DETERMINANTS OF FINANCIAL PERFORMANCE OF GENERAL INSURANCE COMPANIES IN KENYA
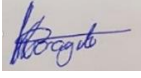
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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE FINANCE, FACULTY OF BUSINESS AND MANAGEMENT SCIENCES, UNIVERSITY OF NAIROBI.

2022

DECLARATION

I do declare that this is my work, and it has not been presented to any learning institution or university other than the University of Nairobi for examination.

Signed: Date: 18th August 2022

KIMATHI ANTHONY GITONGA
D63/90108/2017

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

Signed: _____Date: 29/ 8/ 2022

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DEDICATION

I do honour my folks by dedicating my work to them. I would want to thank my wife, daughter, and sister for steadfast thoughts, deep affection, and encouragements, all of which were very helpful to me as I undertook this project. To my mother for her dedication to learning, for setting a good example with her academic achievement, her ongoing support, her steadfast prayers, plus her financial investment in my schooling. I do value each of you.

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LIST OF ABBREVIATIONS

AIBK   Association of Insurance Brokers of Kenya

AKI   Association of Kenya Insurers

CG   Corporate Governance

FP   Financial Performance

GMM   Generalized Methods Moments

IRA   Insurance Regulatory Authority

KES: Kenya Shilling

NSE: Nairobi Securities Exchange

ROA   Return on Assets

ROE   Return on Equity

SPSS   Statistical Package for Social Sciences

VIF: Variance of Inflation

ABSTRACT

This paper strived to observe impact of various determinants on financial performance of general insurers operating in Kenya. Return on asset ratio of different companies represented financial performance. Populace was 37 general insurers operating in Kenya. A nine-year timeframe of data was analyzed for the study; that is the year 2013 all the way to the year 2021 inclusive. The survey employed descriptive design. The data used was sourced from supervisory annual reports issued by the Insurance Regulatory Authority of Kenya for the different time periods. The information collected was then analysed in SPSS by using the model on multiple linear regression. The analysis performed gave a result that 60.1 percent change in general insurance firms' performance is explainable by the five predictors of the study. The remaining 39.9% movements in the financial performance is explainable by other predictors. The survey did find a weak link around some selected predictors to asset return of the general insurance firms. The outcome concludes that premium retention has an inverse and inconsequential effect on performance. In addition to this, solvency margin and performance is inversely and inconsequentially linked. The outcome of the study further show that the leverage ratio possesses an inverse impact on ROA. A further result was obtained with respect to underwriting risk. It was observed that underwritings risks show inverse effects on ROA. The survey observed that the size of a firm and performance are directly linked. Survey recommends need of additional consideration to roles played by reinsurers in general insurance in Kenya. This is in regard to the levels of premium retention ratios to be maintained by general insurers. When a firm's premium retention ratios is high, the result would be a worse off financial performance. The insurance regulatory authority (IRA) needs to observe the levels of the solvency margin of the general insurers. This is done for various reasons, however, the regulator doesn't have to require the threshold to be too high unnecessarily as the study found solvency margin does not possess substantial influences on financial performance.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In recent past there has been rapid changes and high competitive pressure in the insurance industry which has necessitated the operating firms to adopt competitive strategies that improve on their financial performance. Financial performance of an organistation or firm not only contributes towards improving the valuation of the precise organisation nonetheless it leads to growth and expansion of the entire trade which eventually spurs growth of an economy (Omondi, 2017). Pandey (2007) found that monetary organization's presentation can be checked in different orders which fuse advantage advancement, laborer improvement, asset advancement or some other kind of alterable saver or the board attributes is a key marker of potential achievement of a substance. However, general insurance firms measure performance according to the gross income, net premium written, claims incurred, net commissions, management expenses, underwriting results, post tax operational profits or losses, investment income, equities and asset investments (Kaumbutha, 2013).

Theories that anchor this study are information asymmetry theory, agency theory and liquidity preference theory. According to Stiglitz (1985), emphasized on asymmetry in insurance markets. Ledyard (2008) noted that information asymmetry was based on general equilibrium models to explain negative externalities that priced out the bottom of markets. From Jensen and Meckling (1976), agency relationships is a contractual agreement where an individual or individuals (principal) hires different individual (agent) to execute certain tasks on their behalf, agent gets certain powers to make decisions. Liquidity preference

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theory is a financial theory that maintains that investors prefer (and hence are willing to pay more) assets that are liquid and hence they are willing to pay a premium (Rothbard, 1962).

Insurance companies operate in an environment that is risky and uncertain. Performance of these insurance companies is largely affected by different factors; Certain among such variables seem beyond corporate leadership's capacity to influence named external factors and others can easily be controlled named internal factors (Pastor & Veronesi, 2013). External factors emanate from the external environment and are as a result of technological changes, competition and regulations among others. Internal factors are part of firm characteristics that impact on insurance performance. Failure by the management of the firm to cope and accommodate these factors could impact negatively on firm performance.

1.1.1 Financial Performance

Financial performance proves important to stakeholders such as investors and administration in determining the hope success of a venture. Pandey (2004) defines financial performance as a process that involves examining the firm's policy and operations using economic parameters. Financial performance of an organization is determined through use of some measures including elements like returns on assets (ROA), value addition and returns on investments among others. By understanding of Penman (2007), monetary execution is execution of a firm over a particular timeframe which is determined by benefits or misfortunes. By cross examining and querying the financial performance of an organisation, key decision-makers can make out the organisation's strategic outcomes objectively in monetary terms.

Profits made by a firm are largely considered a close enough measure of financial performance. Profits made in particular year forms one of the key performance measures used by general insurance companies' management teams. Profit is a vital requirement, as it enables a company to compete in a globalized market, improves the international solvency levels of a company, attracts investors and leads to an overall increase in customers' confidence in the capacity of the corporation to pay claims as/when they arise. Monetary exploration of general insurance companies is used by different stakeholders in decision-making on underwriting and investment decisions as well as the continuity of the company in the long term. In a macroeconomic context, the performance of insurers is relevant as the general insurance industry contributes 2.7% of Kenya's GDP having 55 insurance companies out of which 37 are general insurance companies (AKI, 2020).

When measuring financial performance, various tools need to be applied to obtain the right results. Use of single measure can limit the firm from getting more accurate and reliable results (Petersen & Kumar, 2010). This view is supported by Pandey (2007) who avows that use of different sets of measures enables the firm to realize a comprehensive evaluation. Petersen et al. (2010) indicate that returns on equities (ROE) and returns on assets (ROA) serve as two essential measures utilized by financial institutions to assess financial measure. For investing partners, returns on equity are crucial since they enable investors to determine if one's equity investments provide significant revenue.. Similarly, investors utilize ROA to understand the use of the firm's assets by managers to generate income. This study used ROA to determine the management's efficiency to balance and control internal and external factors in order to provide a stable environment for firms to effectively utilize assets to generate income (Charumathi, 2012).

1.1.2 Determinants of Financial Performance

Financial performance proves vital to prosperity and successful continuity of a company or an entity. A corporation's elatedness reflects capability and prowess in managing assets for undertaking, financing and operational doings. Some of the possible influences of a corporation's performance are solvency margin, premium retention, financial leverage, Underwriting risk, firm size, asset quality, and company age (Mirie & Murigu, 2015). Premium retention ratio in insurance industry gives the proportion of the gross written premium that a reinsurer keeps, and the difference is the amount paid to a reinsurer. A reinsurer is a company that provides a cover to insurance companies for the business underwritten. The retaining ratios is obtained by division of net premiums thru gross written premiums by an insurer (Chhibber & Majumdar, 2011).

Solvency margin of general insurance companies is percentages of net assets to the twelve months' premiums. This ratio gives an indication of the financial stability of a general insurance firm. Different countries have set the desired minimum solvency margins for general insurers conducting business in their jurisdiction (Bhunia, 2012).

Financial leverage is the measure of the ratio of debts to equities utilized by companies in fundings operations (Rayan, 2010). Financial leverage has both merits and demerits. Advantages of leverage financing may include a tax deductibility savings of interest charge as well as minimization of problems associated with free cash flows (Tangut, 2017).

Firm sizes vary as some are large whilst others are small. Firm sizes contribute to the financial performance. For instance, large firm are able to produce in huge quantities due to the economies of scale that they enjoy over small firms. The mass production provides large firms with competitive advantage which enables them attain high profits (Alghusin,

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2010). Firm sizes could be viewed from various angles including; extent of turnover and success, asset structure, number of employees, and the market structure of a firm. To obtain the size of the general insurers in the study, the log of the total assets was used.

Underwriting risks remain financial perils allied to financing processes of an insurer. It is important that insurance firms do identify, analyse, evaluate, remedy, and continuously monitor the potential risks that their organisations are exposed to. This will ensure that they adhere to implementation of proper risk management techniques with the intention of avoiding or significantly reducing the negative impact that these risks may end up having on the organisation (Claudio, 2009). Various financial ratios can be used by insurance companies to determine their financial risk exposure. The ratio of the claims incurred to premium earned in the period is used as a measure of underwriting risk for an insurance firm (Sisay, 2017).

Weersainghe and Ravinda (2013) delved firm specific factors and financial performance and the findings depicted that size of firm, premium retention, capital adequacy and solvency ratio were key determinants of financial performance. But, size of the financial and financial leverage recorded an insignificant relationship. Contrary to this, solvency margin was observed to exhibit a significant and positive association towards financial performance. Dietrich et al. (2012) finding revelead leverage, solvency margin and age of the company as the main factors.

1.1.3 General Insurance Companies in Kenya

Kenyan insurances regulatory authority (IRA 2020) report disclosed a total population of insurance companies as 55, where 37 out of 55 insurance companies are general insurance companies (appendix I). IRA is fundamental controller of insuring agencies in Kenya under

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an Act of Parliament Cap 487. It is delegated to oversee and control the general oversight of insurances sector. The major stakeholders in the IRA framework are mainly the insurance firms, Re-insurance business, brokers, agents and the policyholders at large. The Financial stability report (2017) cited sustained growth in insurance as a result of good corporate governance, favorable demographics, favorable business environments, civilization and the emergence of growing economies. Moreover; technology has had a part to play in insurers. This has led underwriters to develop products which perfectly addresses wants of customers leading to sustainable growth and great financial performance (Onsongo, 2015).

The general insurance industry gross written premiums for the year 2021 is KES 152.3 billion (IRA, 2021). This is a 16.4% growth from 2020 gross written premiums of KES 130.8 billion (IRA, 2020). This represents a general insurance penetration of 1.3% in 2021 a slight improvement from 1.2% in 2020. The general insurance retention ratio in 2021 is at 69.8% which is a slight increase from the 69.7% in 2020. This is also reflected in the absolute amounts whereby, the ceded premiums in 2021 (KES 46 billion) compared to those ceded in 2020 (KES 40 billion). In 2021, the total assets of the direct insurers in general insurance stand at KES 204 billion. This is an increase of 4% from 2020 total assets of KES 194 billion. The underwriting provisions stood at KES 105 billion as at 2021. This represents 78% of the total liabilities in general insurance industry. This is comparable to KES 109 billion as at 2020 representing 78% of the total liabilities.

