EFFECTS OF CAPITAL STRUCTURE ON FINANCIAL PERFORMANCE OF INSURANCE FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

BY

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF BUSINESS ADMINISTRATION OF THE UNIVERSITY OF NAIROBI

NOVEMBER, 2023

DECLARATION

This research proposal is my original work and has not been presented to any other university or college for any award.

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

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DEDICATION

I dedicate this project to my husband Stephen and our three children Ann, Ian and Lee for the support they accorded me while undertaking the project.

ACKNOWLEDGEMENT

My special gratitude goes to God Almighty for giving me the strength and wisdom to pursue this course. I would like to extend my gratitude to my supervisor Prof. Iraya for his guidance throughout the development of this project. I wish to acknowledge the University of Nairobi for providing a platform of the exciting and instructive study period and I feel privileged to have had the opportunity to carry out this study.

May God Bless you all.

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ABREVIATION AND ACRONYMS

IRA	-	Insurance Regulatory Authority
JSE	-	Johannesburg Securities Exchange
MM	-	Modigliani and Miller
NSE	-	Nairobi securities exchange
OSEAX	-	Oslo Stock Exchange All Share Index
ROA	-	Return on Assets
ROE	-	Return on Equity
SME	-	Small and Medium size Enterprises
VIF	-	Variance Inflation Factor

ABSTRACT

Financial performance is paramount for the success of any profit oriented organization. The good financial performance or lack thereof in any organization reflects how effectively and efficiently management is using a company's resources. Capital structure decision is among the most crucial decisions finance managers have to make in coming up with the most suitable capital structure mix. Despite the numerous views on capital structure, the ideal capital structure has not yet been found for the insurance industry in Kenya. Therefore, research into the relationship between capital structure and insurance businesses' financial performance was necessary. The purpose of this study was to ascertain how the capital structure of insurance companies listed on the NSE affects their financial performance. Three theories—trade-off, Modigliani and Miller, and Pecking Order theories—served as the foundation for the investigation. The research design used was descriptive. Quantitative information was obtained from the six insurance companies included on the NSE's annual reports. The technique of panel regression analysis was utilised to determine the correlation between the variables under investigation. The financial performance of insurance companies listed at the NSE was found to be adversely affected by capital structures, as assessed by the debt ratio, but this effect was negligible. A further negative and negligible impact of the control variables on the financial performance of insurance companies listed on the NSE was the firm's size. When it came to the financial performance of insurance companies listed at the NSE, liquidity showed a positive but statistically insignificant influence, while the firm's age showed a negative effect. The significant negative effect of the age of a firm on financial performance underscores the need for continuous monitoring and proactive measures to adapt to market changes and consumer preferences. Regular strategic reviews and innovative initiatives can counterbalance potential adverse effects associated with the aging of firms.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Capital structure is a blend of the different types of debt as well as equity used by a firm in financing its assets, operations, and growth (Mudany, Letting, and Gituro, 2020). The selection of sources of funds results to a financing decision (Kidavasi, 2019). The financing decision is a critical role played by financial managers as they decide on how to source funds for the firm's operations and investment needs. The different sources of finance form the capital structure which is studied in light of how it affects the firm's value. Managers must therefore work towards achieving a capital structure that get the most out of the firm's worth. A company can raise capital by issuance of debt capital which can either be short term or long term lending from creditors or equity capital which is the investment by shareholders of the firm or a combination of both debt and equity. The debt capital must be paid back with interest while the shareholders must be paid back a return inform of dividends or capital gain. Capital structure therefore explains how firms utilize their different sources of funds to finance their operations and investments.

Studies in capital structure can be traced back to Franco Modigliani and Miller Merton (1958) whose paper was the beginning point of studies in capital structure. In their seminal paper, under the assumptions of a perfect market, homogenous risk class and no corporate and personal taxes, it was argued that the capital structure or the financing selected has no bearing on the entity's value. An ideal capital structure is believed to exist according to the trade-off theory which is achieved by varying the levels of debt and equity thereby achieving a balance amongst the financial hardship expenses and tax shielding (Myers,

1984). Pecking order theory stipulates that managers prefer funding sourced internally over funding sourced externally. Firms prioritize internally generated funds and will only utilize externally generated funds after exhausting the finances produced domestically (Majluf & Myers, 1984).

Insurance companies offer financial services by accepting and pooling risks in a measured and controlled way. The insurance companies receive premiums from the policy holders in exchange for the assurance to pay future claims. The premiums received are put in to financial assets to enable the insurers meet future insurance claims from the policy holders. According to the Geneva Association (2016) capital is paramount in ensuring the financial promises to policy holders are met. To measure capital, insurance companies compare funds held with the funds needed to meet future insurance liabilities to the policy holders. Insurance companies need to manage their capital in such a manner that policyholder's claims will always be fulfilled by having an actuarial projection of both liabilities and assets, assess their solvency and future capital needs. Proper capital management ensures that an insurer's long-term solvency is achieved as well as managing its position in the market.

In Kenya, various legislations are enacted to guide the Insurance business operation. Before registering an insurance company, the capital adequacy and minimum capital requirement must be fulfilled. Depending on the kind of insurance, different minimum paid-up capital requirements apply: 600 million shillings for general insurance business, 400 million shillings for long-term insurance business, one billion shillings for general reinsurance business, and 500 million shillings for reinsurance long-term business. The minimum paid-

up capital as well as the capital adequacy requirement make the insurance sector unique. The regulation on capital, however, does not have a maximum capping, thereby leading to different capital structures.

1.1.1 Capital Structure

Capital structure is the proportion of the various forms of capital whether debt or equity employed in a business (Pandey, 2018). Usman (2019) defined capital structure as how a company finances its operations. A firm can obtain its funding internally, externally, or through a hybrid of the two (Zunckel and Nyide 2019). The main distinction amongst debt and equity sources of capital is that although equity capital providers form part of the owners of the company, debt capital lenders cannot.

Optimal capital structure has been described as a financial measure that firm uses to establish the optimal ratio of debt to equity financing to employ in operation and expansion. Firms mainly use prolonged debt such as bonds to finance their long term investment prospects for assets including real estate, machinery, and equipment (Mudany et al., 2020). Funding is sourced depending with the cost associated with the specific source and the ease with which the funding is accessible (Ombati, 2021). Financial managers face financing decisions on capital structure with the aim of reducing the cost of capital while maximizing the firms value. Although there is an enormous amount of literature on capital structure there still remains a gap as theory and practice do not agree on what an ideal capital structure should be (Schauten & Spronk, 2010).

To probe into the repercussions of capital composition on fiscal outcomes, debt ratios are utilised. As compared to businesses with relatively slow growth rates, those with great growth potential typically have higher debt levels to finance their expansion (Myers, 1984). Financial performance in this study shall be quantified using debt-to-equity ratio which depicts the quantity of debt funding used by a firm compared with what shareholders' equity is worth.

1.1.2 Financial Performance

Owako (2021) characterised the financial performance as a mathematical evaluation depicting how resources in an organization are successfully utilized to generate revenues for an organization from its primary business model. Financial performance has been defined to be the procedure of assessing financially speaking, the outcomes achieved from a firm's policies and operation (Usman 2019). Financial performance may be interpreted to be achievement of an entity's financial productivity within a certain timeframe that involves amassing and dispersing financial resources and measuring them for profitability, efficiency, capital sufficiency, liquidity and solvency (Mbura, 2019). Mwangi and Murigu (2015) defined financial performance as a gauge to a company's profits, earnings, and growth value as seen by the increase in its share price.

