$ -ab)

 $\varepsilon = \text{error term}$ 

i = firm

t = time

### 3.8 Diagnostic Analysis

When it comes to having a negative impact on the sample characteristics of both estimators and tests, the impacts of model misspecification in regression analysis can be severe. The forecasts and other conclusions that could be made from the fitted model likewise have equivalent implications. Diagnostic tests put a lot of focus on methods for examining the accuracy of a model's specification. These methods focus on the structural specification of the model, including its functional form, the selection of regressors, and any measurement errors. They also address any assumptions that may have been made regarding the distribution of the model's error term (DeBenedictis, Gile and NTRO 1998).

## 3.8.1 Regression Model Assumptions

Testing assumptions is a crucial duty for every researcher using a statistical technique, including multiple regression. Serious assumption breaches may lead to skewed estimations of associations and overly or inadequately confident estimates of the precision of regression coefficients (Williams, Grajales & Kurkiewicz 2013).

## 3.8.1.1 Linearity Assumption

According to Ernst and Albers (2017) for each given set of values of the predictor variables, the conditional mean of the errors is taken to be zero. This implies that, for standard multiple regression models, the relationship between every independent variable  $X_i$  and the population mean of the dependent variable Y, denoted by  $\mu_Y$ , is assumed to be linear when the other variables are held constant. Furthermore, the relations between the various  $X_i$  and  $\mu_Y$  are additive: thus, the relation of  $X_i$  with  $\mu_Y$  is the same, regardless of the value of  $X_j$  ( $j \neq i$ ). This pertains to the multicollinearity issue; a good model should have as little overlap as feasible across predictors. Multicollinearity, however, is only a requirement for a model to be sparse—it is not a model assumption. This presumption can be violated in the case of measurement error as well as when non-linear relations are not modelled. G-G plots were utilized in the study to identify the linearity assumption.

# 3.8.1.2 Normality Assumption

According to Ghasemi, and Zahediasl (2012) numerous statistical techniques, such as correlation, regression, t tests, and analysis of variance (also known as parametric tests), are predicated on the idea that the data has a normal or Gaussian distribution, meaning that the populations from which the samples are drawn are assumed to be normally distributed. Particularly important is the assumption of normalcy when creating reference intervals for variables. Because it is impossible to infer precise and

trustworthy conclusions about reality when certain presumptions, such as normality, are violated, it is important to take these assumptions seriously. Regardless of the shape of the data, large samples (> 30 or 40) have a tendency for the sampling distribution to be normal. Despite the fact that actual normality is regarded as a fallacy, researchers can nevertheless visually check for normality using normal plots or by performing significance tests, which include comparing the sample distribution to a normal one. Finding out whether data exhibit a significant departure from normalcy is crucial. The study used Shapiro-wilk test and Q-Q plot to detect the normality assumption.

# 3.8.1.3 Multicollinearity

According to Gujarati (2009) originally, it indicated that all or some of the explanatory variables in a regression model had an exact or perfect linear connection. The regression coefficients remain undetermined and their standard errors are infinite in the case of perfect multicollinearity. No underlying principles of regression are broken by multicollinearity. There will be consistent, unbiased estimates, and their standard errors will be calculated appropriately. The only effect of multicollinearity is to make it hard to get coefficient estimates with small standard error. When multicollinearity is close or high, one is likely to experience the following effects: The enormous variances and covariances of the OLS estimators, despite being BLUE, make exact estimation challenging. As a result, the confidence intervals tend to be substantially broader, which encourages acceptance of the zero null hypothesis (i.e., the true population coefficient is zero) more readily, Also the t ratio of one or more coefficients tends to be statistically insignificant, Although the t ratio of one or more coefficients is statistically insignificant, the overall measure of goodness of fit, can be very high and finally, the OLS estimators and their standard errors could be susceptible to slight data changes. The multicollinearity assumption was found using the variance inflation factor (VIF) in the study. A multiple regression model's variance inflation factor (VIF) measures the multicollinearity among the independent variables. A high degree of collinearity between two independent variables, as indicated by a large variance inflation factor (VIF) on that independent variable, should be taken into account or corrected for while building the model and choosing the independent variables. If the variance inflation factor (VIF) is 1, then there is no correlation between the variables; if it is between 1 and 5, then there is moderate correlation; and if it is larger than 5, then there is high correlation.

## 3.8.1.4 Homoscedasticity

The disturbances u occurring in the population regression function are homoscedastic, meaning they all have the same variance, and this is a key premise of the conventional linear regression model (constant). Outliers, skewness in the distribution of one or more regressors included in the model, inappropriate data transformation, and incorrect functional form can all lead to heteroscedasticity. Cross-sectional data are likely to exhibit the heteroscedasticity problem more frequently than time series data. In cross-sectional data, one often interacts with population members at a specific period in time. These individuals may be small, medium, or large businesses or individuals with low, medium, or high incomes (Gujarati, 2009). There are various diagnostic tests which includes; Graphical Method, Park Test, Glejser Test, Spearman's Rank Correlation Test, Goldfeld-Quandt Test, Breusch-Pagan-Godfrey Test, White's General Heteroscedasticity Test, and Koenker-Bassett (KB) test. Breusch-Pagan-Godfrey Test was used because it depends not only on the value of *c* (the number of central observations to be omitted) but also on identifying the correct *X* variable with which to order the observations. Therefore, the study rejected the hypothesis of homoscedasticity

if in an application the computed (=  $\chi$ 2) exceeds the critical  $\chi$ 2 value at (p= 0.05) the chosen level of significance.

### 3.8.1.5 Autocorrelation

The phrase "autocorrelation" refers to the correlation between individuals within an observational series that has been arranged spatially or chronologically, as in cross-sectional data. The standard linear regression model in the context of regression presupposes the absence of such autocorrelation in the disturbances u. Due to the nature of the data, the study will concentrate on the serial correlation. The lag correlation between two distinct series is known as serial correlation. Drukker, (2003) researchers need to recognize serial correlation in the idiosyncratic error component in a panel-data model because it biases the standard errors and makes the results less effective in linear panel-data models. The Durbin-Watson d Test was employed in the study to identify serial correlation. The fact that this (d) statistic is based on estimated residuals, which are frequently calculated in regression analysis, will be a significant advantage.

If  $\hat{\rho} = 0$ , d = 2; that is, if there will be no serial correlation (of the first-order), d is expected to be about 2. Therefore, as a rule of thumb, if d will be found to be 2 in an application, the study will assume that there is no first-order autocorrelation, either positive or negative. If  $\hat{\rho} = +1$ , will indicate perfect positive correlation in the residuals, d-0. Therefore, the closer d is to 0, the greater the evidence of positive serial correlation. If  $\hat{\rho} = -1$ , then, there will be a perfect negative correlation among successive residuals, d  $\hat{\rho} = -1$ . Hence, the closer d is to 4, there will be greater evidence of negative serial correlation. In case of serial correlation.

## 3.9 Panel Data Analysis

Yaffee, (2003) a method of examining a specific issue across numerous places, periodically examined over a specified time period, is panel data analysis. Researchers have been able to conduct longitudinal analyses in a variety of domains because to panel analysis. Panel data analysis is used in economics to examine how businesses behave and how people's earnings change over time. With enough cross-sections observed repeatedly, panel analysis enables the researcher to examine the dynamics of change using brief time series. Data quality and quantity can be improved by combining time series and cross-sections in ways that would be impractical if only one of these two dimensions were used. Panel analysis can provide a rich and powerful study of a set of people, if one is willing to consider both the space and time dimension of the data. Regression analysis is given a spatial and temporal dimension through panel data analysis. A group of cross-sectional units of observation are affected by the spatial dimension. These could be nations, states, counties, businesses, goods, social groups, or even specific persons. The temporal dimension is concerned with periodic measurements made over a specific time period of a group of variables that define these cross-sectional units.

The study focused on panel data analysis because it allowed to control for variables that cannot be observed or measured like difference in business practices across companies; or variables that change over time but not across. This is, it accounts for individual heterogeneity. With panel data studies, variables at several levels of analysis that are suited for multilevel or hierarchical modeling can be included in the study (Torres-Reyna, 2007). There are several types of panel analytic models but the study will focus on fixed and random effects techniques to analyze the panel data.

## 3.9.1 Stationary Tests

In time series analysis, stationarity is a key notion. When a time series is stationary, its statistical characteristics do not alter over time. A time series has stationarity if a shift in time doesn't cause a change in the shape of the distribution; unit roots are one cause for non-stationarity. Stationarity is important because many useful analytical tools and statistical tests and models rely on it. Stationarity in panel data for this study was detected by conducting unit root test. Unit root tests are tests for stationarity in a time series. Many tests exist, in part, because none stand out as having the most power. Tests include: the Dickey Fuller Test, the Elliott–Rothenberg–Stock Test, Schmidt–Phillips Test, the Phillips–Perron (PP) Test and the Zivot-Andrews test.

The study used Phillips—Perron (PP) Test because it's a modification of the Dickey Fuller test, and corrects for autocorrelation and heteroscedasticity in the errors. In presence of a stochastic trend, or commonly known as a unit root, the study will eliminate by differencing the series. The null hypothesis is that the variable contains a unit root, and the alternative is that the variable was generated by a stationary process. The study rejected the null hypothesis of a unit root if p<t at 5% significance interval.

## 3.9.2 Fixed and Random-Effects Models

Gardiner, Luo & Roman (2009) the random effects model and the fixed effects model are statistical techniques for longitudinal repeated-measures data studies. Bollen, & Brand (2010) Research frequently uses fixed- and random-effects models for longitudinal data. Their main benefit is that they can account for omitted variables that are time-invariant. However, using these models poses a number of challenges for analysts. The first is which to use, and the second is that FEM and REM models, as they are often constructed, may not be sufficiently flexible, as the impacts of variables, including the latent time-invariant variable, may alter with time. Some factors may

correlate with the latent time-invariant variable while others may not. The use of lag endogenous variables may be required. There are alternatives to the traditional FEM and REM models, but they require estimators and software, which makes these extended models challenging to use and compare.

This study carefully considered the critical assumptions to ascertain which approach to use when analyzing the panel data. According to Greene (2001) in panel data, individual heterogeneity can be accommodated via the fixed effects approach. But there have been two issues with it. Due to the incidental parameters issue, the estimator is inconsistent in the majority of circumstances. Another issue is just practical. The computation of the model parameters and acceptable standard errors, with all of its bothersome parameters, appears to be impracticable with current technology. This note focuses on the second of these, and shows that in a large number of interesting cases, the difficulty is only apparent.

Firebaugh, Warner & Massoglia (2013) the random effects method can be thought of as regression with a random constant term for the person-specific intercepts. That is, one way to handle the ignorance term represented by is to assume that the intercept for each person is a random variable consisting of a mean value plus a random error. For this model to provide unbiased estimates, however, the regressors in the model must be uncorrelated with that random variable; otherwise the estimated effects of those regressors will be inconsistent. Unlike a fixed effects approach, random effects estimation does not discard variation across individual units. The additional information inherent in the between-unit variation implies several advantages for the random effects approach over the fixed effects approach. One advantage is smaller sampling variability and thus narrower confidence intervals. In addition, the random effects method can estimate the effect of measured causes that do not vary over time. Moreover, with

respect to measured causes that do vary over time, the random effects method allows coefficients to vary across individuals. The random effects method assumes that the time-invariant individual differences are drawn from a random variable, rather than treating them as fixed values.

The study used Hausman Test to choose the appropriate model to use in analyzing the panel data. The Hausman test is described as a test for model misspecification. In panel data analysis, the Hausman test can help you to choose between fixed effects model or a random effects model. The null hypothesis is that the preferred model is random effects; the alternate hypothesis is that the model is fixed effects. Essentially, the test looks to see if there is a correlation between the unique errors and the regressors in the model. The null hypothesis is that there is no correlation between the two. As a rule of thumb the study will reject the null hypothesis if the p-value is small (less than 0.05).

### 3.10 Ethical Consideration

The listed firms in Nairobi securities exchange display their audited financial statements and other documents publicly and therefore accessible to everyone. The study got permission from national commission for science, technology and innovation (NACOSTI) in regard to collection of data.

#### **CHAPTER FOUR**

### DATA ANALYSIS, PRESENTATION AND INTERPRETATION

### 4.0 Overview

This chapter presents the data analysis, presentation, and interpretation of the findings as set out in the study objectives and research methodology. The chapter was organized under different sections; descriptive statistics, diagnostic tests, correlation analysis, fixed effects regression analysis for direct effects, indirect effects, and moderation of the direct and indirect effects, and finally the empirical discussion of the findings.

The main study objective was to determine the effect of stakeholder power on the capital structure mediated and moderated by CEO dominance and debt tax shield, respectively, among firms listed at the Nairobi securities exchange. The study research hypotheses were: government power, investor power, creditor power, CEO dominance, and debt tax shield have no significant effect on capital structure and that CEO dominance does not mediate on the relationship between government power, investor power, creditor power, and capital structure. Finally, debt tax shield does not moderate on the relationship between government power, investor power, creditor power, CEO dominance, and capital structure.

## **4.1 Descriptive Statistics**

Table 4.1 presents descriptive statistics of the study variables. The study sample contained 40 firms listed on the Nairobi securities exchange and 520 firm-year observations from 2008 to 2020. Based on this table, the mean debt ratio was 52.08 per cent and its median was 52.38 per cent. Indicating that firms listed on the Nairobi securities exchange finance their investments and real assets mostly using debt compared to equity, which stands at 47.62 per cent. The reason for using more debt could be because debt is a cheaper source of finance because of the benefits of using

debt since the interest is a tax deductible allowance and also because debt is a readily available source of finance. The value of the middlemost observation is 0.5238, the standard deviation, which is the distance between the values of the data in the set and the mean, stands at 0.2832, and the minimum debt at 0.0036 and the maximum is 0.9810. This means that there are firms that finance their assets with almost 0% debt and 100% equity, and vice-versa.

The findings are in line with those of Alipour Mohammadi and Derakhshan (2015). According to their data, the mean short-term debt ratio (STD) is 61.2 percent, with a median of 61.8 percent. The mean long-term debt ratio (LTD) is 11.2 percent, with a median of 6.75 percent, and the mean total debt ratio (TD) is 72.5 percent, with a median of 72.03 percent, demonstrating that debts, particularly short-term debts, are the most important source of funding for Iranian businesses. In his descriptive statistics of leverage proxies in Turkey, Cevheroglu-Acar (2018) reported a low average debt ratio of around 22%.

The average firm size was 7.14, with a median of 7.0920 and a standard deviation of 0.8793. The smallest firm size was 4.6910 and the largest was 9.1280. Because of the low standard deviation, firms listed on the Nairobi Securities Exchange have data points that are closer to the mean. The minimum and maximum values revealed that there are firms with very low assets and some with extremely high assets, suggesting that the Nairobi Securities Exchange has both small and large firms listed. Hirdinis (2019) revealed that the average value of firm size (SIZE) is 29.1463, with a standard deviation of 1.60688, a minimum value of 23.05, a highest value of 31.08, and a median value of 29.4400.

According to the data, the average firm age of firms listed on the Nairobi Securities Exchange was 67.19 years, with a median of 59 years, with the lowest firm being 1 year and the largest firm being 151 years. 32.5413 years is the standard deviation. This suggests that NSE-listed companies are quite old, implying that their capital structures are also quite old. The standard deviation indicates that the data points are considerably separated from the mean, indicating that there are both young and old enterprises.

Growth opportunities had a mean of 1.1641, a median of 0.5382, a standard deviation of 2.4871, a minimum of 0.0117, and a maximum of 26.2179. The table demonstrates that the average annual sales exceed the assets of the companies.

The table results showed that the government power mean was 0.2187 with a median of 0.2992, a standard deviation of 0.3859, a minimum effective tax rate of -3.5986, and a maximum effective tax rate of 3.7513. From the results, it means that, on average, taxes paid by firms are lower compared to earnings before interest and tax and that there are firms with negative earnings before tax and interest as indicated by the minimum effective tax rate. Also, there are firms where the tax payments are higher than earnings before tax and interest, as indicated by the maximum effective tax rate.

The creditor power, according to the results, showed that the mean net debt was 0.0381 and the median was 0.0300. The standard deviation was 0.2383, the minimum net debt was 1.4294, and the maximum was 0.9753. From the mean results, it shows that firms increase their borrowing every year. The minimum and maximum net debt indicate that there are firms that reduce and increase their debt yearly.

The investor power from the results indicated that the mean return was 0.1726, the median 0.0038, standard deviation 1.2192, the minimum return was -0.9670 and the maximum return was 21.9508. This showed that, on average, the return to shareholders

in terms of capital gains and dividends is positive, with some firms having negative returns as illustrated by minimum returns. This means that most firms do pay dividends, and in the event of no dividends paid, the shareholders will see capital gains in their share prices.

The CEO dominance results showed that the mean CEO remuneration package was 0.0188, the median 0.0085, the standard deviation 0.0434, and the minimum and maximum remuneration are 0.0001 and 0.6905 respectively. This means that on average, of the total firm assets, CEO remuneration expense was financed by only 3.103%.

The debt tax shield through the proxy tax savings indicated that, on average, firms save 0.0335. The median was 0.0246, the standard deviation was 0.0344, and the minimum and maximum tax savings were 0.0001 and 0.3202, respectively.

**Table 4.1: Summary Statistics Table of Variables** 

Variables	Mean	Median	Sd	Min	Max
cs	0.5208	0.5238	0.2832	0.0036	0.9810
fsize	7.1400	7.0920	0.8793	4.6910	9.1280
fage	67.1900	59.0000	32.5413	1.0000	151.0000
grth	1.16405	0.53817	2.4871	0.011	26.2179
gp	0.2187	0.2992	0.3859	-3.5986	3.7513
ср	0.0381	0.0300	0.2383	-1.4294	0.9753
ip	0.1726	0.0038	1.2192	-0.9670	21.9508
ceod	0.0188	0.0085	0.0434	0.0001	0.6905
dts	0.0335	0.0246	0.0344	0.0001	0.3202

**cs:** Capital Structure, **fsize:** Firm Size, **fage:** Firm Age, **grth:** Growth Opportunities, **gp:** Government Power, **cp:** Creditor Power, **ip:** Investor Power, **ceod:** Ceo Dominance, **dts:** Debt Tax Shield.

Research (2022)

## **4.2 Diagnostic Tests**

The study performed diagnostic tests before running the panel regression analysis to detect potential problems with residuals and model specification. The study developed

and tested the regression assumptions, which included linearity, normality, multicollinearity, and homoscedasticity. Serial autocorrelation, stationary, and fixed and random effect tests were performed.

### **4.2.1** Linearity Test

The study checked the linearity of the data by inspecting the residual vs. fitted plot (1<sup>st</sup> plot). The **figure 4.7** (appendix I) showed the residual vs. fitted plot with the red line approximately horizontal at zero. This indicated that the data was linear. This is consistent with Ernst and Albers (2017), where the conditional mean of the errors is assumed to be zero for any given combination of values of the predictor variables. This implied that, for standard multiple regression models, the relationship between every independent variable  $X_i$  and the population mean of the dependent variable Y, denoted by Y, and is assumed to be linear when the other variables are held constant.

## **4.2.2 Normality Test**

The normality assumption was checked using the Q-Q plot of residuals, and the Shapiro-Wilk test. The Shapiro-Wilk test was used to test normality. This was used to determine whether or not a sample comes from a normal distribution. This produced a test statistic D and W, respectively, along with a corresponding p-value. If the p-value is less than =.05, there is sufficient evidence to say that the sample does not come from a population that is normally distributed. The Q-Q plot in **figure 4.8** (appendixI) showed normality of the data because the line is approximately straight. The Shapiro-Wilk normality test in table 4.2 showed that the p-values were greater than 0.05. Since the p-values were greater than 0.05 the study assumed that the sample data for all the variables comes from a population that is normally distributed.

Table 4.2: Shapiro-Wilk normality test

variable	W	P-value
Capital structure	0.92844	0.3251
Firm size	0.96538	0.8338
Firm age	0.96562	0.8372
Growth opportunities	0.9719	0.9753
Government power	0.93027	0.3436
Creditor power	0.88599	0.08599
Investor power	0.8834	0.0793
CEO dominance	0.91057	0.1867
Debt tax shield	0.9131	0.2022

Research (2022)

## **4.2.3 Test for Multicollinearity**

Regression analysis suffers from multicollinearity when two or more predictor variables are significantly associated with one another and do not give distinct or independent information in the regression model. The variance inflation factor (VIF), which assesses the correlation and intensity of correlation between the predictor variables in a regression model, was employed in the study to identify multicollinearity. VIF has an initial value of 1, and there is no maximum value. A value of 1 indicates there is no correlation between a given predictor variable and any other predictor variables in the model, and a value between 1 and 5 indicates moderate correlation, though this is frequently not severe enough to require attention. This is a general rule of thumb for interpreting VIFs. When a predictor variable's value is larger than 5, there may be a strong correlation between that predictor variable and other predictor variables in the model. In this case, the table 4.3 results showed that all the VIF values were less than 5. Therefore, the study concluded that there was no correlation between a given predictor variable and any other predictor variable in the model.

**Table 4.3: Variance Inflation Factor Results** 

Variable	VIF	Tolerance
Firm size	1.259	0.794
Firm age	1.022	0.978
Growth opportunities	1.139	0.878
Government power	1.158	0.864
Creditor power	1.430	0.699
Investor power	1.076	0.929
CEO dominance	1.117	0.895
Debt tax shield	1.081	0.925

**Reseach (2022)** 

## 4.2.4 Homoscedasticity Assumption

Heteroscedasticity is the situation in which the variance of the residuals of a regression model is not the same across all values of the predicted variable. The study used Breusch-Pagan Test to detect heteroscedasticity. If the test statistic has a p-value below an appropriate threshold (p < 0.05) then the null hypothesis of homoscedasticity is rejected and heteroscedasticity assumed. The table 4.4 results showed that the p-value=0.1664. Since the p-value is more than 0.05 the study failed to reject the null hypothesis and concluded that there is no heteroscedasticity.

Table 4.4: Studentized Breusch-Pagan Test

BP = 7.8208, df = 5, p-value = 0.1664

Reseach (2022)

## **4.2.5 Serial Autocorrelation Test**

Serial correlation, also known as autocorrelation, describes how closely variables' values correlate over various data sets. When working with time series data, when observations take place at various points in time, it is typically employed. To identify autocorrelation, the study employed the Durbin-Watson test. A test statistic for autocorrelation in regression analysis residuals is the Durbin Watson statistic. The discrepancy between the observed value and the mean value that a specific model

predicts for that observation is what is known as a residual. In regression analysis, residual values are very helpful since they show how well a model explains the variation in the provided data. The hypotheses followed for the Durbin Watson statistic is that the null hypothesis is the first-order which indicates that autocorrelation does not exist and the alternative hypothesis is the first-order which indicates that autocorrelation exists. The Durban Watson statistic will always assume a value between 0 and 4. A value of DW = 2 indicates that there is no autocorrelation. When the value is below 2, it indicates a positive autocorrelation, and a value higher than 2 indicates a negative serial correlation.

Table 4.5 results showed that the DW=1.618044 which is between the required range of 0-4 and therefore, conclude that there is no autocorrelation in the residuals.

**Table 4.5: Durbin-Watson test for serial autocorrelation** 

Lag Autocorrelation	D-W Statistic
1 0.1909135	1.618044
Alternative hypothesis	: rho! = 0

Research (2022)

# 4.3 Correlation Analysis

The study used Pearson's correlation coefficient to measure the relationship between the study variables. The test statistic that assesses the statistical association, or relationship, between two continuous variables is called Pearson's correlation coefficient. Because it is based on the method of covariance, it is regarded as the best way to measure the relationship between variables of interest. It gives information about the magnitude of the association, or correlation, as well as the direction of the relationship.