The general insurance companies' major role is insuring financial risks in the insurance policy agreement where the insured pays some money in form of premiums. An insurance policy is an official document that legally outlines when the insurance claim is payable

provided the insured put on the necessary measures to avoid the loss from occurring (Mbataru, 2018). Many insured people and corporations often lose some trust with the insurer due to the large number of unpaid claims and the long period that is taken before the claims are paid (Mirie & Iraya, 2014). Hence the need for strong corporate governance structures to reduce the frauds and financial crimes. To ensure that the insurance contract remains binding the insured should always ensure the premiums are paid in good time. To ensure the insurance business is profitable most companies tend to charge higher premiums and ensure fewer claims are paid (Mwamburi, 2017). For these reasons, survey focusses on Kenyan general insurers in establishing drivers of financial performance for insurers.

1.2 Research Problem

Financial Performance and factors affecting it in insurance industry has faced unresolvable debate among different researchers. Various factor both internal and external affect financial performance of insurers (Charumathi, 2012). According to the authors, the main internal determinants of financial performance include financial risks, firm size, corporate governance, liquidity and industry's concentration. External factors constitute the factors that are not within the influence of the firm and impact on investment decisions of corporations since manager has no control over them such as inflation rate (Chen, 2014). On the other hand, Markowitz (1952) demonstrated that venture capitalists with investments in banking entities which are regarded as risk averse seek to keep selective and cautious risk assessment methods to minimise overall vulnerability.

Insurers sector in Kenya is affected by various factors both from external and internal environment. This might impact negatively on firms' performance. For instance, structural weakness, limited penetration of the insurance services, delayed premium payment by

policy holders, liquidity challenges and increasing levels of claims. Therefore, in order to respond to changes that are taking place in the environment insurance companies should rise up and develop strategies that will enable them become more competitive and profitable in the industry (Kaumbutha, 2013). General Insurance companies in Kenya faces challenges such as low insurance penetration. The low insurance penetration is as a factor of lack of public awareness on the insurance benefits as well as the negative perceptions on insurance by the general public. These are reason enough to explore on the financial performance and its determinants, which drove about motivation of this research study.

Globally, Sisay (2017) displays out that risks do have a direct influence on insurance companies' financial performance in Ethiopia. Arif and Showket (2015) instituted those capitals managing risks, firm size, solvencies risks and liquidity risk positively related in a significant way to the ROA in India companies but underwriting risk did not. Yemane and Raju (2015) displayed board meetings, board reimbursement and sizing of business possess direct and noteworthy affiliation to financial performance. On other hand, they found that board committees, board size and board gender diversity had no noteworthy bearing on returns on assets of Ethiopian insurers. Mazviona and Mbakisi (2017) found out that a firms' expense ratio, claims ratio and its size have an inverse relationship to ROA of Zimbabwe insurance companies

Locally, Muinde (2018) revealed that financial risks are negatively correlated to ROA which had statistically insignificant effect. Mwamburi (2017) found that a board composition of insurance company was positively but insignificantly related to financial performance. Omondi (2017) revealed an inverse correlation between ROA and micro insurance measured by total premiums. Mirie and Murigu (2015) resolved that equities

capitals, management competency, and debts were directly connected to financial performance whilst ownership structures together with the sizes of firms had a negative relation. Mirie and Iraya (2014) displayed weak negative substantial affiliation around ROA and expenses ratios and loss ratio. Also retention ratio and growth of premiums were negative but insignificantly related to ROA. This study thus, made an effort to provide additional literature to bridge the gaps. Which are determinants of financial performance of general insurers in Kenya?

1.3 Research Objectives

The general objective is to find out determinants of financial performance of the general insurance firms in Kenya.

1.4 Value of the study

Observations made by the research might be useful to insurance firms, particularly the general insurance firms since they will be in a position to note the issues and risk areas that need special attention or improvement in the firm so as to improve the financial performance in a more efficient manner. The business management and staff inside institutions could make use of outcomes develop strategies to be adopted by their respective firms in an effort to enhance overall performance.

The research outcomes was of help to the IRA and government and other approach producers in planning proper components important to consistently screen and assess the financing part of partnerships. The policy making organizations can also develop strategic polices to manage the micro economic environment from the finding of the study. This might contribute to keeping internal and external elements in harmony, giving insurers a

suitable conditioned environment in which to thrive and participate in sustainable competitiveness.

Researchers and academic community benefits from the study. It also adds to the material available for study and analysis on the topic. Students understand some of the internal and external factors which affect insurance companies. Moreover, they may learn and understand the theories that guide this study, their application and relevance. The research findings may be used as a foundation for other researches.

Investors and finance practitioners might find this study useful. They can apply the findings obtained on investing choice, how to effectively utilize assets optimally and maintain efficiency. This might be a revelation to the insurance players in the market, as they may look out for proper innovations that steer them towards good performance. Besides, companies may be able to have a benchmark for measuring individual achievements.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section part is predominantly alienated into key segments. In theories, survey highlights different philosophies supporting the survey. Second section reviews the exact literature and conceptualizes the parameters. The third section of this chapter outlines scholarly works and reviewed literature summarization.

2.2 Theoretical Review

Various hypotheses have been put forward by an array of scholars explaining specific influences around financials performances. Information asymmetry, liquidity preference in addition to agency theories have been chosen for this investigation.

2.2.1 Information Asymmetry Theory

Akerlof (1970) advanced information asymmetries hypothesis. He argued that buyers use market statistical information to measure the value of goods before they buy them. According to this theory, a buyer looks at the typical market whereas the seller possesses the understanding of a specific thing. Akerlof says that information asymmetry enables sellers to vend goods that are of less quality than the market average. The theory argues that when there is information asymmetry, disclosure decisions that managers make affect insurance policies by raising transaction cost and reducing the expected premium (Bartov & Bodnar, 1996).

The importance of the idea is because it tries to explain an imbalance of information between the firm (insurance company) and the customer. These imbalances may affect

underwriting risks. For instance when individuals who are risky buy insurance since the

insurance company is not able to discriminate against them; this might happen due to

failure to have information about the individual's risk and thus expose the insurance

company to high underwriting risks. Thus, this might impact negatively on performance of

the insurance company. In some cases, this may take place by force of law or other

limitations. Good illustration is when individuals behave recklessly upon being insured,

either because the insurance company cannot monitor their behaviors', or it is not able to

retaliate, may be by declining to renew insurance (Akerlof, 1970).

2.2.2 Liquidity Preference Theory

Liquidity preferences idea is concerned with need for funds by Keynes (1936). The

underlying premise of this book was explaining how interest rate is dictated through monies

supply and demand. It was proposed that the urge to hold cash like an asset depended upon

that opportunity cost of interests caused by failing to secure alternate resources, such as

bonds (Keynes, 1964). Bonds being employed within that instance to symbolize equities

and similar assets which are regarded as being less volatile, such as holdings of treasury

securities. According to Keynes (1964), rate of interest shouldn't be viewed like a benefit

associated with saving money. This really is as a result that although a person hasn't

stopped using his or her present salaries, if they retain their saves or investments in

monetary terms (for example, by holding their money in their home), they won't earn

additional returns.

A critic such as Rothbard (1962) maintains that the hypothesis has a mistaken belief of

shared fortitude. Keynes further poses the argument that interest rate is dictated by

preference to liquidity. Its relevant because companies are willing to paying premium to

obtain assets that are considered liquid. On the other hand, firms are more than willing to pay less than the prevailing market value set for illiquid assets. Firms that are solvent are found to be more efficient in their day to day operations as they are better placed to meet their financial obligations on time. The advantage of this is that is does minimise unnecessary costs that are brought about by delays and inefficiencies brought about by access illiquid asset. This does contribute positively to the firm's financial performance.

2.2.3 Agency Theory

This idea was established by Jensen and Meckling (1976). This theory seeks to expound on the agencies relationships. The employed individuals such as managers in an organization would be the agents of the principle shareholders. The agents will be operating on the premise of maximising the wealth of the shareholder. Nevertheless, there exists several factors that could affect the existing relationship as well as dilute the principle of maximizing shareholders wealth. Such reasons are; non realignment of interests between the principles/agents, presence of informational asymmetries and costs creates conflicts in goals.

Importance of the theory is that a company hires managers, who are supposed to make best decisions for shareholders (Jensen & Meckling, 1976). In some instances this is not achievable as a result of conflicting interests (agency problems). Thus, large and stable firms may tend to set aside significant costs of agency such as monitoring and commitment costs with the intention of ensuring that the managers in place follows interests of shareholders and to ultimately win shareholder trust. Smaller firms may find it difficult to afford or put aside budgets for these costs as it may end up depleting their operational costs and negatively impact on their performance. Smaller firms might threaten the managers of

takeovers by larger firms in a bid to push them to work harder and achieve better performance.

2.3 Factors Influencing Performance of General Insurance Companies

There are numerous determinants of financial performance in insurance companies; this study discussed the following determinants; premium retention, solvency margin, premium retention, financial leverage and company age.

2.3.1 Premium Retention

Risks which are moved to insurers from people and ventures could be moved up further to reinsurance firms who offer protection to insurance firms through reinsurance. Reinsurance empowers protection firms to moderate the effect of unforeseen misfortunes and guaranteeing profit security and improve endorsing limits (Chhibber and Majumdar, 2011). Further factors affecting insurer success include premiums increase and premiums share of the market. Nevertheless, progression of premium between periods doesn't all time indicate an underwriter's performance; this is because premiums growing can be easily realized by the insurers through underwritings of fresh guidelines at lower rates compared to recommended as opposed to depending on increases of the current insurance rates (Mirie & Iraya, 2014).

 Cheng (2008) did a survey in Geneva, Switzerland consisting of 100 top managers of insurance companies and the findings showed that satisfied customers returned to renew their existing and expired policies, shared experiences leading to referrals always ready to payment of premiums to insure with a specific insurer. In his study, Cooley and Quadrini (2011) found that customer needs kept evolving and were dynamic in nature and this called

for a continuous improvement of the existing products and new ones in order to remain competitive and satisfy customer needs.

2.3.2 Solvency Margin

Financing condition of general insurance companies is influenced by couple of dynamics that are size of respective companies. Whilst the Insurance Regulatory Authority (IRA) may not be too quick to liquidate sizeable general insurers, it is somewhat expected that the smaller insurers may be at a risk of exposure to insolvency. The cash flow and assets liquidations show vital determinants of liquidities (Pastor & Veronesi, 2013). Bhunia (2012) in his study found out that the liquidities ratios served as an critical gauge of solvencies. Stability levels of the liquidity ratios serves as a vital gauge of the corporate solvency. Intuitively, when a firm is profitable in its dealings, this will result to the firm accumulating more in revenues increasing its asset base as compared to cash that was used to cover expenses and any payment obligations.

