

**EFFECTS OF CAPITAL STRUCTURE ON FINANCIAL
PERFORMANCE OF INSURANCE COMPANIES IN KENYA**

BY

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DECLARATION

This research project is my own original work and has never been presented for a degree at any other university for examination.

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

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DEDICATION

I dedicate this project to my family members. To my siblings for their prayers, love and moral support which enabled me undertake this research. To my parents for their passion in education, constant encouragement and investing in my education. I appreciate and love you all.

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LIST OF ABBREVIATIONS

AKI:	Association of Kenya Insurers
EPS:	Earning per Share
IRA:	Insurance Regulatory Authority
MM:	Modigliani and Miller
NSE:	Nairobi Securities Exchange
ROA:	Return on Asset
ROE:	Return on Equity
SPSS:	Statistical Package for Social Science

ABSTRACT

Financing decision is the backbone of any company and highly impacts on performance. If decisions are not well done may lead to decline of performance. This research sought to examine the effect of capital structure on financial performance of insurance companies in Kenya. Financial performance was measured using Return on equity while capital structure was measured using debt equity ratio. In addition, liquidity, tangibility of assets and firm size were used as the control variables. Three capital structure theories were adopted, includes; trade off theory, Modigliani and miller theory, pecking order theory and agency theory. The study covered 37 general insurance firms and a six-year period data was analyzed; from 2013 to 2018. The study approved a descriptive design using panel data. Secondary information was collected from Insurance Regulatory Authority published handbooks. Information was then evaluated using multiple linear regression model in statistical package for the social science. The results showed that insurances' financial performance variable Return on equity is significantly affected by capital structure with negative correlation between the two. The strong and negative correlation coefficient implies capital structure of insurances has an influence on financial performance for the period considered. Asset tangibility has a negative but insignificant influence on ROE. The findings also indicated increased liquidity ratio leads to significant increase in ROE. The firm's size on the other hand had a positive relationship with financial performance in insurance companies. The study concluded that increased debt ratio cause a decrease in equity returns to a significant extent. The study recommends that the management of the firms should ensure they maintain adequate level of debt to ensure that they do not affect other functions of the firm. It also recommends insurance management maintain the current liquidity position to ensure short term obligations are met. It also recommends insurances enhance the companies' total assets as it affects overall ROE.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Capital is money invested in business to help in generation of income and is needed to maintain operations. Capital is a scarce resource and therefore decisions around it form the backbone of any firm. Structure is the way things or objects are arranged hence capital structure is how a firm raises funds needed for its operations. Companies have different choices available to them depending on different factors. The choosing of sources to use is what results to financing decision. This financing decision impacts highly on the performance of firms thus making it crucial to make good decisions. Without finance which supports a firm's investment requirement business could not exist (Fabozzi, 2009). Research has shown common ways firms raise their capital is through issue of debt, and equity. Debt capital is received from creditors and is paid back with interest, can either be long term or short term. Equity capital is raised from shareholders who are the owners and are paid back a return, can either be common or preferred equity. The choice between the two will be influenced by different factors. Finding that optimal value has always been an area of emphasis so as to give firm edges over its competitor's and at the same time ensure the profitability.

A number of theories have been developed over the years to explain capital structure decisions; one such theory is Modigliani and Miller. Value of a firm is not affected by capital structure choice rather by operating income this was according to Modigliani-Miller (1958) theory. Simply implied optimum capital structure is a fallacy that does not exist and management are free to choose from any form of financing. This theory laid the

ground works for further studies. Myers & Majluf (1984) suggests that optimal capital structure is influenced by a companies' preference on the type of finance, preference is driven by cost of finance and asymmetrical information available to financiers. For example investors need an attractive package hence the rate of return ought to be high due to uncertainty. Management knows more about the company only means internal finance will be a cheap source of finance. Companies will prefer internal financing first, debt and finally equity. Trade off theory Kraus & Litzenberger (1973) proposes that firms choose the extent of equity and debt to use by balancing cost and benefit. Conflict arises when management decides to finance their operation from various sources. Management is required to act in best interest of shareholders at the same time shareholders spends more resources to monitor the managers increasing agency cost. Jensen and Meckling (1976) suggest a firm should use debt finance to reduce agency cost.

Insurance companies base their business on assuming and diversifying risks. This business generates revenue by charging premium and the premiums are invested to earn returns. Some of the investments can bring forth losses leading to claims and expenses being higher than the premiums collected. In Kenya various legislation have been put in place to ensure smooth running of the industry but have ended up straining the insurance firms in matters capital: for instance insurance has guidelines on the capital adequacy and a minimum paid up capital required before registering an insurance company. Minimum paid up capital vary depending on the class of insurance: 400million for life insurance, 600 million for general insurances and 1 billion for reinsurance companies. The insurance industry is filled with too many players, hence the competitiveness with 56 insurance companies serving 49million people. They also lack diversity in offering products and

have to compete for motor vehicle and medical insurances which have a high uptake. Insurance penetration in Kenya is below 3% and has been this way for a long time with little sign of improvement. Insurance companies are regulated; they are only confined to a minimum amount of capital but not the maximum hence opening up to different insurances with different structures. Over the years insurances have financed their activities using equity capital and customer's funds, and very few insurance companies use debt in their structure. These are issues specific to insurance industry in Kenya.

1.1.1 Capital Structure

Ross (2005) defined capital structure as a mix of various financial sources, funding a company's operation and growth. Chandra kumara (2010) structure of capital is an equity and debt mix which a firm deems appropriate to achieve its objectives. According to Campbell (2012) it is a combination of equity and or debt that funds a firm's assets. Capital structure is proportion of all types of capital base and is also referred to as financial leverage. Insurances in Kenya source their capital mainly from investors, corporate debt and customers.

Capital structure remains to be a puzzle in finance, among researchers and practitioners due to the conflicting theories. Modigliani-Miller (1958) assumes debt and equity can be used interchangeably given the fact debt has no effect on profitability of a company. This theory had a number of unrealistic assumptions. This led to development of substitute theories with reasonable assumptions, including the pecking order theory, trade off theory and agency theory. According to Myers (2001) an optimal value of debt-equity mix does not exist and no reason to expect one soon. A company can only consider several factors before settling on capital structure that will aid in achieving profitability and growth. A

tradeoff between risk and return must take place. Capital structure management aim at maximizing shareholder's wealth and minimizing costs leading to maximization of value of a firm. Generally, firms maximize shareholder's wealth through debt financing.

Insurance industry is regulated and specifies on the minimum capital required for operation, nevertheless it does not specify the maximum capital and this leaves insurances with a choice of financing their activities using different sources. Capital structure measures used to assess the performance of a company is debt-equity ratio and debt ratio but insurances tend to have a different structure from companies that produce tangible goods and offer other services. Financial leverage of insurance in this study was measured using the debt to equity ratio. This ratio represents the impact that financial claims have on capital and surplus in reserve.

1.1.2 Financial Performance

Financial performance depicts firm's usage of assets for generation of revenue. One way to calculate performance is by use of ratios compared from one year to the next this helps identify strengths and weakness of a firm. According to Padachi (2006) a firm's value highly depends on how well it designs and implements its financial framework. Efficiency and effectiveness of a firm's operations, financing and investing activities is clearly depicted in its high performance mokhtar (2004).

Financial statements provide information to management, investors, creditors on the available assets, how they are financed and how the company uses the assets to generate revenue. Financial statements give the quantitative information related to operation which highlights profitability and performance of a firm. This information is always subject to

analysis and interpretation. The analysis assesses the firm's profitability, liquidity, operation and risk. Financial performance is measured using absolute and relative measures such as earnings before tax, return on investments, return on assets, profits and return on equity. Insurance performance is normally expressed in terms of net premiums earned, profitability, return on equity and return on investment. Measures frequently used include ROE and ROA Reese (1978). ROE was applied in measuring financial performance in this study.

1.1.3 Capital Structure and Financial Performance

The relationship between these two variables tends to be sensitive and at times changes in response to both internal and external factors including size, Age, liquidity, asset tangibility and legislation. Capital structure affects the characteristics of a firm and investment choices. For example when a firm has a huge debt as part of its financing, borrowing more becomes a problem even if the new debt is actually a good investment decision. The overall cost of the debt is more than the advantages accrued. Equity holders will be reluctant to being part of such a project because debt holders will be the beneficiaries. At the same time debt will only be possible to obtain if they are convinced the project is viable and will not fail. Generally Finance managers are careful to only finance projects that maximize wealth.