The performance of a firm can be evaluated in terms of financial performance or organizational performance. Measures used to evaluate financial performance include maximization of profit, maximization of return on assets and shareholders wealth maximization (Mudany et al., 2020). In the insurance sector, performance is frequently measured based on total premiums collected, the level of underwriting activities, annual

profits, yearly turnover, ROA, and ROE (Mwangi and Murigu, 2015). Regularly used metrics include ROE and ROA.

1.1.3 Capital Structure and Financial Performance

Capital structure decision are assessed from the perspective of how it will affect the firm's value (Kidavasi, 2019). Various empirical studies have given contradictory and mixed findings. Modigliani and Miller's (1958) theory on capital structure irrelevance posits that the configuration of a company's capital holds no significance for its overall value. Durand (1952), Meckling and Jensen (1976) and Myers (1984) showed that the chosen sources of financing are relevant to the value of the company.

Hakima (2017) examined how the performance of Insurance Companies listed on the NSE was impacted by how their capital is structured. The conclusion of the study was that the structure of capital chosen directly impacts the firm's growth and profitability. In a similar an investigation into the NSE's petroleum and energy sectors, Ombati (2021), found that there is a direct relationship between a business entity's success and the manner in which its assets are utilized in its day-to-day operations.

Mwangi and Birundu (2015) conducted their research in Thika sub county to see how different capital structure alternatives affected productivity of SMEs. A business's performance was discovered to be unaffected by a change in the capital structure typical of SMEs. This conclusion was supported by the examination of factors such as asset tangibility and asset turnover. Chepkwony's (2018) conducted an analysis of capital

structure in commercial and service enterprise listed on the NSE and established that capital structure significantly impacted the financial performance of these enterprises.

1.1.4 Insurance Industry in Kenya

Kenya's insurance business history extends back to its time as a British colony, before independence. The white settlers established insurance agencies to protect their investments in farming and agricultural activities from various risks. By independence, the insurance agencies had been upgraded to full insurance companies.

Later, in 1986, the Insurance Act Cap 487 also referred to as the Insurance Act was enacted. Through the Insurance Act, The Insurance Regulatory Authority (IRA) was established. The IRA is the main insurance regulatory body and is mandated to regulate the operations of the insurances in Kenya. It is the responsibility of the IRA to ensure that the insurance and reinsurance industry in Kenya is efficiently managed, monitored, regulated, and controlled. IRA is also mandated with formulation as well as enforcing standards for the conduct of both insurance and reinsurance business in Kenya. IRA also issues licenses to all persons dealing with insurance or reinsurance business.

As of 2022, there were 5 re-insurance companies, 56 insurance companies, 1 micro insurance company, 176 insurance brokers, 2 bancassurance Intermediaries, 19 reinsurance brokers, 37 medical insurance providers and 12,199 insurance agents. Additional licensed players include 148 insurance investigators, 34 insurance loss adjustors, 30 insurance surveyors, 154 motor assessors, 9 risk managers (IRA, 2022). Only six of the 56 insurances are listed at the NSE.

As financial intermediaries, insurance companies play a crucial function in the economy by ensuring stability of the financial systems and that of households by mitigating their risks (Kidavasi, 2019). Over time, Kenya's insurance market has continuously expanded. According to the IRA's report (2022) insurance premiums rose 13.8% over the course of the previous year 2021. The Asset base grew by 11.57% to 943.7 billion from 845.8 billion- compared to the previous year. Investments in assets that generate income increased by 13.6 from Kenya shillings 731.49 billion reported at the end of Q4 2021 to KES 830.95 billion in Q4 2022.

1.2 Research Problem

Financial performance is paramount for the success of any profit oriented organization. The good financial performance or lack thereof in any organization reflects how effectively and efficiently management is using a company's resources. Capital structure decision is among the most crucial decisions finance managers have to make in coming up with the most suitable capital structure mix (Hakima, 2017). To attain good financial performance, the management must strive to operate at an optimum capital structure. Despite the huge literature on capital structure there is no consensus about what an optimal capital structure is (Schauten & Spronk, 2010).

Several capital structure theories with contradicting decisions and outcomes have been developed over time to describe how capital structure decisions are made. One prominent hypothesis in this area is that put out by Modigliani and Miller (1958) which argues that operational income, rather the capital structure of a corporation should be used to determine a company’s value. Myers (1984), Jensen and Meckling (1976), found that employing debt

financing lowers costs and boosts shareholder wealth, and that the business's capital structure is crucial to the value of the firm.

Hakima (2017) evaluated how capital structure affected the financial health of insurances that are listed on the NSE. According to the study's result, NSE-listed insurance companies with a high debt ratio have a worse ROA. The results concurred with Jensen's (1986) findings that found that debt ratio puts pressure on the managers to make use of their free cash flows in paying off debts, which results in less available funding and a lower level of performance. Long-term debt and return on equity are positively related in a statistically meaningful was as shown by Kanda et al. (2019). A significant correlation between long term debt and ROA was also seen.

Despite the numerous views on capital structure, the ideal capital structure has not yet been found. Additionally, the influence of capital structure on financial outcome is ambiguous according to the existing literature on Kenya's insurance market. Examining how various capital structures impact the bottom lines of insurance businesses is crucial for this reason. The following query will be addressed by this study: - What is the effect of capital structure on the financial performance?

1.3 Research Objective

This study aimed at determining how capital structure impacts on the financial performance of insurance companies listed at NSE.

1.4 Value of the Study

This study will be beneficial to various stakeholders. Financial managers would utilize the findings of this study to adopt capital recommendation that would maximize the financial performance of their firms and hence maximize the value of their firms. This will also help finance managers identify factors that promote or hinder achievement of optimum capital structure as well as making the best financing decisions.

Researchers, particularly those with an interest in the insurance sector in Kenya and around the world, will find this study to be important. The findings of this inquiry will contribute to the information already available on the subject. Researchers and scholars will use this study to identify research gaps for future studies.

The IRA and other policy makers may use the findings of this study while formulating policies regulating the insurance industry to ensure improved productivity of this very important player in the financial sector.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section includes available research materials on capital structure that are currently available as well as a discussion of the conceptual framework, global and local empirical research, a number of drivers of performance in the insurance sector, and lastly a synopsis of the review of the literature.

2.2 Theoretical review

Under this section, several conceptions of capital structure including the Modigliani and Miller theory, trade off theory, and pecking order theory will be discussed

2.2.1 Modigliani and Miller Theory

There being no other studies conducted on capital structure, Modigliani and Miller (1958) laid the groundwork for studies in capital structure. In their ground-breaking paper, under the assumptions of a perfect market, homogenous risk class and no corporate and personal taxes, they claimed that the firm's worth has no bearing on its capital structure or financing choices. The duo argued of the inexistent of an ideal debt-to-equity ratio in addition to capital structure unaffected by shareholders' wealth. They held the opinion managers should not worry about the organizations capital structure but should be able to freely select the composition of debt and equity. They illustrated that a company's worth corresponds to the present valuation of its imminent cash inflows and emphasized that the choice regarding capital structure holds little significance for the shareholders.

Modigliani & Miller (1963) amended their earlier theory on capital structure. The amendment which they termed as a correction to their previous paper was in realization of the existence of corporate taxes. With corporate income taxes they determined that using debt capital would boost the firm's worth resulting from interest being tax deductible thus reducing the tax burden resulting in a higher after-tax income for a leveraged company than for an unlevered company.

This theory is important in understanding corporate finance as well as understanding the capital structure that should be maintained by insurance companies. This study seeks to understand if firms earn more profits by replacing equity with increased levels of leverage. Although the MM theory may not hold true in Kenya's insurance sector, it is necessary as a starting point for our investigation.

