EFFECT OF FINANCIAL RISKS ON THE FINANCIAL PERFORMANCE OF INSURANCE COMPANIES LISTED AT NAIROBI SECURITIES EXCHANGE

BY

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DECLARATION

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

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D63/79073/2015

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

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Finally, I also thank my employer for allowing me time to pursue my studies.
DEDICATION

To my husband, Frank Mutembei, thank you for being understanding and for the encouragement as I pursued my course. God bless you.
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<tr>
<td>AIBK</td>
<td>Association of Insurance Brokers of Kenya</td>
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<td>AKI</td>
<td>Association of Kenya Insurers</td>
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<tr>
<td>CMA</td>
<td>Capital Markets Authority</td>
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<td>IRA</td>
<td>Insurance Regulatory Authority</td>
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<td>NSE</td>
<td>Nairobi Securities Exchange</td>
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<td>ROA</td>
<td>Return on Assets</td>
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<td>ROE</td>
<td>Return on Equity</td>
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<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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ABSTRACT

The effect of financial risk has been considered to be an important issue on the performance of insurance companies. This study empirically examines the effect of financial risk on performance of insurance companies listed at Nairobi Securities Exchange and interprets the result by relating with the regulations. The study used descriptive research design in examining the regression model and collect data from six insurance companies covering the period of six (6) consecutive years, 2012-2017. The study used quantifiable secondary data which was analyzed using descriptive and inferential statistics to analyze on SPSS version 22. Out of the targeted six insurance firms, the researcher was able to obtain complete data from all the six thus a response rate of 100%. The data sources included all NSE hand books and company’s annual reports for the study period was from year 2012 to year 2017. From the results of correlation analysis, it was established that all financial risks negatively correlated to ROA which had statistically insignificant effect, except reinsurance risk which was positively correlated. Financial leverage had a negative and statistically insignificant relationship with financial performance while firm size was positively related with ROA but statistically insignificant. The co-efficient of determination shows a strong relationship between the model variables while R-square value was 0.701 implying that the predictor variables selected for this study explains 70.1% of changes in the dependent variable. This means that there are other factors not included in this model that account for 29.9% of changes in financial performance of insurance companies quoted at the NSE. The model is fit at 95% confidence level. Therefore, the overall multiple regression model was statistically significant and thus suitable in explaining how the financial performance of the insurance firms quoted at the NSE is affected by the selected independent variables. This study therefore concluded that these variables significantly affect financial performance as depicted by the p value (0.000) of ANOVA summary. Hence, the study recommends a check on each variable for listed insurance companies listed at NSE in order to enhance their performance significantly.
CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Financial risk is uncertainty in returns and may include risks such as; credit risks, underwriting risks and liquidity risks (Panigrahi, 2013). Globally, insurance industry is one of significant sectors of the financial system in most countries. In terms of the countries industrialization goals insurance has played a major role in the country’s economic development (Amal, 2012). One of the key techniques in the management of risks is taking up of insurance to protect against loss or damage. However, insurance companies are also businesses which are out to make profits and create value for their shareholders’ wealth meaning that in their role of cushioning the impact of loss and damage for their clients, they are also exposed to various financial risks which may affect their profitability and thus financial performance (Ana-Maria & Ghiorghe, 2014). This paper seeks to focus on various financial risks and their impact they have on a financial performance, more specifically, insurance companies. The study was anchored on following theories; Credit Risk Theory, Enterprise Risk Management Theory. Credit Risk Theory was introduced by Melton (1974) states that states that the circumstances resulting to occurrence of risk originates from firms’ asset evolution through a diffusion process with constant variables. Enterprise Risk Management Theory states that firms can either manage one risk separately, by dividing them into various sections and dispersing them from one sphere; or a summation of risks combined within a synchronized and strategically set framework (Mikes, 2005). On the other hand, Agency Theory entails delegating decision making authority to the agent by the principal (Jensen & Meckling, 1976)