Various empirical studies give contradictory and mixed findings. Some studies have argued that capital structure adopted by a company influences its value others have argued it does not. The theories and models look at the significance and insignificance of a companies' capital structure. For instance, Modigliani and miller (1958) states that structure of capital does not affect value hence render it irrelevant. Myer & Majluf

(1984), Myer (1984), Jensen & Meckling (1976), Durand (1952) maintain capital structure to be relevant to the value. It is evident that capital structure is significant to the value of insurances and hence directly affects how it performs.

The issue is to settle on the school of thought to rely on and capital structure composition to adopt to maximize value. Financing decision is one of the top most in any organization and affects other decisions too, including issuance of equity, project financing just to mention a few. Lot of importance is attached to it; this makes the study of the effects of capital structure on financial performance of insurances a valid topic of discussion.

1.1.4 Insurance Companies in Kenya

In Kenya IRA insurance regulatory authority came into existence in the year 1986 through the enactment of insurance Act CAP 487, it was premised on the sole responsibility of regulation, protection of consumers and supervision of the industry in Kenya. There are 56 insurance and reinsurance companies licensed by the authority (IRA 2017). These comprises of 28 underwriters conducting general insurance business, there are 15 insurances conducting long-term insurance business, 9 firms conduct both general insurance business and long-term. 3 composite reinsurers and 1 company reinsurer conducting general reinsurance business only. Out of the 56 insurance companies only 39 insurances were sampled in the study. This is the number of general insurance companies that existed in Kenya as at 2013 according to AKI (2013) report.

Finance act 2015 made changes to the minimum capital requirement. This study focuses partially on the period that the new provisions were in place. Previous provision had a lower minimum capital requirement as compared to the current. For example general

insurance business paid up capital increased to 600million from previous amount of 300million, long term insurance business paid up capital of 400 million while re-insurance business paid up capital increased to 1 billion from 500million. These requirements had impacts on the structure of capital and performance of insurance companies.

Insurances in the country have experienced a stable growth in the last decade due to its contribution to the economy by providing financial security, mobilizing savings and promoting direct and indirect investments. A report by the (IRA 2017) indicated that the insurance premium increased by 6.3% when compared to previous year 2016. General insurance business contributed to approximately 60% of the total premiums. The asset base for the industry had increased from 528.75billion to 590.95 in 2016 and 2017 respectively, an increase of 11.8%. 81% of the total assets was held in income generating investments. The after tax profit for the industry amounted to kes 13.64 billion in 2017 from kes 12.83 billion in 2016 a growth of 6.3%. in the industry as the insurance premium increase so does profitability.

1.2 Research Problem

Capital structure according to many studies has been an area of interest in finance. Despite many theories explaining capital structure researchers are yet to determine the value of an optimal capital structure. The theories have contradicting decisions and outcomes; capital structure is irrelevant to value of a firm according to Modigliani and Miller capital (1958). Myer & Majluf (1984), Jensen & Meckling (1977) found capital structure to be relevant to the value and using debt financing reduces cost and maximizes shareholder's wealth. According to Arnold (2008) use of debt finance is less expensive,

reduces cost and increase value. While according to Brounen (2005) presence of optimal capital structure increases the shareholder's wealth. Exact value of debt and equity mix is yet to be settled on, finance managers can only strategically combine the two.

Apart from banks, insurances provide financial intermediation in the economy and hence their success contributes to the success of the economy. Capital structure is one of the factors that affect performance and hence facilitating policies on this will greatly improve on performance. Insurance companies requires a minimum paid up capital that is specified, secondly the cash and carry principle that requires premiums should be paid up front, inability to apply this principle results to significant premium debtors in insurance business hence a depletion of capital for the insurers. Insurance recognize premiums paid in advance as insurance contract liabilities which form a huge percentage of total liabilities. These legislations specify on the minimum required level of capital but are not specific on the maximum levels. With the uniqueness of the industry and the dynamic environment it has rendered it challenging to settle on an appropriate financial mix.

Past studies generalize the capital structure effect on financial performance of firms. This approach may not be a representative of all the sectors in the Kenyan economy because each sector is distinct. There is little literature discussing the linkage between capital structure and financial performance of insurance companies in the country. Apart from that these studies have conflicting and mixed findings. Abor (2005), Negussie (2019) found capital structure has a positive relationship with performance. Contrary to this Adeyemi (2017), Lewis (2016), Kizito (2017), Nassar (2016) found capital structure to have a negative relationship with financial performance and when debt levels are high performance is low

It is evident that different researchers both locally and globally have given contradicting conclusions on this relationship between the two variables, also very little literature is available explaining the relationship of the two variables in insurance firms in Kenya. Further research is necessary to establish the link therefore this research seeks to address this concern. This study intends to answer the following questions.

What is the relationship between capital structure and financial performance? What is the effect of debt-equity ratio on the return on equity? How does liquidity affect return on equity?

1.3 Research Objective

This study sought to determine the effect of capital structure on financial performance of insurance companies in Kenya.

1.4 Value of the Study

This study benefits various stakeholders: Shareholders will be enlightened on capital structure and its effects; they will be informed on the arrangements that will maximize their wealth hence make decisions based on their returns and risks involved. Finance managers will use the findings and recommendations to settle on capital structure policies that will maximize value of the firm. Management will ensure capital structure settled on improves profitability and achieves growth.

Researchers benefit from study findings since it forms a basis that will provide additional information on this particular topic, it will present a pool of knowledge in this area. The findings will be significant to investors to analyze and determine how risky it is to invest

in the business and how much to charge for their financing. A firm with a given capital structure can be risky hence when extending finance the cost becomes higher.

Finally the study will help government agencies and regulators on deciding the exact value of minimum capital structure to be maintained by an insurance company at any given time. This prevents firms from going to liquidation due to high level of debt that remains unserviced due to poor decisions.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents research materials from people who have done research in the same area. It reviews the literature, determinants of financial performance and empirical studies done both locally and internationally. Finally, a brief summary of the reviewed literature.

2.2 Theories on Capital Structure

To help in explaining the idea of capital structure and financial performance the following theories were reviewed: Modigliani and Miller irrelevance theory, Pecking order theory and Tradeoff theory and agency theory.

2.2.1 Modigliani and Miller Theory

Modigliani and Miller (1958) devised a theory which suggests capital structure is irrelevant to the value. Value is dependent on the operating income, hence whether a firm is highly leveraged or not purchasing shares will cost the same. The theory had a number of unrealistic assumptions: Transaction cost and bankruptcy costs are nil, all players in the industry have access to the same information, Bankruptcy cost, taxes do not exist, and Investors secure debt at the same interest rates as corporations. MM concluded capital structure has no influence on shareholder's wealth and debt is a perfect substitute of equity and vice versa. Management is free to select composition of the debt to equity.

MM based their theory on unrealistic assumption. For example, MM concluded whether firms uses debt or equity market value remains the same but due to imperfections in the

capital market this may fail to work, a world without taxes does not exist in real life. Borrowing cost cannot be the same for Investors and companies reason being a firm holds enough collateral, making companies have a higher credit standing hence will borrow at a lower rate than individuals. Finally, the theory ignored financing through retained earnings in reality companies will not pay out the entire earnings therefore will finance activities using retained earnings only after exhausting this financing will they embarking on other sources.

This theory is beneficial not only to corporate finance but also to this study in trying to explain the capital structure an insurance should have. The theory helps determine if there is an amount of debt or equity a firm should settle on to increase its value. The assumptions may not be applicable in the insurance industry in Kenya but it forms a starting point for the study. Gives a basis to make comparison for the theories in this study.

2.2.2 Trade off Theory

Myers (1984) suggests that every company has a capital structure that is optimal that maximizes its value, and to achieve it a firm balances the benefits and costs of debt and equity finance. Trade off arise in several patterns for example comparing the benefits and costs of debt. The benefits of using debt being tax shield benefits and added discipline when it comes to choice of investments while the cost of debt being bankruptcy cost and agency costs.