2.2.2 Trade-off Theory

In pursuit of elimination of Modigliani and Miller's capital structure irrelevance proposition shortcomings, Myers (1984) demonstrated that each company has an optimal capital structure which is feasible through the application of trade-off theory. As per the theory, a firm determines the optimal debt level by weighing the advantages of debt financing against the expenses associated with it. As a result, businesses weigh the advantages and disadvantages of each source of capital when deciding how much of each to hold. This implies that firms with more tax advantage may issue more debt while firms with more financial distress costs will issue less debt.

A research by Graham (1996) found that firms with high tax rate use debt more intensively compared to those with low tax rates in pursuit of tax shield benefits. On the contrary,

Fama and French (1997) discovered that more thriving businesses borrow less. As outlined by Jensen and Meckling (1976), relying on too much debt financing has the capacity to result in financial hardship. The advantageous fiscal safeguard provided by tax shield is traded off against the disadvantage of increased risk when firms are in financial distress.

This study places a high value on this notion as it demonstrates why the insurance companies have different debt levels. The trade-off theorem assumes a majority of companies use debt financing as the major source of capital to finance their operations. In the contrary according to Kidavasi (2019) insurance companies are profitable and do not highly depend on debt.

2.2.3 Pecking Order Theory

This theory originated from Donaldson (1961), and was later amended by Myers & Maijluf (1984). The duo found out that manager's favour funds generated internally over those from outside sources and that from external financing debt is cheaper than equity. The differences in cost arises from information asymmetry. As per the Pecking order, information asymmetry is eliminated by using domestically generated cash or retained earnings for financing. On the contrary, external financing such as debt or equity financing attracts floatation costs. Managers therefore follow a hierarchy when determining the financing sources and it is preferable to use internal funding rather than external funding. Where internal financing is not sufficient, debt financing would rank higher followed by convertible debt with equity coming as a last resort.

External financiers demand a higher rate of return to compensate themselves against information asymmetry as they have less information compared to the managers. Where external financing is employed, debt issue is preferred as it signals that companies stocks

are undervalued and that management is confident to issue debt financing while issuance of equity may signal that the companies' stocks are overvalued thus lower announcement returns (Frydenberg, 2004). In this study, the theory is crucial as it demonstrates finance manager's behaviour of exploiting the internal sources of funds that is the retained earnings before embarking on external sources or debts.

2.3 Determinants of Financial Performance

Numerous elements that impact Kenyan insurance companies' performance were covered in this section. Numerous factors including a company's size, age, liquidity and capital structure might affect its financial performance.

2.3.1 Capital Structure

A company's capital structure is the result of combining different funding sources to support its operations and expansion. Enterprises possess the strategic latitude to employ debt, equity, or a hybrid amalgamation of both modalities to underwrite their operational endeavours. The cash flow, risk, and profitability of the company are all impacted by the financing option chosen. Firms may opt to maintain high debt levels and employ minimal equity as firms with high debt level seem to have higher values. However, use of high levels of debt expose the firm to bankruptcy and agency costs. Companies should therefore aim at striking a balance on their capital structure so as to ensure the company's worth is maximized as well as the wealth of its shareholders.

2.3.2 Firm Size

Firm size can be defined as the scale of business operations. A firm's size is determined by considering several aspects among them the total assets, total sales revenue, profit, market

share and market capitalization with the commonly used measure being the total assets. A business can be carried on a large scale, medium scale or a small scale. Generally, companies that operate on a large scale enjoy economies of scale with minimal per unit production cost resulting to higher return on assets and insurance companies are not an exception. On the other hand, companies operating on a small scale have higher per unit production cost hence less efficient compared with their counter parts.

2.3.3 Liquidity

According to Graham (1996), liquidity is the ease with which current assets other than stock may be changed into cash. Liquidity can be said to the ability to honour debt obligations arising in the short term from cash or from assets that are easily converted into cash. The liquidity ratios are used to establish the liquidity of a firm. According to Adhiambo (2021) the current ratio as well as the quick ratios are the ratios used to determine the liquidity of a firm. Comparing a business current assets and current liabilities yield two ratios: the quick ratio, which demonstrates the ability of an organisation to fulfil its obligations with its current resources without necessarily disposing off its stock and the current ratio which measures how liquid the business is to its current liabilities. When a company's current assets cover its obligations, it has a positive current ratio.

Firms that are highly liquid are able to seize opportunities that will yield high returns as well as protect the firm from failing during periods of financial difficulty. The best way a firm can improve its current ratio is by shortening the time taken to collect its accounts receivables and making every effort to extend the number of days for accounts payable. Insurance companies should maintain liquidity levels that enables settlement of insurance claims without constraints.

2.3.4 Cash flow

Cash flow is of immense importance in insurance companies as well. In order for insurance companies to meet their day to day obligations as well as their clients claims, they need to maintain a sophisticated cash flow management system. If the cash flow is not well managed, Insurance companies' risk being insolvent. To generate cash, insurance companies perform underwriting activities, financing as well as investing activities.

2.3.5 Age

Older companies enjoy the benefit of having learnt from their past mistakes and those of others. They also enjoy a reputation built over the years and thus post better performances compared to new players entering the industry. On the other hand, at times as firms grow old, their efficiency declines due to their skills, knowledge and ideas being obsolete.

2.4 Empirical studies

In this section, we delve into a myriad of empirical investigations meticulously conducted by scholars, unravelling the intricate web that binds a company's capital structure to its financial performance.

In their scholarly exploration, Mukaddam and Sibindi (2020) delved into the intricate nexus binding the capital structure and financial prowess within the South African retail domain, employing the panel regression analysis. The research focused on a sample comprising eighteen enterprises engaged in retail and wholesale activities and enlisted on the Johannesburg Stock Exchange (JSE), spanning a 10-year period from 2010 to 2019. The primary objective was to provide a comparative analysis of the financial performance of the retail sector in relation to its capital structure. The utilisation of debt in the retail sector

was found to results in declining profits. The limitation to this study is the use of historical data which may not reflect the current prevailing position.

Aimagh and Larsson (2018) evaluated the variables affecting capital structure in the Norwegian market and how they affect company performance. The relationship between leverage and performance was examined by surveying 78 Norwegian companies registered in the Oslo Stock Exchange All Share Index (OSEAX). The study covered the period between 2006–2016 using annual figures collected from DataStream. They discovered that business leverage is significantly influenced by measures such as firm size, age of the firm, tangibility, profitability, and non-debt tax shield. Size was also established to be adversely related to the debt ratios.

Jiang (2008) examined the factors influencing financial structure by use of panel data analysis on all 24 Chinese Hospitality Companies listed between 2004 and 2006 on mainland China's stock markets. The financial structure was measured using factors such as company size, company growth, company productivity, asset structure, business risk, listing years, state-owned enterprise system, etc., the differences in leverage ratios were explained. Regression analysis showed that high profitable companies and firms do not heavily rely on debts. The short-term and total leverage ratios exhibit a positive correlation with both firm size and listing years, while concurrently exerting an adverse impact on the firm's long-term leverage ratio.

Afzal (2012) conducted a comparison investigation of the factors affecting capital structure for public and unquoted businesses established in the UK, the Netherlands, and Germany between 2003 and 2011. The study goal was to determine if the conventional factors

affecting the leverage of publicly traded companies also apply to those that are privately held, and to examine the variations in financing patterns and capital structure between publicly traded and privately held firms. He found private firms to have substantial higher levels of leverage than public firms. Additionally, he found that for publicly traded companies leverage has a detrimental effect on profitability and a positively related with size, volatility, and tangibility; Leverage for the private firms seems to be negatively correlated with size and profitability while positively connected with growth, tangibility and volatility. Additionally, he discovered that Dutch companies have less leverage than German companies, which are more leveraged than the companies in the UK. The limitation to this study was the German companies' tiny sample size may whose results may not be a representation of the entire population.