Ana-Maria and Ghiorghe (2014) in their study observed that there exists a direct bond around financial solidarity and operation margins. The insolvency ratio was observed to have inverse linking to operating margin. A couple of examples provided did mention and illustrate that a good financial performance of insurers is essential. Taking this into account it is thus of importance to highlight the level of solvency as well as the dynamics which adversely influence creditworthiness of insurance corporations. A number of the insurance businesses cease to be operational as a result of poor or low solvency margins that prevents them from meeting their financial obligation as and when they do arise. For the companies seeking profits; a possible way to achieve this key goal would be by making sure that they

always maintain their levels of solvency at the optimum desired levels for purposes of being able to both invest and meet their financial obligation (Chakraborty, 2008).

2.3.3 Financial Leverage

Charumathi (2013) observed that premium growth and financial leverage have both a negative and significant link to profitability in insurance firms. Researches (Alchian & Harold, 2011; Ansah-Adu, Andoh & Abor, 2012) findings showed that financial leverage directly correlated to profits. Ansah-Adu, Andoh and Abor (2012) displayed that for insurers, financial performance showed no linkages with financial leverage. Meanza (2014) observed inverse relation.

Charumathi (2013) depicted that liquidity and business size directly related. This observation is similar to the observations made by Chen (2014) who found that the financial leverage was significant related to the return of assets. In addition to this, it was observed that firms that are well capitalized were found to be more profitable. Ansah-Adu et al. (2012) established that high levels of profitability improved the firms' level of financial leverage.

2.3.4 Firm Size

Business size determine volume of debt that business could access for the purposes of investments. Huge businesses are of advantage as they do enjoy the economies of scale. This tends to lower the average cost of production per unit item due to efficiencies in operating and investments capabilities in refined up to date technology. The access to debt by the larger firms compared to smaller firms will be much easier due to the fact that the

large firms have a stronger incentive to uphold a progressive business repute gotten from stakeholders (Cheng, 2008).

Smaller firms tend to be more financially unstable and this makes a number of financial institutions apprehensive on giving out credit facilities to these smaller firms. Smaller firms have a propensity to experience increased rating in growth over short periods which does impose the necessity for debts to support the growth whilst large firms are found to be somewhat stable and established over the periods. Meanza (2014) notes that big businesses are deemed better competitors in their sector compared to smaller businesses when it comes to exploitation of the economies of scale. This in essence would result to high profits. Whenever business sizing surges as time progresses, their financial performance will tend to improve (Alchian & Harold, 2011). Nevertheless, Berger and Ofek (2015) did note that for big businesses, performance may be impacted adversely because of their size as a result of huge company structures causing bureaucracies among other factors.

2.3.5 Underwriting Risk

Financial risks are the kind of risks that are associated with the financial operations of insurance firms. These kind of risks do include liquidity risks, reinsurance risk, underwriting risk and solvency risk (Arif & Showket, 2015). Reinsurance risk is present where the insurer incurs very high claims that are over and above its ability to honor the obligations. When this happens, the reinsurer steps in to aid the insurance company honor its commitment. Reinsurance is simply an agreement between reinsurer and another insurance firm to cover it against a portion of or all the losses that the insured may incur (Panigrahi, 2013). Through the use of reinsurance, firms are in a postion to shield themselves against extraordinary losses that may occur. Liquidity does indicate the

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readiness of a firm to settle both the unexpected and expected needs of money at any one time (Ghasemi & Zahediasl, 2012). In this respect, firms should be liquid enough to maintain the day to day operations in order to remain in operation for the longest time possible. Solvency is used to refer to the capability of a business to meet its long-term commitments amid a sustained continuous growths and expansions.

2.4 Empirical Review

Profitability is a significant gauge of the performance for any trade. Numerous investors remain interested in learning more about the factors that affect corporate performance. Thus, the subject of determinants of financial profitability has taken attention of investigators in last years. A good number of scholarly works on various determinants have been conducted, but such researches come up with diverse outcomes. Current segment highlights the numerous works done in the subject matter both globally and locally.

In Kenya, Muinde (2018) examined impact that financial risk does have on performance of insurance companies at NSE by relating them with the existing regulations. Muinde (2018) made use of descriptivism researching designs in examination of regressions models. Six insurer firms provided statistics for research investigation all throughout course of 6 successive years, spanning 2012 to 2017. Regression model was put into use with secondary's info tabulated on SPSS. From the results, apart for underwriting risks, that remained favourably connected, other finance hazards were adversely proportional to ROA and exhibited scientifically negligible effects. This investigation presents a conceptual knowledge gap. This is due to the fact that the study focused only on financial risks.

In Zimbabwe, Mazviona and Mbakisi (2017) focused on insurance sector and factors affecting the financial performance on the sector. A sample size of 20 insurance firms was

adopted and secondary data based on period 2010 to 2014 was used. The survey found out that a firms' expense ratio, claims ratio and its size have a noteworthy adverse consequence on insurer's performance. Liquidity and insurance leverage directly related to company performance. The study showed that insurance companies should reduce their operational costs by adopting technologies such as automated systems. The study's findings, however, were inconclusive as both positive and negative results were obtained. This study creates a contextual research gap since the focus was on insurance sector in Zimbabwe.

Mwamburi (2017) researched upon impact CG on ROA of insurer businesses in Kenya. Cross-sections researches designs remained used in study. A sample of 6 firms was used and data for period of 5 years was obtained from NSE. Data analysis was done where multiple regression method was used. Based on a multiple regression, it was found that board composition was positively but insignificantly related to ROA. The study further urges that insurance firms should focus on its corporate governance so as to enhance its financial performance.

In Ethiopia, Sisay (2017) researched on financial risks upon performance of insurers. Using descriptivism research designs, data from 23 insurance businesses was used. A sample size of 16 insurance firms was adopted and secondary data based on period 2000 to 2015 was used. E-views was adopted for analysis through multivariate regressions. It was revealed that financial risk and ROA was positively related. The study does create both a contextual gap in Ethiopia and only focused on financial risk hence cannot be generalized in Kenyan sector.

In Rwanda, Yemane and Raju (2015) investigated the insurance firms on corporate governance and ROA. A sample size of 10 out of 15 insurance firms was used and

secondary data period 2009 to 2013 was used. Connection around reimbursement of directorship members, the size of the firm and the board meeting was positively related to ROA while women directors, board membership and audit committee showed no substantial bearing. This investigation poses a conceptual gap as its focus was only on corporate governance.

Another study by Omondi (2017) investigated on micro insurance and ROA in the insurance industry. Using explanatory research design 17 insurance firms offering micro insurance products were used. The research used quantitative secondary data tabulated using SPSS and found that there was inverse link around ROA and micro insurance measured by total premiums. Investigation focus was only on micro-insurance and performance financial.

Onsongo (2015) focused on 24 insurance companies and examined factors affecting the financial performance. Research surveyed all the 24 life insurers between 2010 and 2014 and relied on secondary data. Using regression model, info was tabulated via SPSS. Investigation outcome exhibited investment ratio to possess strong significantly direct influencings on ROA, while financial leverage (debt to equity ratio) has a direct moderate influencing on ROA. Similarly, retention ratio has a strong inverse influences on ROA. On the other hand, solvency margin has weak positive effect on ROA. The study presents contextual knowledge gap since the focus is on life insurance companies. In India, Arif and Showket (2015) focused variable of financial risk and financial performance. A sample size of 8 out of 24 insurance firms was used and secondary data period 2006 to 2013 was used. Secondary data was mined from accounting books. SPSS was utilized for analytics. Multivariate model was employed in analyzing info. Survey observed that liquidity risk,

solvency risks, firms sizes and capitals managements risks possessed significantly positive association around financial performance, whilst underwritings risks possessed an irrelevant relations. Survey shows both conceptual and contextual gaps.

Mirie and Murigu (2015) examined determinants of financial performance of insurers in Kenya. Population comprised 23 general insurance firms. Descriptive design for research was utilized. Secondary nature date was mined from reports of companies spanning 2009 through 2012. The survey found that corporate ownership and business size all inversely correlated with financial success, but managerial competence, equity funding, and debt remained favourably correlated.

Murigu (2014) conducted a research study on determinants of financial performance on general insurance companies in Kenya. Descriptive design for research was utilized. The study targeted the 23 firms offering general insurance services for the period 2009-2012. The secondary sources obtained from the IRA website. The study findings depicted that ROA have a positive significant relationship with the leverage ratio, management compensation and equity capital. The study also found an insignificant negatively association between ownership structure, firm size and ROA. Survey only used four years period (2009-2012).

Mirie and Iraya (2014) examined the determinants of financial performance of general insurance companies in Kenya. Population involved 22 firms, 23 firms and 25 firms for the period that were licensed by IRA during the study period, 2010, 2011 and 2012 respectively. Cross sectional descriptive design for research was utilized. Utilizing SPSS, information were summarized using a logistic framework to strengthen the assessment. The outcome exhibited a weak inverse association between ROA and expense ratio and

loss ratio. Also retention ratio and growth of premiums were inverse but inconsequentially interconnected to ROA. Investment yield, size of the firm and earning asset were found to be directly interconnected to financial performance, but only firm size was insignificantly related. The study presents conceptual knowledge gap since the study only focused on three years period (2011 to 2013).

2.5 Conceptual Framework

The conceptual framework demonstrates the linkage around determinants of financial performance (independent variables) and financial performance (dependent variable). It is hypothesized that various factors may affect financial performance of general insurance companies in Kenya.

Independent variables   Dependent variable

Determinants of Financial Performance
- Premium Retention
- Solvency margin
- Financial leverage
- Firm size
- Underwriting Risk

Financial Performance
- ROA
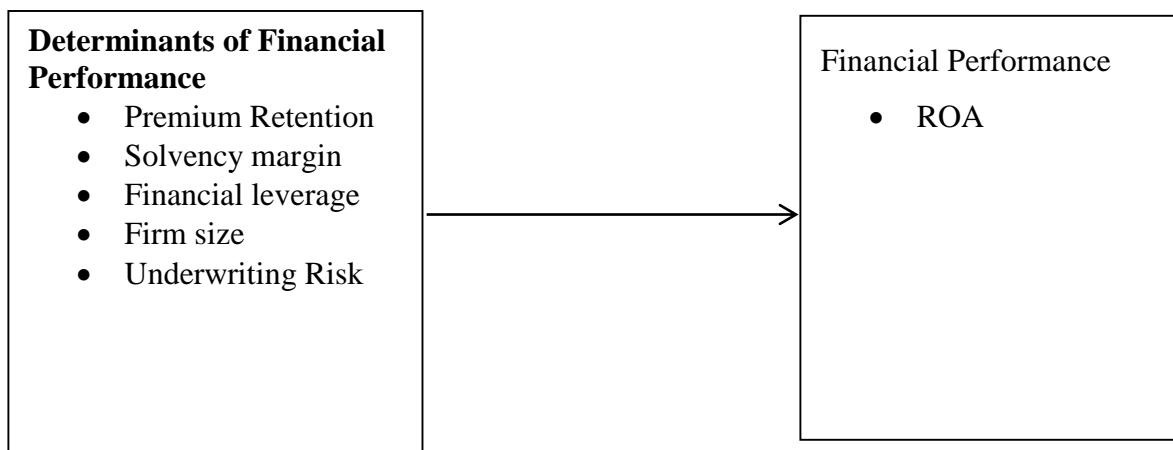
Figure 2.1: Conceptual Framework

Sources: Researcher, 2021

2.6 Summary of Literature Review

Notwithstanding many theoretical and empirical researches, financial performance has remained a source of controversy especially determinants of financial performance. Various theoretical arguments exist that have been developed to elucidate various aspects on financial performance and its determinants. Information Asymmetry Theory explains an imbalance of information between the firm (insurance company) and the customer and suggests that insurance firms should have adequate information concerning their customers to minimize underwriting risks which may impact negatively on performance of the firm (Akerlof, 1970). Agency theory attempts to give an explanation about organizational behaviors through laying much emphasis on the association between the manager (executive director) who is the agent of the firm, and the stakeholders who in this case are the principals (Jensen & Meckling, 1976).