In the trade off theory only the balance between benefits and costs is considered in choosing an appropriate debt- equity composition but in reality, firms debt capacity is

limited by factors such as growth, asset structure, earning volatility and other factors. Secondly the theory eliminates the impact information asymmetry has on choice of capital structure. Lastly Jensen and Meckling (1976) suggested firms need to maximize shareholder's wealth and to do so management opts for risky projects which are financed through debt. Risky projects have greater incentives but value of the firm may decrease when using debt as wealth is transferred to debt holders. Despite the criticism trade off theory remains dominant in corporate finance.

Consistent with the trade off theory Mackie-Mason (1990) found that firms that incur tax losses rarely issue debt mostly because this lowers their credit ratings and investors never feel safe lending to such organizations. Titman and Wessel (1988) indicated that when interest tax shield of a firm increases use of debt also increases. Graham (1996) carried out a study and found when marginal tax rates increased debt ratios increased. Contrary to the theory Fama and French (1998) found higher profitability firms tend to borrow less.

The relevance of this theory to the study is to explain why different insurance companies have different levels of debt. This theory assumes most companies rely on debt as the main source of finance and managers only have to balance cost and benefits to take more debt. Also the theory suggests that use debt record good performance. Contrary to this Insurances are profitable and do not rely hugely on debt. This theory has to be used with other theories to best understand the capital structure of insurances.

2.2.3 Pecking Order Theory

This theory was first proposed by Donaldson (1961) and modified by Myers and Majluf (1984). It states that management choice of financing is influenced by the cost of the finances. The cost of finance rises with asymmetric information. Asymmetric information on the other hand favors issue of debt to equity, issue of debt is an indication management is confident the company is profitable and has the ability to service the repayment. This theory maintain a business sticks to a hierarchy of sources of finance, prefer finance internally, equity and debt as last options. This theory has assumptions including optimal or target structure of capital does not exist. It does not incorporate the effect of taxes, cost of issuing security, agency cost which all have an influence on capital structure.

A number of studies have confirmed pecking order theory Myers (2001) indicated firms with higher growth and profits opportunities use less debt and more of internal financing. Baskin (1986) confirmed that profits and gearing levels are negatively related meaning when the profits are high gearing levels are low. Seifert and Gonenc (2010) found pecking order financing to be prevalent only in those emerging markets where there are issues of information and agency costs. On the contrary Frank and Goyal (2003) found American firms issued more equity finance than debt which goes against pecking theory. Helwege and Liang (1996) examined the capital structure of firms and found external financing to be unrelated to deficit of internal financing, although firms with cash surplus do not use external finances.

Pecking order predicts that there is an order of preference over sources of financing. The preference is influenced by information available to outsiders who are the investors and

insiders who are the shareholders and managers. Management financing decision will be biased towards the existing shareholder's interest. Faced with good investment managers do not wish to communicate that information to new shareholders. Management would rather pass up a positive investment because the debt holders will benefit more than the existing shareholders. Asymmetric information has an influence on value of firm. Existing and potential investor may decide to take up or withdraw their investments if managers announce changes in a firm's financial mix.

Pecking order theory is of essence to this study as it elaborates capital structure in insurance companies and how it affects performance. It explains the behavior of finance manager of relying on internal sources rather than external sources to finance projects, and their conservative borrowing culture. Insurances will only borrow if they have limited funds for investment which is a rare case. This theory is most appropriate to firms that mainly rely on internal sources which apply to smaller firms and few companies like insurances. Based on the theories drawbacks it is important for the it to be used to complement other theories.

2.2.4 Agency Theory

This theory was first proposed by Jensen and Meckling (1976) suggesting optimum capital structure exists from choice of various sources of funds including equity, debt and other securities this leads to conflict among the players: managers, shareholders and debt holder. This conflict creates agency problem which leads to agency cost. Agency relationship exists if one party appoints another to act on its behalf, consists of a principal and an agent. The principal appoints the agent to act on their behalf. In this case the manager is an agent while the shareholders and debt holders are the principal. Managers

will always act in their own interest hence 2 major conflicts will exist between shareholders and managers, managers and debt holders. The stakeholders will want to act in their own selfish interest; managers pursue profits of the company for their own personal gains. They issue debt instead of shares where future cash flow will be used to pay interest and principal to debt holders instead of distributing the earnings as dividends to shareholders. A company can reduce agency costs by using debt in place of equity. Use of equity increases agency costs by closely monitoring the managers to see if they are acting on their best interest. While use of debt ensures the cash flow available for spending decreases, it also ensures managers make good investment decisions to avoid bankruptcy costs that come with not servicing debt. Debt also enjoys tax benefits.

This theory explains the relationship between managers and owners and how this affects management choice of financing. The theory helps us understand the behavior of managers in insurances, choice of investment and how they finance these investments. When managers are self-centered they pursue personal interest including pass by lucrative projects and investing in risky ones which have high returns. Risky projects can plunge the firm into losses which results to poor performance. Together with pecking order and trade off, these theories assist users to understand financial structures of insurances better.

2.3 The Determinants of Financial Performance Of Insurance Companies

This part discusses the various determinants of financial performance in an insurance firm include capital structure, size of the firm, asset tangibility and liquidity.

2.3.1 Firm's Capital Structure

Capital structure is a composition of equity and debt that finances the growth and profitability of a firm. Some firm favor equity financing, some favor debt financing some use both equity and debt. Decision to undertake a financing either increases or reduces the firm's value. The decision on which source to use to finance operations depends on various factors like availability of the sources, stage of the business, ability of the firm and desired level of leverage .A firm with high debt level is thought to have a higher value. Debt reduces the overall weighted average cost hence increasing its value however when used in excess exposes a company to bankruptcy and agency cost. Optimal capital structure maximizes returns to shareholders and minimizes cost of capital according to trade off theory.

2.3.2 Size

Size of a firm is measured by considering a number of factors including total assets, total sales and market value of equity. Commonly used measure is log of total assets and large companies have huge asset base. Large firms enjoy economies of scale average production cost drops and output increase hence efficiency in operations. This results into increase in return on assets. The premium base determines policy liability of an insurance firm Ahmed (2010) and liability has an effect on the performance. Small firms have a smaller asset base this reduces their credit rating and limits them to internal sources. Larger firms have also diversified investments that generate cash flow and hence can access debt at a lower cost. According to Adam (2009) large firms diversify their investment portfolio which reduces business risk, for example insurance companies in

Kenya have actively ventured into real estate Britam and UAP towers have come up. Size and profitability have a positive relationship as indicated by most studies.

2.3.3 Firm Liquidity Level

Liquidity is the availability of cash or liquid asset in an organization used to meet immediate obligation as and when they fall due. Firms with liquid equity market and liquid assets tend to rely more on equity finance though excessive liquidity lead to building up of idle. It is at times viewed as ability of firms to meet unplanned and planned obligations on a continuous basis. In order for a company to sustain its operations into the unforeseeable future the firm is expected to have enough funds. Liquidity, Size and investment are significant determinants of profitability of insurers Chen and Wong (2004). Shiu (2007) found out that the more liquid asset a firm has the less risky the business is. In cases where insurance has insufficient cash or liquid assets they are forced to sell their investments at losses to settle prompt claims. Firms would not be required to seek external funds if the assets they have are liquid and enough to finance projects. Liquidity is measured by use of current ratio. A high current ratio means a firm is capable of meeting short term obligations and it is healthier than those with low current ratio. Liquidity and financial performance have a positive relationship.

2.3.4 Firm's Tangible Fixed Assets

An asset is said to be tangible when it has a physical existence and its value is measurable. They can be measured by comparing fixed assets against the total assets of the firm. The fixed assets play a vital role in determining firm's debt level, turnover and finally firm's profitability. Tangible Fixed assets of a firm have bigger economic value

than intangible asset which tend to lose value quickly in case of bankruptcy or minimal informational asymmetries. When the fixed assets to total asset ratio is high it gives creditors high level of confidence in case the company is wound up the assets can be liquidated, hence increase in use of debt financing. These external finances, debt capital lead to high turnover and enhance the firm's performance if efficiently utilized Rajan & Zingalea (1995).