Adhiambo (2021) Studied how financial restructuring affected Kenyan insurance companies' performance and found debt restructuring to have a substantial detrimental aftermath on financial performance while equity restructuring showed a beneficial and minor influence. Asset restructuring was found to have a negative substantial impact whereas liquidity had a negative immaterial influence on the results of finances. According to the study, insurance firms need to minimize their debt and fixed assets so as to improve their financial performance.

In their study of the structure of capital and profitability of insurance firms listed at the NSE, Kanda et al., (2019), noted a decline in profitability of insurance firms attributable to poor investment choices and financing decisions. They also noted that for insurance companies to thrive, they must adopt financing decisions that gives them a competitive

advantage in the ever-changing business environment. This research seamlessly intertwined a causative research design with the tenets of a positivist research philosophy. The six listed firms were reviewed over the period 2011-2018 using secondary data. To analyse the data, a combination of correlation analysis, descriptive analysis, and multiple regression analysis were used.

Murigu and Mwangi (2015) examined the issues that affect the financial performance in Kenyan general insurance business class. They discovered that the sector's 2.08% contribution to the GDP was low, thus they wanted to identify elements that could boost some of the general insurance businesses' performance. The study covered the period 2009-2012 considering every general insurance company in Kenya and used multiple linear regression for data analysis. Profitability was found to be favorably related to equity capital as well as leverage while being adversely pertaining to scale and ownership configuration. The study recommended an increase to leverage, equity capital and quality of staff for general insurers to perform better.

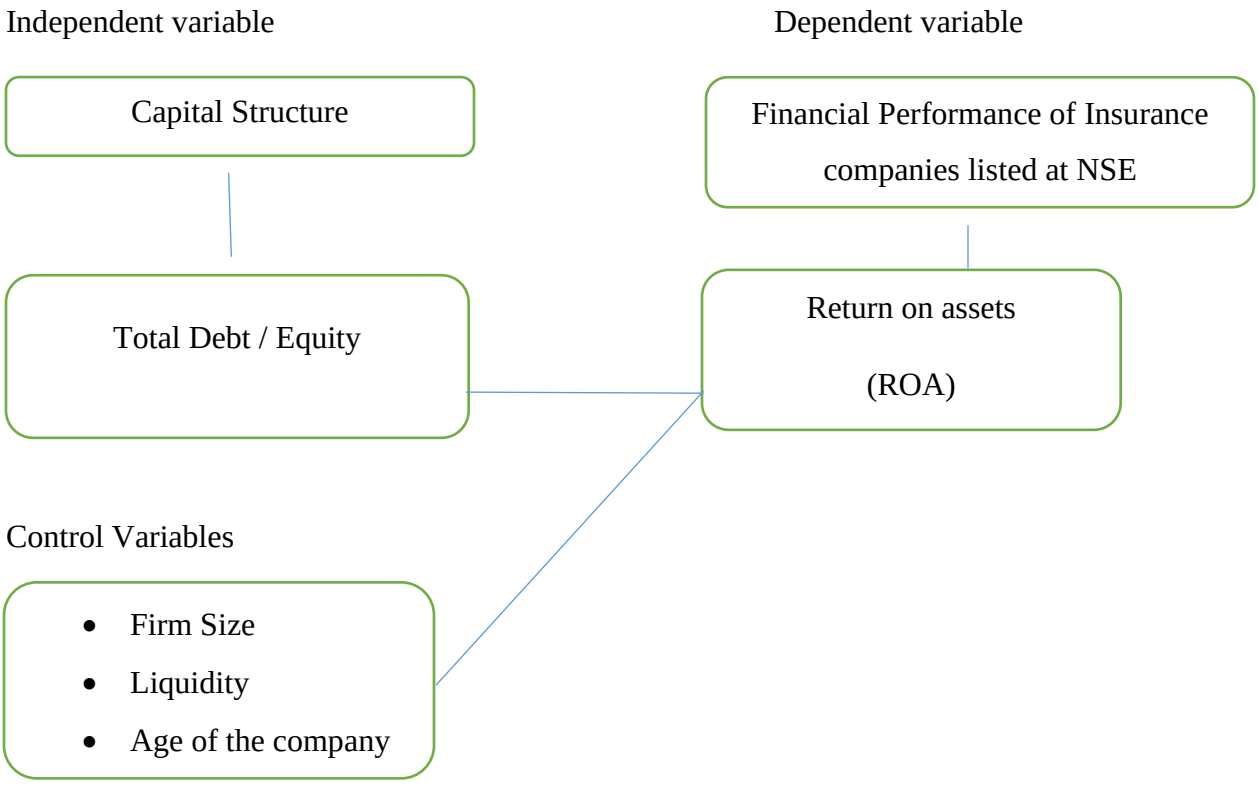
Hakima (2017) did a study on how performance in insurance companies is affected by capital structure with ROA as the reliant on variable while the prophetic variables in this study comprised the debt ratio, liquidity, and the magnitude of the firm. The study covered the six years from 2011- 2016 and discovered that the debt ratio wields a substantial influence on insurance business’s ROA. It was found that the magnitude of the business had a negligible adverse effect on the ROA, however, it was found that liquidity positively and substantially impacted on the financial health of the insurance companies. This was consistent with the findings of (Esilaba, 2018) that found capital structure and firm size to

be deemed statistically unimportant factors that determine efficiency of insurance firms in Kenya

2.5 Conceptual Framework

The conceptual framework demarcates the interrelationship among the variables under examination. In this particular study, the financial performance served as the dependent variable, while the capital structure played the role of the independent variable. The firm size, liquidity, and age of the company formed the control variables. The Conceptual framework is depicted as below.

Figure 2.1 Conceptual framework



Source: Researcher 2023

2.6 Summary of Literature Review

Numerous capital structure theories have been reviewed showing how a firm's worth is affected by the capital structure. Starting with Miller and Modigliani (1958) whose seminal paper found that the structure of capital didn't matter and that it didn't affect the company's worth but rather a firm's worth is dependent on the operating income. The trade-off theory and the pecking order theory agree that the value of the firm is dependent on its capital structure but there lacks consensus as to what makes for an ideal capital structure. This section also examined other factors that affect financial performance including firm age, liquidity, cash flow and firm size.

The literature review showed that several studies conducted have come up with contradictory findings and conclusions thus creating a vacuum in the literature that this investigation seeks to address.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

The data processing strategies were addressed in this chapter. It comprises the study population, the research design, the data collection and analysis procedures, the necessary diagnostic testing, and the analytical model.

3.2 Research Design

Research design encompasses the sequential stages of data collection, analysis and interpretation(Kothari, 2004). This investigation used a descriptive research approach to analyse the correlation between the capital structure of insurances enlisted on the NSE and their financial performance. Every one of the six insurance businesses included at the NSE's annual reports provided quantitative data.

3.3 Population of the Study

Mugenda and Mugenda (1999) eloquently characterise a population as a collective assembly of entities or attributes sharing common characteristics. In this study, a comprehensive census approach was adopted comprising of all the six listed insurance companies, thereby ensuring the exhaustive inclusion of all entities within the purview of the study.

3.4 Data Collection

For this research, only secondary sources were used to gather the data for the ten financial year period, 2013 - 2022. It is a regulatory requirement for insurance companies to publish

their annual reports to the Insurance Regulatory Authority (IRA). As such the secondary data was reliable, suitable and adequate.

3.5 Data Analysis

Data analysis involves computing certain metrics and looking for patterns in the interactions between different data sets. Stata analytical tool was used for coding, processing and analyzing data.

3.5.1 Diagnostic Tests

The appropriateness of the data for analysis was determined by a variety of diagnostic tests. The data was scrutinized for normality using the Shapiro-Wilk test, a p-value of less than 0.05 leads to rejection the null hypothesis. The VIF (Variable Inflation Factor) was used to figure out multicollinearity. With a VIF of 1, there is no correlation; if the VIF ranges between 1 and 5, there would be presence of moderate correlation; whereas a VIF ranging between 5 and 10 would be an indication of a strong correlations amongst the variables.