Globally and locally the insurance industry is moving towards a more customer oriented product where the services offered are geared solely at attracting more customers than ones competitors, this
is achieved by enhancing customer experiences, offering simplified products, allowing for flexible premium payment options and the most effective tool being price undercutting (Arif, & Showket, 2015). Innovation and flexibility is also a hallmark of the modern insurance market where players tend to offer the most extensive cover possible, at the lowest price possible and at the most flexible payment option has been as a result of the ever increasing competition among the industry players (James & Kepha, 2013)

1.1.1 Financial Risks

According to Arif and Showket (2015) financial risk refers to the possibility that shareholders may lose their monies because of the company’s use of debt where the company’s cash flows are insufficient to meet its financial obligations. According to Panigrahi (2013) financial risk is the corporate inability to meet expected and unexpected demand for cash through generated cash flows. The financial risk is the risk at which the corporate institutions do not have enough cash to use for its own obligation. It is a term used to explain a situation where a company does not hold enough cash to pay suppliers, banks, and other parties on time. These risks may range from technical provision risk, liquidity risk, reinsurance risk, credit risk, solvency risk and underwriting risk and many more (Boermans, 2011).

The challenge of the financial risks exposure is still a major issue as the mitigation against the risks has not been successfully attained. This is due to the fact that settling on a model that can consolidate all these factors and offer an appropriate tool for mitigation all at once is yet to be achieved (Ernst et al., 2010). Underwriting risk is the main financial risk faced by insurance firms where the cost incurred to cover a claim may exceed total premium paid. Therefore, underwriting and effective claim management function might significantly minimize expenses and losses that might in turn boost performance (Mirie, 2015).
It is therefore crucial that insurance firms identify, analyze, evaluate, treat, monitor and review the potential risks they are exposed to, and then ensure they implement proper risk management techniques to minimize the negative impact these risks may have on the organization (Claudio, 2009). The financial risks exposure to the insurance firms can be measured through various financial ratios. Liquidity risk was measured as ratio of current assets to liquidity ratio. The ratio of claims/loss incurred to premium earned was used to measure the underwriting risk. Solvency risk was measured as ratio of total liabilities to total assets. Reinsurance risk was measured as ratio of premium ceded to total assets (Sisay, 2017).

1.1.2 Firm financial Performance

According to Leah (2008) financial performance refers to the results attained from achieving external and internal objectives of a company. It is a standard measure of the ability of the company continued growth, survival and competitiveness. Financial performance of a firm is the level with which a firm’s financial goals are achieved. It’s the process by which the result of a firm is measured in terms of momentary value (Penman, 2007). It is a measure used to gauge the success of a firm and it can be used for comparison purposes. Therefore, financial performance is critical for firm existence. How effective and efficient a firm is in managing its resources for operations, financing and investing activities reflects in its financial performance (Pandey, 2004).

Financial statement analysis plays an important role to help appraise the financial performance of a firm by extracting useful ratio which help management in making decisions and take corrective action to improve performance (Mudida and Ngene, 2010). Financial performance is overall output of a firm over a specific period of time which is determined by profits or losses. By examining the financial performance of a firm, decision-makers can ascertain the firm’s strategic outcomes in monetary terms
objectively (Penma, 2007). Financial performance can be attributed to a subjective measure of the firm effectiveness through asset utilization to generate revenues. This also applies to the assessment of overall financial health of the firm over a given time period while making comparison with other players across the industry (Mirie, 2015).

According to Waweru and Kalani (2009) the main financial performance measures are; the return on assets (ROA), return on equity (ROE) and Tobin’s Q among others. Return on assets (ROA) refers to the measure of the management efficiency in generation of the revenues by using the assets at their disposal. Tobin’s Q is computed by dividing the total market value with the total asset value. It looks at the cost of replacing a company’s assets and helps in determining whether the company stock over/under valued. On the other hand, return on equity refers to the measures of how much profit can be generated from the shareholders’ investments. It is computed by net income after taxes by the total shareholders’ capital. Therefore, financial performance is a major factor in the insurance industry as a key sector that contributes greatly to the Kenyan economy.