The tangible firms assets comprises of assets owned by the company that have physical existence and are acquired for operational use. These assets are not meant for sale to customers include building, land, plant and machinery. Lenders demand these assets as collaterals and consider them as a promise for debt payment

2.4 Empirical Studies

Nassar (2016) examined capital structure versus financial performance for a population that constituted 136 industrial firms listed in Turkey. Study covered a period from 2005-2012. This study employed multivariate regression model to identify the link between the two variables. Findings of the research show when the debt levels are high, the ROA, ROE and EPS of a firm is low. When debt level increase and go beyond the optimal then this affects the performance of firms. However the study concentrated on only one sector of the economy and hence was not an all-inclusive data.

Negussie (2019) looked into capital structure effect on financial performance of 9 private insurance firms in Ethiopia. He analyzed secondary data from 2008-2017. The data was evaluated using regression and panel data analysis. The results revealed significant positive effects of debt ratio, degree of operating leverage and size on performance of

private insurance company's in Ethiopia. Debt financing has a tax saving which is a benefit but beyond a certain amount of debt the cost of financing outweighs the benefits and an organization puts itself at risk. If benefit is more than costs it results to a gain in value of an organization from debt usage, if benefit exactly offsets costs then debt shall not affect the value, if benefits are lower than costs hence raising debt will reduce the value, an optimal debt ratio should be maintained. The weakness in the research is that the optimal structure of capital in insurance firms is yet to be defined.

Adeyemi (2017) researched on the capital structure effect on financial performance of Nigerian insurance industry. Study population was six selected insurance companies for a period from 2012-2016. Regression technique was in use for data analysis. The finding of the research was in tandem with trade off theory, that negative linkage exists in relation to capital structure and financial performance and the companies should not rely purely on debt but striking a balance in choice of structure of capital. Weakness of the study is that it recommends for an optimal capital structure which still remains unknown in the insurance industry. Insurances can only strike a balance and adjust either the debt or the equity to ensure they maximize the shareholder's wealth.

Albert (2013) researched on the effect of capital structure on profitability of quoted firms in Ghana during a study period from 2005-2009. Regression analysis was in use for analyzing the data. The study had a number of findings that revealed trade off theory applied in firms in Ghana, debt financing was used for the operation of business and tax benefits was not a motivating factor towards choice of a certain capital structure. This study gave conflicting results for different industry and could not be relied upon.

Abor (2007) looked at debt policy and the effect it has on performance. The research focused on SMEs in South Africa and Ghana. The study period was between 1990-1995, evaluated data using Panel data analysis. The outcomes of the research revealed that very high debt policy results to low performance. The weakness of the study is that 1990-1991 the countries suffered the gulf crisis and the data may not be a true representative of the prevailing situation.

Reuben (2012) investigated the effect capital structure has on the financial performance of commercial banks in Kenya. Forty three banks of Kenya formed the population of the study and period was 2004-2009. The outcomes indicated a relationship between capital structure and financial performance exists and capital structure of bank is affected by liquidity, size, profitability and growth. The weakness in the study was the fact that it was conducted in a period of time when the country was experiencing a political crisis leading to financial uncertainty hence the period between 2008-2009 might give a lower performance caused by uncertainty in the economy.

Lewis (2016) carried out an investigation on effect of capital structure on financial performance. The study comprised of data from 47 firms quoted at the NSE. Secondary data of non-financial firms between 2011- 2015 was used. The research findings showed financial performance is low with the increase in debt levels. The study only concentrated on non-financial organization and its findings cannot be applied in financial organizations and used of secondary data does not give prevailing state.

Kizito (2017) carried out a research to determine the link in capital structure and financial performance of firms. The population comprised of ten firms in the service sector listed in the NSE. A descriptive research was carried out with secondary data collected between

2012-2016. T-test and F-test was used to analyze the data. The findings indicated financial performance is negatively influenced by capital structure. The only disadvantage in this study is that earnings are reported using the generally accepted accounting practice and different accounting policies apply to different sectors, findings might only be applicable to the service sector. The study also maximized use of secondary data including historical ratios which may not reflect the prevailing circumstances

Kibet (2013) studied the connection between capital structure and share price. His population was energy companies listed at the NSE. The study covered a period of six years. Descriptive statistics was for used for analysis and the finding were equity negatively affects the share price while gearing ratio and debt affected share price positively. The weakness in this study was that it focused on one sector of the economy and thus the conclusion is biased to that sector only.

2.5 Conceptual Framework

This shows the variable being measured and the expected relationship between them. Relationship is conceptualized and depicted in figure 2.1. This study has financial performance as its dependent variable and capital structure as the independent variable. Liquidity, size and asset tangibility comprise of the control variable. Conceptual framework is as shown below.

Conceptual Model

Independent variables

Dependent variable

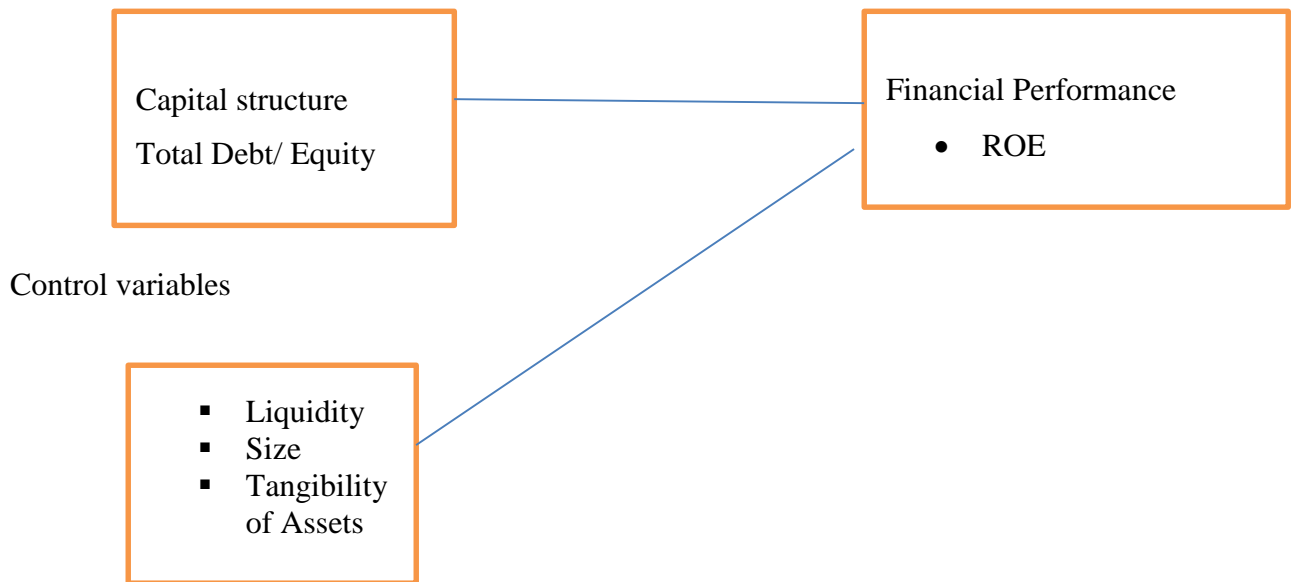


Figure2.1: Conceptual Model

2.6 Summary of Literature Review

This section examined the various theories on capital structure and how they affect the firms value. For example, Modigliani and Miller (1958) are based on the idea that value of a firm is not dependent on capital structure rather on the operating income. The other theories argue capital structure is indeed relevant to the value of any firm. From the three theories it is evident optimal capital structure exist but little consensus on exact mix of debt and equity. Determinants of financial performance have also been looked at including capital structure, size and liquidity

Few studies have exploited effects that capital structure has in the insurance industry; this study aims at filling the research gap by determining how managers of insurance

companies can mix various sources to achieve profitability. Empirical studies have found that structure of capital made consists of two major elements: equity and debt. However an optimal mix of the two components of financial leverage that would be applicable to all firms remains unknown. Further studies concerning optimal capital structure remains necessary to establish a range that will apply to different firms in different industries.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter explore: research design, population of the research, data collection, diagnostic tests for data reliability and finally how data was analyzed to find solution to specific objectives in chapter one.