Empirical research have shown that there is a mixed response to the results of numerous local and global investigations. (Mwamburi, 2017; Yemane & Raju, 2015) have demonstrated a positive link between various factors (board composition, firm size and leverage) and financial performance. Mirie & Iraya (2014) established there was a direct relation around ROA and size of the firm. However, this is in contrary to Murigu (2014) found a inverse and trivial relationship between ROA and factors such as firm size and firms' ownership structure.

Sisay (2017) did find out that financial risk does have a substantial direct influences on financial performance of insurers in Ethiopia. These findings were contrary to local study conducted by Muinde (2018) revealed that financial risks are negatively correlated to ROA which had statistically insignificant effect of insurance firms. The finding on the different

studies highlighted earlier reveal conflicting outcome that are dependant on the markets as well as the model of analysis used. This research anticipates adding more knowledge in the area.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This part summaries the approach used to achieve the study objectives. Researching methodologies relates to approaches utilized to collect as well as analyse data with the intent of addressing a research question. Sections that have been covered, are; researching designs, populace as well as data collections and analyses.

3.2 Research Design

Research design is a framework that monitors the collection and data analysis. A research design presents an arrangement or framework of action for a study (Zikmund et al., 2011). This study used a descriptive survey research design. In using descriptive survey in a study, results to all the elements of a population being used. Reporting of things in a population is done as they are through this design method. This choice of design was arrived at due to the fact that the study does not necessitate the need of manipulation of variables but in essence desires to establish the state of affairs as they are (Kothari, 2009).

3.3 Study Population

According to Mugenda and Mugenda (2003) the total element for which the research findings are generalized is referred to as the target population. Target population for this study includes all the general insurance companies operating in Kenya in 2020 that are regulated by the IRA. According to IRA (2021) report there are 37 general insurance firms listed (See Appendix I). Census was employed since this population is small and thus all the 37 insurance companies formed the sample of our study.

3.4 Data Collection

Secondary data sources was employed in this study. This form of data was sourced from IRA and individual firm's annual reports. The choice of secondary data is because it is easy to access and to verify. Kothari (2008) explains that data collection is a systematic method that is applied to gather and examine data from different sources so as to get a clearer picture of an area under investigation. Data collection allows the researcher to assess the findings, possibilities in future and trends. This study span for a period of 9 years (2013-2021). This period was considered as satisfactory in enabling the researcher to establish the link among the variables. The data obtained from financial reports published by the IRA for the respective periods includes; the firm's net income, the firm's total assets, the net written premiums, the gross written premiums, the total net assets, the total liabilities, the total claims incurred and the total net premium earned.

3.5 Diagnostic Tests

The strength and nature of the relationship between the independent and dependent variables in the study linear regression model was done through a number of diagnostic tests; normality test, Multicollinearity test for variables and autocorrelation.

3.5.1 Normality Test

The normality test is conducted so as to make a reliable and accurate conclusion as to whether the population from where the sample is derived from is normally distributed (Ghasemi & Zahediasl, 2012). To perform the normality test, this study made use of the Shapiro-Wilk test of normality and the graphical method.

3.5.2 Multicollinearity Test

In order to make sure that the data sourced and used is free of any bias and that one variable data is not related to another variable data, the study performed a Multicollinearity test. The variance of Inflation (VIF) was used to test for Multicollinearity. In the instance where the values of VIF lies between 1 and 10, Multicollinearity is not present while if the values of VIF is less than 1 or greater than 10, then Multicollinearity is present. In the event that the data fails the test, one should strive to standardize the continuous variables through the use of a standardization method provided on the regression dialog box. The selection of the variable centering approach would be one such example (Cohen, West & Aiken, 2013).

3.5.3 Autocorrelation Test

An auto correlation test was done to ascertain that there were no outliers present in the datasets. Durbin Watson test is what was made use of to verify this. This test outputs a test statistic having a single value that lies between 0 and 4. A value of 2 implies no autocorrelation, a vale of less than two would imply a positive autocorrelation and where the value is greater than 2 would mean a negative autocorrelation (Khan, 2012).

3.6 Data Analysis

Data collected for the study was analyzed with the help of a Statistical Package for Social Sciences (SPSS). This tool was selected for analysis as it gives a complex and wide range of both statistical and physical tools of analysis. Cooper and Schindler (2008), contend that data analysis applies logic to review collected information to ascertain uniformity and trend in the data amongst other key information in a study. The use of inferential statistics such as regression and correlation analysis was made use of in the analysis. The mean and the

standard deviation of the data was made use of the data presentation to describe the trends, patterns and relationships between the study variables.

3.6.1 Analytical Model

In the study, a multiple regression model was used to carry out the analysis to finding the outcome between the responsive variable to the predictor variables. In the study, the financial performance of the firms is the responsive variable whilst the predictor variables used are; premium retention, solvency margin, financial leverage, firm size and the underwriting risk.

$$Y = \alpha + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_{4t} X_{4t} + \beta_5 X_{5t} + \text{€}$$

For t = 1, 2 ,…,n

Where;

Y = Financial Performance; this is measured by ROA (Net Income/ Total Asset)

X_1 = Premium Retention; this is the ratio of Net written premium earned to Gross written premium

X_2 = Solvency Margin; this is the ratio of Net assets to 12-month net written premiums.

X_3= Financial Leverage; this is the ratio of Total Liabilities to Total Qssets

X_4= Firm size; this is the natural log of total assets

X_5= Underwriting Risk; this is the ratio of loss/claim incurred to premium earned

α = Constant; this is the y intercept, that is, the value of y when x is equated to zero

β = These are the coefficients of the model

€ = This is the Error term

3.6.2 Test of Significance

The F-test was used to test for joint significance of all coefficients. The T-test was used was the significance test of the individual coefficients.

DATA ANALYSIS, FINDINGS AND INTERPRETATIONS

4.1 Introduction

In this section the study highlights the output of the fieldwork through the use of presentation, interpretation as well as discussion of the findings. The 37 general insurance firms formed the population of the study. However, out of the 37 firms, data from 32 firms was readily available. Data from these firms were used for the analysis from the year 2013 to the year 2021 inclusive.

4.2 Diagnostic Tests

Normality test, autocorrelation test and Multicollinearity test were the diagnostic tests carried out in the study.

4.2.1 Normality Tests

Table 4.1: Normality Test

	Shapiro-Wilk		
	Statistic	df	Sig.
Financial Performance	.630	275	.000
Premium Retention	.982	275	.002
Solvency Margin	.282	275	.000
Financial Leverage	.904	275	.000
Firm Size	.973	275	.000
Underwriting Risk	.911	275	.000

The test for normality was done using the Shapiro – Wilk Test. The reason for using the Shapiro- Wilk test was because it was deemed appropriate as well as it being amongst the powerful tests of normality. This test is a more consistent test for inaugurating Kurtosis values of normality. In the event that the resultant value is lower than 0.05, this would mean that the data, meaningfully deviates from normal dispersal. This will make one reject

the normality of the data distribution. The resultant values of the conducted normality test are as indicated in the below table. The data was not normally distributed.

4.2.2 Multicollinearity Test

Table 4.2: Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
Premium Retention	0.955	1.047
Solvency Margin	0.645	1.549
Financial Leverage	0.559	1.789
Firm Size	0.834	1.199
Underwriting Risk	0.638	1.568

a. Dependent Variable: Financial Performance

Source: Research findings (2022)

The findings displayed in Table 4.2 show the resultant values of all the VIF were in the desired range of 1 and 10. Financial Leverage displayed the highest value of VIF at 1.789 closely followed by Underwriting Risk with a VIF value of 1.568 and Solvency Margin with a VIF value of 1.549. Premium retention ratio had the lowest value of VIF at 1.047 whilst firm size had a VIF value of 1.199. This indicates that there was lack of Multicollinearity in the set of data used in the study.

4.2.3 Autocorrelation

Autocorrelation testing is important as it is used to detect and identify any similarity between the time series in the provided time intervals. This test is conducted by the use of Durbin-Watson test. This test depicts a test statistic with a value of 0 to 4. A value of 2 would meant that there is no autocorrelation present in the data set used. Where the statistic outcome is <2, this would give a confirmation of a positive autocorrelation in the data. A

value >2 implies a negative autocorrelation exists (Khan, 2012). For instance, if the value

was 0.955, this would mean a positive autocorrelation exists.

Table 4.3: Autocorrelation

Model	Collinearity Statistics	
	Tolerance	VIF
Premium Retention	0.955	1.047
Solvency Margin	0.645	1.549
Financial Leverage	0.559	1.789
Firm Size	0.834	1.199
Underwriting Risk	0.638	1.568

a. Dependent Variable: Financial Performance

Source: Research findings (2022)

The findings found in table 4.3 above, show the resultant values of all the tolerance being

below 2. The maximum value being in premium retention ratio at 0.955 and the lowest

being in financial leverage at 0.559. This gives an indication of a positive autocorrelation

in the data.

4.3 Descriptive Statistics

Table 4.4: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Financial Performance	275	-117.88%	33.08%	4.03%	10.26%
Premium Retention	275	22.46%	115.71%	72.16%	17.20%
Solvency Margin	275	-101.57%	3083.22%	111.57%	196.93%
Financial Leverage	275	8.05%	166.12%	61.79%	15.23%
Firm Size	275	13.44	16.59	15.21	74.87%
Underwriting Risk	275	21.52%	167.66%	58.44%	14.93%

Source: Research findings (2022)

The outcomes reveal that ROA used to measure the financial performance had a min value of -117.88% and a max value of 33.08%. The ROA mean score was 4.03% with a std deviation of 10.26%. The premium retention used in the data had a min score at 22.46% whilst the highest value was at 115.71%. The average value of premium retention was 72.16% with a std deviation of 17.20%. The solvency margin values had a min score at -101.57% whilst the highest value was 3083.22%. The average value of solvency margin was 111.57%% with a std deviation of 196.93%. Further, the financial leverage ratio had a min score of 8.05%, a max score of 166.12%, an average of 61.79% and a standard deviation of 15.23%. Firm size had a min value of 13.44, a max score of 16.59 with an average of 15.21 and a std deviation of 0.75. Finally, underwriting risk value min was at 21.52% and max of 167.66%, mean of 58.44% and a std deviation of 14.93%.