The table 4.6 showed that firm size (0.4), government power (0.38), creditor power (0.76), investor power (0.33), and CEO dominance (0.29) were significantly positive and strongly correlated to capital structure. This indicated that debt ratio significantly increases with increase in firm size, government power, creditor power, investor power and CEO dominance. From the table it showed that the relationship between capital structure and firm age (-0.17), growth opportunities (-0.36) and debt tax shield (-0.28) were significantly weak and negatively related. This means that with an increase in firm age, growth opportunities and debt tax shield leads to a significant decrease in debt ratio. It was evident from the correlation results that all the three independent variables are not correlated.

**Table 4.6: Correlation Matrix** 

	cs	fsize	fage	grth	gp	ср	ip	ceod	dts
CS	1.00								
fsize	0.40***	1.00							
fage	-0.17***	-0.07	1.00						
grth	-0.36***	-0.17***	-0.01	1.00					
gp	0.38***	0.28***	-0.03	-0.12**	1.00				
ср	0.76***	0.38***	-0.10*	-0.31***	0.30**	*1.00			
ip	0.33***	0.11*	-0.02	-0.05	0.16**	*0.24***	1.00		
ceod	0.29***	0.26***	0.06	-0.12**	0.18**	*0.23***	0.10*	1.00	
dts	-0.28***	-0.06	0.07	0.20***	-0.07	-0.22***	-0.02	-0.08	1.00

n = 520

**fsize**: Firm Size, **fage**: Firm Age, **grth**: Growth Opportunities, **gp**: Government Power, **cp**: creditor Power, **ip**: Investor Power, **ceod**: Ceo Dominance and **dts**: Debt Tax Shield.

Reaserch (2022)

#### **4.4 Panel Data Analysis**

Panel data analysis refers to the statistical analysis of data sets consisting of multiple observations on each sampling unit. This study was created by combining time series data from 40 companies that are listed on the Nairobi Securities Exchange. This includes longitudinal data analysis as well, with a particular emphasis on the distinct histories of the firms.

## **4.4.1 Stationarity Test**

The study carried out Stationarity test to ensure that the statistical properties of the time series do not change over time. This study used Phillips-Perron Unit Root Test, (PP) to test for stationarity. The table 4.7 showed that the p-values were less than 0.05. Since the p-values (p<0.05) the study rejected the null hypothesis and concluded that the time series for all the variables are stationary.

**Table 4.7: Phillips-Perron Unit Root Test** 

Variable	Dickey-Fuller	Truncation lag parameter	p-value
Capital structure	-3.8186	8	0.02
Firm size	-4.3702	8	0.01
Firm age	-4.9599	8	0.01
Growth opportunities	-4.5157	8	0.01
Government power	-4.9409	8	0.01
Creditor power	-4.9959	8	0.01
Investor power	-6.1	8	0.01
CEO dominance	-4.6015	8	0.01
Debt tax shield	-6.2855	8	0.01

Research (2022)

### 4.4.2 Random and Fixed Effects Test

The study carried out the random and fixed effects tests to determine the appropriate model for running the regression analysis.

#### 4.4.2.1 Fixed Effects

Within an entity, fixed-effect analyses examine how predictor and result variables are related. Each individual characteristic that makes up an entity may or may not have an impact on the predictor variables. When you simply want to examine the impacts of variables that change over time, you utilize fixed-effects (FE). In order to use FE effectively, we must account for the possibility that an individual's characteristics may

influence or skew the predictor or outcome variables. The correlation between the entity's error term and the predictor factors is predicated on this reasoning. FE remove the effect of those time-invariant characteristics so we can assess the net effect of the predictors on the outcome variable.

Table 4.8 presents the fixed effects regression results. The government power, creditor power, investor power, CEO dominance and debt tax shield explains 65.85% variation in capital structure. The fixed effect model had significant effect on capital structure (p=0.000). The p value was less than 0.05 therefore, the null hypothesis was rejected and conclude that the model is significant. The regression results showed that government power had a positive and significant effect on capital structure ( $\beta$ =0.26568, p=0.000) indicating that a unit change in government power leads to 0.26568 increase in debt ratio and the p-value was less than 0.05 showing that government power significantly affects debt ratio, creditor power had a positive and significant effect on capital structure (β=0.37952, p=0.000) showing that a unit change in creditor power increases debt by 0.37952 and the p-value was less than 0.05 indicating that creditor power significantly affects debt ratio, investor power had a positive and significant effect on capital structure ( $\beta$ =0.052737, p=0.000) meaning that a unit change in investor power increases debt by 0.052737 and the p-value was less than 0.05 indicating that investor power significantly affects capital structure, CEO dominance had a positive and significant effect on capital structure ( $\beta$ =0.000035673, p=0.000) indicating that a unit change in CEO dominance leads to debt increase by 0.000035673, and the p-value was less than 0.05 showing that CEO dominance significantly affects debt ratio and debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.00023664, p=0.000) indicating that a unit change in debt tax shield reduces firm debt

ratio by 0.00023664 and the p-value was less than 0.05 indicating that debt tax shield significantly affects debt ratio.

**Table 4.8: Fixed Effects Model** 

```
Oneway (individual) effect Within Model
Call:
plm(formula = cs ~ qp + cp + ip + ceod + dts, data =
final analysis, model = "within", index = "year")
Balanced Panel: n = 13, T = 40, N = 520
Residuals:
     Min.
            1st Qu.
                       Median
                                 3rd Qu.
                                              Max.
-0.532582 - 0.116264
                     0.013126
                                0.112618
                                          0.681846
Coefficients:
```

```
Estimate
                   Std.
                        Error
                               t-value
                                         Pr(>|t|)
                                5.5278
      2.6568e-01
                   4.8061e-02
                                        0.000
gp
      3.7952e-01
                   1.7347e-02 21.8783 0.000 ***
ср
      5.2737e-02
                   9.6842e-03
                                5.4457 0.000 ***
ip
      3.5673e-05
                   1.0508e-05
                                3.3948 0.000 ***
ceod
     -2.3664e-04
                   5.5302e-05 -4.2791 0.000 ***
dts
Signif. codes:
                 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1
1 / 1
Total Sum of Squares:
                           41.387
Residual Sum of Squares: 14.134
                 0.6585
R-Squared:
Adj. R-Squared: 0.64693
F-statistic: 193.597 on 5 and 502 DF, p-value: < 2.22e-16
gp: Government Power, cp: creditor Power, ip: Investor Power, ceod: Ceo Dominance
```

Research (2022)

### 4.4.2.2 Random Effects

and dts: Debt Tax Shield.

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 predictor or independent variables included in the model: If you have reason to believe that differences across entities have some influence on your dependent variable then you should use random effects. Random effects assume that the entity's error term is not correlated with the predictors which allows for time-invariant variables to play a role as explanatory variables.

Table 4.9 presents the random effects regression results. The table results showed that the government power, creditor power, investor power, CEO dominance and debt tax shield explains 64.516% variation in capital structure. The random effect model had significant effect on capital structure (p=0.000) therefore, conclude that the model was significant. The regression results showed that government power had a positive and significant effect on capital structure ( $\beta$ =0.24854, p=0.000) indicating that a unit change in government power leads to 0.24854 increase in debt ratio and the p-value was less than 0.05 showing that government power significantly affects debt ratio, creditor power had a positive and significant effect on capital structure ( $\beta$ =0.37536, p=0.000) showing that a unit change in creditor power increases debt ratio by 0.37536 and pvalue was less than 0.05 indicating that creditor power significantly affects debt ratio, investor power had a positive and significant effect on capital structure ( $\beta$ = 0.046977, p=0.000) meaning that a unit change in investor power increases debt by 0.046977 and p-value was less than 0.05 indicating that investor power significantly affects debt ratio, CEO dominance had a positive and significant effect on capital structure(β= 0.000038354, p=0.000) indicating that a unit change in CEO dominance leads to debt ratio increase by 0.00038354 and p-value was less than 0.05 showing that CEO dominance significantly affects debt ratio and debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.0002553, p=0.000) indicating that a unit change in debt tax shield decreases firm debt ratio by 0.0002553 and the p-value was less than 0.05 meaning that debt tax shield significantly affects debt ratio.

#### **Table 4.92: Random Effect Model**

```
Oneway (individual) effect Random Effect Model
   (Swamy-Arora's transformation)
Call:
plm(formula = cs ~ gp + cp + ip + ceod + dts, data =
final analysis, model = "random", index = "year")
Balanced Panel: n = 13, T = 40, N = 520
Effects:
                  var std.dev share
idiosyncratic 0.02815 0.16779
individual
              0.00000 0.00000
theta: 0
Residuals:
                                3rd Qu.
    Min.
            1st Qu.
                     Median
                                             Max.
-0.585978 -0.123807
                     0.011765
                               0.121506 0.703927
Coefficients:
```

	Estimate	Std. Error	z-value	Pr(> z )
(Intercept)	2.6174e-01	1.2527e-02	20.8940	0.000 ***
gp	2.4854e-01	4.7801e-02	5.1994	0.000 ***
ср	3.7536e-01	1.7275e-02	21.7287	0.000 ***
ip	4.6977e-02	9.4808e-03	4.9549	0.000 ***
ceod	3.8354e-05	1.0558e-05	3.6327	0.000 ***
dts	-2.5530e-04	5.5371e-05	-4.6107	0.000 ***
Cianif and	0 1+++/	0 001 1++1	0 01 1+1	0 05 1 0 1

```
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1
```

Total Sum of Squares: 41.64
Residual Sum of Squares: 14.775

R-Squared: 0.64516 Adj. R-Squared: 0.64171

Chisq: 934.539 on 5 DF, p-value: < 2.22e-16

**gp**: Government Power, **cp**: creditor Power, **ip**: Investor Power, **ceod**: Ceo Dominance and **dts**: Debt Tax Shield.

Reseach (2022)

#### 4.4.3 Hausman Test

The Hausman test was used in the study to differentiate between fixed effects model and random effects model in panel analysis. The Hausman test gives the appropriate model to be used in regression analysis. The null hypothesis is that the preferred model is random effects and the alternate hypothesis is that the model is fixed effects. The interpretation of Hausman test is that reject the null hypothesis when the p-value is less than 0.05.

Table 4.10 presents the Hausman test results. The results indicated that the p-value was less than 0.05 therefore, the study rejected the null hypothesis and concluded that the appropriate model for analyzing the regression analysis for this study was the fixed effects model.

### **Table 4.103: Hausman Test Results**

```
data: cs \sim gp + cp + ip + ceod + dts

chisq = 82.272, df = 5, p-value = 0.000

alternative hypothesis: one model is inconsistent
```

# Research (2022)

# **4.5 Fixed Effects Regression Results**

The study adopted the fixed effects regression model to draw inferences about the total population. The fixed effects regression analysis model was used to estimate the relationships between capital structure variable and firm size, firm age, growth opportunities, government power, creditor power, investor power, CEO dominance and debt tax shield variables.

## 4.5.1 Control Variables

Three control variables which included; firm size, firm age and growth opportunities were controlled throughout the study analysis in order to assess the relationship between capital structure and government power, creditor power, investor power, CEO dominance and debt tax shield variables.

Table 4.11 presents the fixed effect regression model results on the effect of firm size, firm age and growth opportunities on capital structure. The results showed that firm size, firm age and growth opportunities explains 27.404% variation in capital structure. The overall model showed that p-value was less than 0.05 indicating that the model was

significant. Also the results showed that firm size had a positive and significant effect on capital structure ( $\beta$ =0.112, p=0.000) indicating that a unit change in firm size increases debt ratio by 0.112 and the p-value was less than 0.05 reporting that firm size significantly affects debt ratio. This was in line with the findings of Sunardi, Husain, and Kadim (2020) which discovered that the size of a corporation has a favorable and significant impact on debt policy. This contradicted Santosa's (2020) findings, which found that a firm's size has a large and negative impact on its capital structure. Firm age had a negative and significant effect on capital structure ( $\beta$ = -0.0.001, p=0.000) meaning that a unit change in the firm age leads to 0.001 decrease in firm debt ratio and p-value was less than 0.05 indicating that firm age significantly affects debt ratio. This was consistent with Lambey, Tewal, Sondakh, and Manganta, (2021) findings, that firm age has no significant and positive impact on leverage and Nguyen, Dang, Phan, and Nguyen (2020) which showed that in a fixed effect regression, financial leverage exhibits a negative connection with business age. Growth opportunities had a negative and significant relationship with capital structure ( $\beta$ = -0.042, p=0.000) indicating that a unit change in growth opportunities decreases debt ratio by 0.042 and the p-value was less than 0.05 showing that growth opportunities significantly affects debt ratio. This was in agreement with Mukhibad, Subowo, Maharin, and Mukhtar (2020) findings, that the set of investment opportunities has a detrimental impact on debt policy and Botta (2020) Over-leveraged enterprises suffer from a debt overhang, which forces them to cut back on investments and, as a result, experience lower performance.

**Table 4.11: Control Variables and Capital Structure** 

```
Oneway (individual) effect Within Model
Balanced Panel: n = 13, T = 40, N = 520
Residuals:
    Min. 1st Qu. Median 3rd Qu. Max.
-0.599399 -0.187147 0.017211 0.171630 0.630593
```

#### Coefficients:

```
Estimate Std. Error t-value
                                      Pr(>|t|)
       0.1115223
                  0.0125139
                              8.9119 0.000 ***
fsize
                  0.0003326 -3.8861 0.000 ***
     -0.0012925
grth
      -0.0418617
                  0.0053180 -7.8717 0.000 ***
                0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1
Signif. codes:
Total Sum of Squares:
                         41.387
Residual Sum of Squares: 30.045
                0.27404
R-Squared:
Adj. R-Squared: 0.25243
F-statistic: 63.4171 on 3 and 504 DF, p-value: < 2.22e-16
```

fsize: Firm Size, fage: Firm Age, grth: Growth Opportunities.

Research (2022)

#### 4.5.2 Direct Effects

The study objective here was to investigate the effect of government power, creditor power, investor power, CEO dominance and debt tax shield on capital structure. Table 4.12 presents the fixed effects regression model results on the effect of firm size, firm age, growth opportunities, government power, creditor power, investor power, CEO dominance and debt tax shield on capital structure. The results showed that the overall model was significant (p=0.001) indicating that the model affects on capital structure. Also from the table results the study concluded that firm size, firm age, growth opportunities, government power, creditor power, investor power, CEO dominance and debt tax shield can explain 68.499% variation in capital structure. The results indicated that firm size had a positive and significant effect on capital structure ( $\beta$ =0.01982, p=0.032), this means that a unit change in firm size causes 0.0198 increase in debt ratio and the p-value was less than 0.05 showing that firm size significantly affects debt ratio, firm age had a negative and significant effect on capital structure ( $\beta$ =-0.00094045,

p=0.000), meaning that a unit change in firm age causes a reduction of 0.00094045 in debt ratio and the p-value was less than 0.05 indicating that firm age significantly affects debt ratio, growth opportunities showed a negative and significant effect on capital structure ( $\beta$ =-0.016143, p=0.000) meaning that a unit change in growth opportunities decreases debt ratio by 0.016143 and the p-value was less than 0.05 reporting that growth opportunities significantly affects debt ratio.

Government power had a positive and significant effect on capital structure ( $\beta$ =0.24284, p=0.000) indicating that a unit change in government power leads to 0.24284 increase in debt ratio and the p-value was less than 0.05 showing that government power significantly affects debt ratio. This disagreed with Jin (2021) which found that corporate tax can result in lower debt usage, and this relationship is dependent on the size and profitability of the organization, with large firms experiencing more sensitive substitution effects and extremely profitable firms experiencing complementary rather than substitution effects and Panda and Nanda (2020) found that the effective tax rate has a substantial impact on debt levels.

Creditor power had a positive and significant effect on capital structure ( $\beta$ =0.34255, p=0.000) showing that a unit change in creditor power increases debt by 0.34255 and the p-value was less than 0.05 indicating that creditor power significantly affects debt ratio. This agreed with the findings of El Ghoul, Guedhami, Kwok and Zheng (2021) which found that Strong creditor protection helps less leveraged businesses, but it hurts highly leveraged businesses by raising negative responses from consumers, competitors, and staff. Creditor rights have a greater negative impact on high-leverage costs in nations with developed debt markets and banking systems, but are largely inconsequential in countries with developed stock markets and low information asymmetry but inconsistent with the findings of Singh, Jadiyappa, and Sisodia (2021)

which found that strengthening creditors' rights had a negative impact on debt ratio and debt heterogeneity, but a good impact on long-term debt maturity structure.

Investor power had a positive and significant effect on capital structure ( $\beta$ =0.05428, p=0.000) meaning that a unit change in investor power increases debt by 0.05428 and the p-value was less than 0.05 indicating that investor power significantly affects capital structure. This was consistent with Karismawati and Suarjaya (2020) findings, that dividends have a minor positive effect on capital structure and inconsistent with Susilawati and Suryaningsih (2020) which found that the debt-to-equity ratio has no impact on stock prices since most investors are more interested in the company's ability to finance with debt than the amount of debt.

CEO dominance had a positive and significant effect on capital structure  $(\beta=0.000033343, p=0.001)$  indicating that a unit change in CEO dominance leads to debt increase by 0.000033343, and the p-value was less than 0.05 showing that CEO dominance significantly affects debt ratio. The results agreed with the findings of Bhagat, Bolton and Subramanian (2011) which indicated that managerial discretion and manager-specific qualities are major predictors of financial policies in businesses and John and Litov (2010) that firms with entrenched managers use more debt finance and have greater leverage ratios.

Debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.00019389, p=0.000) indicating that a unit change in debt tax shield reduces firm debt ratio by 0.00019389. The p-value was less than 0.05 showing that debt tax shield significantly affects debt ratio. This was consistent with the findings of Saif-Alyousfi, Md-Rus, Taufil-Mohd, Taib, and Shahar (2020) which revealed that tax-shield has a

strong negative influence on debt measurements but inconsistent with Lei (2020) which found that the debt tax shield and debt ratio are determined to be highly positive.

**Table 4.12: Direct Variables and Capital Structure** 

```
Oneway (individual) effect Within Model
Balanced Panel: n = 13, T = 40, N = 520
Residuals:
    Min. 1st Qu. Median 3rd Qu. Max.
-0.5480755 -0.0978432 0.0064606 0.1122679 0.6220480
```

#### Coefficients:

-	Estimate	Std. Error t	t-value	Pr(> t )	
fsize	1.9820e-02	9.2255e-03	2.1484	0.032 *	
fage	-9.4045e-04	2.2220e-04 -	-4.2325	0.000 ***	
grth	-1.6143e-02	3.7060e-03 -	-4.3560	0.000 ***	
gp	2.4284e-01	4.7089e-02	5.1571	0.000 ***	
ср	3.4255e-01	1.8087e-02 1	18.9393	0.000 ***	
ip	5.4280e-02	9.3333e-03	5.8157	0.000 ***	
ceod	3.3343e-05	1.0306e-05	3.2352	0.001 **	
dts	-1.9389e-04	5.4030e-05 -	-3.5886	0.000 ***	

```
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 '' 1
Total Sum of Squares: 41.387
Residual Sum of Squares: 13.037
R-Squared: 0.68499
Adj. R-Squared: 0.67236
F-statistic: 135.632 on 8 and 499 DF, p-value: < 2.22e-16
Hausman Test: chisq = 26.095, df = 8, p-value = 0.001012
```

**fsize**: Firm Size, **fage**: Firm Age, **grth**: Growth Opportunities, **gp**: Government Power, **cp**: creditor Power, **ip**: Investor Power, **ceod**: Ceo Dominance and **dts**: Debt Tax Shield.

#### Research (2022)

#### 4.5.3 Indirect Effects

The study performed mediation analysis in order to assess the effect of government power, creditor power and investor power on capital structure. The mediation analysis used CEO dominance as the mediating variable. Before running the mediation analysis, it was important to examine the effect of government power, creditor power and investor power on CEO dominance.

Table 4.13 presents linear regression model results on the effect of government power, creditor power and investor power on CEO dominance. The regression results showed

that the overall model was significant (p=0.000) meaning that the model affects CEO dominance. The variables firm size, firm age, growth opportunities, government power, creditor power and investor power explain 10.37% variation in CEO dominance. The results showed that firm size had a positive and significant effect on CEO dominance  $(\beta=156.1623, p=0.000)$  indicating that a unit change in firm size leads to an increase in CEO dominance by 156.1623. The p-value was less than 0.05 indicating that firm size significantly affects CEO dominance. Firm age had a positive and significant effect on CEO dominance ( $\beta$ =1.8631, p=0.0489) meaning that a unit change in firm age increases CEO dominance by 1.8631. The p-value was less than 0.05 indicating that firm age significantly affects CEO dominance. The growth opportunities had a negative and insignificant effect on CEO dominance ( $\beta$ = -14.6967, p=0.35) reporting that a unit change in growth opportunities leads to an insignificant reduction in CEO dominance by 14.6967. The p-value was more than 0.05 indicating that growth opportunities has no effect on CEO dominance. The government power had a positive and insignificant effect on CEO dominance (β=358.6404, p=0.007) indicating that a unit change in government power insignificantly increases CEO dominance by 358.6404. The p-value was more than 0.05 meaning that government power has no effect on CEO dominance. This was in line with Ulfa, Suprapti and Latifah (2021) findings that the longer the CEO tenure, the more tax avoidance there will be, and the practical contribution to the government, particularly the Directorate General of Taxes, is that a long tenure of CEO can lead to tax avoidance.

The creditor power had a positive and significant effect on CEO dominance ( $\beta$ = 181.5408, p=0.0157) meaning that a unit change in creditor power increases CEO dominance by 181.5408 and the p-value was less than 0.05 indicating that creditor power significantly affects CEO dominance. This was in line with Ning (2020) findings

that the more powerful CEOs are more likely to use debt in their capital structure and Jilani and Chouaibi (2021), the greater the CEO dominance, the lower the bank specific risk turns out to be, given the significantly positive relationship between CEO dominance and the risk-taking procedure.

Investor power showed a positive and insignificant effect on CEO dominance ( $\beta$ =30.4269, p=0.4338) reporting that a unit change in investor power insignificantly increases CEO dominance by 30.4269 and the p-value was more than 0.05 meaning that investor power has no effect on CEO dominance. This disagreed with the findings of Brown and Sarma (2007) which found that firms with overconfident CEOs are more likely to experience a stock price crash than firms with non-overconfident CEOs. When the CEO is more dominant in the top management team and there are more differences of opinion among investors, the impact of managerial overconfidence on crash risk is more pronounced. This was also in line with Khilji, Khan and Malik (2020) which found that when CEOs align their interests with those of shareholders, the risk of an agency problem is reduced, resulting in a lower cost of equity.

Table 4.13: Control, Independent Variables and CEO Dominance

Residuals:

Min 1Q Median 3Q Max
-571.1 -244.2 -152.7 -30.6 6185.5

Coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	-1113.0928	275.6525	-4.038	0.000 ***
fsize	156.1623	38.3269	4.074	0.000 ***
fage	1.8631	0.9439	1.974	0.0489 *
grth	-14.6967	15.7106	-0.935	0.3500
gp	358.6404	198.3522	1.808	0.0712 .
ср	181.5408	74.8719	2.425	0.0157 *
ip	30.4269	38.8442	0.783	0.4338

Signif. Codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 '' 1
Residual standard error: 695 on 513 degrees of freedom
Multiple R-squared: 0.1037, Adjusted R-squared: 0.09323
F-statistic: 9.893 on 6 and 513 DF, p-value: 2.433e-10

**fsize**: Firm Size, **fage**: Firm Age, **grth**: Growth Opportunities, **gp**: Government Power, **cp**: creditor Power, **ip**: Investor Power.