3.2 Research Design

Leedy (1997) defines research design as a plan that provides framework for collecting data. It is a blue print for conducting a study .Descriptive research design was applied in this case. It involves collection of quantitative information that can be tabulated in numerical form. It attempts to determine, describe and identify what is. The research relied on accounting data of insurance firms in Kenya from year 2013-2018. The annual reports for the firms provided information on debt- equity ratio, liquidity and ROE.

3.3 Population

Polit and Hungler (1999) described population objects, subjects or data that conforms to a set of characteristics. Insurance companies in Kenya according to IRA (2013) were forty eight. The sample size involved thirty nine insurance companies. The population comprises of only insurances dealing in general insurance business.

3.4 Data Collection

Secondary data was used in the study. The data is available in financial statements of insurance firms and IRA published handbooks were used in this study. The data is to derive the four variables to be used in data analysis.

3.5 Diagnostic Test

3.5.1 Normality Test

Was done to determine if the set of data is normally distributed, a lot of tests for example the t-test requires data be normally distributed. Numerical methods were applicable to assess the data through SPSS.

3.5.2 Multicollinearity Test

To ensure the data collected is free from biasness and one variable data is not related to another variable data, the study conducted a multicollinearity test. Multicollinearity is detected when two variables have same linear relation. The variance of Inflation is used to test multicollinearity. VIF ranging from 1 to 10 indicated absent of multicollinearity while presence of multicollinearity is detected when VIF is more than 10 or less than 1. When the test fails you should standardize the continuous variables by choosing on a standardization method on the regression dialog box. For instance you may choose variable centering approach.

3.5.3 Autocorrelation Test

Autocorrelation is tested to detect any similarity between time series at given a time interval which is carried out using Durbin-Watson. This test depicts a test statistic with a

value of 0 to 4 where 2 no autocorrelation exists, where the statistic is less than two a positive autocorrelation exists and where greater than two, negative autocorrelation exists.

3.6 Data Analysis

3.6.1 Analytical Model

Analytical model was be illustrated as follows:

$$Y = \beta_0 + \beta_1 FL + \beta_2 LQ + \beta_3 SZ + \beta_4 TANG + \mathcal{E}$$

Y =financial performance to be measured by the firms ROE=Total Income/Total Shareholder's Equity

β_0 =Equation's constant

$\beta_1 \dots \dots \beta_4$ =co-efficient of regression model

FL =Capital Structure measured by Total Debt/Total Equity

LQ =Liquidity (Current assets/current liabilities)

SZ =Size of firm measured using log of total assets

$TANG$ =Fixed assets to Total assets

\mathcal{E} =error term

3.6.2 Test of Significance

T-Test

T-test allows for the comparison of means of two groups with related features. It assumes null hypothesis and mean of the two groups are equal. The value of the mean assumed forms a standard value on which data is compared against. The assumed null hypothesis is then accepted or rejected.

F-Test

F-test tested for homogeneity of the variables, to see if variance of 2 populations is equal.

When the variance between the variables is large then the variables are significant for the study. When variance is small then variables are insignificant. If F test is significant, one or more of the X variable was helpful in predicting Y. Then T test was used to find out whether X variable significantly affects Y all other X variable held constant. If F-test is not significant then one cannot use the T-test. In rare cases where T-test is significant even though F-test is not significant.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND INTERPRETATIONS

4.1 Introduction

This section contains the response rate findings, descriptive findings, diagnostic tests results, correlation and regression results and the interpretation of the results of the study

4.2 Response Rate

This study targeted 39 insurance firms dealing with only general insurance business but complete data was obtained from 37 companies. The 37 firms generated a response rate of 94.9%, which was deemed sufficient to continue with the study.

4.3 Diagnostic Tests

4.3.1 Normality Test

Table 4.1: Normality Test

ROE	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Capital structure	.149	222	.300	.857	222	.853
Firm liquidity	.172	222	.300	.869	222	.723
Firm size	.156	222	.300	.906	222	.822
Asset Tangibility	.163	222	.300	.769	222	.801

Source: Research Findings (2019)

Both Kolmogorov-Smirnova and Shapiro-Wilk tests recorded o-values greater than 0.05 implying that the data used in research was distributed normally and therefore the null hypothesis was rejected. This data was therefore appropriate for use to conduct parametric tests such as Pearson’s correlation, regression analysis and analysis of variance.

4.2.2 Test of Multicollinearity

The study used the variance inflation factors and the tolerance levels to assess multicollinearity.

Table 4.2: Multicollinearity Test

Coefficients ^a			
Model		Collinearity Statistics	
		Tolerance	VIF
	Capital Structure	.978	1.023
	Liquidity	.980	1.021
	Firm Size	.998	1.002
	Asset Tangibility	.997	1.003
a. Dependent Variable: Financial Performance			

Table 4.2 exhibits the multicollinearity results. The results show that the variance inflation factors (VIF) are less than 10, which signify no multicollinearity existing between the dependent and independent variables.

4.2.3 Autocorrelation

Autocorrelation is tested to detect any similarity between time series at given a time interval which is carried out using Durbin-Watson. This test depicts a test statistic with a value of 0 to 4 where 2 no autocorrelation exists, where the statistic is less than two a

positive autocorrelation exists and where greater than two, negative autocorrelation exists. In case it is 1.774, meaning a positive autocorrelation exists.

Table 4.3: Test of Autocorrelation

Model Summary ^b	
Model	Durbin-Watson
1	1.774 ^a
a. Predictors: (Constant), Asset Tangibility, Liquidity, Firm Size, Capital Structure	
b. Dependent Variable: Financial Performance	

4.3 Descriptive Statistics

Table 4.4: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Financial Performance	222	-2.2900	3.0000	.1237	.3558
Capital Structure	222	-28.4000	11.7200	1.7322	2.5947
Liquidity	222	.4600	43.4500	6.7722	6.6126
Firm Size	222	13.5100	17.9700	15.1531	.8245
Asset Tangibility	222	.0000	1.7800	.2240	.1887
Valid N (listwise)	222				

Source: Research Findings (2019)

The findings on the above table indicate that mean ROE is 0.1237; minimum and maximum being -2.29 and 0.3558 respectively. This indicates that the average ROE of the insurance industry is 1.23 percent. The results also show that the mean value of debt ratio is 1.7322 with -28.4 and 11.72 being the minimum and maximum values meaning that it has more than the minimum required debt ratio of 1%, hence large percentage of asset are financed through debt. The results further indicate that the mean value of liquidity ratio was 6.77, therefore that the current ratio of 6:1 implies that the insurance firms are in a position to meet their short term obligation. Finally the average size of assets in these firms (firm size) during (2014-2018) was Ksh 1,423 billion (antilog. 15.15) and a minimum of Ksh. 0.235 billion and a maximum of Ksh. 9, 333 million.

4.4 Correlation Analysis

Table 4.5: Correlation Analysis

Correlations						
		Financial Performance	Capital Structure	Liquidity	Firm Size	Asset Tangibility
Financial Performance	Pearson Correlation	1				
Capital Structure	Pearson Correlation	-.669**	1			
Liquidity	Pearson Correlation	.029	.141*	1		
Firm Size	Pearson Correlation	.074	-.026	.011	1	
Asset Tangibility	Pearson Correlation	-.052	.042	.011	-.034	1

Source: Research Findings (2019)

The table above exhibits that capital structure, tangibility had a negative correlation with ROE. The table also shows that firm size and current ratio had a positive weak link with ROE.

4.5 Regression Analysis

The study employed the multivariate regression model that was used to examine the relevance of the predictor variables under study in respect to the financial performance

4.5.1 Model Summary

Table 4.6: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.683 ^a	.467	.457	.2621377
a. Predictors: (Constant), Asset Tangibility, Liquidity, Firm Size, Capital Structure				

The average R2 of the model was 0.46.7 showcasing that 46.7% of the changes in ROE are explained by debt ratio, asset tangibility, liquidity ratio and firm size (log of assets) in the model. 53.3% of the change in ROE remains unexplained by the factors considered in the study.