The analysis employed the Durbin-Watson test to evaluate autocorrelation in the regression. The Durbin-Watson test yields a result between 0 and 4, where a value of 2.0 signifies no autocorrelation. Outcomes within the spectrum of 0 to slightly less than 2 signify the presence of affirmative autocorrelation, whereas values spanning from 2 to 4 allude to the manifestation of adverse autocorrelation. Additionally, the Breusch-Pagan test was utilized to examine heteroscedasticity. The data is homoscedastic where the error term variance is constant; otherwise, the variance in the error term is uneven, indicating heteroscedasticity.

The specification test employed the Hausman test with the aim of determining the suitable model, either fixed or random effects, for analysis. Should the ethereal p-value descend beneath the mystical threshold of 0.05, the scales of favour tilt in the direction of a random effects model; however, should this elusive p-value dare to ascend beyond the celestial 0.05 mark, the mantle of appropriateness befits the fixed effects model. A dance with stationarity unfolded through the mystical steps of the Augmented Dickey-Fuller test, where the null hypothesis dared to assert the non-stationary nature of the data, should the enchanted p-value drop below 0.05, the gallant rejection of the null hypothesis ensues.

3.5.2 Analytical Model

In this study, panel regression analysis technique was employed to establish the relationship amongst the study variables. According to Kothari (2004) regression analysis is a statistical method that deals with the formulation of mathematical model illustrating relationships amongst variables which can be used for the purposes of prediction of the values of predicted variable from the predictor variables. In this study therefore, the model is be represented in a mathematical model as follows:

$$FP = \alpha + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + \varepsilon$$

Where:

- FP =Financial performance (Return on assets)
- α = constant value
- x_1, x_2, x_3, x_4, = coefficients
- b_1 = Debt Ratio
- b_2 = Liquidity

- b_3 =Size of firm
- b_4 = Age of the company
- ε = Error term

Table 1: Operationalization of the variables

	Variable	How to measure
1	Financial Performance	Return on assets (ROA) = After tax profit / Total assets
2	Debt Ratio	Total Debt / Total Equity
3	Liquidity	Current assets / current liabilities
4	Size of firm quantified	Natural log of total assets
5	Age	Number of years inexistence

3.5.3 Significant tests

The study used F-tests to quantify the level of variability among the study variables and T-tests were used to determine whether or not derived hypothesis was statistically significant.

CHAPTER 4: DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter encompasses the analysis, interpretation, and discussion of the data findings. It is organised into four distinct subsections, covering diagnostic tests, inferential statistics, interpretation, and the discussion of findings. Specifically, this chapter provides a framework for presenting, analysing, interpreting, and discussing the data.

4.2 Descriptive Statistics

The statistical snapshots paint a succinct portrait of the data's essence fundamental attributes of the variables within your study model.

Table 4. 1 Descriptive Statistics

Variable	Observations	Mean	Std. Dev.	Min	Max
Financial performance (ROA)	60	.018	.047	-.1	.1
Capital structure (Debt Ratio)	60	6.032	11.225	.5	67.6
Liquidity	60	2.167	1.679	1	10
Firm size	60	17.71	.613	16.651	18.954
Age of firm	60	59	12.934	42	85

From the tableau unveiled in Table 4.1, one can discern the melodic dance of mean financial prowess among insurance entities, as measured by the (ROA), was 0.018. This indicates that, on average, these firms generated a positive return on their assets. The

standard deviation of 0.047 suggests some variability around this mean, pointing to differences in financial performance among the observed firms. The range of ROA values, within the whimsical realm of numerical boundaries, our enchanted values frolic between the mischievous -0.1 and the jubilant 0.1, engaged in a dance of limited extremities, indicates a relatively narrow spread. In terms of the structure of capital as represented by the Debt Ratio, the mean was 6.032. This implies that, on average, Insurance firms had a Debt Ratio of 6.032. The standard deviation of 11.225 reveals a significant spread in debt ratios across the data, reflecting diversity in capital structures among the observed firms. The range of debt ratios, with extreme values of 0.5 and 67.6, underscores the wide variability in debt ratios present in the dataset.

The liquidity variable, with an average of 2.167, offers insight into the typical liquidity level among the firms in the dataset. The standard deviation of 1.679 suggests variability in liquidity levels across the observed firms. The range of liquidity values, on the scale of 1 to 10, metamorphosing from the most minimal whisper to the pinnacle of grandiosity, demonstrates the diversity in liquidity among the entities in the data. For Firm Size, the mean of 17.71 indicates an average size of firms in the dataset. The relatively low standard deviation of 0.613 suggests limited variability in firm sizes among the observed entities. The extremities of 16.651 and 18.954, highlight the relatively close distribution of firm sizes in the data. Regarding the age of Insurance Firms, with an average of 59, it suggests that, on average, sampled insurance firms had been in existence for over fifty years in Kenya. The spectrum spans from a youthful 42 years to a seasoned 85 years, painting a vivid canvas of age diversity across the landscape of insurance firms within the dataset.

4.2 Diagnostic Tests

To ensure the suitability of the Best Linear Unbiased Estimators (BLUE), several diagnostic tests were conducted before constructing the multiple panel regression model. The diagnostic assessments in this study covered tests for normality, multicollinearity, heteroscedasticity, and autocorrelation. The data's normality was scrutinized with the flair of the Shapiro-Wilk test, delving into the symphony of statistical assessment. The presence of heteroscedasticity was identified through the Breusch-Pagan test, while assessments for multicollinearity involved tolerance and VIF analyses. Autocorrelation was investigated using the Durbin-Watson d statistic. Furthermore, a Fisher-type exploration into the roots of units was conducted, unravelling the essence of their stability. Meanwhile, the Hausman test, akin to a celestial debate, deliberated on the cosmic question of whether a fixed or variable effects regression was more harmonious for the panel's symphony of data.

4.2.1 Normality Tests

Prior to conducting the estimation, the study utilized the Shapiro-Wilk test to evaluate the normality of the distribution of stochastic random error terms. Table 4.2 presented below indicates that, at a 5% significance level, the residuals of the variables exhibited a normal distribution overall.

Table 4. 2 Shapiro-Wilk W test for normal data

Variable	Observations	W	V	z	Prob>z
Residuals	60	0.947	0.567	-1.223	0.889

In the presented Table 4.2, the p-value associated with the residuals was 0.889, exceeding

the significance level of 0.05. This result indicates limited evidence to warrant rejecting the null hypothesis regarding the normality of residuals. As a result, data was considered to follow a normal distribution.

4.2.2 Multicollinearity

A regression model may become unstable or have imprecise estimates of the regression coefficients due to multicollinearity, which occurs when two or more independent variables have a significant correlation with one another. One way to measure the degree of multicollinearity in a regression model is to use the VIF. Tolerance levels and VIF are shown in Table 4.3 below.

Table 4. 3 Variance inflation factor

Variables	VIF	1/VIF
Age of firm	1.717	.583
Liquidity	1.662	.602
Firm size	1.497	.668
Capital structure	1.427	.701
Mean VIF	1.576	.

For each variable, the VIF values are less than 10. A VIF less than 10 is considered acceptable, suggesting that multicollinearity is not severe for individual predictors. The Mean VIF is 1.576, which is relatively low, indicating multicollinearity was absent of in the overall model. According to the VIF values, there is no compelling indication of

significant multicollinearity in the model. The VIF values are within an acceptable range, suggesting that the predictors are not highly correlated with each other.