1.1.3 Financial Risks and Financial Performance

Insurance firms are faced with various financial risks which are likely to have an impact on their performance in one way or another. The discussion on financial risk and its relation to financial performance by different theoretical and empirical researches gives different contradictory explanation making it difficult to make conclusive decision. Theoretically, Markowitz (1952) in his modern portfolio theory states that investors should diversify their investment portfolios as a measure of reducing financial risks. Enterprise Risk Management Theory supports that firm with an effective ERM are more competitive because it provides the decision makers with the information and motivation to maximize return that reinforces the firm which enables it meet long-term strategic objectives (Emmett & Vaughan, 2003).
The management of the risks is critical towards maintaining the firm’s position in the market amid tough competition in the market. Wipf and Garand (2008) notes that key performance indicators in insurance companies include; Product Value Ratios that indicates the insurance company’s performance in limiting its net commissions paid, underwriting expenses and overheads while attaining a given level of premium, product awareness and satisfaction as indicators that signal the awareness and the competitive and service quality Indicators that shows the responsive in service and how well the insured understand the product. Thus, there is a need for insurance firms to maintain an optimal level of underwriting and claims management standards to prevent exposure to underwriting losses for improved performance (Holton, 2004).

Muya (2013) found that interest rate risk, innovation, competition and liquidity risk affect performance of insurance companies. The study concluded that insurance companies invest more on liquid investments. The liquid investments enable insurance companies to honor claims in case their underwritings revenue is not sufficient to cover the claims. Kashish and Kashram (1998) found that firm’s age is important in the determination of profitability. Older firm’s benefits from wide experience which enables the company efficiently utilize its resources and thus reduce its cost of operations thus increasing its profitability compared to those upcoming insurance companies.

1.1.4 Listed Insurance companies in Kenya

The Nairobi Stock Exchange (NSE) has played an important role in mobilizing resources and providing a means by which companies can raise capital. Insurance Regulatory Authority (IRA) is the main regulator of all insurance firms in Kenya which mandated to oversee the operations of the insurance industry. According to IRA report (2017) there are a total of 55 insurance companies licensed in Kenya. Out of the 51 insurance companies only 6 are listed at the NSE as shown (appendix I). Other licensed players include 133 investigators, 114 motor assessors, 27 loss adjusters, 7 risk
managers, 3 claims settling agents and 19 banc assurance insurance agents (IRA, 2017). Kenya being the leading insurance market in East Africa has subsidiaries insurance firms within this region. Insurance companies seek to provide financial protection and risk management to people and business. There are two main insurance products offered by the firms. These include life and general insurance products.

General insurance offers protection against risks that result to loss or property damage. Life insurance provides for long-term savings through accumulating funds that can be utilized by policy holders at several stages of life. The number of insurance companies in the industry has increased from 39 in 2001 to 52 at the end of 2017. The insurance industry in Kenya has had a stable growth in the last decade. According to IRA (2017) the insurance premium increased by 10.4% when compared to the previous year where about 50% of the total premiums was related to general insurance business. The asset base for the industry has also increased from kshs. 478.75 billion in 2016 to kshs 532 billion in 2017 respectively. The income generating assets increased with about 10% in this period. However, there were changes in the in the insurance Act through the finance Act 2015. The new provisions overruled the minimum capital requirements that were in place. These provisions had an effect on the financial performance of the insurance because the firms had to oblige (IRA, 2017).

Insurance companies just like any other corporate firms face many risks which should be well and properly managed. There are many challenges facing this sector in Kenya ranging from structural weaknesses, fraud by both clients and employees, high claims, delays in claim settlement, delayed premium collection, lack of liquidity leading to collapse of some firms, low economic growth, poor governance, low penetration of insurance services and industry saturation (Kamau, 2010). The duty to manage these operational risks has been left with the managers or managing operational risks to
line managers which is catastrophic. It is essential to develop a program which can be monitored and be incorporated into the whole process of evaluating any potential risks (Kinyua, 2010).

1.2 Research Problem

Financial risks are inherent in every firm and firms should be embedded in determining the risks that affect their performance in an effort to manage them. Insurance firms assume risks of other businesses and focus should be on how to reduce cost related to the risk assumption to avoid financial loss (Arif et al., 2015). Insurance firms face risks of taking excessive risks that might attract huge insurance losses and increase management expenses in claims investigation, claims payments and monitoring costs. Therefore, adequate risk management process is necessary for insurance firms’ enhance their financial performance. Adrian (2014) found that financial risk negatively affected financial performance. On the other hand, modern portfolio theory by Markowitz (1952) show the risk appetite of investors where financial institutions are said to be risk averse and tend to adopt discriminative risk management practices to reduce risk.