4.5.2 Analysis of Variance

Table 4.7: Analysis of Variance

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.069	4	3.267	47.547	.000 ^b
	Residual	14.911	217	.069		
	Total	27.980	221			
a. Dependent Variable: Financial Performance						
b. Predictors: (Constant), Asset Tangibility, Liquidity, Firm Size, Capital Structure						

Source: Research Findings (2019)

The table above exhibit that the regression equation is significant and a good predictor of the connection among the dependent variable and independent variable. This indicated by the p value of 0.000, which is less than 0.005.

4.5.3 Distribution of Coefficients

Table 4.8: Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.101	.327		-.308	.759
	Capital Structure	-.094	.007	-.685	-13.661	.000
	Liquidity	.007	.003	.125	2.495	.013
	Firm Size	.023	.021	.054	1.083	.280

	Asset Tangibility	-.044	.094	-.023	-.468	.640
a. Dependent Variable: Financial Performance						

Source: Research Findings (2019)

Table 4.8 shows that capital structure and asset tangibility has a negative relationship with financial performance but only capital structure was significant as indicated by ($p < 0.005$). The results shows that liquidity have positive but not statistically significant relationship with financial performance. Finally firm size is positively but insignificantly related with financial performance.

The resulting regression model is:

$$Y = -0.101 - 0.094X_1 + 0.007X_2 + 0.023X_3 - 0.044X_4$$

Where,

Y = Financial Performance

X₁ = Capital Structure

X₂ = Firm Liquidity

X₃ = Firm Size

X₄ = Asset Tangibility

The estimated regression model above shows that if predictor variables were equal to zero, ROE would be equal to -0.101. The result also showed that there is negative and significant relationship between capital structure and financial performance. The results also showed that asset tangibility have a negative and not statistically related to ROE. The relationship between liquidity and financial performance is however positive and significant. Furthermore, the results also showed that firm size have a positive and insignificant effect on ROE.

4.6 Discussion of Research Findings

The research found that there is negative and considerable connection linking capital structure and insurance firms ROE. This means financial leverage has impact that is significant on overall performance. The finding agrees with Tonui (2018) found that short-term debt to equity had a big role in enhancing performances of listed companies in the securities exchange. Chepkwony (2018) established capital structure has positive effects on ROA. Sifuna (2018) revealed that debt ratio and profitability produced positive statistically significant results.

This paper also established a positive considerable association existing between liquidity and return on asset. Hakima (2017) indicated that liquidity and ratio of debt had a positive significant linkage with financial performance. However the findings are inconsistent with Negussie (2019) who looked into capital structure effect on financial performance of 9 private insurance firms in Ethiopia and revealed that ROE is negatively influenced by liquidity ratio.

The relationship between asset tangibility and financial performance is negative and insignificant. However the findings are inconsistency with Momanyi (2018) who revealed that asset tangibility had a positive and significant effect on ROE of commercial and services firms listed at NSE. Additionally, the results also showed that firm size have a positive and insignificant effect on ROE. Muge (2018) showed that there exists a positive and insignificant association between financial leverage, firm size with financial performance of non-financial firms quoted at the NSE

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Chapter five summarized the findings of the previous chapter, conclusion and limitations encountered during the study. In addition, the chapter documents recommendations which policy makers can apply to achieve increased ROE. Lastly this chapter suggest for further research that can be important to future researchers.

5.2 Summary of the findings

Objective of the study was to identify any relationship between performance of insurance firms and capital structure. This study targeted 39 insurance firms dealing with only general insurance business but complete data was obtained from 37 companies. Secondary information for six year period data was analyzed; from 2013 to 2018. Multicollinearity, normality and autocorrelation test were carried out. The study established there was a strong linkage connection ($R= 0.683$) between ROE and the independent variables (capital structure, tangibility, size of the firm and firm liquidity).

The descriptive findings indicated that mean ROE is 0.1237. The results also show that the mean value of debt ratio is 1.7322. The results further indicate that the mean value of liquidity ratio was 6.77, therefore that the current ratio of 6:1 implies that the insurance firms are in a position to meet their short term obligation. Finally the average size of assets in these firms (firm size) during (2014-2018) was Ksh 1,423 billion (antilog. 15.15). The correlation findings outline that capital structure; tangibility had a negative correlation with ROE. The table also shows that firm size and current ratio had a positive

link with ROE. The average R² of the model was 0.467 showcasing that 46.7% of the changes in ROE are explained by predictor variables in the model.

The regression findings showed that there is negative and significant relationship between capital structure and financial performance. The results also showed that asset tangibility have a negative and not statistically related to ROE. The relationship between liquidity and financial performance is however positive and significant. Furthermore, the results also showed that firm size have a positive and insignificant effect on ROE.

5.3 Conclusion

The regression findings found there is negative and significant relationship between capital structure and financial performance. The study concluded that increased debt ratio leads to decreased ROE to a significant extent. The results also showed that asset tangibility have a negative and not statistically related to ROE. Thus the study concludes that an increase in fixed assets has no significant impact to ROE of general insurance firms. The relationship between liquidity and financial performance is however positive and significant. This comes in conclusions that general insurance firms meet their short term obligations therefore increased financial performance.

Firms' size was found to have a positive and statistically significant relationship with ROE of insurance companies and therefore this study concluded that firm size does significantly increase value of firms of general insurance firms. The study also established that the predictor variables (debt ratio, current ratio, firm total assets and asset tangibility only represents 46.7% of the total change in the ROE. This makes a conclusion that large number of variables excluded in the model affects ROE.

5.4 Recommendation

The study concluded that increased debt ratio cause to decrease in ROE to a significant extent. The study recommends that the management of the firms should ensure they maintain adequate level of debt to ensure that they do not affect other functions of the firm. The research also recommends that when firms are setting their debt financing they should strike a balance in the case of the tax savings benefit of debt and costs of bankruptcy linked with borrowing.

The study concludes that increased liquidity ratio leads to significant increase in ROE. This study recommends that a comprehensive assessment of firm's immediate liquidity position should be undertaken to ensure that the current liquidity position is maintained and the company is operating at sufficient levels of liquidity that will ensure short term obligations are met.

Based on the research outcomes the research concluded that that firm size had positive significant impact on ROE of insurance firms. The research recommends that the management of listed firms should enhance their firms' total assets since it affects overall ROE.

5.5 Limitations of the Study

This study solely relied on secondary data to arrive at the findings. Secondary data was employed because it is an aggregate of experts' efforts in consolidating the data for the public, investors and regulators consumption. In addition, the scope of this study was six years period (2013 to 2018). Therefore, the results may not hold for a longer study period

which would otherwise capture major events not included in this study hence resulting into more reliable outcome.

Another challenge was that the study was limited to insurance firms dealing with general insurance only hence this study finding cannot be generalized to other insurance firms. Also the insurance firms underwent some changes in terms of mergers and acquisitions. Getting information for the year before the merger was quite tricky due to the different names. Some of the insurance firms reported losses in some years therefore becoming quite difficult to get ROE.

Another limitation was the quality of the data as this affects the derivation of the conclusion from the study. The data used is only assumed to be accurate. Deviation from one period to another can be caused by prevailing condition and this may affect measures used to check effects affecting ROE. Also, the financial performance of a firm is affected by numerous factors that were not part of this study. Although the study examined the capital structure effect on ROE only four of predictor variables were analyzed.

5.6 Suggestion for Further Research

This research focused on a six year period 2013 to 2018 owing to the fact that it was the most recent annual data. Further studies in this area may use data for longer periods for example data from over a 6year period would be helpful in supporting or refuting the outcomes of this study. The model summary outcomes exhibited that the considered variables only explained 46.7% of the variation in ROE. This indicates that there are other factors, which affect ROE. This study thus recommends an additional study on determinants of financial performance of general insurance firms in Kenya. The research

also focused on the entire general insurance firms in Kenya. This research hence recommends additional research on other insurance sectors.