4.4 Correlation Analysis

The Pearson correlation results does vary from -1.00 to +1.00. The positive Pearson correlation values indicate positive relations among the study variables. Negative Pearson correlation values imply negative relations of the study variables. The study used a 95% confidence interval. The reason for the use of the confidence interval is due to its wide application in social sciences. The study utilized a two tailed test.

Table 4.5: Correlation Analysis

	Financial Performance	Premium Retention	Solvency Margin	Financial Leverage	Firm Size	Underwriting Risk
Financial Performance	1.000					
Premium Retention	-0.089	1.000				
Solvency Margin	0.020	-0.176	1.000			
Financial Leverage	-0.559	0.079	-0.472	1.000		
Firm Size	0.157	-0.087	-0.143	0.099	1.000	
Underwriting Risk	-0.593	-0.019	0.046	0.427	0.323	1.000

The results displayed above in table 4.5 gives the correlation between ROA and premium retention as being a weak negative (r = -0.089). The results of the study also displayed a weak positive relationship between ROA and solvency margin (r = 0.020). The correlation results further displayed a negative correlation between the financial leverage (r = -0.559) and ROA. The correlation findings indicated a weak positive correlation between firm size and ROA (r = 0.157). Lastly, the correlation findings of the study gave a negative correlation between ROA and underwriting risk (r = -0.593).

In summary, three of the factors namely; premium retention, financial leverage and underwriting risk displayed a negative correlation to financial performance. Factors that showed a positive correlation to financial performance are solvency margin and firm size.

4.5 Regression Analysis

Multivariate regression model is what was used in the study for regression analysis. The regression model was used to inform the influence that the predictor variables have in relation to financial performance.

Table 4.6: Regression Analysis

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.775[a]	0.601	0.593	0.0654193	1.414

a Predictors: (Constant), Underwriting Risk, Premium Retention, Solvency Margin, Firm Size, Financial Leverage
b Dependent Variable: Financial Performance

With reference to the summary results of the model displayed in the above table 4.6, the study indicates the predictor variables do account for 60.1% of the movements in the return of assets of the general insurers which is the dependent variable of the study. This is exhibited with the coefficient f determination value R square that is 0.601. This does imply that there exist other variables that do not form part of this particular model, that explain 39.9% of the variations in the financial performance measured by ROA.

Table 4.7: Regression Analysis

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.733	5	0.347	80.967	.000[b]
	Residual	1.151	269	0.004		
	Total	2.884	274			

a. Dependent Variable: Financial Performance
b. Predictors: (Constant), Underwriting Risk, Premium Retention, Solvency Margin, Firm Size, Financial Leverage

Source: Research Findings (2022)

In instances where the P value is < 0.05 (less than 0.05), this means that the model is statistically significant to make conclusions. In the above ANOVA table 4.7, the significant level is 0.000. This explains that the observations are relevant and statistically significant to make reliable conclusions on the research variables in use. The confidence level used to indicate statistical significance was the 95% confidence level.

Table 4.8: Distribution of Coefficeints

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.266	0.091		-2.919	0.004
	Premium Retention	-0.033	0.024	-0.056	-1.410	0.160

Coefficients[a]						
	Solvency Margin	-0.006	0.002	-0.114	-2.368	0.019
	Financial Leverage	-0.282	0.035	-0.419	-8.136	0.000
	Firm Size	0.047	0.006	0.346	8.203	0.000
	Underwriting Risk	-0.359	0.033	-0.522	-10.820	0.000
a. Dependent Variable: Financial Performance						

Source: Research findings (2022)

The resulting regression model is:

$Y = -0.266 - 0.033X_1 - 0.006X_2 - 0.282X_3 + 0.047X_4 - 0.359X_5$

Where,

Y = Financial Performance

X_1 = Premium Retention

X_2 = Solvency Margin

X_3 = Financial Leverage

X_4 = Firm Size

X_5 = Underwriting Risk

The estimated regression model above explains that if retention premium, solvency margin, leverage, firm size and underwriting risk ratio were all at zero, the ROA would be equal to -0.266. Premium retention was found out to have a negative insignificant effect on performance of an insurance company. The results did indicate that solvency margin and performance are negatively related however insignificantly related. The results also exhibited leverage ratio had a negative and significant effect on ROA. In addition to the above observations, the results also showed that underwriting risk had a negative and

significant effect on ROA. The size of the firm was observed to have a positive but insignificant effect on performance.

4.6 Discussion of Research Findings

As outlined by the general insurance firms R^2 being the coefficient of determination, the study revealed that 60.1% of the movements in ROA, the used measure of financial performance in the study for general insurance firms are as a result of the various variables under study. The variables in question are solvency margin, underwriting risk, premium retention ratio, leverage ratio and firm size whereas 39.9% are as result of other variables not taken into account in this study.

The outcomes from the regression model conducted by the study revealed that the intercept equated to -0.226 for general insuring firms, over all the years under study. The observations of the study also reflected that premium retention had a statistically insignificant negative effect on ROA. This was consistent with the findings by Mirie and Iraya (2014) that examined the determinants of financial performance of general insurance companies in Kenya and also concluded that retention ratio and growth of premiums were negative but insignificantly related to ROA.

Further solvency margin had an insignificant and negative effect on financial performance. Contrary to this, Weersainghe and Ravinda (2013) indicated that solvency margin have a significant and positive association towards financial performance. Some firms do not remain in operation due to poor and low levels of solvency margins that prevents them from fulfilling their expected financial obligation. For the general insurance firms budgeting to be profitable; this can be achieved through ensuring solvency margins are

maintained at optimum levels on grounds of investing and fulfilling their financial obligation (Chakraborty, 2008).

The research did observe a negative considerable relationship linking financial leverage and firm ROA of insurance sector. This implies that financial leverage has an effect that is considered significant on the ROA of general insurance firms. In similarity, Mohohlo (2013) found that there is lack of a significant relationship statistically between value of the study firms and the structure of capital at the Johannesburg bourse. Agu, Enekwe and Eziedo (2014) found out that financial leverage has effects that are negative on firms' value.

This research also established a positive considerable association existing between firm size and firm value of insurance general firms. Murikwa (2017) also found that ROA was negatively linked to leverage but positively linked to size of commercial banks in Kenya. However, Muge (2018) concluded that there exists a negative and insignificant relationship between firm size and financial leverage with ROA of non-money related firms that are quoted at the NSE.

The study findings exhibited that ROA and underwriting risk have a negative correlation. The underwriting risk has a significant impact in the general insurance companies' financial performance. The outcomes of the research are in agreement with those of the study conducted by Arif and Showket (2015) on firms listed in India. Their study sought to establish the effect of underwriting risk on ROA. The findings of the study alluded to a positive but insignificant link between underwriting risk and financial performance of insurance general firms.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This part gives; a shortened version of the findings of the study, highlights the conclusion of the study, as well as challenges faced in the course of the study. In addition to this, the section gives recommendations upon which policy developers and insurance management teams can employ to achieve an improved ROA. Lastly, in this chapter there are advance suggestions on areas upon which additional further studies can be beneficial and vital to future researchers and policy makers.

5.2 Summary of Findings

The main aim that guided the study was highlighting and identifying any relationship present between the performance of the insurance firms and determinants chosen for the study. The population used was all the 37 firms offering general insurance services in Kenya. The information analyzed was secondary data over the nine-year period; from 2013 to 2021 inclusive. However, the study obtained complete data from only 32 firms, which was considered complete in line with the study period.

P-values of less than 0.05 were recorded using the Kolmogorov-Smirnov and Shapiro-Wilk tests. This implied that the secondary data used in the study did not originate from a population that was normally distributed. The importance of this was to give a base reason to use the secondary data to conduct inferential analysis the likes of regression and Pearson correlation. Multi-collinearity tests were also carried out. The tests recorded VIF values that were <10 (less than 10). The highest VIF value being 1.789 while the lowest value was

1.047. This meant that multi-collinearity was not present amongst the independent variables in the study.

The outcomes of the study revealed that ROA had a min value of -1.1788. The max value of ROA was 0.3308 with a mean score of 0.0403 and a standard deviation of 0.1026. Premium retention value minimum values was at 0.2246 with the highest value of 1.1571. The average value of the premium retention was 0.7216 with a standard deviation of 0.1720. Further to this, financial leverage minimum score was at 0.0805, the maximum score was at 1.6612, a mean of 0.6179 and a variance of 0.1523^2. Firm size had a min value of log 13.449, a maximum score of log 16.591, an average of 15.209 and a standard deviation of 0.7487. Finally, underwriting risk values were; minimum was 0.2152, maximum of 1.6766, average of 0.5844 and a std deviation of 0.1493.

The study established the presence of a great connection (R= 0.775) in the study variables. Further to this, it was found out that independent variables; underwriting risk, premium retention, solvency margin, leverage ratio and firm size explains 60.1% of the total movements in the return on assets. The generated regression equation had a significance level lower than the targeted 5%. This implied that the variables and data were ideal for predicting the future return on asset of general insurers.

The estimated regression model above explains that if retention premium, solvency margin, leverage, firm size and underwriting risk ratio were all at zero, the ROA would equate to -0.266. The outcomes showed that premium retention and solvency margins have a negative insignificant effect on performance of a general insurance company. On the other hand, financial leverage and underwriting risk have a negative significant effect on performance. The observations further indicated the size of the firm has a positive effect on performance.

5.3 Conclusion

The study came to a conclusion that the nature of the secondary data used in the study, exhibited the properties of a population that is not normally distributed. The research concluded that the independent variables (firm size, solvency margin, underwriting risk, premium retention, financial leverage) employed in this study could be applied as determinants of financial performance as VIF recorded values were all less than 10, leading to a conclusion that they didn't have any multi-collinearity present.

The study also established that the predictor variables (firm size, solvency margin, underwriting risk, premium retention, financial leverage) only represents 60.1% of the total movements in the return on assets. This leads to a conclusion that a number of variables were excluded in this particular model on ROA. The study comes to a conclusion that the model used is deemed fit and reliable and can be used for further studies.

The outcome concludes that premium retention has a negative insignificant impact on the performance. The results did conclude that solvency margin and performance is negatively and insignificantly related. The result also concludes leverage ratio had a negative significant effect on ROA. Further to this, the result also concludes that underwriting risk had a negative significant effect on ROA. On the size of the firm, the study found out that it has a positive effect on the performance.

5.4 Recommendations

The study does recommend, to general insurance firms operating in Kenya, that in order to improve their overall financial performance, more emphasis should be placed on diversification into the different business lines. This diversification in different lines will lead to an increase of the size of the insurer as well as an improvement in underwriting

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risks. This is because different lines have different inherent risks. The larger the general insurance company the higher the expected financial performance. Managers in charge of the general insurance companies should also ensure that reasonable underwriting takes place. The better the underwriting practices in place, the lower the expected underwriting risk. This is because less claims will occur causing a reduction of outflows from the general insurance companies for claim settlement. This would inadvertently improve the financial performance of the general insurance companies.