4.2.3 Heteroscedasticity

When errors or residuals are not consistently variable across all levels of the independent variables, this is known as heteroscedasticity. The estimable regression model's heteroscedasticity was evaluated using the Breusch-Pagan test (also known as the Cook-Weisberg test, in some other names). In particular, the Breusch-Pagan test looked for constant variance in the mistakes.

Table 4. 4 Heteroskedasticity Test

Breusch-Pagan / Cook-Weisberg test		
Ho: Constant variance		Variables: fitted values of ROA
chi2(1)	=	1.79
Prob > chi2	=	0.1814

In this scenario, where the p-value stands at 0.1814, the cosmic dance of statistical whimsy reveals insufficient celestial signals to justify parting ways with the null hypothesis, which serenades the notion of unwavering constancy in variance. This implies that there is not a pronounced indication of heteroscedasticity. The assumption of constant variance appears to hold.

4.2.4 Autocorrelation

The Durbin-Watson test is employed to detect autocorrelation within the residuals of a regression model, and it is often applied to time series data. For panel data, where you there

is both individual and time dimensions, the computation becomes a bit more complex. However, the Durbin-Watson statistic for the residuals can be computed manually after estimating a fixed or random effects model. The calculated Durbin-Watson statistic is then compared to critical values. The summary statistics for the residual difference (residuals - residuals_lag) is as presented in table 4.5 below.

Table 4. 5 Descriptive Statistics for Residual Difference

Variable	Observations	Mean	Std. Dev.	Min	Max
residuals diff	54	-.002	.034	-.101	.104

Durbin-Watson statistic= $2\,x\,\left(1-\frac{Mean}{Std.Dev^2}\right)=2\,x\,0.99665=1.9933$

Given the close proximity of the Durbin-Watson statistic to 2, it indicates the absence of substantial autocorrelation.

4.2.5 Unit Root Test

The Augmented Dickey-Fuller (ADF) unit root test assesses various variables by determining how many standard deviations the series needs to deviate from a unit root to achieve stationarity. Each variable corresponds to a specific test statistic value, and lower (more negative) values present more robust evidence against the existence of a unit root. The associated p-value with the test statistic indicates the likelihood of observing the test statistic under the null hypothesis of a unit root. A smaller p-value signifies more compelling evidence against the null hypothesis.

Table 4. 6 Unit Root Test

Variable	Observations	Test Statistic Z(t)	Interpolated Dickey-Fuller			p-value for Z(t)
			1% Critical Value	5% Critical Value	5% Critical Value	
Financial performance (ROA)	59	-4.146	-3.567	-2.923	-2.596	0.0008
Capital structure (Debt Ratio)	59	-3.952	-3.567	-2.923	-2.596	0.0017
Liquidity	59	-5.104	-3.567	-2.923	-2.596	0.0000
Firm size	59	-2.871	-3.567	-2.923	-2.596	0.0489
Age of firm	59	-1.903	-3.567	-2.923	-2.596	0.3309
D.Age of firm	58	-7.977	-3.569	-2.924	-2.597	0.0000

From table 4.6 above, financial performance (ROA), capital structure (debt ratio), liquidity, and firm size had their respective p-values being less than 0.05 (0.0008, 0.0017, 0.0000, 0.0489), indicating strong evidence against the null hypothesis of a unit root. Therefore, for financial performance (ROA), capital structure (debt ratio), liquidity, and firm size variables, there is evidence to suggest that the series are likely stationary. However, for age of the firm, the p-value=0.3309 was greater than 0.05, an indication that age of the firm was likely non-stationary. First differencing was employed to transform 'age of the firm' to be stationary (p-value=0.0000 became less than 0.05).

4.2.6 Test for Fixed and Random Effects using Hausman Test

In econometrics the Hausman test is a tool used to assess if choosing between fixed effects (FE) and random effects (RE) models is appropriate for panel data analysis. It aids in determining whether the individual specific effects in a panel data model exhibit correlation with the independent variables. The propositions for this test are as follows;

(H_0): The individual-specific effects exhibit no correlation with the independent variables, and both fixed effects and random effects models serve as consistent estimators

(H_1): The individual-specific effects display correlation with the independent variables, indicating that the fixed effects model is more suitable.

Figure 4. 1 Hausman Test

	Coefficients (b) fe_model	(B) re_model	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
TD_TE	-.0006521	-.0003764	-.0002758	.0002125
CA_CL	.0029293	.0025341	.0003953	.0007166
NTA_N	-.08881	-.0320314	-.0567786	.0301272
NYE	.0055981	-.0002202	.0058183	.003276

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

Test: Ho: difference in coefficients not systematic

chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 3.50
Prob>chi2 = 0.4780
(V_b-V_B is not positive definite)

Table 4. 7 Hausman (1978) specification test

	Coef.
Chi-square test value	3.499
P-value	.478

The Hausman test unfolds its findings with a chi-square test statistic of 3.499 and a nonchalant p-value of 0.478. In an unapologetic fashion, the inquiry refrains from bidding adieu to the null hypothesis, as the p-value surpasses the predetermined significance level (α=0.05). This nonchalant revelation intimates that the available data falls short of endorsing the proclamation that independent variables and individual-specific effects engage in a significant tango. Consequently, the evidential arsenal crumbles in its attempt to champion the fixed effects model against the random effects model, ushering in a verdict in favour of the latter.

4.3 Inferential Analysis

Inferential statistics were utilised to ascertain the orientation, association, and extent of the connection between the predictor variables and the response variable.

4.3.1 Correlation Analysis

The table provided below is a pairwise correlation matrix that illustrates the correlation coefficients among the variable pairs.

Table 4. 8 Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)
(1) Financial performance (ROA)	1.000				
(2) Capital structure (Debt Ratio)	-0.245	1.000			
	(0.059)				
(3) Liquidity	0.004	0.509	1.000		
	(0.978)	(0.000)			
(4) Firm size	-0.214	-0.149	-0.229	1.000	
	(0.100)	(0.256)	(0.079)		
(5) Age of firm	-0.422	0.335	0.386	0.385	1.000
	(0.001)	(0.009)	(0.002)	(0.002)	

The NSE-listed insurance firms' financial performance was shown to be negatively correlated with capital structure, firm size, and age, as shown in Table 4.8. Statistical significance was observed in the negative association with the firm's age. The relationship between liquidity and financial success, on the other hand, was positive, while it was not statistically significant.

4.3.2 Model Specification

As indicated by the findings of the Hausman test, this study did not discover compelling evidence favoring the fixed effects model over the random effects model, resulting in the adoption of the random effects model. The regression results for the random effects model are presented in Table 4.9 below.

Table 4. 9 Random Effect Model

Random-effects GLS regression — Number of obs = 59
Group variable: IFC — Number of groups = 6

R-sq:
within = 0.2376
between = 0.5565
overall = 0.2436

Obs per group:
min = 9
avg = 9.8
max = 10

Wald chi2(4) = 16.92
corr(u_i, X) = 0 (assumed) — Prob > chi2 = 0.0020

ROA	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
TD_TE	-.0010578	.0005651	-1.87	0.061	-.0021654	.0000498
CA_CL	.0023313	.0038636	0.60	0.546	-.0052412	.0099038
NTA_N	-.0113789	.0098633	-1.15	0.249	-.0307106	.0079529
NYE_D	-.0027563	.001009	-2.73	0.006	-.0047339	-.0007787
_cons	.2205044	.1765245	1.25	0.212	-.1254773	.5664862
sigma_u	.00418331					
sigma_e	.02674548					
rho	.02388041	(fraction of variance due to u_i)				

As shown in Table 4.9, the factors examined in this study explained 24.36% of the overall variation in the financial performance of insurance firms listed on the NSE. Among this variation, 55.65% was attributed to differences between panels, and 23.76% was attributed to variations within the panels. The overall model demonstrated significance with a p-value of 0.0020.