The study used multiple linear regression model to identify the relationship between the variables under study. Linear regression models have limitations such as being sensitive to outliers and being restricted to linear conditions even when variables may have relationships which are nonlinear. This study therefore recommends that further studies utilize other models beyond the linear regression models. For example the vector error correction model , as it includes error correction features to the vector auto regression

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APPENDICES

Appendix II: List of General Insurance Companies in Kenya

1. AAR Insurance Company Ltd
2. Africa Merchant Assurance Ltd
3. AIG Kenya Insurance Company Ltd
4. APA Insurance Company Ltd
5. British American Insurance Company Ltd
6. Cannon Assurance Company Ltd
7. CIC General Insurance Company Ltd
8. Corporate Insurance Company Ltd
9. Direct Line Assurance Company Ltd
10. Fidelity Shield Insurance Company Ltd
11. First Assurance Company Ltd
12. GA Insurance Company Ltd
13. Geminia Insurance Company Ltd
14. Heritage Insurance Company Ltd
15. ICEA LION General Insurance Company Ltd
16. Intra Africa Assurance Company Ltd
17. Invesco Assurance Company Ltd
18. Jubilee Insurance Company Ltd
19. Kenindia Assurance Company Ltd
20. Kenya Orient Insurance Company Ltd
21. Madison Insurance Company Ltd

22. Mayfair Insurance Company Ltd
23. Occidental Insurance Company
24. Pacis Insurance Company Ltd
25. Phoenix of E. A Assurance Company Ltd
26. Pioneer Life Assurance Company Ltd
27. Saham Assurance Company Ltd
28. Takaful Insurance of Africa Ltd
29. Tausi Assurance Company Ltd
30. The Kenya Alliance Insurance
31. The Monarch Insurance
32. Trident Insurance Company Ltd
33. UAP Insurance Company Ltd
34. Xplico Insurance Company Ltd
35. Continental Reinsurance
36. East Africa Reinsurance
37. Kenya Reinsurance Corporation

Appendix II: Data Sheet

List Of Insurances	Year s	Financial Performance	Capital Structure	Liquidit y	Firm Size	Tang ibility
Aar Insurance Company Ltd	2013	0.24	4.20	2.19	14.40	0.01
	2014	0.26	4.52	6.27	14.82	0.01
	2015	0.53	2.99	9.33	14.95	0.02
	2016	0.32	4.17	7.72	15.46	0.02
	2017	-0.70	4.47	6.95	15.09	0.03
	2018	-0.59	5.78	4.18	15.15	0.02
Africa Merchant Assurance Ltd	2013	0.17	1.61	7.76	14.62	0.24
	2014	0.15	1.71	7.90	14.79	0.24
	2015	0.12	1.54	10.19	15.11	0.18
	2016	-0.04	1.60	7.55	15.19	0.35
	2017	-0.02	1.56	7.37	15.17	0.36
	2018	0.03	1.19	4.90	15.04	0.41
Aig Kenya Insurance Company Ltd	2013	0.32	1.54	2.24	15.06	0.08
	2014	0.46	1.19	1.81	15.22	0.17
	2015	0.15	1.27	1.79	15.24	0.16
	2016	0.18	1.21	1.57	15.25	0.13
	2017	0.38	1.27	0.71	15.37	0.12
	2018	0.26	1.35	0.88	15.45	0.03
Apa Insurance Company Ltd	2013	0.15	1.76	5.36	16.17	1.78
	2014	0.18	1.61	6.14	16.33	0.08
	2015	0.18	1.80	6.90	16.43	0.09
	2016	0.15	1.72	4.90	14.18	0.09
	2017	0.13	1.36	5.85	16.47	0.10
	2018	0.14	1.69	9.55	16.39	0.08
British American Insurance Company Ltd/Britam	2013	0.44	1.00	10.13	15.34	0.02
	2014	0.29	1.59	9.19	15.48	0.03
	2015	-0.11	2.74	5.22	16.04	0.02
	2016	0.22	2.25	4.24	16.06	0.02

	2017	0.16	2.13	3.20	16.18	0.01
	2018	-0.01	2.47	2.16	16.16	0.01
Cannon Assurance Company Ltd	2013	0.20	1.04	2.32	14.85	0.35
	2014	0.17	2.20	2.91	14.65	0.16
	2015	-0.01	2.02	2.49	14.66	0.17
	2016	-1.22	6.01	1.87	14.66	0.18
	2017	-0.29	3.13	1.25	14.70	0.16
	2018	0.12	1.73	2.60	14.66	0.16
Cic General Insurance Company Ltd	2013	0.35	2.47	7.52	16.16	0.17
	2014	0.22	1.80	40.92	16.18	0.18
	2015	0.20	1.58	11.76	16.19	0.18
	2016	0.00	2.00	10.03	16.30	0.17
	2017	0.08	1.87	9.20	16.25	0.18
	2018	0.15	1.74	16.03	16.24	0.18
Corporate Insurance Company Ltd	2013	0.17	0.60	4.28	13.91	0.52
	2014	0.25	0.59	3.70	14.06	0.53
	2015	0.23	0.50	2.40	14.16	0.55
	2016	0.03	0.43	3.43	14.10	0.61
	2017	0.05	0.45	3.80	14.13	0.60
	2018	-0.02	0.48	3.91	14.13	0.61
Direct Line Assurance Company Ltd	2013	0.22	4.80	21.88	15.18	0.12
	2014	0.62	4.95	43.45	15.28	0.09
	2015	0.23	5.05	27.56	15.45	0.25
	2016	0.20	4.60	22.74	15.46	0.40
	2017	0.16	4.79	35.94	15.64	0.28
	2018	-0.12	4.82	8.28	15.53	0.38
Fidelity Shield Insurance Company Ltd	2013	0.16	1.25	3.97	14.56	0.47
	2014	0.19	1.22	4.29	14.69	0.45
	2015	0.04	1.64	6.46	14.88	0.55
	2016	0.04	1.37	9.46	14.83	0.52
	2017	0.01	1.61	8.52	14.95	0.46

	2018	0.06	1.46	9.62	14.93	0.43
First Assurance Company Ltd	2013	0.35	2.18	4.40	15.30	0.20
	2014	0.30	1.66	4.26	15.35	0.35
	2015	0.18	1.20	4.75	15.45	0.30
	2016	-0.07	1.31	3.52	15.45	0.34
	2017	-0.01	1.48	1.57	15.36	0.39
	2018	-0.20	2.11	1.44	15.36	0.39
Ga Insurance Company Ltd	2013	0.36	2.46	2.02	15.54	0.30
	2014	0.26	2.03	2.21	15.77	0.35
	2015	0.22	2.04	1.94	15.88	0.33
	2016	0.26	2.01	1.73	15.96	0.30
	2017	0.29	1.66	1.89	16.08	0.27
	2018	0.28	1.47	8.18	15.56	0.30
Geminia Insurance Company Ltd	2013	0.28	1.28	5.72	14.79	0.29
	2014	0.25	1.25	6.18	14.94	0.25
	2015	0.09	1.21	6.51	15.10	0.28
	2016	0.14	1.44	7.40	15.22	0.25
	2017	0.20	1.64	10.14	15.43	0.21
	2018	0.18	2.08	6.68	15.56	0.30
Heritage Insurance Company Ltd	2013	0.40	1.13	4.98	15.15	0.06
	2014	0.34	1.44	3.09	15.62	0.04
	2015	0.25	1.61	4.12	15.68	0.04
	2016	0.28	1.35	3.93	15.58	0.02
	2017	0.25	1.35	2.40	15.80	0.01
	2018	0.17	1.42	3.12	15.82	0.01
Icea Lion General Insurance Company Ltd	2013	0.29	1.60	3.39	15.87	0.29
	2014	0.24	1.50	2.44	15.98	0.29
	2015	0.16	1.48	2.67	16.00	0.31
	2016	0.12	1.79	1.32	16.09	0.29
	2017	0.24	1.40	1.35	16.14	0.28
	2018	0.14	1.20	1.64	16.09	0.29
Intra Africa Assurance Company	2013	0.12	1.00	19.94	14.16	0.26