Insurance companies should further consider the impact of their reinsurance arrangements in place alongside their intended performance. The level of premiums they cede of to reinsurance companies will have an impact on how much they keep as net premiums. A recommendation is to keep retention ratios at reasonable levels to lower the underwriting risk and have enough to engage in investment and business operations. A high retention ratio would result to a worse of financial performance of the insurance firm as they are highly exposed to adverse claim experiences that affect performance of the insurance firms. The insurance regulatory is among other things charged with monitoring the solvency margin of the general insurance companies. The regulatory authority should take into consideration the levels of solvency margin they require to be met for compliance of the firm. This is because the solvency margin doesn't have a significant impact on the financial performance of a company. However, we do note that a high solvency margin is key in ensuring the long term survival of a company.

The study came to a conclusion that an increased leverage ratio would result to an expected decrease of ROA. The study does recommend that the firms' management teams should make sure that they maintain adequate levels of debt with the intention of not affecting the

day to day operations of the firm that may be key to improving financial performance as they meet the debt obligations. The research also recommends that when firms are budgeting and making decisions on their debt financing, consideration should be taken to ensure a balance is arrived at in the case of the tax savings benefit of debt versus the costs of bankruptcy linked with borrowing.

The study recommends that the managers of the firms should continuously improve their respective firms' financial performance as having an above market average performance in financial terms offers a competitive edge. This is achievable through the use of prudent and best practice financial practices such as; adherence and compliance to both auditor's recommendation and regulatory regulations set by the insurance regulatory authority and any other regulatory body. Some of the requirement are; disclosure requirements, the application of ethics and anti-corruption policies as well as adherence to corporate governance practices. A firm that complies highly to the set requirements as well as best practices will tend to achieve an increased performance that will be higher than that of its competitors.

5.5 Limitations of the Study

One limitation to the study is that the data used is that of insurance firms dealing with general insurance only thus the study findings cannot be generalized to other insurance firms in different markets or lines of business such as life assurance. Over the period of study, a number of insurance firms were involved in mergers and acquisitions causing some changes to the affected firms. As a result of the mergers, obtaining information for the years prior to the merger was difficult due to the name changes. Over the period of study,

a number of insurance firms reported losses in certain years making it difficult to obtain ROA for the affected firms.

This study had heavy reliance on secondary data obtained from the insurance regulator to arrive at the findings. The main reason for the use of the secondary data was that it is arrived at after concerted efforts of experts. In complying with regulation, the insurance companies share data with the IRA who in turn consolidates the data for the consumption of the public, financial investors as well as different regulatory bodies. However, the study also recognizes that an assessment of the same study employing primary data alongside input and consultations with experts in the investment field may produce a different set of results. The scope used in this study was that of a nine-year period (2013 to 2021). This therefore would mean that the results may differ with those of a longer time period due to, the presence of any major events that may not have been captured or included in the time frame of the study.

Finally, deviation from one year to another may be a result of prevailing conditions, this may impact the measures used to determine the factors affecting ROA. In addition to this, the financial performance of a firm is affected by other factors that did not form part of this study. The study focused on five determinants which only affect 60.1 percent of ROA. Therefore, this leads to a conclusion that a number of predictor variables were excluded in the model ROA.

5.6 Suggestions for Further Research

This study limited its scope to the general insurance firm operating in the Kenyan market. One of the recommendations is that a further research can be conducted on life insurance companies in the Kenyan market. With regard to data used in the study, the study solely

depended on secondary data. An alternative research can be conducted by making use of primary data collection methods. Some of these methods include the use of structured interviews and detailed questionnaires for the general insurance firms. This is recommended as a complement to this study on the observations made. The reason for raising this recommendation is that with primary data the study may result to having different observations due to data originating directly from the relevant experts dealing with the data as well as it having not been aggregated and formatted to meet a specific format as is the case with secondary data.

The period of focus of the study was a nine-year period (2013 to 2021). This period was selected due to the fact that it was the most recent complete annual data for the study. Further studies in this area of performance of general insurance companies may make use of data from a longer time frame such as from 2008 to present. This kind of study would be important in upholding or negating the findings and observations arrived at by this study. The use of a longer time frame data is important as such data is bound to include the impact of both rare and one off but key events that may be missed by use of shorter time periods.

This study made the use of the multiple linear regression model to expound on the relationship between the five variables under study. The linear regression models tend to have some limits among them being sensitive to any present outliers as well as being restricted to any linear conditions including where variables may possess nonlinear relationship. The study thus recommends that other studies to make use of alternative models beyond that used in the scope of the study. The study used linear regression models. One such example of the alternative model is the vector error correction model that can be utilized in explaining any relationship between variables. This is unlike the linear

regression models because this model includes any error correction features made to the vector auto regression.

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APPENDICES

Appendix I: List of General Insurance Companies in Kenya.

1)   AAR Insurance Kenya.

2)   African Merchant Assurance Company.

3)   AIG Insurance Company.

4)   Allianz Insurance Company.

5)   APA Insurance Company.

6)   Britam General Insurance Company.

7)   Cannon Assurance Company.

8)   CIC General Insurance Company.

9)   Corporate Insurance Company.

10)   Direct-line Assurance Company.

11)   Fidelity Shield Insurance.

12)   First Assurance Company.

13)   GA Insurance Company.

14)   Geminia Insurance Company.

15)   Heritage Insurance Company.

16)   ICEA Lion General Insurance.

17)   Intra -Africa Assurance Company.

18)   Invesco Assurance Company.

19)   Jubilee Insurance Company.

20)   Kenindia Assurance Company.

21)   Kenya Orient Insurance Company.

22)	Madison Insurance Company.
23)	Mayfair Insurance Company.
24)	Occidental Insurance Company.
25)	Pacis Insurance Company.
26)	Phoenix of East Africa.
27)	Pioneer Insurance Company.
28)	Resolution Insurance Company.
29)	Saham Insurance Company.
30)	Sanlam Insurance Company.
31)	Takaful Insurance.
32)	Tausi Assurance Company.
33)	The Kenyan Alliance Insurance Company.
34)	The Monarch Insurance Company.
35)	Trident Insurance Company.
36)	UAP Insurance Company.
37)	Xplico Insurance Company.

Appendix II: Data Collection Sheet

VARIABLE	DESCRIPTION	YEARS								
		2013	2014	2015	2016	2017	2018	2019	2020	2021
Financial Performance	Net Income									
	Total Assets									
Premium Retention Ratio	Net written Premiums									
	Gross written premium									
Solvency Margin	Net Assets									
	Net written premiums									
Financial Leverage	Total Liabilities									
	Total Assets									
Firm Size	Natural log of Total Assets									
	Claims incurred									

Underwriting risk / Loss Ratio	Premium Earned									

Appendix III: Data

Company	Year	Y	X1	X2	X3	X4	X5
AAR Insurance Kenya	2013	0.046	0.795	0.1658	0.808	14.402	0.603
AAR Insurance Kenya	2014	0.1172	0.737	0.2202	0.708	14.498	0.665
AAR Insurance Kenya	2015	0.1318	0.895	0.1995	0.75	14.952	0.676
AAR Insurance Kenya	2016	0.0686	0.841	0.2096	0.765	15.359	0.691
AAR Insurance Kenya	2017	0.0009	0.632	0.2732	0.734	15.14	0.733
AAR Insurance Kenya	2018	-0.094	0.774	0.1105	0.866	15.093	0.767
AAR Insurance Kenya	2019	0.1895	0.498	0.3552	0.749	15.235	0.513
AAR Insurance Kenya	2020	0.0759	0.654	0.3618	0.679	15.248	0.692
AAR Insurance Kenya	2021	0.0508	0.724	0.3167	0.672	15.358	0.712
AIG Insurance	2013	0.1254	0.584	0.6629	0.607	15.055	0.486
AIG Insurance	2014	0.0335	0.621	0.5175	0.704	15.305	0.56
AIG Insurance	2015	0.0663	0.607	0.7725	0.559	15.245	0.624
AIG Insurance	2016	0.0845	0.614	0.8639	0.534	15.245	0.586
AIG Insurance	2017	0.1214	0.27	2.0535	0.562	15.367	0.573
AIG Insurance	2018	0.1109	0.236	2.616	0.569	15.446	0.475
AIG Insurance	2019	0.0672	0.261	2.3191	0.605	15.506	0.523
AIG Insurance	2020	0.1248	0.269	2.79	0.484	15.283	0.401
AIG Insurance	2021	0.1033	0.225	3.1666	0.45	15.244	0.234
Allianz	2016	-0.088	0.487	30.832	0.081	13.844	1.041
Allianz	2017	-0.154	0.556	4.3332	0.286	13.974	0.692
Allianz	2018	-0.147	0.397	2.5433	0.456	14.082	0.657
Allianz	2019	-0.031	0.504	2.2042	0.456	14.436	0.535

Company	Year	Y	X1	X2	X3	X4	X5
Allianz	2020	-0.034	0.548	1.3578	0.581	14.318	0.681
Allianz	2021	-0.051	0.557	0.9987	0.63	14.363	0.636
APA Insurance	2013	0.0533	0.782	0.743	0.637	16.166	0.691
APA Insurance	2014	0.0712	0.745	0.7991	0.62	16.319	0.695
APA Insurance	2015	0.0631	0.757	0.6984	0.643	16.431	0.689
APA Insurance	2016	0.0585	0.724	0.816	0.63	16.481	0.709
APA Insurance	2017	0.0619	0.691	1.0413	0.577	16.464	0.655
APA Insurance	2018	0.0563	0.738	0.7072	0.629	16.398	0.661
APA Insurance	2019	0.0746	0.729	0.7523	0.62	16.407	0.678
APA Insurance	2020	0.0475	0.68	0.7661	0.631	16.397	0.654
APA Insurance	2021	0.0588	0.633	0.6982	0.636	16.372	0.723
Britam General Insurance	2013	0.2199	0.826	0.7226	0.501	15.335	0.531
Britam General Insurance	2014	0.1018	0.849	0.474	0.62	15.483	0.595
Britam General Insurance	2016	0.0829	0.86	0.4987	0.673	16.031	0.558
Britam General Insurance	2017	0.0549	0.834	0.5098	0.679	16.181	0.587
Britam General Insurance	2018	0.0054	0.811	0.4109	0.756	16.213	0.603
Britam General Insurance	2019	-0.033	0.785	0.3942	0.752	16.143	0.677
Britam General Insurance	2020	0.032	0.811	0.4537	0.74	16.271	0.643
Britam General Insurance	2021	0.0056	0.743	0.4206	0.759	16.368	0.686
CIC General Insurance	2013	0.0939	0.908	0.3794	0.734	16.16	0.651
CIC General Insurance	2014	0.0753	0.914	0.46	0.632	16.206	0.698
CIC General Insurance	2015	0.0756	0.845	0.6248	0.613	16.195	0.68
CIC General Insurance	2016	-7E-04	0.886	0.5357	0.657	16.269	0.654