The model for financial performance of insurance firms listed at NSE is as represented below.

$$FP=0.2205 – 0.0011x_1 + 0.0023x_2 – 0.0114x_3 – 0.0028x_4$$

Where:

FP =Financial performance (Return on Assets)

x_1 = Debt Ratio

x_2 = Liquidity

x_3 =Size of firm

x_4 = Age of the firm

Table 4.9 indicates that the coefficients for debt ratio, and size of the firm were negative and not significant (b_1=-0.0011, p-value=0.061; b_3=-0.014, p-value=0.247). In addition, the coefficient for liquidity was positive but also not significant (b_2=0.0023, p-value=0.546). On the contrary, the coefficient for the first difference of age of the firm was negative and significant (b_4=-0.0028, p-value=0.006). As such, from the four factors investigated age of the firm was having a significant effect on financial performance of the insurance firms listed at the NSE, while capital structure, liquidity, and firm size though had an effect but their effects were not statistically significant.

4.4 Results Interpretation and Discussion

Relying on the random effects model shown in Table 4.9 above, the research examined capital structure as the independent variable and liquidity, firm size, and age of insurance firms as the control factors. According to the research, the debt ratio—a measure of capital structures—had an adverse but statistically negligible effect on the NSE-listed insurance companies' financial performance. Likewise, the financial performance of these insurance companies was adversely affected by firm size, a negative and statistically insignificant

effect. Furthermore, liquidity demonstrated a favourable impact on financial results, although this effect did not reach statistical significance. However, the age of the firm showed an adverse impact on the financial performance of insurance firms listed on the NSE.

Financial performance is adversely impacted by capital structure, according to numerous research. Results of a study by Mukaddam and Sibindi (2020) that looked at the connection between financial performance and the capital structure of South Africa's retail industry, revealed that debt negatively impacted retail profits and by extension financial performance. Aimagh and Larsson (2018) also agree that non-debt tax shield significantly increase business leverage, and firm size was adversely related to the debt ratios. Further, Jiang (2008) asserts that highly profitable companies and firms do not heavily rely on debts. Adhiambo (2021) while studying how financial restructuring affected Kenyan insurance companies' performance, realized that debt restructuring had a substantial detrimental consequence on financial performance.

While this study found a positive but equally small influence on the financial performance of the listed insurance firms at the NSE, Adhiambo (2021) found that liquidity had a negative but negligible impact on financial performance. According to Hakima's (2017) research as well as the outcomes of this investigation, liquidity significantly and favorably affects the financial stability of insurance companies.

Aimagh and Larsson (2018) came to the overall conclusion that a firm's size has a considerable impact on business leverage. In contrast to this study's finding that the size of the firm negatively but marginally affected the financial performance of insurance firms, Jiang (2008) also noted that both the short-term and total leverage ratios are positively

correlated with the firm size as well as listing years and have a detrimental effect on a firm's long-term leverage ratio. Furthermore, Afzal (2012) concurs with Jiang's (2008) results that firm size had a favourable impact on publicly traded corporations but a negative impact on leverage for private firms. Likewise, Hakima (2017) disputes that the detrimental impact of business size was insignificant in relation to Return on Assets.

On the age of firms, the findings of this study led to the conclusion that it had a statistically significant adverse impact on return on assets. Aimagh and Larsson (2018) generally concluded that the age of a firm influenced business leverage, though the study did not specify the direction of influence.

CHAPTER 5: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This section encapsulates a concise exploration of the research outcomes, deductions, and recommendations concerning the intricate dance between capital structure and the financial performance of insurance firms listed on the Nairobi Securities Exchange. In addition, the limitations of the study are delineated, paving the way for thoughtful suggestions for future research endeavours.

5.2 Summary of Findings

This study embarked on the quest to unravel the intricate dance between capital structure and the fiscal prowess of insurance entities gracing the prestigious stage of the Nairobi Securities Exchange (NSE). The fundamental inquiry guiding this academic odyssey pondered the very essence of the interplay: How does the arrangement of capital impact the financial performance of these insurance stalwarts? Thus, the study's overarching purpose lay in dissecting the reverberations of capital structure on the financial acrobatics of insurance companies adorning the NSE. Employing a census-based descriptive research design, the study waltzed through the annals of quantitative secondary data extracted meticulously from the annual reports of all six NSE-listed insurance luminaries. These illustrious players included BRITAM, CIC Group, Kenya Re-insurance Corporation Ltd., Sanlam Kenya PLC, Liberty Kenya Holdings Ltd, and Jubilee Holdings. The temporal canvas upon which this scholarly portrait was painted spanned eight fiscal year periods, gracefully unfolding from the year 2013 to 2022.

This study unravelled the connection between the variables under scrutiny by employing the artistry of panel regression analysis. As unveiled by the revelatory insights gleaned from the descriptive analysis, the insurance businesses had an average positive return on their assets and a debt ratio of 6.032. The company liquidity and size means displayed the average firm size as well as the average degree of liquidity among the listed insurance firms. Since their NSE listing, these insurance companies have been conducting business in Kenya for more than 50 years. The independent and control variables capital structure, company size, and age of the firm exhibited an inversely proportional association with the financial performance of the chosen NSE-enlisted insurance entities; however, the negative relationship for capital structure was negligible. The firm's age displayed a statistically significant inverse relationship. Liquidity and financial success had a positive correlation, however it was not statistically significant.

The random effects model showed that the debt ratio and the company size had non-significant, negative coefficients. The firm's initial age difference had a substantial and negative coefficient, while its liquidity coefficient was positive without being statistically significant. The effects of capital structure, liquidity, and firm size were apparent but not statistically significant, in the symphony of factors orchestrating the financial performance of insurance companies gracing the NSE stage, the age of the company emerges as the virtuoso, wielding the most influential baton among the quartet of factors under scrutiny.

5.3 Conclusion

The study's findings show that while capital structure is detrimental on the NSE-listed companies' financial performance, this impact is not statistically significant. In relation to the control variables (liquidity, firm size, and firm age), the size of the firms showed a

negative influence, whilst liquidity showed a positive impact. Nevertheless, neither the favourable nor unfavourable effects on the NSE-listed insurance companies' financial performance attained statistical significance. On the other hand, a discernible and adverse impact, backed by statistical significance, manifesting itself on the fiscal prowess of insurance companies listed on the NSE was shown to be associated with the age of the firms.

5.4 Recommendations

Considering the statistically insignificant adverse influence of capital structure on financial performance, it is advisable for insurance firms listed on the NSE to explore the optimization of their capital structures. This involves a thorough reassessment of the balance between debt and equity to identify an optimal structure that aligns with the company's risk profile and growth objectives. A well-balanced capital structure has the potential to enhance financial stability and contribute positively to overall performance.

Although the positive correlation between liquidity and financial performance was not statistically significant, prudent liquidity management remains essential. Insurance companies should prioritize maintaining adequate liquidity levels to meet short-term obligations and capitalize on strategic opportunities. Robust liquidity management strategies can contribute to operational resilience and foster sustainable growth.

While the negative impact of firm size on financial performance was not statistically significant, it is advisable for insurance firms to carefully consider their size dynamics. Exploring avenues for controlled growth and operational efficiency can help mitigate

potential negative effects associated with larger organizational sizes. Tailored strategies aimed at optimizing performance relative to firm size should be a focal point.

Given the significant negative impact of the age of the firm on financial performance, continuous monitoring of this variable is crucial. Insurance companies should implement proactive measures to adapt to changing market conditions and evolving consumer preferences. Regular strategic reviews and innovative initiatives can help counterbalance the potential adverse effects associated with the aging of firms.