The insurance firms are facing various systematic and unsystematic risks that are limiting their growth. For instance, structural weakness, delayed premium payment, limited penetration of the insurance services, increasing level of claims and liquidity challenges. Several insurance firms have collapsed as a result of the above mentioned risks amongst others (IRA, 2017). There is need to improve on the regulatory framework and management of insurance firms to enhance financial performance. These risks exposure is what has motivated the study in an effort to determine the effect of financial risks on financial performance (Amal, 2012).

Globally, Arif and Showket (2015) found that solvency risk, liquidity risk, capital management risk and firm size had a positive significant relationship with financial performance while underwriting
risk had an insignificant relationship. Eneyew (2013) concluded that the relationship between liquidity risk and credit risk was negative and statistically significant to profitability while foreign exchange risk and interest rate risk had an insignificant relationship. Yemane and Raju (2015) found that the relationship between board compensation, firm size and board meeting was positive and statistically significant to financial performance while gender diversity, board size and board committees had no significant impact. Sisay (2017) found that financial risk has a significant positive effect on financial performance of insurance firms.

Locally, Mirie (2015) concluded that management competency, equity capital and leverage were positively related to financial performance while ownership structure and firm size were negatively related. Wanjiku (2016) found that foreign currency risk, credit risk and interest rate risk had positive relationship with firm efficiency. Chipa and Wamiori (2017) concluded that the financial risk management has a positive statistical effect on financial performance of firms in the insurance sector. Hakima (2017) that liquidity and debt ratio had a positive significant relationship with financial performance. The relationship between firm size and return on assets was negatively insignificant.

Previous empirical studies on financial risk and financial performance have presented somewhat conflicting results, others agreeing some disagreeing with important theories of risk management. The contradictory results justify further research. Also most of studies done in Kenya have focused on relationship between risk management and financial performance, making it impossible to give a convincing outcome and henceforth the need to do this study. Therefore, this study seeks to add knowledge on the topic of the study and attempts to give an explanation to the question, what is the effect of financial risk on financial performance of insurance firms listed at the NSE?
1.3 Objective of the Study

The general objective of the study is to establish the effect of financial risk on the financial performance of listed insurance firms in Kenya.

1.4 Value of the Study

The findings of the study benefits insurance companies to understand the financial risks they are exposed to and therefore put in measures to curb against them hence reducing or eliminating losses. The management personnel of the listed insurance firms are in a key position to understand the determinants of financial performance which in turn can play a bigger role in determining their operations. They will find the study valuable in making decisions regarding financial risks as well as how to increase investor confidence generally through managing various financial risks.

Empirical findings are useful to policy makers such as IRA and government in setting policies that conforms to risk management practices. This study also informs the executive management of IRA on how to better regulate the industry in terms of policy as pertains to reinsurance and performance of insurance companies. Scholars and academicians in the finance discipline can also use the study recommendations for further study to conduct future studies to broaden the knowledge on IRC. Furthermore, they can consider the methods and results of this research and possibly extend it in various directions. The findings provide a great opportunity for the scholars to conduct further research on financial risk management and how it affects the financial performance of insurance companies.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents the theoretical framework applied in the study and reviews previous studies done on financial risk and financial performance. It contains the theoretical review, determinants of financial performance, empirical review, conceptual framework and summary of literature review.

2.2 Theoretical Reviews

This presents review of the relevant theories that explains the associations between financial risk and the financial performance. This study was anchored by the following theories; Credit Risk Theory, Enterprise Risk Management Theory and Agency Cost Theory.

2.2.1 Credit Risk Theory

In 1974 Melton introduced the theory of credit risk which states that the circumstances resulting to occurrence of risk originates from firms’ asset evolution through a diffusion process with constant variables. The model formed is structural and depends on issuer’s specific variable. Loss in firm asset can be as a result of default or events outside the control of the firm and also industry specific factors. The inability to repay can be explained from the initial to maturity stages of a corporate bond (Longstaff and Schwartz, 1995).