### Research (2022)

Table 4.14 presents the mediation results on the effect of government power on capital structure mediated by CEO dominance. The table showed that the average causal mediation effect (ACME) was positive and significant ( $\beta$ = 0.1533, 95% CI= 0.0979; 0.22 p= 0.000). This means that a unit change in the entire indirect effect of government power leads to an increase in debt ratio by 0.1533. The 95% confidence interval showed that 0.1533 is within 0.0979 and 0.22 zero not included, indicating that there was partial mediation, with 95% confidence. This was consistent with Septiawan, Ahmad and Kurnianti (2022) findings that CEO has a significant impact on the capital structure of a company.

The average direct effects (ADE) showed a positive and significant effect on capital structure ( $\beta$ = 0.5776, 95% CI= 0.4258; 0.73 p= 0.000) indicating that a unit change in average direct effects of government power increases debt ratio by 0.5776. The p-value

is less than 0.05 reporting that the average direct effects of government power affects capital structure.

The total effect showed a positive and significant effect on capital structure. This showed that the summation of direct and indirect effects of government power have a positive and significant effect on capital structure ( $\beta$ = 0.7308, 95% CI= 0.5747; 0.89 p= 0.000) indicating that a unit change in the total effects of government power increases debt ratio by 0.7308. The p-value was less than 0.05 meaning that the total effects of government power affects capital structure.

The proportion of the effect of government power on capital structure that goes through CEO dominance was positive and insignificant ( $\beta$ = 0.2084, 95% CI= 0.1304; 0.31 p= 0.000) indicating that a unit change in the proportion increases debt ratio by 0.05. The p-value was less than 0.05 meaning that the proportion affects capital structure.

Table 4.144: Indirect Effects of Government Power and Capital Structure

Causal Mediation Analysis Quasi-Bayesian Confidence Intervals

	Estimate	95% CI Lower	95% CI Upper p-value			
ACME	0.1533	0.0979	0.22 0.000 ***			
ADE	0.5776	0.4258	0.73 0.000 ***			
Total Effect	0.7308	0.5747	0.89 0.000 ***			
Prop. Mediated	0.2084	0.1304	0.31 0.000 ***			
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1						
Sample Size Used: 520 Simulations: 1000						

# Research (2022)

Table 4.15 presents the mediation results on the effect of creditor power on capital structure mediated by CEO dominance. The table showed that the average causal mediation effect (ACME) was positive and significant ( $\beta$ = 0.0309, 95% CI= 0.0174; 0.05, P=0.000) indicating that a unit change in the entire indirect effect of creditor

power increases debt ratio by 0.0309. The 95% confidence interval showed that 0.0309 was within 0.0174 and 0.05 and zero not included, indicating that there was a partial mediation, with 95% certainty. The p-value was less than 0.05 reporting that the entire indirect effect of creditor power affects capital structure. This was contrary to the findings of Boubakri and Ghouma (2010) that when there is poor creditor rights, debt covenants have a negative influence on loan costs.

The average direct effects (ADE) showed a positive and significant effect on capital structure ( $\beta$ = 0.2933, 95% CI= 0.2578; 0.33, P=0.000) indicating that a unit change in average direct effects of creditor power increases debt ratio by 0.2933. The p-value was less than 0.05 reporting that the average direct effects of creditor power affects capital structure.

The total effect showed a positive and significant effect on capital structure. This showed that the summation of direct and indirect effects of creditor power have a positive and significant effect on capital structure ( $\beta$ = 0.3242, 95% CI= 0.2891; 0.36, P=0.000) indicating that a unit change in the total effects of creditor power increases debt ratio by 0.3242. The p-value was less than 0.05 meaning that the total effects of creditor power affects capital structure.

The proportion of the effect of the creditor power on capital structure that goes through CEO dominance was positive and significant ( $\beta$ = 0.0946, 95% CI= 0.0529; 0.14, P=0.000) indicating that a unit change in the proportion increases debt by 0.0946. The p-value was less than 0.05 meaning that the proportion affects capital structure.

Table 4.155: Indirect Effects of Creditor Power and Capital Structure

Causal Mediation Analysis Quasi-Bayesian Confidence Intervals

	Estimate	95% C	Lower	95% CI	Upper	p-value
ACME	0.0309		0.0174	0	.05 0	.000 ***
ADE	0.2933		0.2578	0	.33 0	.000 ***
Total Effect	0.3242		0.2891	0	.36 0	.000 ***
Prop. Mediated	0.0946		0.0529	0	.14 0	.000 ***
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.						·.′ 0.1
Sample Size Used: 520						
Simulations: 10	000					

# Research (2022)

Table 4.16 presents the mediation results on the effect of investor power on capital structure mediated by CEO dominance. The table showed that the average causal mediation effect (ACME) was positive and insignificant ( $\beta$ = 0.00782, 95% CI= -0.00242, 0.02, P=0.16) indicating that a unit change in the entire indirect effect of investor power insignificantly increases debt ratio by 0.00782. The 95% confidence interval showed that 0.00782 is within -0.00242 and 0.02. This confidence interval includes zero, indicating that there is no mediation, with 95% confidence. The p-value was more than 0.05 reporting that the entire indirect effect of investor power has no effect on capital structure. This agreed with Fahlenbrach (2009) findings that, if a company's governance is usually poor, the compensation contract might assist align the interests of shareholders and the CEO.

The average direct effects (ADE) showed a positive and significant effect on capital structure ( $\beta$ = 0.06592, 95% CI= 0.03081, 0.10, P=0.000) indicating that a unit change in average direct effects of investor power increases debt ratio by 0.06592. The p-value was less than 0.05 reporting that the average direct effects of investor power affects capital structure.

The total effect showed a positive and significant effect on capital structure. This showed that the summation of direct and indirect effects of investor power have a positive and significant effect on capital structure ( $\beta$ = 0.07374, 95% CI= 0.03951, 0.11, P=0.000) indicating that a unit change in the total effects of investor power increases debt ratio by 0.07374. The p-value was less than 0.05 meaning that the total effects of investor power has an effect on capital structure.

The proportion of the effect of the investor power on capital structure that goes through CEO dominance was positive and insignificant ( $\beta$ =0.10820, p>0.05) indicating that a unit change in the proportion increases debt ratio by 0.02. The p-value was more than 0.05 meaning that the proportion has no effect on capital structure.

Table 4.166: Indirect Effects of Investor Power and Capital Structure

Causal Mediation Analysis Quasi-Bayesian Confidence Intervals

	Estimate	95% C	Lower	95% C	CI Upper	p-value	
ACME	0.00782	-(	0.00242		0.02	0.16	
ADE	0.06592	(	0.03081		0.10	0.000	***
Total Effect	0.07374	(	0.03951		0.11	0.000	***
Prop. Mediated	0.10820	-(	0.04137		0.27	0.16	
Signif. codes:	0 '***'	0.001	<b>'**'</b> 0	.01 '	0.05	`.' 0.1 `	<b>'</b> 1
Sample Size Used: 520							
Simulations: 1000							

## Research (2022)

### **4.5.4 Conditional Direct Effects**

Table 4.17 presents the control, direct and interaction effects regression results. This tests the effect of firm size, firm age, growth opportunities, government power, creditor power, investor power, CEO dominance, debt tax shield and the interaction of CEO dominance and debt tax shield on capital structure. The results reported that firm size, firm age, growth opportunities, government power, creditor power, investor power, CEO dominance, debt tax shield and the interaction of CEO dominance and debt tax

shield explain 68.603% variation in capital structure. The regression results showed that firm size had a positive and significant effect on capital structure ( $\beta$ =0.02, p=0.028) indicating that a unit change in firm size increases debt ratio by 0.02. The p-value was less than 0.05 reporting that firm size has an effect on capital structure, firm age had a negative and significant effect on capital structure ( $\beta$ = -0.0009, p=0.000) meaning that a unit change in firm age reduces debt ratio by 0.0009. The p-value was less than 0.05 indicating that firm age affects capital structure. Growth opportunities had a negative and significant effect on capital structure ( $\beta$ = -0.017, p=0.000), meaning that a unit change in growth opportunity reduces debt ratio by 0.017. The p-value was less than 0.05 indicating that growth opportunities affects capital structure. Government power had a positive and significant effect on capital structure ( $\beta$ =0.24, p=0.000), meaning that a unit change in government power leads to an increase in debt ratio by 0.24 and the p-value was less than 0.05 indicating that government power affects capital structure. Creditor power had a positive and significant effect on capital structure  $(\beta=0.34, p=0.000)$ , reporting that a unit change in creditor power increases debt ratio by 0.34 and the p-value was less than 0.05 showing that creditor power affects capital structure. Investor power had a positive and significant effect on capital structure  $(\beta=0.054, p=0.000)$ , indicating that a unit change in investor power increases debt ratio by 0.054, and the p-value was less than 0.05 showing that investor power affects capital structure. CEO dominance had a positive and significant effect on capital structure ( $\beta$ = 0.000047, p=0.002), meaning that a unit change in CEO dominance increases debt ratio by 0.000047, and the p-value was less than 0.05 indicating that CEO dominance affects capital structure. Debt tax shield had a negative and significant effect on capital structure ( $\beta$ =-0.00016, p=0.010), meaning that a unit change in debt tax shield reduces debt ratio by 0.00016 and the p-value was less than 0.05 showing that debt tax shield negatively affects capital structure. The interaction between CEO dominance and debt tax shield had a negative and insignificant effect on capital structure ( $\beta$ = -0.000006 p=0.198), meaning that a unit change in the interaction reduces debt ratio by 0.000006 and the p-value was more than 0.05 showing that the interaction does not affect capital structure.

Table 4.177: Conditional Direct Effect of CEO Dominance and Capital Structure

Oneway (individual) effect Within Model Balanced Panel: n = 13, T = 40, N = 520 Residuals:

Min. 1st Qu. Median 3rd Qu. Max. -0.5440049 -0.0977573 0.0063602 0.1117641 0.6211816 Coefficients:

	Estimate	Std. Error t-value	Pr(> t )
fsize	2.0332e-02	9.2280e-03 2.2033	0.028027 *
fage	-9.3040e-04	2.2219e-04 -4.1875	0.000 ***
grth	-1.6523e-02	3.7153e-03 -4.4473	0.000 ***
gp	2.4146e-01	4.7071e-02 5.1298	0.000 ***
ср	3.4243e-01	1.8075e-02 18.9447	0.000 ***
ip	5.4002e-02	9.3297e-03 5.7881	0.000 ***
ceod	4.7031e-05	1.4800e-05 3.1778	0.002 **
dts	-1.5745e-04	6.0960e-05 -2.5828	0.010 *
ceod:dts	-6.0175e-06	4.6724e-06 -1.2879	0.198

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 '' 1
Total Sum of Squares: 41.387
Residual Sum of Squares: 12.994

R-Squared: 0.68603 Adj. R-Squared: 0.67279

F-statistic: 120.905 on 9 and 498 DF, p-value: < 2.22e-16 Hausman Test: chisq = 483.39, df = 9, p-value < 2.2e-16

**fsize**: Firm Size, **fage**: Firm Age, **grth**: Growth Opportunities, **gp**: Government Power, **cp**: creditor Power, **ip**: Investor Power, **ceod**: Ceo Dominance and **dts**: Debt Tax Shield.

### Research (2022)

This was further explained by **figure 4.1** presenting the moderating effect of debt tax shield on the relationship between CEO dominance and capital structure. This revealed that there was no interaction between debt tax shield, CEO dominance and capital structure.

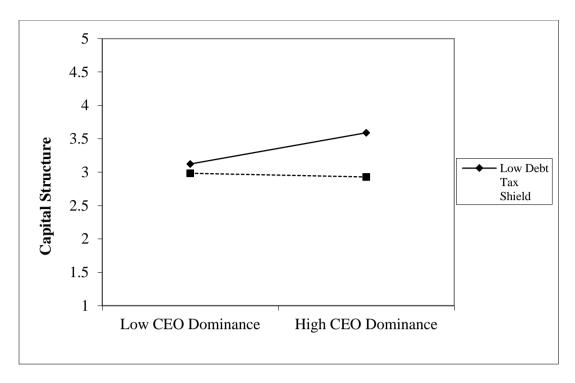


Figure 4.1 Modgraph on Moderating Effect of Debt Tax Shield on the Relationship between CEO Dominance and Capital Structure.

Table 4.18 presents the fixed effect regression results for the control variables, direct variables and the interaction between government power, creditor power, investor power and debt tax shield. The control variables, direct variables and the interaction between government power, creditor power, investor power and debt tax shield eplains 70.4% variation in capital structure. The results reported that firm size had a positive and significant effect on capital structure ( $\beta$ =0.019, p=0.0334), meaning that a unit change in firm size increases debt ratio by 0.019 and that the p value was less than 0.05 indicating that firm size significantly affects capital structure. Firm age had a negative and significant effect on capital structure ( $\beta$ =-0.00008, p=0.000), indicating that a unit change in firm age reduces debt ratio by 0.00008 and that p value was less than 0.05 showing that firm age significantly affects capital structure. Growth opportunities had a negative and significant effect on capital structure ( $\beta$ =-0.015, p=0.000), revealing that a unit change in growth opportunities reduces debt ratio by 0.015 and that the p

value was less than 0.05 indicating that growth opportunities significantly affects capital structure. Government power had a positive and significant effect on capital structure ( $\beta$ =0.24, p=0.000), showing that a unit change in government power increases debt ratio by 0.24 and that the p value was less than 0.05 showing that government power significantly affects capital structure. Creditor power had a positive and significant effect on capital structure ( $\beta$ =0.35, p=0.000), showing that a unit change in creditor power increases debt ratio by 0.35 and that p value is less than 0.05 reporting that creditor power significantly affects capital structure. Investor power had a positive and significant effect on capital structure ( $\beta$ =0.06, p=0.000), indicating that a unit change in investor power increases debt ratio by 0.06 and that the p value was less than 0.05 meaning that investor power significantly affects capital structure. CEO dominance had a positive and significant effect on capital structure (β=0.00003, p=0.002), indicating that a unit change in CEO dominance increases debt ratio by 0.0003 and that the p value was less than 0.05 revealing that CEO dominance significantly affects capital structure. Debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.00016, p=0.005), showing that a unit change in debt tax shield reduces debt ratio by 0.00016 and that the p value was less than 0.05 meaning that debt tax shield significantly affects capital structure. The interaction between government power and debt tax shield had a positive and significant effect on capital structure ( $\beta$ =0.0058 p=0.000), meaning that a unit change in the interaction increases debt ratio by 0.0058 and the p-value was less than 0.05 indicating that the interaction positively affects capital structure. The interaction between creditor power and debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.0005 p=0.000) indicating that a unit change in the interaction reduces debt ratio by 0.0005 and the pvalue was less than 0.05 showing that the interaction negatively affects capital structure.

The interaction between investor power and debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.0004 p=0.000), meaning that a unit change in the interaction reduces debt ratio by 0.0004 and the p-value was less than 0.05 indicating that the interaction negatively affects capital structure.

**Table 4.18: Conditional Direct Effects and Capital Structure** 

```
Oneway (individual) effect Within Model Balanced Panel: n = 13, T = 40, N = 520 Residuals:

Min. 1st Qu. Median 3rd Qu. Max. -0.5652557 -0.0958204 \ 0.0053178 \ 0.1067860 \ 0.6308632
```

#### Coefficients:

	Estimate	Std. Error	t-value	Pr (>	t )
fsize	1.9167e-02	9.0113e-03	2.1271	0.0334	1 *
fage	-7.9420e-04	2.1757e-04	-3.6504	0.000	***
grth	-1.5199e-02	3.6204e-03	-4.1982	0.000	***
gp	2.4464e-01	4.5840e-02	5.3368	0.000	***
ср	3.5196e-01	1.7857e-02	19.7097	0.000	***
ip	6.1276e-02	9.3057e-03	6.5848	0.000	***
ceod	3.0789e-05	1.0034e-05	3.0683	0.002	**
dts	-1.5863e-04	5.6172e-05	-2.8240	0.005	**
gp:dts	5.8370e-03	1.6270e-03	3.5877	0.000	***
cp:dts	-5.0292e-04	1.2581e-04	-3.9975	0.000	***
ip:dts	-4.3146e-04	1.2638e-04	-3.4139	0.000	***

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Total Sum of Squares: 41.387 Residual Sum of Squares: 12.247

R-Squared: 0.70409 Adj. R-Squared: 0.69037

F-statistic: 107.291 on 11 and 496 DF, p-value: < 2.22e-16 Hausman Test: chisq = 59, df = 11, p-value = 1.421e-08

**fsize**: Firm Size, **fage**: Firm Age, **grth**: Growth Opportunities, **gp**: Government Power, **cp**: creditor Power, **ip**: Investor Power, **ceod**: Ceo Dominance and **dts**: Debt Tax Shield.

### Research (2022)

The moderating effect of debt tax shield on the relationship between government power and capital structure was further explained using **figure 4.2.** The figure revealed that there was an interaction and that with low government power firms tend to use more

debt to finance its investments when debt tax shield is low and high government power, firms tend to use more debt to finance their investments when debt tax shield is high.

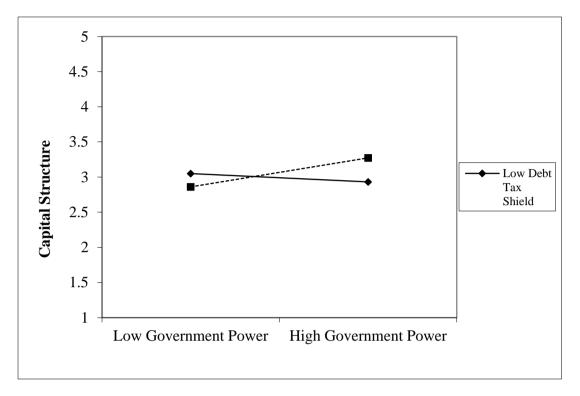


Figure 4.2 Modgraph on Moderating Effect of Debt Tax Shield on the Relationship between Government Power and Capital Structure.

The interaction effect between creditor power and debt tax shield on capital structure was further explained by **figure 4.3**. The figure indicated that there was an interaction and firms use more debt to finance their investments when creditor power is high with low debt tax shield and firms use less debt to finance their investments when creditor power is high with high debt tax shield.

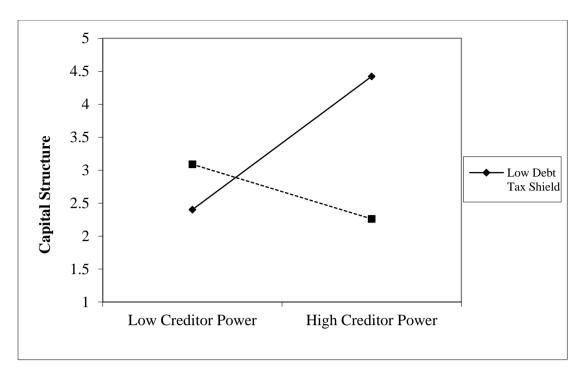


Figure 4.3 Modgraph on Moderating Effect of Debt Tax Shield on the Relationship between Creditor Power and Capital Structure

The investor power conditional direct effect was also explained using **figure 4.4.** The figure presented the moderating effect of debt tax shield on the relationship between investor power and capital structure. This showed that there was an interaction between investor power and debt tax shield and that firms listed in Nairobi securities exchange use a higher percentage of debt than equity to finance their investments when investor power is high with low debt tax shield and use less debt than equity to finance their investments when investor power is high with high debt tax shield.

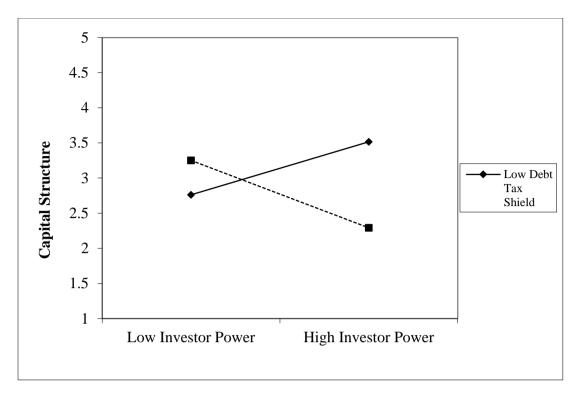


Figure 4.4 Modgraph on Moderating Effect of Debt Tax Shield on the Relationship between Investor power and Capital Structure.

#### **4.5.5** Conditional Indirect Effects

This is also known as moderated mediation. Moderated mediation in this study tests the effect of government power, creditor power and investor power on capital structure via the CEO dominance depending on the levels of debt tax shield.

The hypothesized moderated mediation model was tested using process macro model 15, which in this study tested a model whereby debt tax shield moderates the effect of the indirect relationship between government power, creditor power and investor power on capital structure via CEO dominance.

Table 4.19 presents the directs effects of government power on CEO dominance, direct effects of government power, CEO dominance and debt tax shield on capital structure, interaction results between government power and debt tax shield and CEO dominance and debt tax shield on capital structure, moderated mediation results of government

power and capital structure. The direct effect results showed that government power had a positive and significant effect on CEO dominance ( $\beta$ =529.4822, p=0.000), indicating that a unit change in government power significantly increases CEO dominance by 529.4822 and the p value was less than 0.05 meaning that government power significantly affects CEO dominance. Government power had a positive and significant effect on capital structure ( $\beta$ =0.8335, p=0.000), showing that a unit change in government power increases debt ratio buy 0.8335 and the p value was less that 0.05 indicating that government power significantly affects capital structure. CEO dominance had a positive and significant effect on capital structure ( $\beta$ = 0.0009, p=0.000), meaning that a unit change in CEO dominance increases debt ratio by 0.0009 and the p value was less than 0.05 showing that CEO dominance significantly affects capital structure. Debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.0124, p=0.000), indicating that a unit change in debt tax shield reduces debt ratio by 0.0124 and that p value was less than 0.05 indicating that debt tax shield significantly affects capital structure. The moderation of the direct effects showed that the interaction between government power and debt tax shield had a positive and significant effect on capital structure ( $\beta$ =0.1492, p=0.000), meaning that a unit change in the interaction increases debt ratio by 0.1492 and that the p value was less than 0.05 revealing that the interaction between government power and debt tax shield significantly affects capital structure. The interaction between CEO dominance and debt tax shield had a negative and insignificant effect on capital structure ( $\beta$ = -0.0000, p=0.1653), indicating that a unit change in the interaction does not significantly change debt ratio and the p value was more than 0.05 indicating that the interaction does not affect capital structure. The index of moderated mediation was negative and insignificant ( $\beta$ = -0.0164, 95% CI= -0.0982; 0.0076), indicating that a unit change in government indirect effect insignificantly reduces debt by 0.0164 and that the b true value was within -0.0982 and 0.0076 but included a zero, showing that the government indirect effect does not significantly affect capital structure.