Company	Year	Y	X1	X2	X3	X4	X5
CIC General Insurance	2017	0.0288	0.858	0.4658	0.646	16.252	0.672
CIC General Insurance	2018	0.0494	0.887	0.4526	0.638	16.231	0.659
CIC General Insurance	2019	0.0251	0.86	0.4659	0.647	16.297	0.704
CIC General Insurance	2020	0.0167	0.841	0.5223	0.653	16.359	0.701
CIC General Insurance	2021	0.0589	0.78	0.4369	0.678	16.308	0.661
Corporate Insurance	2013	0.1083	0.674	3.0327	0.375	13.908	0.34
Corporate Insurance	2014	0.1545	0.845	2.8604	0.309	14.061	0.259
Corporate Insurance	2015	0.1558	0.806	3.0394	0.333	14.163	0.226
Corporate Insurance	2016	0.0328	0.988	3.0702	0.293	14.109	0.436
Corporate Insurance	2017	0.0126	0.821	3.5899	0.296	14.108	0.426
Corporate Insurance	2018	-0.003	1.157	3.4444	0.317	14.123	0.441
Corporate Insurance	2019	-0.02	1.124	1.6121	0.462	14.318	0.583
Corporate Insurance	2020	-0.002	1.05	0.8205	0.602	14.396	0.581
Corporate Insurance	2021	-0.015	0.88	1.0364	0.621	14.289	0.674
Directline Assurance	2013	0.0374	0.982	0.3075	0.828	15.176	0.628
Directline Assurance	2014	0.1118	0.979	0.3398	0.818	15.282	0.589
Directline Assurance	2015	0.0381	0.98	0.3128	0.835	15.452	0.677
Directline Assurance	2016	0.0349	0.975	0.2931	0.822	15.459	0.59
Directline Assurance	2017	0.0272	0.973	0.3625	0.825	15.641	0.603
Directline Assurance	2018	-0.021	0.969	0.3315	0.825	15.522	0.655
Directline Assurance	2019	-0.017	0.957	0.3807	0.835	15.497	0.518
Directline Assurance	2020	-0.108	0.942	0.0002	1	15.409	0.822
Directline Assurance	2021	0.0379	0.981	0.2071	0.885	15.659	0.628

Company	Year	Y	X1	X2	X3	X4	X5
Fidelity Shield Insurance	2013	0.0718	0.738	1.0211	0.556	14.559	0.582
Fidelity Shield Insurance	2014	0.0542	0.751	0.8949	0.641	14.844	0.547
Fidelity Shield Insurance	2015	0.014	0.749	0.8049	0.62	14.876	0.694
Fidelity Shield Insurance	2016	0.0188	0.768	0.8727	0.584	14.832	0.593
Fidelity Shield Insurance	2017	0.0077	0.711	0.7028	0.615	14.949	0.62
Fidelity Shield Insurance	2018	0.0292	0.758	0.7303	0.582	14.915	0.63
Fidelity Shield Insurance	2019	-0.014	0.716	0.7108	0.613	14.943	0.743
Fidelity Shield Insurance	2020	-0.027	0.64	0.8243	0.632	14.898	0.802
Fidelity Shield Insurance	2021	0.0259	0.645	0.7791	0.652	15.008	0.653
First Assurance	2013	0.1092	0.62	0.6914	0.686	15.303	0.736
First Assurance	2014	0.1042	0.651	0.747	0.65	15.384	0.739
First Assurance	2015	0.0818	0.62	0.9943	0.545	15.453	0.696
First Assurance	2016	-0.02	0.554	1.0558	0.554	15.456	0.833
First Assurance	2017	0.0074	0.552	1.1959	0.581	15.362	0.61
First Assurance	2018	-0.062	0.591	0.7672	0.65	15.377	0.728
First Assurance	2019	0.0384	0.607	0.7862	0.645	15.391	0.578
First Assurance	2020	0.0206	0.63	0.6609	0.64	15.373	0.567
First Assurance	2021	0.0094	0.605	0.6387	0.659	15.448	0.679
GA Insurance	2013	0.1037	0.532	0.99	0.711	15.544	0.686
GA Insurance	2014	0.0933	0.547	1.2307	0.638	15.775	0.638
GA Insurance	2015	0.0734	0.523	1.119	0.679	15.881	0.595
GA Insurance	2016	0.0864	0.511	1.2367	0.645	15.956	0.593
GA Insurance	2017	0.1163	0.51	1.2458	0.614	16.038	0.58

Company	Year	Y	X1	X2	X3	X4	X5
GA Insurance	2018	0.0991	0.514	1.279	0.615	16.139	0.589
GA Insurance	2019	0.1189	0.522	1.4286	0.578	16.259	0.546
GA Insurance	2020	0.1008	0.53	1.3589	0.571	16.375	0.584
GA Insurance	2021	0.1113	0.481	1.2017	0.59	16.559	0.65
Geminia Insurance	2013	0.1229	0.74	1.2625	0.561	14.794	0.458
Geminia Insurance	2014	0.157	0.686	1.4018	0.505	14.889	0.378
Geminia Insurance	2015	0.0419	0.714	1.3376	0.563	15.102	0.631
Geminia Insurance	2016	0.0381	0.873	0.8812	0.622	15.323	0.684
Geminia Insurance	2017	0.033	0.88	0.5745	0.687	15.523	0.67
Geminia Insurance	2018	0.0894	0.932	0.5311	0.625	15.552	0.619
Geminia Insurance	2019	0.0456	0.895	0.4737	0.7	15.743	0.663
Geminia Insurance	2020	0.0464	0.881	0.5832	0.65	15.754	0.678
Geminia Insurance	2021	0.0253	0.795	0.5964	0.645	15.673	0.706
Heritage Insurance	2013	0.1874	0.553	0.9096	0.53	15.149	0.367
Heritage Insurance	2014	0.1577	0.575	0.9032	0.53	15.309	0.398
Heritage Insurance	2015	0.0956	0.585	0.6823	0.617	15.511	0.46
Heritage Insurance	2016	0.1238	0.576	0.8205	0.557	15.555	0.443
Heritage Insurance	2017	0.1055	0.531	0.9833	0.575	15.804	0.485
Heritage Insurance	2018	0.0713	0.595	0.9584	0.588	15.821	0.531
Heritage Insurance	2019	0.1074	0.651	0.9584	0.563	15.888	0.433
Heritage Insurance	2020	0.1037	0.6	1.1539	0.541	15.966	0.464
Heritage Insurance	2021	0.0779	0.594	1.1077	0.531	16	0.531
ICEA Lion General Insurance	2013	0.1121	0.61	1.0749	0.616	15.868	0.484

Company	Year	Y	X1	X2	X3	X4	X5
ICEA Lion General Insurance	2014	0.0838	0.591	1.0592	0.611	15.951	0.514
ICEA Lion General Insurance	2015	0.0642	0.584	1.0661	0.604	15.996	0.55
ICEA Lion General Insurance	2016	0.0498	0.609	0.9087	0.636	16.076	0.601
ICEA Lion General Insurance	2017	0.0977	0.563	1.2034	0.592	16.132	0.581
ICEA Lion General Insurance	2018	0.0734	0.534	1.5539	0.537	16.116	0.545
ICEA Lion General Insurance	2019	0.1069	0.538	1.5891	0.53	16.168	0.457
ICEA Lion General Insurance	2020	0.0808	0.518	1.7472	0.519	16.238	0.461
ICEA Lion General Insurance	2021	0.1077	0.543	1.7706	0.496	16.306	0.481
Intra-Africa Assurance	2013	0.0579	0.757	1.15	0.5	14.164	0.672
Intra-Africa Assurance	2014	0.0464	0.802	1.0642	0.499	14.219	0.633
Intra-Africa Assurance	2015	0.044	0.815	1.0311	0.529	14.339	0.572
Intra-Africa Assurance	2016	0.038	0.848	0.9698	0.525	14.379	0.577
Intra-Africa Assurance	2017	0.0433	0.83	1.0273	0.529	14.441	0.496
Intra-Africa Assurance	2018	0.0392	0.861	0.876	0.531	14.481	0.527
Intra-Africa Assurance	2019	0.0707	0.89	0.9187	0.519	14.523	0.505
Intra-Africa Assurance	2020	0.0307	0.903	1.0364	0.494	14.509	0.578
Intra-Africa Assurance	2021	0.0529	0.871	0.8058	0.533	14.656	0.568
Invesco Assurance	2013	-0.032	0.977	0.1966	0.865	14.747	0.374
Invesco Assurance	2014	-0.055	0.976	0.174	0.876	14.881	0.457
Invesco Assurance	2015	0.0102	0.977	0.1898	0.864	14.953	0.449
Invesco Assurance	2016	-0.019	0.94	0.177	0.88	14.975	0.431
Invesco Assurance	2017	-0.025	0.909	0.3179	0.814	14.984	0.519
Invesco Assurance	2018	-0.048	0.967	0.2053	0.907	14.999	0.591

Company	Year	Y	X1	X2	X3	X4	X5
Jubilee Insurance	2013	0.0588	0.722	0.7629	0.682	16.525	0.68
Jubilee Insurance	2014	0.1492	0.722	0.8212	0.506	16.312	0.667
Jubilee Insurance	2015	0.135	0.72	0.7291	0.551	16.469	0.644
Jubilee Insurance	2016	0.0706	0.729	0.5832	0.566	16.44	0.694
Jubilee Insurance	2017	0.1601	0.695	0.9228	0.434	16.38	0.603
Jubilee Insurance	2018	0.126	0.696	0.9287	0.46	16.389	0.636
Jubilee Insurance	2019	0.0232	0.702	0.8286	0.504	16.476	0.75
Jubilee Insurance	2020	0.067	0.739	0.635	0.585	16.371	0.693
Jubilee Insurance	2021	0.0209	0.849	0.4849	0.607	16.414	0.791
Kenindia Assurance	2013	0.0856	0.622	1.0424	0.678	15.536	0.554
Kenindia Assurance	2014	0.0244	0.587	1.2548	0.599	15.398	0.626
Kenindia Assurance	2015	0.0875	0.605	1.3337	0.728	15.957	0.685
Kenindia Assurance	2016	0.0143	0.628	1.3024	0.604	15.638	0.727
Kenindia Assurance	2017	0.0274	0.639	1.4629	0.565	15.684	0.716
Kenindia Assurance	2018	0.0317	0.682	1.772	0.529	15.786	0.686
Kenindia Assurance	2019	-0.029	0.662	2.0171	0.542	15.77	0.892
Kenindia Assurance	2020	0.0156	0.685	1.7528	0.612	15.824	0.762
Kenindia Assurance	2021	-0.021	0.67	1.7792	0.641	15.964	0.903
Kenya Orient Insurance	2013	0.0737	0.892	0.5208	0.552	14.219	0.471
Kenya Orient Insurance	2014	0.0565	0.877	0.7795	0.52	14.832	0.477
Kenya Orient Insurance	2015	0.011	0.912	0.6009	0.542	14.893	0.54
Kenya Orient Insurance	2016	0.0291	0.911	0.5443	0.568	14.881	0.566
Kenya Orient Insurance	2017	-5E-04	0.859	0.4882	0.683	14.73	0.593