5.5 Future Study Focus

Future studies should microscopically analyse the components of capital structure to identify specific elements that may exert a more pronounced effect on financial performance. This could involve examining the impact of different debt instruments, equity structures, and the timing of capital injections.

To enhance comprehension regarding the correlation between the age of the company and its financial performance, future research could adopt a longitudinal approach. Analysing how firms evolve over extended periods would provide insights into the dynamic nature of the age effect and its implications for sustained success.

Expanding the scope of research to include comparative studies across diverse industries would contribute to a broader understanding of the interplay between capital structure and financial performance. Such cross-industry analyses could uncover industry-specific tinges that impact the observed relationships.

Future research endeavours may explore non-financial determinants that affect the relationship between capital structure and financial performance. Factors such as corporate

governance practices, regulatory environments, and market competition could be considered to provide a more holistic perspective.

5.6 Limitations of the Study

The present study offers significant contributions to our understanding of the correlation between the capital structure and financial performance of insurance companies that are listed on the Nairobi Securities Exchange (NSE). However, it is imperative to recognise certain setbacks that may impact the interpretation and applicability of the results. The study focused on a set of key variables, capital structure, liquidity, firm size, and age of the firm. However, other relevant variables that could impact financial performance may not have been included, potentially limiting the comprehensiveness of the analysis.

The study's findings are specific to the selected insurance firms listed at the NSE during the specified time frame. Extrapolating the results to the entire insurance industry or other time periods should be done cautiously, considering potential variations across different contexts. The homogeneity of the selected sample, limited to six insurance companies in the NSE, might restrict the generalizability of the findings to more diverse settings or different market conditions.

The study spanned ten financial years from 2013 to 2022. However, the chosen timeframe might not capture longer-term trends or emerging patterns that could manifest over extended periods.

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APPENDICES

Appendix 1. List of insurance companies listed at NSE

No.	Name of insurance company listed at NSE
1	Jubilee holdings Ltd
2	Sanlam Kenya PLC
3	Kenya Re-insurance Corporation Ltd
4	Liberty Kenya Holdings Ltd
5	BRITAM
6	CIC Group

Appendix 2. Data table

Insurance company	Years	ROA	Capital Structure	Firm Size	Liquidity	Age
Jubilee Holdings	2013	0.04092	3.58439	17.92899	3.87603	76
Jubilee Holdings	2014	0.04166	3.52122	18.12638	2.74440	77
Jubilee Holdings	2015	0.03789	3.04186	18.22683	5.68332	78
Jubilee Holdings	2016	0.04059	3.22786	18.32161	6.01452	79
Jubilee Holdings	2017	0.04030	3.16032	18.46916	2.26921	80
Jubilee Holdings	2018	0.03614	3.17438	18.55337	2.26032	81
Jubilee Holdings	2019	0.03089	3.26180	18.68364	2.25698	82

Jubilee Holdings	2020	0.02802	3.10474	18.79818	1.82135	83
Jubilee Holdings	2021	0.04398	2.67261	18.86069	1.34187	84
Jubilee Holdings	2022	0.03852	2.55063	18.95436	1.48078	85
Sanlam Kenya PLC	2013	0.05910	5.33754	16.86751	4.58536	67
Sanlam Kenya PLC	2014	0.03542	5.51186	17.01823	3.75907	68
Sanlam Kenya PLC	2015	0.00101	6.13018	17.11539	3.60986	69
Sanlam Kenya PLC	2016	0.00248	6.23317	17.16340	3.14347	70
Sanlam Kenya PLC	2017	0.00178	6.35732	17.21040	2.98318	71
Sanlam Kenya PLC	2018	-0.06802	17.33707	17.18630	3.10588	72
Sanlam Kenya PLC	2019	0.00393	15.76108	17.18559	1.80588	73
Sanlam Kenya PLC	2020	-0.00248	18.02231	17.26615	1.58691	74
Sanlam Kenya PLC	2021	-0.01564	57.21797	17.36179	1.62297	75
Sanlam Kenya PLC	2022	-0.00146	67.56115	17.43018	10.35513	76
Kenya Re-insurance Corporation Ltd	2013	0.10631	0.57471	17.15563	2.23233	42
Kenya Re-insurance Corporation Ltd	2014	0.09751	0.53196	17.28668	2.12883	43
Kenya Re-insurance Corporation Ltd	2015	0.09886	0.63928	17.39775	1.93865	44

Kenya Re-insurance Corporation Ltd	2016	0.08540	0.59507	17.46602	1.13314	45
Kenya Re-insurance Corporation Ltd	2017	0.08371	0.57076	17.57047	1.12153	46
Kenya Re-insurance Corporation Ltd	2018	0.05136	0.56355	17.60791	2.07326	47
Kenya Re-insurance Corporation Ltd	2019	0.07876	0.57627	17.73477	2.00384	48
Kenya Re-insurance Corporation Ltd	2020	0.05528	0.54770	17.79026	2.12794	49
Kenya Re-insurance Corporation Ltd	2021	0.05652	0.50715	17.83772	2.23111	50
Kenya Re-insurance Corporation Ltd	2022	0.05159	0.71997	18.06580	1.73851	51
Liberty Kenya Holdings Ltd	2013	0.03516	4.75533	17.26398	2.69341	49
Liberty Kenya Holdings Ltd	2014	0.02561	10.87460	16.94396	5.26588	50
Liberty Kenya Holdings Ltd	2015	0.01862	10.07499	16.97233	4.50299	51
Liberty Kenya Holdings Ltd	2016	0.01798	4.17058	17.36858	1.66985	52

Liberty Kenya Holdings Ltd	2017	0.02278	3.99673	17.42963	1.27400	53
Liberty Kenya Holdings Ltd	2018	0.01502	3.80094	17.41499	1.63314	54
Liberty Kenya Holdings Ltd	2019	0.01937	3.75817	17.45892	1.45089	55
Liberty Kenya Holdings Ltd	2020	0.01720	3.51469	17.48677	1.27966	56
Liberty Kenya Holdings Ltd	2021	0.00202	3.59190	17.51623	1.44647	57
Liberty Kenya Holdings Ltd	2022	0.00901	3.53847	17.55393	1.30469	58
BRITAM	2013	0.05658	1.76960	17.66358	2.31294	48
BRITAM	2014	0.03448	2.37927	18.09841	1.01160	49
BRITAM	2015	-0.01300	3.39028	18.16749	0.93406	50
BRITAM	2016	0.02965	3.67863	18.24206	0.86837	51
BRITAM	2017	0.00533	3.36810	18.41088	1.02019	52
BRITAM	2018	-0.02132	3.32692	18.45659	1.36714	53
BRITAM	2019	0.02829	3.26335	18.64577	1.25528	54
BRITAM	2020	-0.06653	7.02507	18.73522	0.79734	55

BRITAM	2021	0.00047	7.03978	18.84874	0.96514	56
BRITAM	2022	0.01068	6.60123	18.88077	0.56964	57
CIC GROUP	2013	0.07658	1.69093	16.65083	2.99622	45
CIC GROUP	2014	0.04594	2.28694	16.98058	0.99145	46
CIC GROUP	2015	0.04561	2.18246	17.03119	0.85615	47
CIC GROUP	2016	0.00699	2.60033	17.10870	1.34816	48
CIC GROUP	2017	0.01562	3.01075	17.23751	1.43925	49
CIC GROUP	2018	0.01455	3.27063	17.31342	0.73805	50
CIC GROUP	2019	0.00911	3.49553	17.37948	1.49590	51
CIC GROUP	2020	-0.00765	4.08440	17.47357	1.23857	52
CIC GROUP	2021	0.01609	1.20254	17.54219	1.06098	53
CIC GROUP	2022	0.02341	1.31047	17.65936	1.00174	54