Table 4.198: Moderated Mediation of Government Power and Capital Structure \*\*\*\*\*\*\*\*\*\*\*\*\* PROCESS for R Version 4.0.1 \*\*\*\*\*\*\*\*\*\*\*\* Written by Andrew F. Hayes, Ph.D. www.afhayes.com Documentation available in Hayes (2022). www.guilford.com/p/hayes3 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Model: 15 Y : cs X : gp M : ceod W : dts Sample size: 520 Random seed: 850892 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Outcome Variable: ceod Model Summary: MSE df1 F 0.5042 0.2543 9996.3378 176.6138 1.0000 518.0000 0.0000 Model: coeff LLCI se t р 5.4621 6.7717 0.0000 constant 36.9880 26.2573 529.4822 39.8418 13.2896 0.0000 451.2108 607.7536 Outcome Variable: cs Model Summary: R-sq MSE F df1 df2 R-sq MSE F 0.6417 0.0290 184.1388 0.8011 5.0000 514.0000 0.0000 Model: coeff t. LLCI ULCT se р constant 0.4077 32.6280 0.0000 0.0125 0.3832 0.4323 10.1236 0.0000 0.8335 0.0823 0.6717 0.9952 10.2927 0.0000 0.0009 0.0001 0.0007 0.0011 ceod 0.0011 -11.5446 0.0000 -0.0124 -0.0145 -0.0103 dts Int 1 0.0000 8.0702 0.1129 0.1492 0.0185 0.1855 0.0000 -1.3896 0.1653 Int 2 -0.0000 -0.0001 0.0000 Product terms key: Int 1:  $gp \times dts$ Int 2: ceod x dts Test(s) of highest order unconditional interaction(s): F df1 df2 R2-chng 1.0000 514.0000 X\*W0.0454 65.1277 0.0000 1.0000 514.0000 0.1653 M\*W 0.0013 1.9309 Focal predictor: qp (X) Moderator: dts (W) Conditional effects of the focal predictor at values of the moderator(s): dts effect se t. LLCI ULCT р 0.0000 0.0000 0.0000 0.0794 12.1145 0.8587 0.9616 0.8056 1.1175 0.0860 15.0274 0.1702 13.1332 3.0777 1.2926 1.1236 1.4616 9.3995 2.2356 1.9012 2.5701

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

```
Bootstrapping progress:
  |>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
100%
****** OIRECT AND INDIRECT EFFECTS OF X ON Y ****************
Conditional direct effect(s) of X on Y:
             effect
       dt.s
                          se
                                            р
                                                  LLCI
    0.8587
             0.9616
                      0.0794
                               12.1145
                                         0.0000 0.8056
                                                          1.1175
    3.0777
             1.2926
                      0.0860
                               15.0274
                                         0.0000
                                                 1.1236
                                                          1.4616
    9.3995
             2.2356
                      0.1702
                               13.1332
                                         0.0000
                                                1.9012
                                                          2.5701
Conditional indirect effects of X on Y:
INDIRECT EFFECT:
     ->
          ceod
                  ->
                        CS
             Effect BootSE BootLLCI BootULCI
       dts
    0.8587
             0.4634 0.0507
                              0.3757
                                       0.5763
    3.0777
             0.4270
                     0.0684
                                0.2611
                                         0.5335
             0.3234
                      0.2409
                              -0.3350
                                         0.5427
    9.3995
    Index of moderated mediation:
       Index BootSE BootLLCI BootULCI
     -0.0164
               0.0296
dts
                      -0.0982
                                  0.0076
************ ANALYSIS NOTES AND ERRORS ***************
Level of confidence for all confidence intervals in output: 95
Number of bootstraps for percentile bootstrap confidence intervals:
W values in conditional tables are the 16th, 50th, and 84th
percentiles.
```

### Research (2022)

Table 4.20 presents the direct effect of creditor power on CEO dominance, direct effect of creditor power, CEO dominance and debt tax shield on capital structure, interaction results between creditor power and debt tax shield and CEO dominance and debt tax shield on capital structure and moderated mediation results of creditor power and capital structure via CEO dominance. The direct effect results showed that creditor power had a positive and significant effect on CEO dominance ( $\beta$ = 125.2899, p=0.000), indicating that a unit change in creditor power increases CEO dominance by 125.2899 and that the p value was less than 0.05 showing that creditor power significantly affects CEO dominance. The direct effect results showed that creditor power had a positive and significant effect on capital structure ( $\beta$ = 0.3886, p=0.000), revealing that a unit change in creditor power increases debt ratio by 0.3886 and that the p value is less than 0.05 indicating that creditor power significantly affects capital structure. CEO

dominance had a positive and significant effect on capital structure ( $\beta$ =0.0005, p=0.000), meaning that a unit change in CEO dominance increases debt ratio by 0.0005 and the p value was less than 0.05 indicating that CEO dominance significantly affects capital structure. Debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.0047, p=0.002), showing that a unit change in debt tax shield decreases debt tax shield by 0.0047 and the p value is less than 0.05 indicating that debt tax shield significantly affects capital structure. The moderation of the direct effects showed that the interaction between creditor power and debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.0114, p=0.000), revealing that a unit change in the interaction reduces debt ratio by 0.0114 and that the p value was less than 0.05 indicating that the interaction significantly affects capital strcture. The interaction between CEO dominance and debt tax shield had a positive and significant effect on capital structure ( $\beta$ = 0.0001, p=0.000), showing that a unit change in the interaction increases debt ratio by 0.0001 and that the p value was less than 0.05 showing that the interaction between CEO dominance and debt tax shield significantly affects capital structure. The index of moderated mediation had a positive and significant effect on capital structure ( $\beta$ = 0.0117, 95% CI= 0.0055; 0.0211), meaning that a unit change in creditor power indirect effect increases debt ratio by 0.0117 and that the b true value was between 95% confidence interval 0.0055 and 0.0211, showing that the debt tax shield moderates the indirect relationship between creditor power and capital structure via CEO dominance.

**Table 4.9: Moderated Mediation of Creditor Power and Capital Structure** 

```
******** PROCESS for R Version 4.0.1 ****************
       Written by Andrew F. Hayes, Ph.D. www.afhayes.com
   Documentation available in Hayes (2022). www.guilford.com/p/hayes3
 ************
Model: 15
    Y : cs
    х : ср
    M : ceod
    W : dts
Sample size: 520
Random seed: 81531
****************
Outcome Variable: ceod
Model Summary:
                          MSE F
        R R-sq MSE F df1 df2 p
4929 0.2429 10148.0524 166.2292 1.0000 518.0000 0.0000
     0.4929
Model:

        coeff
        se
        t
        p
        LLCI
        ULCI

        constant
        4.8237
        7.3325
        0.6578
        0.5109
        -9.5815
        19.2289

        cp
        125.2899
        9.7177
        12.8930
        0.0000
        106.1990
        144.3808

********************
Outcome Variable: cs
Model Summary:
              R-sq MSE F df1 df2 p
0.6990 0.0244 238.6960 5.0000 514.0000 0.0000
       R
     0.8360
Model:
                                                               LLCI
               coeff
                             se
constant 0.2821 0.0150 18.8054 0.0000 0.2526 0.3116
cp 0.3886 0.0215 18.1135 0.0000 0.3464 0.4307 ceod 0.0005 0.0001 6.2066 0.0000 0.0003 0.0007 dts -0.0014 0.0024 -4.8011 0.0000 -0.0160 -0.0067 Int_2 0.0001 0.0000 4.5815 0.0000 0.0001 0.0001
Product terms key:
Int_1 : cp x dts
Int_2 : ceod x dts
Test(s) of highest order unconditional interaction(s):
      R2-chng F df1 df2
0.0135 23.0509 1.0000 514.0000 0.00
M*W 0.0123 20.9898 1.0000 514.0000 0.0000
Focal predictor: cp (X)
       Moderator: dts (W)
Conditional effects of the focal predictor at values of the moderator(s):

        dts
        effect
        se
        t
        p
        LLCI
        ULCI

        0.8587
        0.3788
        0.0204
        18.6031
        0.0000
        0.3388
        0.4188

        3.0777
        0.3535
        0.0183
        19.3089
        0.0000
        0.3176
        0.3895

        9.3995
        0.2815
        0.0203
        13.8587
        0.0000
        0.2416
        0.3215

      9.3995
Focal predictor: ceod (M)
      Moderator: dts (W)
Conditional effects of the focal predictor at values of the moderator(s):
        dts effect se t p LLCI ULCI
8587 0.0006 0.0001 7.9264 0.0000 0.0004 0.000
                                                                           0.0007
      0.8587
                0.0008 0.0001 11.0081 0.0000 0.0007
      3.0777
                                                                          0.0009
      9.3995 0.0014 0.0002 8.4775 0.0000 0.0011
                                                                          0.0017
************
Bootstrapping progress:
  |>>>>>>>| 100%
******* DIRECT AND INDIRECT EFFECTS OF X ON Y ************
Conditional direct effect(s) of X on Y:
         dts effect se t p LLCI ULCI
8587 0.3788 0.0204 18.6031 0.0000 0.3388 0.4188
      0.8587
      3.0777 0.3535 0.0183 19.3089 0.0000 0.3176 0.3895
```

```
9.3995
              0.2815
                        0.0203
                                            0.0000
                                                      0.2416 0.3215
                                 13 8587
Conditional indirect effects of X on Y:
INDIRECT EFFECT:
                   ->
     ->
           ceod
                         CS
       dts
              Effect
                        BootSE BootLLCI
                                          Boot III.CT
     0.8587
              0.0741
                        0.0094
                                  0.0556
                                            0.0926
     3.0777
              0.1001
                        0.0114
                                  0.0799
                                            0.1245
     9.3995
              0.1741
                        0.0318
                                  0.1223
                                            0.2509
     Index of moderated mediation:
        Index
                BootSE
                        BootLLCI
                                  BootULCI
       0.0117
dts
                0.0038
                          0.0055
                                    0.0211
********** ANALYSIS NOTES AND ERRORS ****************
Level of confidence for all confidence intervals in output: 95
Number of bootstraps for percentile bootstrap confidence intervals: 5000
W values in conditional tables are the 16th, 50th, and 84th percentiles.
```

#### Research (2022)

Table 4.21 presents the directs effect of investor power on CEO dominance, direct effects of investor power, CEO dominance and debt tax shield on capital structure, interaction results between investor power and debt tax shield and CEO dominance and debt tax shield on capital structure and conditional indirect effect results of investor power and capital structure via CEO dominance. The direct effect results showed that investor power had a positive and significant effect on CEO dominance ( $\beta$ = 83.4459, p=0.000), meaning that a unit change in investor power increases CEO dominance by 83.4459 and the p value was less than 0.05 indicating that investor power affects CEO dominance. Investor power had a positive and significant effect on capital structure  $(\beta=0.2037, p=0.000)$ , meaning that a unit change in investor power leads to 0.2037 increase in debt ratio and that the p value was less than 0.05 revealing that investor power significantly affects capital structure. CEO dominance had a positive and significant effect on capital structure (β=0.0009, p=0.000), indicating that CEO dominance increases debt ratio by 0.0009 and that p value is less than 0.05 showing that CEO dominance significantly affects capital structure. Debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.0110, p=0.000), showing that a unit change in debt tax shield reduces debt ratio by 0.0110 and that debt tax shield significantly affects capital structure. The moderation of the direct effects showed that the interaction between investor power and debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.0036, p=0.0859), meaning that a unit change in the interaction reduces debt ratio by 0.0036 and that the p value is more than 0.05 indicating that the interaction insignificantly affects capital structure. The interaction between CEO dominance and debt tax shield had a positive and significant effect on capital structure ( $\beta$ = 0.0001, p=0.000), indicating that a unit change in the interaction increases debt ratio by 0.0001 significantly because the p value is more than 0.05. The index of moderated mediation showed a positive and significant effect on capital structure ( $\beta$ = 0.0076, 95% CI= 0.0039; 0.0133), indicating that the interaction between debt tax shield and the indirect effect of investor power and capital structure through CEO dominance significantly affect capital structure with 95% certainty, because the 95% confidence interval does not include zero.

Table 4.2110: Moderated Mediation of Investor Power and Capital Structure \*\*\*\*\*\*\*\*\*\*\*\*\*\* PROCESS for R Version 4.0.1 \*\*\*\*\*\*\*\*\*\*\*\*\*\* Written by Andrew F. Hayes, Ph.D. www.afhayes.com Documentation available in Hayes (2022). www.guilford.com/p/hayes3 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Model: 15 Y : cs X : ip M : ceod W : dts Sample size: 520 Random seed: 709681 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Outcome Variable: ceod Model Summary: R-sq MSE F R df1 df2 0.3374 0.1139 11878.4913 66.5518 1.0000 518.0000 0.0000 Model: coeff se t р LLCI ULCI constant 55.2642 5.6785 9.7322 0.0000 44.1084 66.4199 83.4459 10.2288 8.1579 0.0000 63.3508 103.5409 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Outcome Variable: cs Model Summary: MSE F R-sq R df1 df2

0.7501 0.5627 0.0354 132.2769 5.0000 514.0000 0.0000

Model:								
	coeff	se	t	р	LLCI	ULCI		
constant	0.4386	0.0138	31.8654	0.0000	0.4115	0.4656		
ip	0.2037	0.0227	8.9649	0.0000	0.1590	0.2483		
ceod	0.0009	0.0001	9.7176	0.0000	0.0007	0.0011		
dts	-0.0110	0.0013	-8.3594	0.0000	-0.0136	-0.0084		
Int 1	-0.0036	0.0021	-1.7205	0.0859	-0.0077	0.0005		
_			4.3019			0.0001		
Product te								
	ip x dts							
_	ceod x dts	3						
_	highest ord		ditional int	eraction(	s) ·			
	hng			f2	р			
	025 2.960				=			
	157 18.50¢							
MM. 0.0	157 16.506	37 1.00	314.000	0.00	00			
	: a b a a a	7.\						
-	ictor: ip ()							
	rator: dts		1		C 1			
	l effects of	t the foca	al predictor	r at value:	s of the			
moderator(	•							
dt				р				
0.858				0.0000				
3.077			9.7174					
9.399	5 0.1698	0.0200	8.4864	0.0000	0.1305	0.2091		
Focal pred	ictor: ceod	(M)						
Mode	rator: dts	(W)						
Conditiona	l effects of	f the foca	al predictor	r at value	s of the			
moderator(	s):							
dt	s effect	se	t	р	LLCI	ULCI		
0.858			11.5113	0.0000	0.0008	0.0011		
3.077	7 0.0012	0.0001	14.2020	0.0000	0.0010	0.0013		
9.399	5 0.0017	0.0002	10.0173	0.0000	0.0014	0.0021		
	*****							
Bootstrapp	ing progress	3:						
	>>>>>>>		>>>>>>	>>>>>	>>>>>>	·>>>>		
100%								
	**** DIRECT	AND TNDTE		S OF Y ON '	V *****	*****		
******* DIRECT AND INDIRECT EFFECTS OF X ON Y **********************************								
				2	ттст	III CT		
dt			t 0 2101	p	LLCI	ULCI		
0.858		0.0218	9.2191	0.0000		0.2433		
3.077				0.0000	0.1536			
	5 0.1698			0.0000	0.1305	0.2091		
Conditional indirect effects of X on Y:								
INDIRECT EFFECT:								
ip ->								
dt		BootSE	E BootLLCI	BootULCI				
0.858	7 0.0804	0.0105	0.0610	0.1022				
3.077			0.0746	0.1239				
9.399	5 0.1453	0.0243	0.1037	0.2014				
Index	Index of moderated mediation:							
Index BootSE BootLLCI BootULCI								

dts 0.0076 0.0023 0.0039 0.0133

\_\_\_

\*\*\*\*\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*\*\*\*\*\*\*\*\*\*

Level of confidence for all confidence intervals in output: 95 Number of bootstraps for percentile bootstrap confidence intervals: 5000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

#### Research (2022)

### 4.6 Discussion of the Findings

The descriptive statistics found that the mean debt ratio was 52.08 per cent and its median was 52.38 per cent. Indicating that firms listed in Nairobi securities exchange finance their investments and real assets mostly, using debt compared to equity which stands at 47.62 per cent. The reason for using more debt could be because debt was a cheaper source of finance because of the benefits of using debt since the interest is a tax deductible allowance. The value of the middlemost observation was 0.5238, standard deviation, which is the distance between the values of the data in the set and the mean stands at 0.2832, and the minimum debt at 0.0036 and maximum 0.9810. This means that there are firms which financed their assets with almost 0% debt and 100% equity and vice-versa. This was consistent with the findings of Kaur and Khullar (2019) that in maximizing shareholders wealth firm use more debt capital in the capital structure as interest paid is tax deductible and lowers the debt's effective cost and also Onchong'a, Muturi, and Atambo (2016) that debt financing has become a common phenomenon in the corporate world across the globe. It provides a mechanism of filling financing deficits of business firms that lack enough internal resources to finance their investment and operating activities.

The mean company firm size was 7.14, median 7.0920, and standard deviation 0.8793, minimum firm size was 4.6910 and maximum 9.1280. This indicated that firms listed in Nairobi securities exchange had data points closer to their mean because of small

standard deviation. The minimum and maximum showed that there were firms with very low firm assets and some with high firm assets indicating that there were small and big firms listed in Nairobi securities exchange.

The results showed that the mean firm age of the firms listed in Nairobi securities exchange was 67.19 years and median 59 years with the lowest firm being 1 year and the highest firm 151 years. The standard deviation was 32.5413 years. This indicates that firms listed in NSE are considerably old meaning that their capital structures are relatively old. The standard deviation showed that the data points were widely spread from the mean, meaning that there were firms which were very young and old respectively.

Growth opportunities mean was 1.1641, median 0.5382, standard deviation 2.4871, minimum 0.0117 and maximum 26.2179. The results showed that the average growth in sales per year was high, indicating that the majority of the firms listed in Nairobi securities exchange double their sales revenues every year. The minimum and maximum results reported that there are firms which their sales growth was low and high respectively.

The government power mean was 0.2187 with median 0.2992, standard deviation 0.3859, minimum effective tax rate at -3.5986 and maximum effective tax rate at 3.7513. This means that on average taxes paid by firms are lower compared to earnings before interest and tax and that there are firms' with negative earnings before tax and interest as indicated by the minimum effective tax rate. Also there are firms where the tax payments are higher than earning before tax and interest as indicated by maximum effective tax rate.

The creditor power showed that the mean net debt was 0.0381 and the median 0.0300. The standard deviation was 0.2383, the minimum net debt -1.4294 and the maximum 0.9753. The mean showed that firms increase their borrowing every year. The minimum and maximum net debt indicated that there were firms which reduce and increase their debt yearly.

The investor power indicated that the mean return was 0.1726, the median 0.0038, standard deviation 1.2192, minimum return was -0.9670 and maximum return 21.9508. This showed that on average the return to shareholders in terms of capital gains and dividends was positive with some firms having negative returns as illustrated by minimum returns. This means that most of the firms do pay dividends and incase of no dividends paid then the shareholders get capital gains in their share prices.

The mean CEO remuneration package was 0.0188, median 0.0085, standard deviation 0.0434, and the minimum and maximum remunerations were 0.0001 and 0.6905 respectively. This means that on average of the total firm assets CEO remuneration expense is financed by only 3.103%. The CEO power differ from one firm to another as we can see from the standard deviation of 0.0434 from the mean.

The debt tax shield indicated that on average firms save 0.0335, median 0.0246, standard deviation 0.0344 and the minimum and maximum tax savings were 0.0001 and 0.3202 respectively. This means that firms listed in Nairobi securities exchange made savings that results from the use of debt but varies from one firm to another.

The Pearson correlation analysis reported that government power was positive and strongly correlated to capital structure (0.38, p=0.000). This means that an increase in government power significantly increases debt ratio by 0.38. This was in line with the findings of Faccio and Xu (2011) that discovered taxes to be an important factor in

capital structure decisions. More precisely, they discovered that decisions about capital structure are significantly influenced by both company and individual taxation. Firms tend to increase their leverage when corporate taxes or personal taxes on dividend income increase and tend to reduce leverage when personal taxes on interest income increase. Taxes matter more for capital structure choices in countries with lower tax evasion.

The relationship between firm size and capital structure was positive and significant (0.4, p=0.000), meaning that debt ratio significantly increases with increase in firm size. This disagreed with the findings of Serghiescu and vaidean (2014) that the tangibility of a company's assets is negatively related with its debt ratio, given that a high level of tangible fixed assets does not represent a guarantee for creditors in case of default of the borrower company. The size of the company and its asset turnover are explanatory variables positively correlated with the level of debt and oztekin (2015) found that Lower debt ratios should be associated with firms that are smaller and less profitable, firms with greater growth opportunities, firms with fewer tangible assets, firms operating in industries with lower leverage, and firms in economies with higher inflation, which are more likely to have higher bankruptcy costs.

Debt tax shield and capital structure had a weak, negative and significant relationship (-0.28, p=0.000), indicating that an increase in debt tax shield significantly decreases capital structure. Inconsistent with this finding was the study by Kliestick et.al (2018) that the existence of tax savings (tax shield) resulting from deductible expenses is a significant contributor in an enterprise's profitability and, over time, one of the factors affecting the company's value. Tax shelters are of interest to company executives as well as the scientific community. Enterprise value is increased by leverage and tax

advantages, and tax shield is the difference between a company's value with and without leverage.

CEO dominance and capital structure relationship was weak, positive and significant (0.29, p=0.000), meaning that debt ratio significantly increases with increase in CEO dominance. This was contrary with the findings of Jiraporn, Chintrakarn and Liu (2012) indicated that the firm employs much less leverage when the CEO plays a more dominating role among senior executives, likely to avoid the disciplinary processes connected with debt financing. Their findings were significant because they showed how CEO influence affects crucial organizational outcomes like capital structure choices. Additionally, they discovered that firms with CEOs who have greater influence suffer more unfavorable effects from changes in capital structure. Overall, their findings were consistent with earlier research, which suggests that strong CEO domination may increase agency costs, which would be bad for firm value.

The creditor power and capital structure relationship was strong, positive and significant (0.76, p=0.000). This means that an increase in creditor power significantly increases debt ratio. According to Cortez, and Susanto, (2012) when creditors are faced by the problem of being unable to monitor the firm's behavior carefully, they would demand higher yield to compensate for such risk and firms face a higher contraction costs in the public market. This is why larger firms that are presented with a lower degree of asymmetric information, face lower risk and prefer to issue corporate bonds instead. On the other hand, smaller firms who face a higher degree of information asymmetry and have more growth options in their investment opportunity, are more likely to borrow from banks and creditors because they mitigate adverse selection problems.

The relationship between capital structure and firm age was weak, negative and significant (-0.17, p=0.000), meaning that an increase in firms age significantly reduces debt ratio. This was inconsistent with the findings of Ezeoha and Botha (2012) firms with higher collateral values are likely to face fewer borrowing restrictions and so have more access to medium- and long-term debts. The link between firm age and debt financing is non-monotonic. Robustness tests also showed that investments in assets that are acceptable to external creditors as collateral have a considerable impact on a firm's access to financing markets at its start-up and maturity stages. These findings suggested that debt financing policies could be more critical for firms in the start-up and maturity stages.

Growth opportunities relationship with capital structure was weak, negative and significant (-0.36, p=0.000), indicating that debt ratio significantly reduces with increase in growth opportunities and investor power relationship with capital structure was weak, positive and significant (0.33, p=0.000). This means that with an increase in investor power leads to increase in debt ratio. This was inconsistent with the findings of Alipour, Mohammadi and Derakhshan, (2015) that Applying pecking order arguments, growing firms place a greater demand on the internally generated funds of the firm. Consequentially, firms with relatively high growth will tend to issue securities less subject to information asymmetries, i.e. short-term debt. This should lead to firms with relatively higher growth having more leverage. Because, companies with fast growth need to borrow more and are able to borrow more. According to the AT, a company's financing is a means for management and investors to address the issue of free cash flow. According to this notion, businesses with more potential for growth have higher debt. Vatavu (2015) the manufacturing businesses that maintained a high percentage of equity in their capital mix and refrained from borrowing money were the

most profitable ones. Shareholders' equity has a positive impact on performance indicators, while total debt and short-term debt have negative relationships with ROA and ROE.