Company	Year	Y	X1	X2	X3	X4	X5
Kenya Orient Insurance	2018	0.0702	0.865	0.7388	0.553	14.533	0.361
Kenya Orient Insurance	2019	-0.232	0.832	0.3635	0.824	14.611	0.798
Kenya Orient Insurance	2020	-0.055	0.787	1.0666	0.675	15.124	0.749
Kenya Orient Insurance	2021	-0.119	0.794	0.5573	0.784	15.053	0.822
The Kenyan Alliance Insurance	2013	0.3308	0.908	1.2237	0.527	14.851	0.431
The Kenyan Alliance Insurance	2014	0.0439	0.883	1.2446	0.512	14.892	0.505
The Kenyan Alliance Insurance	2015	0.0892	0.877	1.4587	0.507	14.963	0.465
The Kenyan Alliance Insurance	2016	0.0209	0.855	1.4098	0.603	15.018	0.563
The Kenyan Alliance Insurance	2017	0.0626	0.897	1.3638	0.483	14.824	0.461
The Kenyan Alliance Insurance	2018	0.0708	0.883	1.3785	0.478	14.886	0.425
The Kenyan Alliance Insurance	2019	-0.016	0.787	0.9027	0.677	15.117	0.47
The Kenyan Alliance Insurance	2020	0.0227	0.673	0.8791	0.632	15.05	0.471
The Kenyan Alliance Insurance	2021	-0.066	0.636	0.5293	0.806	15.026	0.503
Madison Insurance	2013	0.0564	0.729	0.8525	0.462	14.052	0.567
Madison Insurance	2014	0.0051	0.771	0.5599	0.563	14.271	0.551
Madison Insurance	2015	0.1711	0.936	0.4085	0.595	14.745	0.548
Madison Insurance	2016	0.0185	0.934	0.3729	0.631	14.888	0.676
Madison Insurance	2017	0.0366	0.971	0.3143	0.682	15.142	0.654
Madison Insurance	2018	-0.078	0.943	0.258	0.762	15.337	0.837
Madison Insurance	2019	-5E-04	0.903	0.3484	0.692	15.273	0.729
Madison Insurance	2020	0.0113	0.903	0.32	0.722	15.295	0.69
Madison Insurance	2021	-0.019	0.896	0.2139	0.775	15.41	0.733
Mayfair Insurance	2013	0.1286	0.552	1.0963	0.643	14.751	0.628

Company	Year	Y	X1	X2	X3	X4	X5
Mayfair Insurance	2014	0.1076	0.516	1.1706	0.662	14.959	0.478
Mayfair Insurance	2015	0.1103	0.523	1.5602	0.547	15.11	0.4
Mayfair Insurance	2016	0.1045	0.505	1.5858	0.54	15.205	0.467
Mayfair Insurance	2017	0.0944	0.561	1.6751	0.498	15.329	0.475
Mayfair Insurance	2018	0.0951	0.53	1.7301	0.48	15.454	0.506
Mayfair Insurance	2019	0.0867	0.607	1.6414	0.479	15.524	0.548
Mayfair Insurance	2020	0.0756	0.534	1.929	0.513	15.704	0.638
Mayfair Insurance	2021	0.0744	0.504	1.5965	0.549	15.843	0.601
The Monarch Insurance	2013	0.0367	0.846	0.8229	0.528	13.449	0.359
The Monarch Insurance	2014	0.1751	0.912	0.8757	0.463	13.714	0.258
The Monarch Insurance	2015	0.0854	0.895	0.7026	0.558	13.811	0.381
The Monarch Insurance	2016	0.0402	0.869	0.4494	0.655	13.991	0.433
The Monarch Insurance	2017	0.0637	0.892	0.44	0.687	14.219	0.465
The Monarch Insurance	2018	0.049	0.978	0.4156	0.715	14.369	0.496
The Monarch Insurance	2019	0.0051	0.975	0.5464	0.676	14.546	0.517
The Monarch Insurance	2020	-0.002	0.951	0.5338	0.692	14.683	0.552
The Monarch Insurance	2021	-1.179	0.893	-1.016	1.661	14.333	1.677
Occidental Insurance	2013	0.1137	0.653	0.6965	0.642	14.54	0.646
Occidental Insurance	2014	0.1212	0.666	0.6999	0.643	14.693	0.64
Occidental Insurance	2015	0.1155	0.68	0.7819	0.607	14.763	0.579
Occidental Insurance	2016	0.055	0.679	0.7398	0.639	14.854	0.717
Occidental Insurance	2017	0.0082	0.74	0.5452	0.682	15.008	0.706
Occidental Insurance	2018	0.0826	0.754	0.6479	0.643	15.085	0.615

Company	Year	Y	X1	X2	X3	X4	X5
Occidental Insurance	2019	0.0604	0.742	0.7161	0.586	15.097	0.634
Occidental Insurance	2020	-0.036	0.747	0.6434	0.667	15.216	0.763
Occidental Insurance	2021	-0.004	0.728	0.5927	0.671	15.227	0.729
Pacis Insurance	2013	0.1736	0.813	1.0277	0.582	14.301	0.493
Pacis Insurance	2014	0.0771	0.81	0.9373	0.538	14.296	0.356
Pacis Insurance	2015	0.0538	0.824	0.83	0.605	14.371	0.449
Pacis Insurance	2016	0.0258	0.839	0.7994	0.653	14.515	0.407
Pacis Insurance	2017	0.0494	0.775	1.0442	0.546	14.59	0.352
Pacis Insurance	2018	0.037	0.742	1.0728	0.527	14.605	0.415
Pacis Insurance	2019	-0.078	0.793	0.7623	0.608	14.642	0.679
Pacis Insurance	2020	0.0164	0.8	0.6988	0.681	14.744	0.509
Pacis Insurance	2021	-0.014	0.797	0.6162	0.68	14.753	0.592
Resolution Insurance	2013	0.053	0.392	0.424	0.763	14.179	0.804
Resolution Insurance	2014	-0.11	0.4	0.4834	0.657	14.162	0.706
Resolution Insurance	2015	-0.232	0.415	0.1619	0.865	14.203	0.699
Resolution Insurance	2016	-0.039	0.342	0.7413	0.802	15.44	0.66
Resolution Insurance	2017	-0.078	0.406	-0.149	1.061	15.411	0.628
Resolution Insurance	2018	-0.111	0.473	-0.069	1.04	15.347	0.72
Resolution Insurance	2019	-0.077	0.424	-0.189	1.088	15.398	0.698
Resolution Insurance	2020	0.0466	0.399	-0.161	1.06	15.347	0.633
Resolution Insurance	2021	-0.098	0.38	-0.248	1.094	15.249	0.774
Saham Insurance	2014	0.039	0.375	1.1949	0.443	13.637	0.432
Saham Insurance	2015	0.0261	0.444	0.854	0.558	13.862	0.591

Company	Year	Y	X1	X2	X3	X4	X5
Saham Insurance	2016	0.0407	0.437	0.6973	0.624	14.051	0.443
Saham Insurance	2017	0.0533	0.451	0.6375	0.666	14.433	0.519
Saham Insurance	2018	0.0701	0.439	0.5617	0.656	14.406	0.522
Saham Insurance	2019	0.0381	0.495	0.6527	0.663	14.558	0.582
Saham Insurance	2020	0.0411	0.526	0.7121	0.606	14.468	0.636
Sanlam	2016	-0.007	0.82	0.6141	0.767	14.589	0.218
Sanlam	2017	0.0374	0.743	0.4949	0.697	14.778	0.517
Sanlam	2018	0.0392	0.728	0.6731	0.621	14.863	0.497
Sanlam	2019	0.0079	0.682	0.5346	0.641	14.881	0.606
Sanlam	2020	0.0553	0.601	0.4815	0.654	15.039	0.597
Sanlam	2021	-0.298	0.646	0.1245	0.893	15.105	0.803
Takaful Insurance Of Africa	2013	-0.019	0.915	0.9794	0.495	13.649	0.333
Takaful Insurance Of Africa	2014	0.0624	0.935	0.8845	0.524	13.979	0.377
Takaful Insurance Of Africa	2015	0.0173	0.872	0.8001	0.619	14.168	0.467
Takaful Insurance Of Africa	2016	0.159	0.773	1.0118	0.582	14.239	0.215
Takaful Insurance Of Africa	2017	-0.005	0.753	0.7059	0.736	14.351	0.428
Takaful Insurance Of Africa	2018	0.0177	0.734	0.6327	0.747	14.388	0.404
Takaful Insurance Of Africa	2019	-0.025	0.571	0.4188	0.843	14.477	0.338
Takaful Insurance Of Africa	2021	-0.01	0.785	0.6364	0.744	14.391	0.573
Tausi Assurance	2013	0.1526	0.652	1.5232	0.531	14.346	0.446
Tausi Assurance	2014	0.1194	0.645	1.6512	0.475	14.341	0.473
Tausi Assurance	2015	0.1068	0.637	1.7772	0.47	14.444	0.427
Tausi Assurance	2016	0.1224	0.698	1.638	0.448	14.507	0.42

Company	Year	Y	X1	X2	X3	X4	X5
Tausi Assurance	2017	0.1323	0.695	1.7705	0.411	14.612	0.34
Tausi Assurance	2018	0.1319	0.714	1.834	0.38	14.698	0.287
Tausi Assurance	2019	0.1218	0.706	2.0265	0.36	14.796	0.358
Tausi Assurance	2020	0.1363	0.679	2.4454	0.32	14.867	0.304
Tausi Assurance	2021	0.113	0.641	2.5437	0.311	14.957	0.351
Trident Insurance	2013	0.0463	0.605	4.3115	0.438	15.076	0.699
Trident Insurance	2014	0.0456	0.67	3.1827	0.453	15.189	0.599
Trident Insurance	2015	0.0374	0.476	4.6265	0.448	15.205	0.703
Trident Insurance	2016	0.0045	0.557	3.0938	0.48	15.273	0.55
Trident Insurance	2017	-0.003	0.632	2.527	0.522	15.333	0.566
Trident Insurance	2018	-0.025	0.803	4.4929	0.539	15.255	0.718
Trident Insurance	2019	-0.055	0.931	2.5893	0.604	15.195	0.721
Trident Insurance	2020	0.0126	0.936	2.6907	0.586	15.273	0.226
Trident Insurance	2021	0.0352	0.987	1.6106	0.552	15.258	0.377
UAP Insurance	2013	0.0981	0.799	1.1801	0.423	16.347	0.606
UAP Insurance	2014	0.0717	0.798	1.4961	0.409	16.539	0.672
UAP Insurance	2015	0.0375	0.82	1.1468	0.464	16.491	0.689
UAP Insurance	2016	0.0516	0.802	0.8668	0.524	16.591	0.691
UAP Insurance	2017	0.0852	0.835	0.9499	0.5	16.559	0.616
UAP Insurance	2018	0.035	0.887	0.9372	0.496	16.528	0.668
UAP Insurance	2019	0.0905	0.879	0.8778	0.518	16.514	0.669
UAP Insurance	2020	0.0474	0.883	0.725	0.564	16.544	0.651
UAP Insurance	2021	0.0339	0.84	0.5394	0.627	16.59	0.693