Ltd							
	2014	0.02	1.05	25.87	14.29	0.25	
	2015	0.09	1.12	14.98	14.34	0.26	
	2016	0.05	1.13	14.98	14.38	0.25	
	2017	0.06	1.17	14.11	14.44	0.25	
	2018	0.04	1.18	37.58	14.46	0.25	
Invesco Assurance Company Ltd	2013	-0.23	6.39	11.14	14.75	0.48	
	2014	-0.19	7.30	18.23	14.95	0.43	
	2015	0.07	6.33	19.30	14.95	0.42	
	2016	0.02	8.02	9.13	14.95	0.42	
	2017	-0.55	7.08	7.34	15.03	0.46	
	2018	-0.40	9.23	6.81	15.00	0.47	
Jubilee Insurance Company Ltd	2013	0.19	2.15	4.49	16.52	0.00	
	2014	0.34	1.27	3.37	16.33	0.04	
	2015	0.30	1.23	3.68	16.47	0.00	
	2016	0.15	1.50	4.78	16.45	0.00	
	2017	0.27	0.79	13.78	16.39	0.00	
	2018	0.21	0.95	3.41	16.44	0.00	
Kenindia Assurance Company Ltd	2013	0.27	1.94	1.49	15.54	0.32	
	2014	-0.23	2.69	1.38	15.58	0.34	
	2015	0.32	2.68	1.42	15.96	0.21	
	2016	0.09	1.92	1.29	15.84	0.25	
	2017	0.08	1.49	1.25	15.87	0.26	
	2018	0.05	1.36	1.40	15.91	0.26	
Kenya Orient Insurance Company Ltd	2013	0.16	1.23	3.32	14.22	0.37	
	2014	0.11	1.08	2.83	14.83	0.20	
	2015	0.02	1.18	6.27	14.89	0.19	
	2016	0.08	2.38	4.72	14.92	0.06	
	2017	0.01	2.19	7.69	14.72	0.29	
	2018	-0.15	1.88	10.46	14.57	0.25	
Madison Insurance Company Ltd	2013	0.10	0.86	9.80	16.35	0.16	
	2014	0.05	1.19	9.17	14.27	0.16	

	2015	0.42	1.47	11.30	14.75	0.25
	2016	0.00	2.04	8.09	14.99	0.24
	2017	0.06	2.54	10.21	15.20	0.24
	2018	-0.13	2.51	9.76	15.35	0.23
Mayfair Insurance Company Ltd	2013	0.36	1.80	3.13	14.75	0.24
	2014	0.30	1.65	2.31	14.96	0.21
	2015	0.24	1.21	3.11	15.11	0.19
	2016	0.22	1.19	3.51	15.20	0.18
	2017	0.18	1.03	4.56	15.33	0.17
	2018	0.19	0.90	5.02	15.45	0.15
Occidental Insurance Company	2013	0.32	1.79	2.71	14.54	0.21
	2014	0.33	1.70	3.69	14.70	0.19
	2015	0.29	1.55	4.84	14.76	0.18
	2016	0.18	1.73	4.35	14.87	0.18
	2017	0.10	2.00	4.48	15.03	0.17
	2018	0.22	1.70	4.98	15.09	0.17
Pacis Insurance Company Ltd	2013	0.42	1.39	7.49	14.30	0.45
	2014	0.22	1.13	7.99	14.32	0.49
	2015	0.14	1.53	5.65	14.37	0.50
	2016	0.07	1.26	5.45	14.54	0.43
	2017	0.07	1.41	4.86	14.65	0.38
	2018	0.10	1.06	2.84	14.60	0.40
Phoenix Of E. A Assurance Company Ltd	2013	0.06	0.15	5.88	14.55	0.00
	2014	0.43	0.22	8.17	14.53	0.01
	2015	0.06	0.28	7.64	14.52	0.02
	2016	-0.25	0.47	8.87	14.26	0.02
	2017	-0.01	0.53	6.71	14.24	0.01
	2018	-0.01	0.53	6.71	14.24	0.01
Resolution Insurance Company	2013	0.22	3.22	2.28	14.18	0.00
	2014	-0.25	3.55	14.14	14.73	0.05
	2015	1.72	6.40	3.22	14.20	0.11
	2016	-1.15	8.16	1.33	15.31	0.03
	2017	-2.29	11.72	1.46	15.03	0.04

	2018	3.00	-28.40	1.55	15.34	0.02
Saham Assurance Company Ltd/Mercentile Insurance	2013	0.03	0.65	17.78	13.51	0.03
	2014	0.05	0.84	3.58	13.63	0.02
	2015	0.06	1.21	2.90	13.86	0.01
	2016	0.13	1.64	2.89	14.04	0.01
	2017	0.17	2.10	2.21	14.48	0.00
	2018	0.19	1.82	3.02	14.43	0.01
Takaful Insurance Of Africa Ltd	2013	-0.04	0.98	7.82	13.65	0.29
	2014	0.00	1.31	7.11	13.93	0.03
	2015	0.05	1.62	5.96	14.17	0.04
	2016	0.28	1.94	4.76	14.20	0.05
	2017	-0.41	3.12	4.48	14.27	0.03
	2018	-0.79	4.24	3.59	14.42	0.02
Tausi Assurance Company Ltd	2013	0.33	1.03	3.56	14.35	0.14
	2014	0.21	0.93	9.15	14.34	0.14
	2015	0.20	0.89	3.56	14.44	0.16
	2016	0.22	0.81	3.70	14.50	0.15
	2017	0.23	0.68	4.30	14.63	0.14
	2018	0.22	0.61	3.68	14.69	0.13
The Kenya Alliance Insurance	2013	0.70	1.11	9.02	14.85	0.49
	2014	0.12	1.13	7.07	14.94	0.05
	2015	0.18	1.03	6.28	14.97	0.44
	2016	0.05	1.51	2.10	15.02	0.43
	2017	0.20	1.24	3.21	14.95	0.35
	2018	-0.14	1.35	3.72	14.89	0.38
The Monarch Insurance	2013	0.08	1.12	12.98	15.75	0.38
	2014	0.31	1.11	8.94	13.70	0.31
	2015	0.19	1.26	6.91	13.81	0.41
	2016	0.04	2.14	8.44	14.03	0.31
	2017	0.15	2.41	16.19	14.19	0.30
	2018	0.19	2.33	23.54	14.39	0.32
Trident Insurance	2013	0.08	0.78	2.48	15.08	0.45

Company Ltd							
	2014	0.09	0.84	3.87	15.18	0.41	
	2015	0.07	0.81	2.39	15.20	0.49	
	2016	0.01	0.94	1.42	15.26	0.46	
	2017	-0.06	1.14	0.94	15.29	0.45	
	2018	-0.14	1.33	0.46	15.25	0.47	
Uap Insurance Company Ltd	2013	0.17	0.73	2.23	16.35	0.24	
	2014	0.13	0.67	2.87	16.50	0.01	
	2015	0.07	0.86	4.07	16.49	0.25	
	2016	0.11	1.10	3.11	16.59	0.23	
	2017	0.17	1.01	3.76	16.56	0.24	
	2018	0.04	0.96	5.19	16.50	0.26	
Xplico Insurance Company Ltd	2013	0.07	0.73	6.46	14.10	0.14	
	2014	-0.04	1.61	5.13	14.06	0.16	
	2015	0.03	1.11	3.60	14.53	0.36	
	2016	0.00	0.97	3.42	14.55	0.29	
	2017	0.05	0.69	3.67	14.64	0.34	
	2018	-0.08	0.90	4.46	14.70	0.32	
Continental Reinsurance	2013	0.12	1.23	6.90	13.81	0.03	
	2014	0.34	1.37	5.50	14.16	0.02	
	2015	0.28	1.05	3.64	14.10	0.01	
	2016	0.28	0.78	5.43	14.17	0.01	
	2017	-0.08	0.86	12.41	14.49	0.01	
	2018	0.12	1.06	9.04	14.68	0.01	
East Africa Reinsurance	2013	0.28	1.72	5.02	15.34	0.05	
	2014	0.24	1.58	4.29	17.97	0.18	
	2015	0.17	1.40	2.68	15.54	0.21	
	2016	0.19	1.28	2.39	15.56	0.21	
	2017	0.18	1.22	2.53	15.73	0.20	
	2018	0.15	1.01	2.91	15.78	0.19	
Kenya Reinsurance Corporation	2013	0.17	0.55	4.69	16.95	0.24	
	2014	0.19	0.51	24.65	17.08	0.23	
	2015	0.20	0.54	9.85	17.18	0.23	

	2016	0.17	0.50	11.49	17.25	0.24
	2017	0.18	0.45	16.87	17.34	0.24
	2018	0.10	0.45	15.74	17.35	0.25