Three control variables; firm size, firm age and growth opportunities were tested and held constant throughout the study in order to assess the relationship between capital structure and government power, creditor power, investor power, CEO dominance and debt tax shield variables. The firm size had a positive and significant effect on capital structure ( $\beta$ =0.112, p=0.000) indicating that a unit change in firm size significantly increases debt ratio by 0.112. This was in agreement with the findings of Lim, T. C. (2012) that the relationship between firm size and leverage is expected to be positive. Larger firms turn out to be more diversified than smaller firms; therefore it is less prone to the risk of default. Large firms usually prefer long-term debt issuance while the small choose the short term. For countries with low costs of financial distress, the correlation between firm size and leverage is not significantly positive. Size may also relate to the informational asymmetries between insiders and outside investors. Larger firms tend to disclose more information about their business to the public than smaller companies and also oino (2013) firms seek target leverage. The dependence of a firm's leverage level of firm characteristics has usually been interpreted in favour of either the tradeoff theory or the pecking order theory. Profitability is negatively associated with leverage which is consistent with the prediction of Myers' pecking order hypothesis rather than the trade-off theory. Also, large firms appear to be highly leveraged, which supports the agency theory in that as firms grow in size, owners become devoid of control and hence will prefer debt so that managers can be committed to interest payment obligations.

Firm age had a negative and significant effect on capital structure ( $\beta$ = -0.0.001, p<0.05) meaning that a unit change in the firm's age leads to 0.001 significant decrease in firm's debt ratio. This was in line with the findings of Chang, Ding, Lou and Yang (2020) that a greater firm size and older firm age can reduce the marginal effects of the book value of leverage and the market value of leverage on green-firm investment. Their results provided new contributions focusing on how green firm-specific size and age affect the leverage-investment nexus, Qureshi, Imdadullah and Ahsan (2012) found an inverse relationship between size and leverage which is consistent with pecking order theory (POT) and inconsistent with the findings of Devi and Devi (2014) their study found positive correlation among financial leverage and corporate profitability, and firm size and corporate profitability.

Growth opportunities had a negative and significant relationship with capital structure ( $\beta$ = -0.042, p<0.05) indicating that a unit change in firms growth opportunities significantly reduces debt ratio by 0.042. This was inconsistent with the findings of Gomez, Rivas and Bolaños, (2014) that firms that undergo rapid growth in their sales often need to increase their capital assets. That is, high levels of growth in companies generate more future cash needs, but also the needs to retain more profits. According to Trade-off Theory, if retained benefits have a high growth increase, it is necessary to issue more debt to maintain the objective debt/equity ratio. A positive relationship is expected between debt and growth. A similar relationship is expected by Pecking Order Theory. So, if costs of the financial difficulties are grave, the company may consider issuing equity to finance the real investments or pay debts. Consequently, growth causes a change in terms of the funding of new capital to debt because more funds are needed to reduce agency problems.

The study investigated the effect of government power, creditor power, investor power, CEO dominance and debt tax shield on capital structure. The study findings showed that government power had a positive and significant effect on capital structure (β=0.243, p<0.05) reporting that a unit change in government power significantly increases debt ratio by firms listed in Nairobi securities exchange by 0.243. Alipour, Mohammadi and Derakhshan (2015) Tax rate has a predicted positive impact on debt. A company facing a high effective corporate tax rate has a need for, or will benefit from, taking up more debt to maximize the tax deduction of the debt interest. Firms would prefer debt to other financing resources due to the tax deductibility of interest payments. The gains from borrowing increase with the rate of tax. Therefore, a positive relationship is expected between effective tax rate and debt. Antoniou et al. (2008) concluded that there is a negative relationship between effective tax rate and debt ratios, arguing that the effect of this rate on capital structure depends on tax regulations of each country. Karadeniz et al. (2009) and too affirmed the negative relationship between effective tax rate and debt ratios. Huang and Song (2006) concluded that there is no relationship between effective tax rate and the amount of debt in capital structure.

Creditor power had a positive and significant relationship on capital structure ( $\beta$ =0.343, p<0.05) indicating that a unit change in creditor power significantly increases debt ratio by 0.343. This was in line with the findings of Cortez, and Susanto, (2012) that when creditors are faced by the problem of being unable to monitor the firm's behavior carefully, they would demand higher yield to compensate for such risk and firms face a higher contraction costs in the public market. This is why larger firms that are presented with a lower degree of asymmetric information, face lower risk and prefer to issue corporate bonds instead. On the other hand, smaller firms who face a higher degree of information asymmetry and have more growth options in their investment

opportunity, are more likely to borrow from banks and creditors because they mitigate adverse selection problems but inconsistent with the findings of Goh (2017) that the use of equity (ver-sus debt) increases with the level of conservatism when firms raise a significant amount of external financing. The reduction in the cost of equity associated with conservatism is greater for large equity issuers than for large debt issuers, but do not find an analogous difference when we examine the cost of debt. In addition, the association between conservatism and the issuance of equity (versus debt) is stronger when there is greater information asymmetry between firms and shareholders.

Investor power had a positive and significant effect on capital structure ( $\beta$ =0.054, p<0.05) meaning that a unit change in investor power significantly increases debt ratio by 0.054. This was affirmed by the findings of Venugopal and Reddy (2016) that the capital structure decision is the imperative one since the profitability of the firm is specifically influenced by such decision. It is redundant that benefit ought to be the main target for a business. Profit maximization is part of the wealth creation process. Where, wealth maximization is a long haul process. It alludes to the value of the firm and it is expressed in the value of stock. The findings of their analysis demonstrated a positive correlation between the capital structure (debt equity ratio) and the firm's profitability, market value, and shareholder wealth, however this correlation is not statistically significant. Mujahid, and Akhtar (2014) demonstrated a positive correlation between the capital structure and both firm financial performance and shareholder wealth.

CEO dominance had a positive and significant effect on capital structure ( $\beta$ =-0.00003, p<0.05) showing that a unit change in CEO dominance significantly increases debt ratio by 0.0003. This disagreed with the findings of Jiraporn, Chintrakarn and Liu (2012)

indicates the company uses substantially less leverage when the CEO assumes a more dominating role among senior executives, likely to avoid the control mechanisms connected with debt financing. Their findings were significant because they showed how CEO influence affects crucial organizational outcomes like capital structure choices. Additionally, they discovered that organizations with more potent CEOs experience a greater negative impact from changes in capital structure on their performance. Overall, their results were in agreement with prior literature, suggesting that strong CEO dominance appears to exacerbate agency costs and is thus detrimental to firm value.

Debt tax shield had a negative and significant relationship on capital structure ( $\beta$ = -0.00019, p<0.05) indicating that a unit change in debt tax shield significantly reduces debt ratio by 0.00019 in the next period. This was in line with the findings of Doidge and dyck (2011) that a levered firm suffers a smaller loss when taxes are imposed because debt provides a tax shield worth Tc × D when the debt is permanent. Subsequent research that considers costs of debt finds that debt tax shields are less valuable. For example, Miller (1977) outlines circumstances in which the tax advantage of debt for corporations is cancelled out by its tax disadvantage for individuals compared to equity. So, in order to reduce the weighted average cost of capital, businesses will avoid taking on only debt and instead look for the right balance between debt and equity.

The study performed mediation analysis and used CEO dominance as the mediating variable. The study found that the effect of government power on capital structure that goes through the CEO dominance was positive and significant ( $\beta$ =0.1533, p<0.05) indicating that a unit change in the entire indirect effect of government power will lead

to significant increase in debt by 0.1533. This disagreed with the findings of Chintrakarn, Jiraporn and Singh (2014) CEOs employ sub-optimal amounts of power to further their own personal interests at the expense of shareholders due of the agency conflict. They discovered that great CEOs avoid heavy debt and see leverage adversely. CEOs, though, don't seem to use less-than-ideal leverage until their power is firmly consolidated. CEOs with low strength don't tend to shy away from leverage. Therefore, the influence of CEO power on capital structure decisions is not uniform. Their results imply that agency problems lead to self-serving behaviour only when managers command sufficient influence in the company.

The effect of average causal mediation effect of creditor power on capital structure that goes through the CEO dominance was positive and significant ( $\beta$ =0.2933, p<0.05) indicating that a unit change in the entire indirect effect of creditor power significantly increases debt ratio by 0.2933. This was consistent with the findings of Azizan and Kweh (2015) that CEO education level and CEO tenure are positively related to leverage. They discovered that female CEOs took more risks than male CEOs in the CEO-age group. In terms of CEO education, they demonstrated that younger CEOs, female CEOs, and CEOs with greater experience take more risks and are more assertive. Huang, Tan & Faff (2016) found that firms with overconfident CEOs tend to adopt a shorter debt maturity structure by using a higher proportion of short-term debt (due within 12 months). This behavior of overconfident CEOs is not deterred by the high liquidity risk associated with such a financing strategy.

The average causal mediation effect of investor power on capital structure that goes through the CEO dominance was positive and insignificant ( $\beta$ = 0.00782, p>0.05) indicating that a unit change in the entire indirect effect of investor power

insignificantly increases debt ratio by 0.00782. This disagreed with the findings of Serfling, (2014) that showed a link between CEO age and stock return volatility was unfavorable. The study's further research showed that elder CEOs lower corporate risk by using less hazardous investment strategies. Older CEOs, in particular, lead companies with more diversified operations, spend less on R&D, make more diversifying acquisitions, and retain lower operating leverage. Furthermore, when the CEO and the next most powerful executive are both older and when both of these managers are younger, firm risk and the riskiness of business policies are at their lowest points. Despite the fact that older CEOs favor less risky investment strategies, the findings revealed that CEO and firm risk preferences typically coincide. Last but not least, discovered that a trading strategy that goes long in a portfolio of stocks made up of companies headed by younger CEOs and short in a portfolio of stocks made up of companies led by older CEOs will produce positive risk-adjusted returns. Overall, the results implied that CEO age can have a significant impact on risk-taking behavior and firm performance.

The conditional direct effects tested the effect of moderation of the b-path and the c'-paths. The results showed that the interaction between CEO dominance and debt tax shield had a negative and insignificant effect on capital structure ( $\beta$ = -0.000006 p>0.05) indicating that a unit change in the interaction insignificantly decreases debt ratio by 0.000006. This was contrary to the finding of Abel (2015) that if the tax rate is very low the marginal benefit of the interest tax shield associated with an additional dollar of debt is completely overwhelmed by the marginal cost associated with increased exposure to default resulting from an additional dollar of debt. The firm will take advantage of the tax shield offered by interest deductibility, but will only borrow as much as it can without exposing itself to any possibility of default. If the tax rate is

sufficiently high, the marginal benefit of the interest tax shield associated with an additional dollar of debt completely overwhelms the marginal cost associated with increased exposure to default resulting from an additional dollar of debt. In this case, the firm borrows as much as lenders are willing to lend.

The interaction between government power and debt tax shield had a positive and significant effect on capital structure ( $\beta$ =0.0058, p<0.05) indicating that a unit change in the interaction significantly increases debt ratio by 0.0058. This was in agreement with the findings of Salubi, and Marcella (2016) that there is a significant relationship between interest tax shield, long term, short term and total borrowings of the firms. Based on their findings, they recommended among others, that equity capital financing should be encouraged among listed companies since this could be used as basis for further borrowing. In addition, companies should utilize a mixture of short and long-term debts in order to have the most optimal tax shield for their debts.

The interaction between creditor power and debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.0005, p<0.05) indicating that a unit change in the interaction significantly reduces debt ratio by 0.0005. This was consistent with the findings of Cho, El Ghoul, Guedhami and Suh (2014) even where there is significant creditor protection, businesses often prefer to use shareholders' equity instead of long-term debt. The supply-side theory that strong creditor protection leads to high business leverage because it encourages lenders to offer credit at advantageous terms can not explain the observed negative relationship between creditor rights and leverage. Rather, our findings are consistent with the demand-side hypothesis that robust creditor protection deters businesses from committing long-term cash flow to debt service

because management and shareholders want to avoid losing control in the event of financial difficulty.

The interaction between investor power and debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.0004, p<0.05) indicating that a unit change in the interaction significantly reduces debt ratio by 0.0004. This agreed with the findings of Acheampong, Agalega and Shibu (2014) that leverage and stock return had a negative and significant relationship when the overall industrial data is used. However at the individual firm level the relationship was not stable.

This study tested a model whereby debt tax shield moderated the effect of the indirect relationship between government power, creditor power and investor power on capital structure via CEO dominance. The results indicated that the null hypothesis was not rejected and conclude that debt tax shield does not moderate the indirect relationship between government power and capital structure. This was not validated with the index of moderated mediation= -0.0164(95% CI=-0.0982; 0.0076). The true b-value for the index was between -0.0682 and 0.0015 which included zero. This means that when the conditional indirect effect of government power is increased by one unit debt insignificantly decreases by 0.0097, with 95% confidence. This disagreed with the finding of Faccio and Xu (2011) that taxes are significant determinants of capital structure choices. More specifically, they found that both corporate and personal taxes have a significant impact on capital structure choices. Firms tend to increase their leverage when corporate taxes or personal taxes on dividend income increase and tend to reduce leverage when personal taxes on interest income increase. Taxes matter more for capital structure choices in countries with lower tax evasion.

The results indicated that the null hypothesis was rejected and conclude that debt tax shield moderated the indirect relationship between creditor power and capital structure. This was validated with the index of moderated mediation= 0.0117(95% CI= 0.0055; 0.0211). The true b-value for the index was between 0.0055 and 0.0211 indicating that there was relationship between the true conditional indirect effect of creditor power and capital structure. This also showed that when the moderated mediation of creditor power is increased capital structure significantly increases by 0.0117. This was consistent with the finding of Cortez, and Susanto, (2012) that when creditors are faced by the problem of being unable to monitor the firm's behavior carefully, they would demand higher yield to compensate for such risk and firms face a higher contraction costs in the public market. This is why larger firms that are presented with a lower degree of asymmetric information, face lower risk and prefer to issue corporate bonds instead. Contrary, on the other hand, smaller firms who face a higher degree of information asymmetry and have more growth options in their investment opportunity, are more likely to borrow from banks and creditors because they mitigate adverse selection problems.

The conditional indirect effect of investor power indicated that the null hypothesis was rejected and conclude that debt tax shield moderates the indirect relationship between investor power and capital structure. This was validated with the index of moderated mediation= 0.0076(95% CI= 0.0039; 0.0133). The true b-value for the index was between 0.0039 and 0.0133 and did not include zero. This indicated that when the conditional indirect relationship between investor power and capital structure is increased it significantly increases debt ratio by 0.0076. This was in line with the findings of Jozwiak (2015) that dividend payout ratio is a negative function of and leverage.

#### **4.7 Hypothesis Testing**

The table 4.22 presents the summary of the regression model results for the control effects and directs effects. The table showed the regressions results for model 1 to model 5. Table 4.23 showed the summary of the mediation results and presents results for models 6a to model 6c. The table 4.24 presents the summary results for the conditional direct effect and summarizes results for the models 7 to 10. Finally, table 4.25 presents the summary results for models 11 to 13 for the conditional indirect effects.

#### H<sub>01</sub>: Government power has no significant effect on capital structure

The table 4.24 model 10 results indicated that government power had a positive and significant effect on capital structure ( $\beta$ =0.24, p=0.000) showing that a unit change in government power increases debt ratio by firms listed at Nairobi securities exchange by 0.24. The p-value was less than 0.05 indicating that the null hypothesis that government power has no significant effect on capital structure was rejected and conclude that government power has significant effect on capital structure. This means that an increase in effective tax rate increases debt ratio, hence, firms use more debt to finance their investments when taxes are high. This was consistent with Overesch and Voeller (2010) findings that, an increase in the debt tax advantage is likely to have a considerable favorable influence on a company's financial leverage. Smaller firms' capital structures react more strongly to changes in the debt tax benefit, and not only corporation taxes are important for corporate financial planning, but variations in capital income tax rates at the shareholder level also result in significant capital structure changes.

#### H<sub>02</sub>: Creditor power has no significant effect on capital structure

Table 4.24 model 10 showed that creditor power had a positive and significant effect on capital structure ( $\beta$ =0.35, p=0.000) reporting that a unit change in creditor power increases debt ratio by 0.35 of firms listed in Nairobi securities exchange. The p-value was less than 0.05 indicating that the null hypothesis that creditor power has no effect on capital structure was rejected and conclude that creditor power has significant effect on capital structure. This means that with high creditor power firms tend to finance their investments using debt than equity. This was in agreement with Roberts and Sufi (2009) findings that incentive conflicts between companies and their creditors have a significant impact on corporate debt policy following debt covenant violations, when creditors exercise their acceleration and termination powers to raise interest rates and decrease credit availability, net debt issuance activity drops sharply and persistently. When the borrower's alternative sources of finance are expensive, creditor activities have the greatest impact on debt policy.

#### H<sub>03</sub>: Investor power has no significant effect on capital structure

Table 4.24 model 10 showed that investor power had a positive and significant effect on capital structure ( $\beta$ =0.06, p=0.000) reporting that a unit change in investor power increases debt ratio by 0.06. The p-value was less than 0.05 indicating that the null hypothesis that investor power has no significant effect on capital structure was rejected and conclude that investor power has significant effect on capital structure. This indicated that firms use more of debt financing than equity financing when the investor power is high. This was consistent with Margaritis and Psillaki (2010) findings that more debt in the capital structure is often correlated with more concentrated ownership, but there is little evidence that ownership type influences leverage decisions.

### H<sub>04</sub>: CEO dominance has no significant effect on capital structure

Table 4.24 model 10 reported that CEO dominance had a positive and significant effect on capital structure ( $\beta$ =0.00003, p=0.000) indicating that a unit change in CEO dominance reduces debt ratio by firms listed in Nairobi securities exchange by 0.00003. The p-value was less than 0.05 indicating that the null hypothesis that CEO dominance has no significant effect on capital structure was rejected and conclude that CEO dominance has significant effect on capital structure. This was in line with the findings of Ning (2020) that the more powerful CEOs are more likely to use debt in their capital structure. According to Jilani and Chouaibi (2021), the greater the CEO dominance, the lower the bank specific risk turns out to be, given the significantly positive relationship between CEO dominance and the risk-taking procedure.

#### H<sub>05</sub>: Debt tax shield has no significant effect on capital structure

Table 4.24 model 10 indicated that debt tax shield had a negative and significant effect of capital structure ( $\beta$ = -0.00016, p=0.000) showing that a unit change in debt tax shield reduces debt ratio by firms listed in Nairobi securities exchange by 0.00016. It also showed that the p-value was less than 0.05 meaning that the null hypothesis that debt tax shield has no significant effect on capital structure was rejected and conclude that debt tax shield has significant effect on capital structure. This showed that debt reduces with high tax shield, which was consistent with the findings of Blouin, Core and Guay (2010) that additional debt would result in far fewer tax benefits for businesses than previously believed.

## H<sub>06a</sub>: CEO dominance does not mediate on the relationship between government power and capital structure

The table 4.23 model 6a showed the causal mediation analysis that tests whether CEO dominance mediates the relationship between government power and capital structure. The table showed that the average causal mediation effect (ACME) was positive and significant ( $\beta$ = 0.1533, 95% CI= 0.0979; 0.22, p= 0.000). This means that a unit change in the entire indirect effect of government power leads to significant increase in debt ratio by 0.01533. The 95% confidence interval showed that 0.1533 is within 0.0979 and 0.22 which did not include zero indicating that there was partial mediation. Therefore, the null hypothesis was rejected and conclude that CEO dominance mediates on the relationship between government power and capital structure of firms listed in Nairobi securities exchange. This means that CEO dominance mediates the relationship between government power and capital structure, which was consistent with Naseem, Lin, Rehman, Ahmad and Ali (2019) findings that the debt-to-equity ratio mediates the relationship between CEO attributes and firm success to some extent.

# $H_{06b}$ : CEO dominance does not mediate on the relationship between creditor power and capital structure

The table 4.23 model 6b showed the causal mediation analysis that tests whether CEO dominance mediates the relationship between creditor power and capital structure. The table showed that the average causal mediation effect (ACME) was positive and significant ( $\beta$ = 0.0309, 95% CI= 0.0174; 0.05, p=0.000) indicating that a unit change in the entire indirect effect of creditor power increases debt ratio by 0.0309. The 95% confidence interval showed that 0.0309 is within 0.0174 and 0.05 indicating that there was a partial mediation. Therefore, the null hypothesis was rejected that CEO dominance does not mediate on the relationship between creditor power and capital

structure and conclude that CEO dominance mediates the relationship between creditor power and capital structure of firms listed in Nairobi securities exchange. This means that CEO dominance partially mediates the relationship between creditor power and capital structure. This was in line with Zhang, Liang, Zhou and Yu (2021) findings that the association between CEO narcissism and firm innovation performance is mediated by debt finance. Through debt financing, CEO narcissism can have a favorable impact on firm innovation performance.

# H<sub>06c</sub>: CEO dominance does not mediate on the relationship between investor power and capital structure

The table 4.23 model 6c showed the causal mediation analysis that tests whether CEO dominance mediates the relationship between investor power and capital structure. The table showed that the average causal mediation effect (ACME) was positive and insignificant ( $\beta$ = 0.00782, 95% CI= -0.00242, 0.02, P>0.05) indicating that a unit change in the entire indirect effect of investor power increases debt ratio by 0.00782. The 95% confidence interval showed that 0.00782 is within -0.00242 and 0.02. This confidence interval includes zero, indicating that there was no mediation. This means that the null hypothesis was not rejected and conclude that CEO dominance does not mediate on the relationship between investor power and capital structure of firms listed in Nairobi securities exchange. This was inconsistent with Cianci and Kaplan (2010) findings that management's explanations influence investors' assessments of the company's future performance, that judgments about management were influenced jointly by both manipulated factors, and that judgments about management's intentions for explaining poor performance serve as a partial mediator for judgments about management's reputation.

# $H_{07a}$ : Debt tax shield does not moderate on the relationship between CEO dominance and capital structure.

The table 4.24 model 7 moderation of the b-path results showed that the interaction between CEO dominance and debt tax shield had a negative and insignificant effect on capital structure ( $\beta$ = -0.000006 p=0.19) indicating that a unit change in the interaction decreases debt ratio by 0.000006 and the p-value was more than 0.05 indicating that the null hypothesis was not rejected and conclude that debt tax shield does not moderate on the relationship between CEO dominance and capital structure. This was contrary with Sulistiyani and Rivai (2020) findings that the impact of capital structure on firm value is moderated by financial hardship. This implies that the company value will rise if the capital structure rises and financial hardship rises.

# $H_{07b}$ : Debt tax shield does not moderate on the relationship between government power and capital structure.

The table 4.24 model 10 moderation of the c-path results showed that the interaction between government power and debt tax shield had a positive and significant effect on capital structure (β=0.0058, p=0.000) indicating that a unit change in the interaction increases debt ratio by 0.0058 and the p-value was less than 0.05 indicating that the null hypothesis was rejected and conclude that debt tax shield moderates the relationship between government power and capital structure. This was in line with Curry and Zul Fikri (2022) findings that Domestic Product (GDP), Debt to Equity Ratio (GDER), and Loan to Deposit Ratio (LDR) all decreased as a result of GDP (GLDR). The GDP's moderation of DER and LDR has an impact on the company's financial performance. In other words, economic conditions have a noticeable impact on both the capital structure decision and the enhancement of the company's financial position.

 $H_{07c}$ : Debt tax shield does not moderate on the relationship between creditor power and capital structure.

The table 4.24 model 10 moderation of the c-path results showed that the interaction between creditor power and debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.0005, p=0.000) indicating that a unit change in the interaction reduces debt ratio by 0.0005 and the p-value was less than 0.05 indicating that the null hypothesis was rejected and conclude that debt tax shield moderates the relationship between creditor power and capital structure. This was consistent with Dewi, Amboningtyas and Paramitha (2017) results that shows that dividend payout ratio moderates the relationship between firm size, capital structure, liquidity, profitability, and solvability to company value

 $H_{07d}$ : Debt tax shield does not moderate on the relationship between investor power and capital structure.

The table 4.24 model 10 moderation of the c-path results showed that the interaction between investor power and debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.0004, p=0.000) indicating that a unit change in the interaction reduces debt ratio by 0.0004 and the p-value was less than 0.05 indicating that the null hypothesis was rejected and conclude that debt tax shield moderates the relationship between investor power and capital structure. This was consistent with the findings of Angkasajaya and Mahadwartha (2020) demonstrates both the impact of short-term debt on Tobin's Q and the impact of long-term debt on financial performance are moderated by the number of BOD. Because of the number of BOC, the ratio of short-term debt to total assets has a dampening influence on financial performance.

 $H_{08a}$ : Debt tax shield does not moderate the indirect relationship between government power and capital structure.

Table 4.25 model 11 showed that the overall moderated mediation model was not validated by the index of moderated mediation=  $\beta$ = -0.0164(95% CI= -0.0982; 0.0076). The true b-value for the index was between -0.0982 and 0.0076 but included zero, meaning that there was no conditional indirect effect. The results indicated that the null hypothesis was not rejected and conclude that debt tax shield does not moderate the indirect relationship between government power and capital structure. This means that debt tax shield does not moderate the relationship between government power and capital structure via CEO dominance. This was inconsistent with Tetteh, Kwarteng, Gyamera, Lamptey, Sunu and Muda (2022) findings which indicated that the effectiveness of funding decision-making is positively moderated by corporate governance. Inferring that corporate governance may influence how well a corporation performs in terms of its financing choices.

 $H_{08b}$ : Debt tax shield does not moderate the indirect relationship between creditor power and capital structure.

Table 4.25 model 12 showed that the overall moderated mediation model was validated by the index of moderated mediation  $\beta$ =0.0117(95% CI= 0.0055; 0.0211). The true b-value for the index was between 0.0055 and 0.0211. There was no zero in the range, meaning that there was a conditional indirect effect. The results indicated that the null hypothesis was rejected and conclude that debt tax shield moderates the indirect relationship between creditor power and capital structure. This showed that debt tax shield moderates the relationship between creditor power and capital structure through CEO dominance. This was in agreement with Khan and Quaddus (2020) findings that the relationship between the funding mix and business performance was found to be

mediated by capital structure. The results of additional moderated mediation analyses revealed that the financial situation had a moderating effect on this mediation effect.

 $H_{08c}$ : Debt tax shield does not moderate the indirect relationship between investor power and capital structure.

Table 4.25 model 13 revealed that the index of moderated mediation  $\beta$ = 0.0076(95% CI= 0.0039; 0.0133) validated the overall moderated mediation concept. The true b-value for the index was between 0.0039 and 0.0133. There was no zero in the range, meaning that there was conditional indirect effect. The results indicated that the null hypothesis was rejected and conclude that debt tax shield moderates the indirect relationship between investor power and capital structure. This indicated that debt tax shield moderates the mediating effect of CEO dominance on the relationship between investor power and capital structure. This was in line with the findings of Tanui (2021) that capital structure and institutional ownership have a sizable interaction effect on financial performance via corporate diversity.

Table 4.2211: Summary of the Control, Direct Effects and Capital Structure Regression Results

regression results					
variable	Model 1 Coff (p-value)	Model 2 Coff (p-value)	Model 3 Coff (p-value)	Model 4 Coff (p-value)	Model 5 Coff (p-value)
intercept					-1113(0.00)
fsize	0.112(0.00)	0.023(0.01)	0.082(0.052)	0.02(0.032)	156(0.00)
fage	-0.001(0.00)	-0.0009(0.00)	-0.00099(0.00)	-0.00094(0.00)	1.86(0.048)
grth	-0.042(0.00)	-0.020(0.00)	-0.018(0.00)	-0.016(0.00)	-14(0.35)
gp		0.259(0.00)	0.246(0.00)	0.243(0.00)	358(0.07)
ср		0.359(0.00)	0.353(0.00)	0.343(0.00)	181(0.015)
ip		0.054(0.00)	0.053(0.053)	0.054(0.00)	30(0.43)
ceod			0.00003(0.00)	0.00003(0.00)	
dts				-0.00019(0.00)	
Tss	41.387	41.387	41.387	41.387	
Rss	30.045	13.673	13.374	13.037	
$\mathbb{R}^2$	27.404	66.964	67.686	68.499	10.37
Adj. R <sup>2</sup>	25.243	65.777	66.458	67.236	9.323
F-	63.4171	169.252	149.614	135.632	9.893
Statistic					
P-Value	0.00	0.00	0.00	0.00	0.00

Table 4.23: Summary of the Indirect Effects and Capital Structure Regression Results

Variable	Model 6 gp Coff(p-value)	Model 6 cp Coff(p-value)	Model 6 ip Coff(p-value)
ACME	0.1533(0.000)	0.0309(0.000)	0.00782(0.16)
ADE	0.5776(0.000)	0.2933(0.000)	0.06592(0.000)
Total effect	0.7308(0.000)	0.3242(0.000)	0.07374(0.000)
Prop.mediated	0.2084(0.000)	0.0946(0.000)	0.10820(0.16)
95% CI lower	0.0979	0.0174	-0.00242
95% CI upper	0.22	0.05	0.02

**Table 4.24: Summary of the Conditional Direct Effects and Capital Structure** 

variable	Model 7 Coff(p-value)	Model 8 Coff(p-value)	Model 9 Coff(p-value)	Model 10 Coff(p-value)
fsize	0.02(0.03)	0.02(0.02)	0.02(0.02)	0.019(0.03)
fage	-0.0009(0.00)	-0.0009(0.00)	-0.0008(0.00)	-0.0008(0.00)
grth	-0.017(0.00)	-0.016(0.00)	-0.016(0.00)	-0.015(0.00)
gp	0.24(0.00)	0.25(0.00)	0.24(0.00)	0.24(0.00)
ср	0.34(0.00)	0.35(0.00)	0.35(0.00)	0.35(0.00)
ip	0.054(0.00)	0.054(0.00)	0.05(0.00)	0.06(0.00)
ceod	0.00005(0.00)	0.000034(0.00)	0.00003(0.00)	0.00003(0.00)
dts	-0.0002(0.01)	-0.00022(0.00)	-0.0002(0.00)	-0.00016(0.00)
Ceod:dts	-0.000006(0.19)			
gp:dts		0.0027(0.08)	0.005(0.00)	0.0058(0.00)
Cp:dts			-0.0005(0.00)	-0.0005(0.00)
Ip:dts				-0.0004(0.00)
Tss	41.387	41.387	41.387	41.387
Rss	12.994	12.958	12.534	12.247
R2	68.603	68.692	69.714	70.409
Adj. R2	67.279	67.371	68.373	69.037
F-Statistic	120.905	121.403	114.402	107.291
P-Value	0.000	0.000	0.000	0.000

Table 4.25: Summary of the Conditional Indirect Effects and Capital Structure

variable	Model 11 Coff(p-value)	Model 12 Coff(p-value)	Model 13 Coff(p-value)
intercept	0.4077(0.000)	0.2821(0.000)	0.4386(0.000)
gp	0.8335(0.000)	,	,
ср		0.3886(0.000)	
ip			0.2037(0.000)
ceod	0.0009(0.000)	0.0005(0.000)	0.0009(0.000)
dts	-0.0124(0.000)	-0.0047(0.000)	-0.0110(0.000)
Ceod:dts	-0.000(0.1653)	0.0001(0.000)	0.0001(0.000)
gp:dts	0.1492(0.000)		
Cp:dts		-0.0114(0.000)	
Ip:dts			-0.0036(0.0859)
Index of MM	-0.0164	0.0117	0.0076
95% CI lower	-0.0982	0.0055	0.0039
95% CI upper	0.0076	0.0211	0.0133

#### **CHAPTER FIVE**

# SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS

## **5.0 Overview**

This chapter presents the summary of the study findings mainly from the descriptive, correlation and fixed effect regression results, conclusions and recommendations.

# **5.1 Summary of the Findings**

The study main objective was to determine the effect of stakeholder power on capital structure mediated and moderated by CEO dominance and debt tax shield respectively. The study specific objectives were to establish the effect of government power, creditor power, investor power, CEO dominance and debt tax shield on capital structure respectively. Also the study established the mediating effect of CEO dominance on the relationship between government power, creditor power, investor power and capital structure and finally the moderating effect of debt tax shield on the direct and indirect relationship between government power, creditor power, investor power, CEO dominance and capital structure. The study target population was the 67 firms listed in Nairobi securities exchange between the years 2008 to 2020. Out of the 67 firms, 27 were not included in the final sample leaving a total of 40 firms being observed for a period of 13 years giving us a total of 520 firm year observations.

# **5.1.1** Summary of the Descriptive Statistics

The mean debt ratio was 52.08 per cent. This showed that firms listed in Nairobi securities exchange finance their investments and real assets mostly, using debt compared to equity which stands at 47.62 per cent. The reason for using more debt could be because debt is a cheaper source of finance because of the benefits of using debt since the interest is a tax deductible allowance. This was supported by the findings

of Kaur and Khullar (2019) and Onchong'a, Muturi, and Atambo (2016). The mean company firm size was 7.14, minimum firm size was 4.6910 and maximum 9.1280, indicating that, there were small and big firms listed in Nairobi securities exchange. The mean firm age was 67.19 years. It is evident that firms listed in NSE are considerably old meaning that their capital structures are relatively old. Growth opportunities mean was 1.1641, minimum 0.0117 and maximum 26.2179. The average sales per year was higher than the firms' assets. The majority of the firms listed in Nairobi securities exchange made sales which were more than their assets every year. From the minimum and maximum it can be said that, there were firms which make low and high sales compared to their assets respectively. The government power mean was 0.2187. On average taxes paid by firms are lower compared to earnings before interest and tax. The creditor power mean was 0.0381. This mean affirms that firms increase their borrowing every year. The investor power mean was 0.1726, this means on average the return to shareholders in terms of capital gains and dividends increases every year and that, most of the firms do pay dividend. CEO power had a mean of 0.0188, meaning that on average of the total firm assets CEO remuneration expense is financed by only 1.88%. Debt tax shield had a mean of 0.0335. Firms listed in Nairobi securities exchange make tax savings that results from the use of debt.

## **5.1.2 Summary of the Correlation Results**

The correlation results reported that government power was positive and strongly correlated to capital structure (0.38, p=0.000) meaning the relationship between government power and capital structure was positive and significant, that is an increase in government power significantly increases debt ratio by 0.38. This was in line with the findings of Faccio and Xu (2011). The relationship between firm size and capital structure was positive and significant (0.4, p=0.000), meaning that debt ratio

significantly increases with increase in firm size by 0.4. This disagrees with the findings of Serghiescu and vaidean (2014) and oztekin (2015), Debt tax shield and capital structure had a weak, negative and significant relationship (-0.28, p=0.000), indicating that an increase in debt tax shield significantly decreases capital structure by 0.28. Inconsistent with this finding is the study by Kliestick et.al (2018). CEO dominance and capital structure relationship was weak, positive and significant (0.29, p=0.000), meaning that debt ratio significantly increases with increase in CEO dominance by 0.29. This was contrary with the findings of Jiraporn, Chintrakarn and Liu (2012). The creditor power and capital structure relationship was strong, positive and significant (0.76, p=0.000). This meant that an increase in creditor power significantly increases debt ratio by 0.76, this was in line with the findings of Cortez, and Susanto, (2012). The relationship between capital structure and firm age was weak, negative and significant (-0.17, p=0.000), meaning that an increase in firms age significantly reduces debt ratio by 0.17. This was inconsistent with the findings of Ezeoha and Botha (2012). Growth opportunities relationship with capital structure was weak, negative and significant (-0.36, p=0.000), indicating that debt ratio significantly reduces with increase in growth opportunities by 0.36 and investor power relationship with capital structure was moderately strong, positive and significant (0.33, p=0.000). This meant that with an increase in investor power leads to increase in debt ratio by 0.33. This was inconsistent with the findings of Alipour, Mohammadi and Derakhshan, (2015) and Vatavu (2015).

## **5.1.3 Summary of the Regression Results**

The study regression results showed that the stakeholder power had a significant effect on capital structure. The study results revealed that there were mixed results in the relationship between the stakeholder proxies and capital structure. Firm size, government power, creditor power, investor power and CEO dominance had a positive

and significant effect on capital structure, indicating that a unit change of these variables significantly increases debt ratio. This means that when firm size, government power, creditor power, investor power and CEO dominance are increased by one unit, firms in Nairobi securities exchange respond by using more debt to finance their investments than to use equity capital which is in line with the pecking order theory. On the other hand, firm age, growth opportunities and debt tax shield had a negative but significant effect on capital structure, reporting that a unit change in these variables significantly decreases debt ratio. Meaning that when firm age, growth opportunities and debt tax shield are increased, firms in Nairobi securities exchange react by using more equity than debt in financing their investments, something that is against the pecking order theory. The mediating effect of CEO dominance showed that CEO dominance mediated the relationship between government power, and capital structure and the relationship between creditor power and capital structure but could not mediate the relationship between investor power and capital structure. This indicated that when CEO dominance is introduced as a mediator between government power, creditor power and capital structure, firms in Nairobi securities exchange react by borrowing more to finance their investments thus, conforming to the pecking order argument. The moderating effect reported that when debt tax shield is introduced into the relationship between government power and capital structure, the relationship was enhanced. Meaning that the interaction causes firms listed in Nairobi securities exchange to use more debt than equity to finance their assets. Also the interaction between debt tax shield, creditor power and investor power causes firms listed in Nairobi securities exchange to use less debt than equity in financing their investments, because the interaction reduces the relationship with capital structure. Debt tax shield could not moderate the relationship between the government power indirect effect and capital structure but moderated the relationship between creditor power and investor power indirect effect and capital structure. This showed that debt tax shield enhanced the relationship between creditor power, investor power and capital structure via CEO dominance hence, firms listed in Nairobi securities uses more debt than equity.

# **5.1.3.1** Summary of the Control Variable Results

The firm size had a positive and significant effect on capital structure ( $\beta$ =0.019, p=0.03) indicating that a unit change in firm size significantly increases debt ratio by 0.019. This was in agreement with the findings of Lim (2012) and oino (2013). Firm age had a negative and significant effect on capital structure ( $\beta$ = -0.0008, p=0.000) meaning that a unit change in the firm's age leads to 0.0008 significant decrease in firm's debt ratio. This was in line with the findings of Chang, Ding, Lou and Yang (2020), Qureshi, Imdadullah and Ahsan (2012) and Devi and Devi (2014). Growth opportunities had a negative and significant relationship with capital structure ( $\beta$ = -0.015, p=0.000) indicating that a unit change in firms growth opportunities significantly reduces debt ratio by 0.015. This was inconsistent with the findings of Gomez, Rivas and Bolaños, (2014).

## **5.1.3.2** Government Power and Capital Structure

Government power had a positive and significant effect on capital structure ( $\beta$ =0.24, p=0.000) reporting that a unit change in government power significantly increases debt ratio by firms listed in Nairobi securities exchange by 0.24. The p-value indicated that the null hypothesis was rejected and conclude that government power affects capital structure. This was in line with the findings of Alipour, Mohammadi and Derakhshan (2015), Karadeniz et al. (2009) and Huang and Song (2006).

## 5.1.3.3 Creditor Power and Capital Structure

Creditor power had a positive and significant relationship on capital structure ( $\beta$ =0.35, p=0.000) indicating that a unit change in creditor power significantly increases debt ratio by 0.35. The p-value was less than 0.05 meaning that the null hypothesis was rejected and conclude that creditor power significantly affects capital structure. This was in line with the findings of Cortez, and Susanto, (2012) and Goh (2017).

## **5.1.3.4 Investor Power and Capital Structure**

Investor power had a positive and significant effect on capital structure ( $\beta$ =0.06, p=0.000) meaning that a unit change in investor power significantly increases debt ratio by 0.06. The p-value was less than 0.05 indicating that the null hypothesis was rejected and conclude that investor power significantly affects capital structure. This was affirmed by the findings of Venugopal and Reddy (2016) and Mujahid, and Akhtar (2014).

## **5.1.3.5 CEO Dominance and Capital Structure**

CEO dominance had a positive and significant effect on capital structure ( $\beta$ =0.00003, p=0.000) showing that a unit change in CEO dominance significantly increases debt ratio by 0.0003. The p-value was less than 0.05 indicating that the null hypothesis was rejected and conclude that CEO dominance significantly affects capital structure. This disagreed with the findings of Jiraporn, Chintrakarn and Liu (2012).

# 5.1.3.6 Debt Tax Shield and Capital Structure

Debt tax shield had a negative and significant relationship on capital structure ( $\beta$ = -0.00016, p=0.000) indicating that a unit change in debt tax shield significantly reduces debt ratio by 0.00016 in the next period. The p-value was less than 0.05 meaning that

the null hypothesis was rejected and conclude that debt tax shield significantly affects capital structure. This is in line with the findings of Doidge and dyck (2011).

# **5.1.3.7 Mediating Effect of CEO Dominance**

The regression results found that the effect of government power on capital structure that goes through the CEO dominance was positive and significant ( $\beta$ =0.1533, p=0.000) indicating that a unit change in the entire indirect effect of government power lead to significant increase in debt by 0.1533. The p-value was less than 0.05 indicating that the study rejected the null hypothesis and conclude that CEO dominance mediates the relationship between government power and capital structure. This disagreed with the findings of Chintrakarn, Jiraporn and Singh (2014).

The effect of average causal mediation effect of creditor power on capital structure that goes through the CEO dominance was positive and significant ( $\beta$ =0.0309, p=0.000) indicating that a unit change in the entire indirect effect of creditor power significantly increases debt ratio by 0.309. The p-value was less than 0.05 indicating that the null hypothesis was rejected and conclude that CEO dominance mediates the relationship between creditor power and capital structure. This was consistent with the findings of Azizan and Kweh (2015).

The average causal mediation effect of investor power on capital structure that goes through the CEO dominance was positive and insignificant ( $\beta$ = 0.00782, p=0.16) indicating that a unit change in the entire indirect effect of investor power insignificantly increases debt ratio by 0.00782. The p-value was more than 0.05 showing that the null hypothesis was not rejected and conclude that CEO dominance does not mediate the relationship between investor power and capital structure. This disagreed with the findings of Serfling, (2014).

## 5.1.3.8 Moderating Effect of Debt Tax Shield

The moderation regression results showed that the interaction between CEO dominance and debt tax shield had a negative and insignificant effect on capital structure ( $\beta$ = -0.000006 p=0.19) indicating that a unit change in the interaction insignificantly decreases debt ratio by 0.000006. The p-value was more than 0.05 meaning that the study failed to reject the null hypothesis and conclude that Debt Tax Shield does not moderate the relationship between CEO dominance and capital structure. This was contrary to the finding of Abel (2015).

The interaction between government power and debt tax shield had a positive and significant effect on capital structure ( $\beta$ =0.0058, p=0.000) indicating that a unit change in the interaction significantly increases debt ratio by 0.0058. The p-value was less than 0.05 indicating that the null hypothesis was rejected and conclude that Debt Tax Shield significantly moderates the relationship between government power and capital structure. This was in agreement with the findings of Salubi, and Marcella (2016).

The interaction between creditor power and debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.0005, p=0.000) indicating that a unit change in the interaction significantly reduces debt ratio by 0.0005. The p-value was less than 0.05 indicating that the null hypothesis was rejected and conclude that debt tax shield moderates the relationship between creditor power and capital structure. This was consistent with the findings of Cho, El Ghoul, Guedhami and Suh (2014).

The interaction between investor power and debt tax shield had a negative and significant effect on capital structure ( $\beta$ = -0.0004, p=0.000) indicating that a unit change in the interaction significantly reduces debt ratio by 0.0004. The p-value was less than 0.05 indicating that the null hypothesis was rejected and conclude that debt

tax shield significantly moderates the relationship between investor power and capital structure. This agreed with the findings of Acheampong, Agalega and Shibu (2014).

# 5.1.3.9 Moderated Mediation Effect of Debt Tax Shield through CEO Dominance

The results indicated that the null hypothesis was not rejected and conclude that debt tax shield does not moderate the indirect relationship between government power and capital structure. This was not validated with the index of moderated mediation  $\beta$ = -0.0164(95% CI= -0.0982; 0.0076). The true b-value for the index was between -0.0982 and 0.0076 included zero. This means that when we increase the conditional indirect effect of government power by one unit debt insignificantly decreases debt ratio by 0.0164. This disagreed with the finding of Faccio and Xu (2011).

The results indicated that the null hypothesis was rejected and conclude that debt tax shield moderates the indirect relationship between creditor power and capital structure. This was validated with the index of moderated mediation  $\beta$ = 0.0117(95% CI= 0.0055; 0.0211). The true b-value for the index was between 0.0055 and 0.0211 indicating that there was relationship between the true conditional indirect effect of creditor power and capital structure. This also showed that when the moderated mediation of creditor power is increased capital structure significantly increases by 0.0117. This was consistent with the finding of Cortez, and Susanto, (2012).

The conditional indirect effect of investor power indicated that the null hypothesis was rejected and conclude that debt tax shield moderates the indirect relationship between creditor power and capital structure. This was validated with the index of moderated mediation  $\beta$ = 0.0076(95% CI= 0.0039; 0.0133). The true b-value for the index was between 0.0039 and 0.0133 but did not included zero. This means that when the conditional indirect relationship between investor power and capital structure is

increased it significantly inreases debt ratio by 0.0076. This was in line with the findings of Jozwiak (2015).

## 5.2 Conclusions

The study sought to investigate the effects of control variables, stakeholder power proxies, CEO dominance and debt tax shield on capital structure; the mediating effect of CEO dominance on the relationship between stakeholder power proxies and capital structure; the moderating effect of debt tax shield on the relationship between stakeholder power proxies and capital structure; and the moderating effect of debt tax shield on the indirect effect of stakeholder power proxies on capital structure.

The study found that an increase in firm size significantly increases the debt ratio. This means that when firms' assets increase, firms listed on the Nairobi securities exchange tend to increase borrowing; therefore, they use more leverage in their capital structure compared to equity in financing their real investment. The use of more debt can be explained by the firm's having available collateral due to increased assets, which secures the debt, as creditors need security for the loan taken. Firm age reduces debt ratio significantly, implying that mature firms view debt negatively and, as a result, use less and more equity to finance their real investment. The findings also show that young firms cannot avoid loans; therefore, they finance their real investments using more debt than equity. Finally, an increase in growth opportunities significantly reduces the debt ratio. This means that firms with high revenues use more equity than debt in financing their real investments. Since retained earnings are viewed as shareholders' money, high revenues mean that a firm is profitable, therefore retaining more earnings that can be re-invested into the firm.

The study findings on the stakeholder power proxies found that government power had a direct effect on the capital structure. A high government power significantly increases the debt ratio, meaning that firms listed on the Nairobi securities exchange use more debt than equity when the government power is relatively high. When the government increases taxes, it leads to a high effective tax rate within the firm; therefore, firms react by borrowing more and issuing less equity. This means that, with increased taxes, firms listed on the Nairobi securities exchange tend to use more debt than equity in their capital structure in financing real investment.

The study found that creditor power had a direct effect on the capital structure. A high creditor power increases the debt ratio, meaning that firms listed on the Nairobi securities exchange use more debt than equity to finance real investment when the creditor power is considerably high. Firms listed on the Nairobi securities exchange use more debt every year compared to equity in funding their assets when there are insufficient funds within the firm. This affirms the pecking order theory that firms use retained earnings to finance investments, and in the event that there is a deficit, the firm will go for debt, with equity being the last resort.

The study also found that investor power had a direct effect on the capital structure. A high level of investor power increased the debt ratio, which means that firms listed on the Nairobi Securities Exchange use more debt than equity to fund investment projects. This is also in line with the arguments of pecking order theory and static trade off theory. Firms that declare dividends to their shareholders every year encourage borrowing to finance their assets rather than issuing equity, meaning that firms described as having high shareholder returns use more debt than equity.

The CEO's dominance had a direct and significant relationship with the capital structure. This is contrary to the findings of other studies. But the findings of this study expressed a positive relationship, meaning that firms with high CEO dominance view debt positively and, therefore, use more debt than equity in financing real investment. Firms characterized by a high CEO package will tend to borrow more than issue equity when the firm faces deficits in funding projects.

The study also found that the debt tax shield had a direct negative effect on the capital structure. Increased debt tax shield reduces debt ratio significantly, implying that with increased tax savings, firms tend to use less debt than equity in the following period. This can be attributed to firms achieving their investment objective and that tax savings alone is not the reason why firms borrow, but there could be other factors like a firm's having an investment opportunity or project to be funded.

The study also sought to determine the mediating effect of CEO dominance and found that it significantly increases the relationship between government power and capital structure. With the introduction of CEO dominance as a mediator between government power and capital structure, it increases the relationship, meaning that when government power is high and goes through CEO dominance, its effects are significantly increased and it results in an increased debt ratio. Also, when creditor power is considerably high and goes via CEO dominance, it significantly increases its effects, resulting in a significantly increased debt ratio. This means that firms issue less equity and borrow more when creditor power goes through CEO dominance. Finally, CEO dominance insignificantly increases the effect of investor power on the capital structure. Hence, firms insignificantly issue less equity than debt, indicating that when investor power goes through CEO dominance, the debt ratio is increased insignificantly.

The study also sought to determine the moderating effect of the debt tax shield and found that the interaction between CEO dominance and the debt tax shield does not affect capital structure. This means that high CEO power with the introduction of tax savings does not affect debt ratio and equity in financing firm assets. Here the interaction sees dominant CEOs viewing leverage indifferently. The interaction between government power and the debt tax shield increased the relationship between government power and the capital structure. That is, the introduction of the debt tax shield into the relationship increases the debt ratio. Therefore, firms tend to use less equity than debt in financing their investments. The interaction between creditor power and the debt tax shield reduces the relationship between creditor power and the capital structure. This means that with the introduction of the debt tax shield into the relationship, the debt ratio is reduced. Therefore, the interaction reduces the debt ratio. Hence, firms use less debt and more equity in funding investments. This indicates that the firm reduces borrowing and issues more equity. The interaction between investor power and the debt tax shield reduces the relationship between investor power and the capital structure. This means that the interaction decreases the debt ratio. Therefore, firms use less debt than equity. When there are high shareholder returns with high tax savings, firms tend to issue equity rather than borrow.

The study also sought to explore the moderating effect of the debt tax shield on the indirect relationship between government power, creditor power, and investor power and the capital structure via CEO dominance and found that the debt tax shield insignificantly reduces the indirect relationship between government power and the capital structure. This means that when a debt tax shield is introduced into the indirect relationship, it insignificantly reduces the debt ratio. Therefore, with the introduction of the debt tax shield, firms tend to use less debt and more equity, indicating that firms

will tend to issue more equity than borrow, something that is against the pecking order principle. The debt tax shield enhanced the relationship between creditor power and capital structure, meaning that when the debt tax shield is introduced into the relationship, firms will react by borrowing more and issuing less equity to finance their investments. Finally, debt tax shield increased the indirect relationship between investor power and capital structure, indicating that an increase in the conditional indirect effect of investor power significantly affect capital structure. This means that firms borrow more to finance their real investments.

## **5.3 Recommendations**

In response to the study's results, the study included policy recommendations, practical suggestions, management suggestions, theoretical considerations, and recommendations for further research.

## **5.3.1 Policy Recommendations**

The report suggests that financial institutions should ensure that all barriers to capital access are removed, such as policy restrictions, a weak financial system, business regulations, trade regulations, tax regulations, a changing tax code, corruption, labor regulations, the cost of capital, and fierce competition for scarce opportunities, as evidenced by the fact that enterprises listed on the Nairobi Securities Exchange prefer to finance their assets with debt rather than equity. This is especially important for new businesses, as older businesses rely on stock rather than debt financing. Furthermore, capital market authorities should ensure the efficiency of the capital and money markets so that listed companies can borrow and issue equity when they need to invest.

The study also recommends that company boards should monitor CEOs dominance to ensure that they are dominant, as this increases the need for borrowing to fund investments, which could enhance CEO efficiency and effectiveness. This could also allow companies to take advantage of the tax benefits that accompany debt.

The study also suggests that profitable companies should declare and deliver dividends to shareholders on a regular basis, as this encourages companies to use debt rather than issue equity. Firms will be able to benefit from tax shelters, increasing the value of their businesses, and CEOs will have little choice but to use debt to finance company projects.

# **5.3.2 Practical Implications**

The study findings on government power, creditor power, investor power, CEO dominance, debt tax shield, and the mediating and moderating effects of CEO dominance and debt tax shield, respectively, were important in deciding whether a firm should go for debt or issue equity to finance real investment. From the findings, government power, creditor power, investor power, and CEO dominance were the most important determinants of firms using debt to finance their investments, and on the other hand, the debt tax shield is viewed to discourage firms from borrowing when it comes to financing projects.

The CEO's mediating effect showed that CEO dominance partially explains the relationship between government power, creditor power and capital structure. When the firm has a dominant CEO, it partially explains the increase in capital structure, making firms more likely to issue less equity and borrow more in order to finance real investment.

The moderating effect of the debt tax shield on the direct and indirect relationship between government power, creditor power, investor power and capital structure showed that debt tax shield enhanced the relationship between government power and capital structure but reduced the relationship between creditor power, investor power and capital structure. Debt tax shield also enhanced the relationship between the indirect effects of creditor power and investor power on capital structure via CEO dominance.

## **5.3.3** Managerial Implication

Management should come up with a model that will address the interests of the various stakeholders under this study, as argued by stakeholder theory. When the management meets the interests of every stakeholder under the study, the firms react by borrowing more and issuing less equity in financing their assets. This will be good as debt is accompanied with tax benefits, improving the value of the firm, and also, out of debt, firms' management will be efficient and effective in allocating their resources.

# **5.3.4 Theoretical Implication**

The study findings are important in adding knowledge in the area of capital structure, where scholars will benefit from it, and also in adding knowledge in the area of stakeholder power, especially in areas that include government power, creditor power, investor power, CEO dominance, and debt tax shield. The research also makes scholarly contributions in the area of mediating the effect of CEO dominance on the relationship between stakeholder proxies, which includes government power, creditor power, investor power, and capital structure. Also, the moderating effect of the debt tax shield on the direct and indirect stakeholder power proxies and capital structure.

The study findings showed that firms listed on the Nairobi securities exchange finance their assets both using debt and equity. This confirms the arguments made under the optimal capital structure that firms finance their assets using mainly a mixture of debt and equity. The findings show that firms prefer debt to equity, confirming the pecking

order theory that firms finance their investments first with internal earnings; if these are insufficient, firms will turn to debt and equity as a last resort. The study findings showed that firms use different levels of debt in financing their investments conforming to the argument by the statistic trade off theory that firms have a target leverage ratio and work towards that target. The findings also indicated that parties to a firm have different kind of interests and firms management sartify these interests differently and that way confirming the arguments cited by stakeholder theory.

#### 5.4 Recommendations for Further Research

The study recommends that the same research could be carried out among other firms not listed at the Nairobi securities exchange. The study can be carried out among unlisted firms and also among firms listed on other securities exchanges.

The study found contradictory results compared to findings of other studies on the areas of CEO dominance and debt tax shield. The study recommends that the same study be carried out, especially focusing on the CEO dominance and debt tax shield but with different statistical powers or measurements.

Three control variables were used for this study, and it is recommended that further research be done and explored on other control variables that might affect capital structure like profitability, tangibility, and industry, which include many more determinants of capital structure.

The study looked at only three stakeholders, and it is recommended that further research should consider other stakeholders, especially internal stakeholders, and how they may affect the capital structure.

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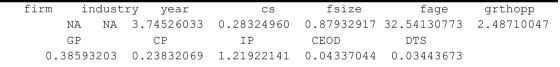
#### **APPENDICES**

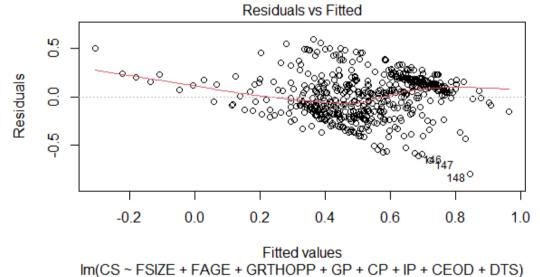
#### **Appendix I: Output Tables**

#### Summary statistics

firm ir	ndustry	year	CS
Length:520	Length:520	Min. :2008	Min. :0.003642
Class :character	Class :character	1st Qu.:2011	1stQu.:0.270676
Mode :character	Mode :character	Median :2014	Median 0.523766
		Mean :2014	Mean :0.520828
		3rd Qu.:2017	3rd Qu.:0.822424
		Max. :2020	Max. :0.981006
fsize	fage g	grthopp	gp
Min. :4.691 Mi	n. : 1.00 Min.	: 0.01174	Min. :-3.5986
1st Qu.:6.515 1s	st Qu.: 45.00 1st	Qu.: 0.11668	1st Qu.: 0.1861
Median:7.092 Me	edian : 59.00 Medi	an : 0.53817	Median : 0.2992
Mean :7.140 Me	ean : 67.19 Mean	: 1.16405	Mean : 0.2187
3rd Qu.:7.824 3r	rd Qu.: 91.00 3rd	Qu.: 1.07985	3rd Qu.: 0.3289
Max. :9.128 Ma	ax. :151.00 Max.	:26.21794	Max. : 3.7513
ср	ip	ceod	dts
Min. :-1.42939	Min. :-0.96696	Min. :0.000058	Min.:0.000008
1st Qu.:-0.01820	1st Qu.:-0.20849	1st Qu.:0.002875	1st Qu.:0.012302
Median : 0.02996	Median : 0.00375	Median :0.008476	Median :0.024644
Mean : 0.03814	Mean : 0.17264	Mean :0.018804	Mean :0.033523
3rd Qu.: 0.12046	3rd Qu.: 0.25280	3rd Qu.:0.018972	3rd Qu.:0.042918
Max. : 0.97526	Max. :21.95082	Max. :0.690506	Max. :0.320179

#### sapply (mutwolanalysis,sd)





**Figure 4.5 Linearity Test** 

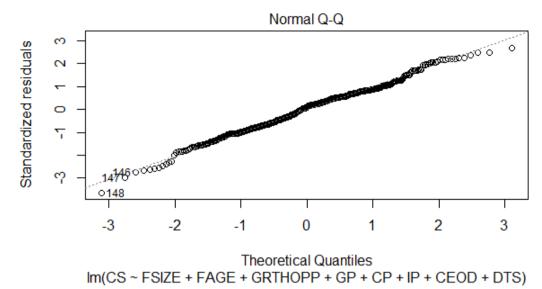


Figure 4.6 Normality Test

#### **Shapiro-Wilk normality test**

data: mutwolanalysis
W = 0.96459, p-value = 0.2397

#### **Variance Inflation Factor**

fsize fage grth gp cp ip ceod dts
1.262675 1.025019 1.138545 1.157919 1.430033 1.075630 1.117449 1.080704

#### **Correlation matrix**

res2 <- rcorr(as.matrix(final analysis))</pre> > res2 cs fsize fage grth ceod dts ср ip CS 1.00 fsize 0.40 1.00 fage -0.17 -0.07 1.00 -0.36 -0.17 -0.01 grth 0.38 0.28 -0.03 -0.12 1.00 gр 0.76 0.38 -0.10 -0.31 0.30 1.00 ср 0.11 -0.02 -0.05 ip 0.33 0.16 0.24 1.00 0.29 0.26 0.06 -0.12 0.18 0.23 0.10 ceod -0.28 -0.06 0.07 0.20 -0.07 -0.22 -0.02 -0.08 1.00 dts n = 520

#### P-Values

```
CS
             fsize fage
                           grth
                                                ip
                                                       ceod
                                  qр
                                         ср
dts
CS
fsize 0.0000
fage 0.0001 0.1298
grth 0.0000 0.0001 0.7890
     0.0000 0.0000 0.5262 0.0050
gp
      0.0000 0.0000 0.0201 0.0000 0.0000
ср
     0.0000 0.0132 0.6675 0.2733 0.0003 0.0000
ip
ceod 0.0000 0.0000 0.2023 0.0055 0.0000 0.0000 0.0275
      0.0000 0.1974 0.1226 0.0000 0.1235 0.0000 0.5747 0.0629
dts
```

#### **Phillips-Perron Unit Root Test**

Dickey-Fuller = -19.839, Truncation lag parameter = 5, p-value = 0.01

#### **Fixed effects**

```
Oneway (individual) effect Within Model
Call:
plm(formula = cs ~ gp + cp + ip + ceod + dts, data = final_analysis, model = "within", index = "year")
Balanced Panel: n = 13, T = 40, N = 520
Residuals:
    Min. 1st Qu. Median 3rd Qu. Max.
-0.532582 -0.116264 0.013126 0.112618 0.681846
Coefficients:
```

```
Estimate
                 Std. Error t-value
                                     Pr(>|t|)
     2.6568e-01 4.8061e-02 5.5278 5.219e-08 ***
qр
     3.7952e-01
                 1.7347e-02 21.8783 < 2.2e-16 ***
Ср
     5.2737e-02
                  9.6842e-03 5.4457 8.091e-08 ***
ip
ceod 3.5673e-05
                 1.0508e-05 3.3948 0.0007413 ***
dts -2.3664e-04
                 5.5302e-05 -4.2791 2.248e-05 ***
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1
```

```
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 '' 1
```

Total Sum of Squares: 41.387
Residual Sum of Squares: 14.134

R-Squared: 0.6585 Adj. R-Squared: 0.64693

F-statistic: 193.597 on 5 and 502 DF, p-value: < 2.22e-16

#### Random effects

```
Oneway (individual) effect Random Effect Model
   (Swamy-Arora's transformation)
Call:
plm(formula = cs ~ qp + cp + ip + ceod + dts, data =
final analysis, model = "random", index = "year")
Balanced Panel: n = 13, T = 40, N = 520
Effects:
                 var std.dev share
idiosyncratic 0.02815 0.16779
           0.00000 0.00000
individual
theta: 0
Residuals:
    Min.
          1st Qu. Median 3rd Qu.
                                           Max.
-0.585978 -0.123807 0.011765 0.121506 0.703927
Coefficients:
```

	Estimate	Std. Error	z-value	Pr(> z )
(Intercept)	2.6174e-01	1.2527e-02	20.8940	< 2.2e-16 ***
gp	2.4854e-01	4.7801e-02	5.1994	1.999e-07 ***
ср	3.7536e-01	1.7275e-02	21.7287	< 2.2e-16 ***
ip	4.6977e-02	9.4808e-03	4.9549	7.236e-07 ***
ceod	3.8354e-05	1.0558e-05	3.6327	0.0002805 ***
dts	-2.5530e-04	5.5371e-05	-4.6107	4.014e-06 ***

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1

Total Sum of Squares: 41.64 Residual Sum of Squares: 14.775

R-Squared: 0.64516 Adj. R-Squared: 0.64171

Chisq: 934.539 on 5 DF, p-value: < 2.22e-16

#### Hausman Test

```
data: cs ~ gp + cp + ip + ceod + dts
chisq = 82.272, df = 5, p-value = 2.808e-16
alternative hypothesis: one model is inconsistent
```

#### Summary (model1): control variables and capital structure

```
Oneway (individual) effect Within Model
Call:
plm(formula = cs ~ fsize + fage + grth, data = final analysis,
   model = "within", index = "year")
Balanced Panel: n = 13, T = 40, N = 520
Residuals:
    Min.
                     Median
           1st Qu.
                               3rd Qu.
                                            Max.
-0.599399 -0.187147 0.017211 0.171630 0.630593
Coefficients:
       Estimate Std. Error t-value Pr(>|t|)
fsize 0.1115223 0.0125139 8.9119 < 2.2e-16 ***
fage -0.0012925 0.0003326 -3.8861 0.0001155 ***
grth -0.0418617 0.0053180 -7.8717 2.157e-14 ***
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
Total Sum of Squares:
                        41.387
Residual Sum of Squares: 30.045
R-Squared:
               0.27404
Adj. R-Squared: 0.25243
F-statistic: 63.4171 on 3 and 504 DF, p-value: < 2.22e-16
```

### Summary (Model2): Control, Independent Variables and Capital Structure

```
Oneway (individual) effect Within Model
Call:
plm(formula = cs ~ fsize + fage + grth + gp + cp + ip, data =
final analysis,
   model = "within", index = "year")
Balanced Panel: n = 13, T = 40, N = 520
Residuals:
    Min.
         1st Qu.
                  Median
                          3rd Qu.
-0.551354 -0.096804 0.011094 0.110366 0.645758
Coefficients:
       Estimate Std. Error t-value Pr(>|t|)
fsize 0.02329801 0.00928736 2.5086
                                0.01244 *
fage -0.00093218 0.00022581 -4.1282 4.282e-05 ***
grth -0.01864646 0.00374141 -4.9838 8.602e-07 ***
     gp
     ср
     ip
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
Total Sum of Squares:
                   41.387
Residual Sum of Squares: 13.673
R-Squared:
             0.66964
Adj. R-Squared: 0.65777
F-statistic: 169.252 on 6 and 501 DF, p-value: < 2.22e-16
```

## Summary (Model3): Control, Independent, Mediating Variables and Capital Structure

```
Oneway (individual) effect Within Model
Call:
plm(formula = cs ~ fsize + fage + grth + gp + cp + ip + ceod,
   data = final analysis, model = "within", index = "year")
Balanced Panel: n = 13, T = 40, N = 520
Residuals:
             1st Ou.
                         Median
                                   3rd Ou.
-0.5412760 -0.1001799 0.0060187 0.1137107 0.6244808
Coefficients:
        Estimate Std. Error t-value Pr(>|t|)
fsize 1.8152e-02 9.3225e-03 1.9471 0.0520805 .
fage -9.9393e-04 2.2431e-04 -4.4310 1.154e-05 ***
grth -1.8145e-02 3.7070e-03 -4.8948 1.330e-06 ***
      2.4608e-01 4.7637e-02 5.1658 3.465e-07 ***
qр
      3.5253e-01 1.8083e-02 19.4953 < 2.2e-16 ***
ср
      5.3378e-02 9.4401e-03 5.6544 2.634e-08 ***
iр
      3.4823e-05 1.0420e-05 3.3421 0.0008937 ***
ceod
Signif. codes: 0 '***' 0.001 '**' 0.05 '.' 0.1 ' ' 1
Total Sum of Squares:
                        41.387
Residual Sum of Squares: 13.374
R-Squared:
               0.67686
Adj. R-Squared: 0.66458
F-statistic: 149.614 on 7 and 500 DF, p-value: < 2.22e-16
```

### Summary (model4): Control, Independent, Mediating, moderating Variables and Capital Structure

```
Oneway (individual) effect Within Model
Call:
plm(formula = cs \sim fsize + fage + grth + gp + cp + ip + ceod +
   dts, data = final_analysis, model = "within", index =
"year")
Balanced Panel: n = 13, T = 40, N = 520
Residuals:
             1st Qu.
                         Median
                                   3rd Qu.
-0.5480755 -0.0978432 0.0064606 0.1122679 0.6220480
Coefficients:
        Estimate Std. Error t-value Pr(>|t|)
fsize 1.9820e-02 9.2255e-03 2.1484 0.0321655 *
fage -9.4045e-04 2.2220e-04 -4.2325 2.751e-05 ***
grth -1.6143e-02 3.7060e-03 -4.3560 1.609e-05 ***
      2.4284e-01 4.7089e-02
                             5.1571 3.624e-07 ***
qр
      3.4255e-01 1.8087e-02 18.9393 < 2.2e-16 ***
ср
      5.4280e-02 9.3333e-03 5.8157 1.079e-08 ***
ceod
      3.3343e-05 1.0306e-05 3.2352 0.0012961 **
     -1.9389e-04 5.4030e-05 -3.5886 0.0003653 ***
dts
```

```
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 '' 1
```

Total Sum of Squares: 41.387 Residual Sum of Squares: 13.037

R-Squared: 0.68499 Adj. R-Squared: 0.67236

F-statistic: 135.632 on 8 and 499 DF, p-value: < 2.22e-16

### Summary (model5): control, independent variables and CEO dominance

```
Call:
```

lm(formula = ceod ~ fsize + fage + grth + gp + cp + ip, data =
final analysis)

#### Residuals:

Min 1Q Median 3Q Max -571.1 -244.2 -152.7 -30.6 6185.5

#### Coefficients:

#### Estimate Std. Error t value Pr(>|t|)

(Intercept)	-1113.0928	275.6525	-4.038	6.21e-05	***
fsize	156.1623	38.3269	4.074	5.34e-05	***
fage	1.8631	0.9439	1.974	0.0489	*
grth	-14.6967	15.7106	-0.935	0.3500	
gp	358.6404	198.3522	1.808	0.0712	
ср	181.5408	74.8719	2.425	0.0157	*
ip	30.4269	38.8442	0.783	0.4338	

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 '' 1

Residual standard error: 695 on 513 degrees of freedom

Multiple R-squared: 0.1037, Adjusted R-squared: 0.09323

F-statistic: 9.893 on 6 and 513 DF, p-value: 2.433e-10

### Summary (model6a) Government Indirect Effect on Capital Structure

Causal Mediation Analysis

Quasi-Bayesian Confidence Intervals

		Estimate	95%	CI Lower	95%	CI	Upper	p-value	
ACME		0.1533		0.0979			0.22	<2e-16	***
ADE		0.5776		0.4258			0.73	<2e-16	***
Total	Effect	0.7308		0.5747			0.89	<2e-16	***
Prop.	Mediated	0.2084		0.1304			0.31	<2e-16	***

\_\_\_

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 '' 1

Sample Size Used: 520 Simulations: 1000

### Summary (model6b) Creditor Power Indirect Effect on Capital Structure

Causal Mediation Analysis Quasi-Bayesian Confidence Intervals Estimate 95% CI Lower 95% CI Upper p-value 0.0309 0.0174 0.05 <2e-16 \*\*\* **ACME** 0.33 <2e-16 \*\*\* ADE 0.2933 0.2578 0.36 <2e-16 \*\*\* Total Effect 0.3242 0.2891 0.0946 0.0529 0.14 <2e-16 \*\*\* Prop. Mediated Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 '' 1 Sample Size Used: 520 Simulations: 1000

### Summary (model6c) Investor Power Indirect Effect on Capital Structure

Causal Mediation Analysis

Quasi-Bayesian Confidence Intervals

Estimate 95% CI Lower 95% CI Upper p-value 0.02 **ACME** 0.00782 -0.00242 0.10 <2e-16 \*\*\* ADE 0.06592 0.03081 Total Effect 0.07374 0.03951 0.11 <2e-16 \*\*\* Prop. Mediated 0.10820 -0.04137 0.27 0.16 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 '' 1

Sample Size Used: 520

Simulations: 1000

### Summary (Model7): Moderated Effect of Debt Tax Shield on the Relationship between CEO Dominance and Capital Structure

```
Oneway (individual) effect Within Model
plm(formula = cs ~ fsize + fage + grth + gp + cp + ip + ceod +
   dts + ceod * dts, data = final analysis, model = "within",
    index = "year")
Balanced Panel: n = 13, T = 40, N = 520
Residuals:
     Min.
             1st Qu.
                         Median
                                   3rd Qu.
                                                Max.
-0.5440049 -0.0977573 0.0063602 0.1117641 0.6211816
Coefficients:
           Estimate Std. Error t-value Pr(>|t|)
fsize
        2.0332e-02 9.2280e-03 2.2033 0.028027 *
       -9.3040e-04 2.2219e-04 -4.1875 3.336e-05 ***
fage
        -1.6523e-02 3.7153e-03 -4.4473 1.073e-05 ***
grth
         2.4146e-01 4.7071e-02 5.1298 4.163e-07 ***
gp
         3.4243e-01 1.8075e-02 18.9447 < 2.2e-16 ***
ср
         5.4002e-02 9.3297e-03 5.7881 1.260e-08 ***
ip
        4.7031e-05 1.4800e-05 3.1778 0.001576 **
ceod
        -1.5745e-04 6.0960e-05 -2.5828 0.010084 *
ceod:dts -6.0175e-06 4.6724e-06 -1.2879 0.198385
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 '' 1
Total Sum of Squares:
                       41.387
Residual Sum of Squares: 12.994
R-Squared:
               0.68603
Adj. R-Squared: 0.67279
```

F-statistic: 120.905 on 9 and 498 DF, p-value: < 2.22e-16

### Summary (Model8) Government Power and Debt Tax Shield Conditional Effects on capital structure

```
Oneway (individual) effect Within Model
Call:
plm(formula = cs ~ fsize + fage + grth + gp + cp + ip + ceod +
   dts + gp * dts, data = final analysis, model = "within",
   index = "year")
Balanced Panel: n = 13, T = 40, N = 520
Residuals:
     Min.
                         Median
             1st Qu.
                                   3rd Qu.
                                                Max.
-0.5469195 -0.0975571 0.0066221 0.1117918 0.6374424
Coefficients:
         Estimate Std. Error t-value Pr(>|t|)
       2.1060e-02 9.2335e-03 2.2808 0.022983 *
fsize
fage -9.2057e-04 2.2203e-04 -4.1462 3.973e-05 ***
grth -1.5764e-02 3.7047e-03 -4.2551 2.497e-05 ***
       2.4709e-01 4.7054e-02 5.2511 2.243e-07 ***
qр
       3.4029e-01 1.8096e-02 18.8048 < 2.2e-16 ***
ср
       5.3884e-02 9.3168e-03 5.7836 1.293e-08 ***
iр
      3.3618e-05 1.0286e-05 3.2683 0.001157 **
ceod
     -2.1877e-04 5.5756e-05 -3.9237 9.947e-05 ***
dts
gp:dts 2.7328e-03 1.5596e-03 1.7522 0.080347.
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
Total Sum of Squares:
                       41.387
Residual Sum of Squares: 12.958
R-Squared:
               0.68692
Adj. R-Squared: 0.67371
F-statistic: 121.403 on 9 and 498 DF, p-value: < 2.22e-16
```

## Summary (model9) Government Power, creditor power and Debt Tax Shield Conditional Effects on capital structure

```
Oneway (individual) effect Within Model
Call:
plm(formula = cs ~ fsize + fage + grth + gp + cp + ip + ceod +
    dts + gp * dts + cp * dts, data = final analysis, model =
"within",
    index = "year")
Balanced Panel: n = 13, T = 40, N = 520
Residuals:
     Min.
             1st Qu.
                         Median
                                   3rd Qu.
                                                 Max.
-0.5766326 -0.0976219 0.0047127 0.1108530 0.6292949
Coefficients:
         Estimate Std. Error t-value Pr(>|t|)
fsize 2.1031e-02 9.0907e-03 2.3135 0.0211037 *
fage
     -8.4836e-04 2.1930e-04 -3.8685 0.0001241 ***
     -1.6134e-02 3.6485e-03 -4.4222 1.201e-05 ***
grth
       2.4562e-01 4.6328e-02 5.3018 1.728e-07 ***
gp
       3.5209e-01 1.8047e-02 19.5094 < 2.2e-16 ***
ср
       5.4266e-02 9.1731e-03 5.9158 6.152e-09 ***
ip
       3.1669e-05 1.0138e-05 3.1237 0.0018901 **
ceod
dts
      -2.0648e-04 5.4975e-05 -3.7559 0.0001932 ***
gp:dts 4.7521e-03 1.6126e-03 2.9468 0.0033618 **
cp:dts -5.2040e-04 1.2705e-04 -4.0961 4.904e-05 ***
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 '' 1
Total Sum of Squares: 41.387
Residual Sum of Squares: 12.534
R-Squared:
               0.69714
Adj. R-Squared: 0.68373
F-statistic: 114.402 on 10 and 497 DF, p-value: < 2.22e-16
```

# Summary (model10) Government Power, creditor power, investor power and Debt Tax Shield Conditional Effects on capital structure

```
Oneway (individual) effect Within Model
Call:
plm(formula = cs ~ fsize + fage + grth + gp + cp + ip + ceod +
   dts + gp * dts + cp * dts + ip * dts, data =
final analysis,
   model = "within", index = "year")
Balanced Panel: n = 13, T = 40, N = 520
Residuals:
     Min.
             1st Qu.
                                   3rd Qu.
                         Median
-0.5652557 -0.0958204 0.0053178 0.1067860 0.6308632
Coefficients:
         Estimate Std. Error t-value Pr(>|t|)
       1.9167e-02 9.0113e-03 2.1271 0.0339088 *
fsize
      -7.9420e-04 2.1757e-04 -3.6504 0.0002896 ***
fage
grth -1.5199e-02 3.6204e-03 -4.1982 3.189e-05 ***
       2.4464e-01 4.5840e-02 5.3368 1.442e-07 ***
qр
       3.5196e-01 1.7857e-02 19.7097 < 2.2e-16 ***
ср
      6.1276e-02 9.3057e-03 6.5848 1.163e-10 ***
ip
       3.0789e-05 1.0034e-05 3.0683 0.0022707 **
ceod
     -1.5863e-04 5.6172e-05 -2.8240 0.0049336 **
dts
gp:dts 5.8370e-03 1.6270e-03 3.5877 0.0003668 ***
cp:dts -5.0292e-04 1.2581e-04 -3.9975 7.376e-05 ***
ip:dts -4.3146e-04 1.2638e-04 -3.4139 0.0006929 ***
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
Total Sum of Squares:
                       41.387
Residual Sum of Squares: 12.247
               0.70409
R-Squared:
Adj. R-Squared: 0.69037
F-statistic: 107.291 on 11 and 496 DF, p-value: < 2.22e-16
```

Model 11: Conditional indirect effect of government power on capital structure

```
Written by Andrew F. Hayes, Ph.D. www.afhayes.com
    Documentation available in Hayes (2022). www.quilford.com/p/hayes3
************
  Model: 15
     Y : cs
     X : qp
     M : ceod
      W : dts
Sample size: 520
Random seed: 850892
******************
Outcome Variable: ceod
Model Summary:
                     R-sq MSE F df1 df2 p
0.2543 9996.3378 176.6138 1.0000 518.0000 0.0000
       0.5042
Model:
                   coeff
                                      se
                                                        t
                                                                                   LLCI
constant 36.9880 5.4621
                                                                        р
               36.9880 5.4621 6.7717 0.0000 26.2573 47.7187
529.4822 39.8418 13.2896 0.0000 451.2108 607.7536
            ***********
Outcome Variable: cs
Model Summary:
           R R-sq MSE F df1 df2 p
8011 0.6417 0.0290 184.1388 5.0000 514.0000 0.0000
       0.8011
Model:

        coeff
        se
        t
        p
        LLCI
        ULCI

        0.4077
        0.0125
        32.6280
        0.0000
        0.3832
        0.4323

        0.8335
        0.0823
        10.1236
        0.0000
        0.6717
        0.9952

        0.0009
        0.0001
        10.2927
        0.0000
        0.0007
        0.0011

        -0.0124
        0.0011
        -11.5446
        0.0000
        -0.0145
        -0.0103

        0.1492
        0.0185
        8.0702
        0.0000
        0.1129
        0.1855

        -0.0000
        0.0000
        -1.3896
        0.1653
        -0.0001
        0.0000

constant 0.4077
ceod
dts
Int_1
Int 2
Product terms key:
Int_1 : gp x dts
Int 2 : ceod x dts
Test(s) of highest order unconditional interaction(s):
       R2-chng F df1 df2

      0.0454
      65.1277
      1.0000
      514.0000
      0.0000

      0.0013
      1.9309
      1.0000
      514.0000
      0.1653

X*W
M*W
_____
Focal predictor: qp (X)
         Moderator: dts (W)
Conditional effects of the focal predictor at values of the
moderator(s):
                                                                                    LLCI
           dts effect
                                        se
                                                          t

        dts
        effect
        se
        t
        p
        LLCI
        ULCI

        0.8587
        0.9616
        0.0794
        12.1145
        0.0000
        0.8056
        1.1175

        3.0777
        1.2926
        0.0860
        15.0274
        0.0000
        1.1236
        1.4616

        9.3995
        2.2356
        0.1702
        13.1332
        0.0000
        1.9012
        2.5701

                                                                          р
*************
```

```
Bootstrapping progress:
 |>>>>>>>>>>>>>>>>
100%
****** OIRECT AND INDIRECT EFFECTS OF X ON Y ****************
Conditional direct effect(s) of X on Y:
            effect
      dts
                       se
                                 t.
                                          p
                                                0.8056 1.1175
    0.8587
             0.9616
                      0.0794
                              12.1145
                                       0.0000
                                                1.1236 1.4616
    3.0777
             1.2926
                     0.0860
                              15.0274
                                       0.0000
                                                1.9012 2.5701
    9.3995
             2.2356
                     0.1702
                             13.1332
                                       0.0000
Conditional indirect effects of X on Y:
INDIRECT EFFECT:
    ->
        ceod
                      CS
αp
            Effect BootSE BootLLCI BootULCI
      dts
                   0.0507
    0.8587
            0.4634
                            0.3757 0.5763
                                      0.5335
    3.0777
            0.4270
                              0.2611
    9.3995
            0.3234
                     0.2409
                            -0.3350
                                      0.5427
    Index of moderated mediation:
      Index BootSE BootLLCI BootULCI
     -0.0164
              0.0296 -0.0982 0.0076
dts
******* ANALYSIS NOTES AND ERRORS *****************
Level of confidence for all confidence intervals in output: 95
Number of bootstraps for percentile bootstrap confidence intervals:
W values in conditional tables are the 16th, 50th, and 84th
percentiles.
```

## Model 12: Conditional indirect effect of Creditor power on capital structure

```
************ PROCESS for R Version 4.0.1 ********************
            Written by Andrew F. Hayes, Ph.D. www.afhayes.com
   Documentation available in Hayes (2022). www.guilford.com/p/hayes3
*****************
Model: 15
    Y : cs
    Х : ср
   M : ceod
    W : dts
Sample size: 520
Random seed: 81531
*************
Outcome Variable: ceod
Model Summary:
                                 F
              R-sq MSE F df1 df2 p
0.2429 10148.0524 166.2292 1.0000 518.0000 0.0000
        R
Model:
            coeff
                                                     LLCI
                         se
                                    t
                     7.3325 0.65,5
7177 12.8930
                                              р

      0.6578
      0.5109
      -9.5815
      19.2289

      12.8930
      0.0000
      106.1990
      144.3808

constant
          4.8237
cp 4.8237 7.3325
cp 125.2899 9.7177
```

Outcome Var Model Summa						
R	R-sq 0.6990	MSE 0.0244	F 238.6960	df1 5.0000		p 0.0000
Model:						
constant	coeff 0.2821	se 0.0150	t 18.8054	p 0.0000	LLCI 0.2526	ULCI 0.3116
ср	0.3886	0.0215	18.1135	0.0000		0.4307
	0.0005	0.0001	6.2066	0.0000	0.0003	0.0007
	-0.0047	0.0013	-3.7440	0.0002	-0.0072	-0.0022
_	-0.0114	0.0024	-4.8011	0.0000	-0.0160	-0.0067
Int_2	0.0001	0.0000	4.5815	0.0000	0.0001	0.0001
Product ter Int_1 : c Int_2 : c	p x dts	S				
Test(s) of	highest or	der uncon	ditional ir	nteraction	(s):	
R2-ch	ng			df2	р	
X*W 0.01	35 23.05	09 1.0	000 514.00	0.0	000	
M*W 0.01	23 20.98	98 1.0	000 514.00	0.0	000	
Focal predi	=					
	ator: dts	` '				
Conditional		f the foc	al predicto	or at valu	es of the	
moderator(s	•					
dts		se	t	р	LLCI	ULCI
0.8587			4 18.6031			
3.0777			3 19.3089			
9.3995	0.2815	0.020	3 13.8587	0.000	0 0.241	6 0.3215
Focal predi						
	ator: dts					
Conditional		f the foc	al predicto	or at valu	es of the	
moderator(s						
dts		se		р		ULCI
0.8587			1 7.9264			
3.0777		0.000				
9.3995	0.0014	0.000	2 8.4775	0.000	0 0.001	1 0.0017
******			*****	*****	****	****
Bootstrappi						
'	>>>>>>	>>>>>>	>>>>>>	>>>>>>	>>>>>	>>>>
100%						
******				S OF X ON	Y *****	*****
Conditional		fect(s) o				
dts		se	t	р		
0.8587						
3.0777			3 19.3089			
9.3995	0.2815	0.020	3 13.8587	0.000	0 0.241	6 0.3215
Conditional	indirect	effects o	f X on Y:			
INDIRECT EF						
cp ->	ceod -					
dts				BootULC		
0.8587						
3.0777		0.011		0.124		
9.3995	0.1741	0.031	8 0.1223	0.250	9	
	of moderate					
Ind	ex Boot	SE BootL	LCI BootUI	LCI		

Model 13: Conditional indirect effect of Investor power on capital structure

```
********* PROCESS for R Version 4.0.1 ************
        Written by Andrew F. Hayes, Ph.D. www.afhayes.com
  Documentation available in Hayes (2022). www.guilford.com/p/hayes3
*******************
Model: 15
  Y : cs
  X : ip
  M : ceod
  W : dts
Sample size: 520
Random seed: 709681
******************
Outcome Variable: ceod
Model Summary:
          R-sq MSE F df1 df2
   0.3374 0.1139 11878.4913 66.5518
                              1.0000 518.0000 0.0000
Model:
                      t
        coeff
              se
                             р
                                    LLCI
constant 55.2642 5.6785 9.7322 0.0000 44.1084
                                        66.4199
      83.4459 10.2288 8.1579 0.0000 63.3508 103.5409
*******************
Outcome Variable: cs
Model Summary:
                MSE F
                               df1 df2
         R-sq
         0.7501
Model:
        coeff
                se
                        t
                                    LLCI
                                           ULCI
                               р
constant 0.4386 0.0138 31.8654 0.0000 0.4115 0.4656
ip
       0.2037 0.0227 8.9649 0.0000 0.1590
                                         0.2483
       0.0009
             0.0001
                     9.7176 0.0000
                                   0.0007
ceod
                                          0.0011
       -0.0110 0.0013 -8.3594 0.0000 -0.0136 -0.0084
dts
Int 1
      -0.0036 0.0021 -1.7205 0.0859 -0.0077
                                          0.0005
              0.0000 4.3019 0.0000 0.0000
       0.0001
                                         0.0001
Int 2
Product terms key:
Int 1 : ip x dts
Int_2 : ceod x dts
```

```
Test(s) of highest order unconditional interaction(s):
                         df1
                 F
    R2-chnq
                                  df2
X*W
     0.0025
             2.9602
                      1.0000 514.0000
                                       0.0859
     0.0157 18.5067 1.0000 514.0000 0.0000
M*W
Focal predictor: ip (X)
    Moderator: dts (W)
Conditional effects of the focal predictor at values of the
moderator(s):
                                                      ULCI
      dts
            effect
                      se
                                t
                                               T.T.C.T
                                         р
                                               0.1578 0.2433
            0.2006
                     0.0218
                             9.2191
                                      0.0000
    0.8587
            0.1926
                    0.0198
                             9.7174
                                     0.0000
                                              0.1536 0.2315
    3.0777
    9.3995
            0.1698
                    0.0200
                             8.4864
                                     0.0000
                                              0.1305 0.2091
-----
Focal predictor: ceod (M)
    Moderator: dts (W)
Conditional effects of the focal predictor at values of the
moderator(s):
                      se
      dts
            effect
                                t
                                         р
                                               LLCI
                                      0.0000
    0.8587
            0.0010 0.0001 11.5113
                                               0.0008 0.0011
    3.0777
            0.0012
                    0.0001 14.2020
                                      0.0000
                                               0.0010 0.0013
                   0.0002
                            10.0173
                                              0.0014 0.0021
    9.3995
            0.0017
                                      0.0000
******************
Bootstrapping progress:
 |>>>>>>>>>>>>>>>
100%
******* DIRECT AND INDIRECT EFFECTS OF X ON Y ************
Conditional direct effect(s) of X on Y:
       dts
            effect
                                               LLCI
                                                       ULCT
                      se
                                t
                                         р
    0.8587
            0.2006
                    0.0218
                             9.2191
                                      0.0000
                                              0.1578 0.2433
    3.0777
            0.1926
                             9.7174
                                     0.0000
                                              0.1536 0.2315
                    0.0198
    9.3995
            0.1698
                     0.0200
                             8.4864
                                     0.0000
                                              0.1305 0.2091
Conditional indirect effects of X on Y:
INDIRECT EFFECT:
       ceod
                 ->
                     CS
in
            Effect
                    BootSE BootLLCI BootULCI
      dts
    0.8587
            0.0804
                    0.0105
                             0.0610
                                     0.1022
    3.0777
            0.0972
                     0.0126
                              0.0746
                                      0.1239
    9.3995
            0.1453
                             0.1037
                    0.0243
                                     0.2014
    Index of moderated mediation:
      Index     BootSE BootLLCI BootULCI
dts
     0.0076
             0.0023 0.0039 0.0133
********* ANALYSIS NOTES AND ERRORS *****************
Level of confidence for all confidence intervals in output: 95
Number of bootstraps for percentile bootstrap confidence intervals:
W values in conditional tables are the 16th, 50th, and 84th
percentiles.
```

Appendix II: List of Listed Firms in Nairobi Securities Exchange

COMPANY/SECTOR	INCLUDED
AGRICULTURAL	
Eaagads	No -Missing Data
Kakuzi	Yes
Kapchorua Tea	Yes
Limuru Tea	No-Missing Data
Rea Vipingo Plantations Lt	Yes
Sasini Tea Ltd	Yes
Williamson Tea Kenya Ltd	Yes
AUTOMOBILES AND ACCESSOR	
Car and General	Yes
Marshalls (E.A) Ltd	No-Missing Data
Sameer Africa Ltd	Yes
BANKING	
Barclays Bank	Yes
CFC Stanbic Holdings	Yes
Co-operative Bank of Kenya	Yes
Diamond Trust Bank Kenya	Yes
Equity Bank	Yes
Housing Finance	Yes
I&M Holdings	No-Missing Data
Kenya Commercial Bank	Yes
National Bank of Kenya	Yes
NIC Bank	Yes
Standard Chartered Bank	Yes
COMMERCIAL AND SERVICES	N. M. J. D.
Atlas African Industries Ltd	No-Missing Data
Decons (East Africa)Plc	No-Missing Data
Express Kenya Ltd	Yes
Kenya Airways Ltd Longhorn Publishers Ltd	Yes
Nation Media Group Plc	No-Missing Data No-Missing Data
Standard Group Plc	Yes
TPS Eastern Africa Ltd	Yes
Uchumi Supermarket Plc	No-Missing Data
Eveready East Africa Ltd	Yes
Nairobi Business Ventures Ltd	No-Missing Data
Scangroup Scangroup	Yes
Wpp Scan Group Ltd	No-Missing Data
CONSTRUCTION AND ALLIED	110 missing Duti
Athi River Mining Plc	Yes
Bamburi Cement Ltd	Yes
Crown Paints Kenya Plc	Yes
East African cables Ltd	Yes
East African Portland Cement Co.Ltd	Yes
ENERGY AND PETROLEUM	
KenGen Ltd	Yes
KenolKobil Ltd	Yes
Kenya Power & Lighting Co Ltd	Yes
Total Kenya Ltd	Yes
Umeme Ltd	No-Missing Data

#### EXCHANGE TRADED FUNDS

EXCHANGE TRADED FUNDS	
Barclays New Gold Etf	No-Missing Data
INSURANCE	
Britam Holdings Plc	No-Missing Data
CIC Insurance Group	No-Missing Data
Jubilee Holdings	No-Missing Data
Kenya Re-Insurance Corporation	No-unlevered
Liberty Kenya Holdings	No-Missing Data
Sanlam Kenya Plc	No-unlevered
INVESTMENT	
Centum Investment Co Ltd	Yes
Home Afrika Ltd	No-Missing Data
Kurwitu Ventures Ltd	No-Missing Data
Olympia Capital Holdings	No-Missing Data
Trans-Century Ltd	Yes
INVESTMENT SERVICES	
Nairobi Securities Exchange	No-Missing Data
MANUFACTURING AND ALLIED	
A. Baumann Co. Ltd	No-Missing Data
B.O.C Kenya Ltd	Yes
British American Tobacco Kenya	Yes
Carbacid Investments	Yes
East African Breweries	Yes
Flame Tree Group Holdings Ltd	No-Missing Data
Kenya Orchards	No-Missing Data
	Yes
	Yes
REAL ESTATE INVESTMENT TRUST	
Stanlib Fahari I-Reit	No-Missing Data
TELECOMMUNICATION AND	
TECHNOLOGY	
TECHNOLOGY Safaricom Ltd	No-Missing Data
TECHNOLOGY	No-Missing Data EXCLUDED 28 FIRMS
	Barclays New Gold Etf INSURANCE Britam Holdings Plc CIC Insurance Group Jubilee Holdings Kenya Re-Insurance Corporation Liberty Kenya Holdings Sanlam Kenya Plc INVESTMENT Centum Investment Co Ltd Home Afrika Ltd Kurwitu Ventures Ltd Olympia Capital Holdings Trans-Century Ltd INVESTMENT SERVICES Nairobi Securities Exchange  MANUFACTURING AND ALLIED A. Baumann Co. Ltd B.O.C Kenya Ltd British American Tobacco Kenya Carbacid Investments East African Breweries Flame Tree Group Holdings Ltd Kenya Orchards Mumias Sugar Co.Ltd Unga Group Ltd REAL ESTATE INVESTMENT TRUST

### Appendix III: Data Collection/Analysis Schedule

CO.	VARIABLE	MEASUREMENT	YEARS FROM 2008-2020												
			0 8	0 9	1 0	1 1	1 2	1 3	1 4	1 5	1 6	1 7	1 8	1 9	2 0
	Government power	Total tax expenses t EBIT													
	Creditor power	book debt t-1 Total assets													
	Investor power	share price beginning Share price end of the year Dividends t													
	CEO dominance	CEO compensation package Total assets													
	Debt tax shield	Cost of debt t-1  Market value of debt t-1													
	Capital structure	Short term debt Long term debt Total assets													
	Firm size Firm age	Total assets Year of creation													
	Growth opportunities	Sales Total assets													

#### **Appendix IV: Plagiarism Similarity Index**



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#### **Appendix V: Research Permit NACOSTI**