Even though facts point out that credit risk has been in existence for quite a long period of time. The topic has not been sufficiently studied. Literature review before 1974 on credit risk points out those actuarial methods of credit risk was being used despite its difficulties as a result of reliance on past data. In the recent past various quantitative approaches of analyzing risk have come into play. They
include, reduced form appraisal structural approach and incomplete information approach (Ogilo, 2012).

2.2.2 Enterprise Risk Management Theory

Enterprise Risk Management Theory developed by (Mikes, 2005) states that an organization can either cope with risks by either tackling one risk separately, by dividing them into various sections and dispersing them from one sphere; or a summation of risks combined together within a synchronized and strategically set framework. The initial approach is known as enterprise risk management. The approach emphasizes that the most successful organizations are such because of them having effective ERM which earns them a sustainable competitive edge over those that single out risks and tackle them singly. The main logic behind the approach is that, measurement and management of risks procedurally and structurally and provision of key decision makers with the information and motivation to maximize return, reinforces the firm which enables it meet long-term strategic objectives. Effective implementation of ERM can boosts organizations competitive advantage and maximizes shareholders value (Arena et al., 2010).

The implementation of ERM is however not upfront even though it is conceptualization is quite direct. All financial institution including insurance firm face financial risks including foreign exchange risk, legal risks, credit risks, operational risks, liquidity risks and counterparty risks among others to some extent. Banks operate in an economic environment which is volatile. Emmett and Vaughan (2003) encourage most organizations to implement corporate risk management. This theory provides a comprehensive framework for this study for specification and measurement of investment risk by insurance firms hence enables the development of relationships between financial risks and firm performance.
2.2.3 Agency Theory

Agency theory is anchored on contractual relationship between two parties, the principal and the agent with an obligation to perform some services. It entails delegating decision making authority to the agent by the principal (Jensen & Meckling, 1976). In addition, the agent is given powers to bring the principal into a contractual relationship with the third party without making reference to him or herself (Wright & Oakes, 2002). This theory traces its grounds to mismatch arising from information asymmetry between shareholders, debt holders, and management about earnings distribution which can lead to firms engaging in high risk profile projects or failing to engage in positive net profit projects (Mayers and Smith, 1987).

Smith and Stulz (1985) points out that agency issues have been shown to influence managerial attitudes toward risk taking and hedging in the field of corporate risk management. Consequently, agency theory implies that defined hedging policies can have important influence on firm value (Fite and Pfleiderer, 1995). According to Bowie et al. (1992), agency theory points out that, in imperfect labor and capital markets, corporate managers will endeavor to maximize their personal interest at the expense of shareholders. Managers are able to advance their personal interest due to their ability to access both external and insider information. This theory is relevant to this study since it informs the organization structure/governance variable and risk affinity hence plays a critical role in credit risk management decisions.

2.3 Determinants of Financial Performance

A firm’s financial performance is basic to its wellbeing and survival of a company. A company's elite mirrors its adequacy and productivity in the administration of its assets for operational, venture and financing exercises (Naser & Mokhtar, 2004). Several factors that affect a firm’s financial
performance are financial risk (liquidity risk, reinsurance risk, solvency risk, underwriting risk and technical provision risk), firm size and asset quality.

2.3.1 Financial Risk

Financial risks are risks associated with financial operations in insurance firms and they include reinsurance risk, liquidity risk, solvency risk and underwriting risk. Reinsurance risk occurs when an insurance companies suffers high claims beyond its ability to meet the obligations. Therefore, reinsurance is a process where an insurance firm agrees to insurer another insurance firm against a portion or all losses that the reinsured may suffer (Lee, 2012). Through reinsurance firms are able to cushion themselves from extraordinary losses. Liquidity indicates a firm’s readiness to settle both expected and unexpected demands of cash at any time (Gamlath & Rathiranee, 2013). Thus, firms ought to be liquid to maintain its operations and remain in existence for the longest time possible. Solvency refers to capability of firms meeting their long-term obligations and sustains continued growth and expansion. Underwriting risk is a possibility that the premiums pooled by the insurance firms may not be enough in cost coverage (Ernst et al., 2010).

2.3.2 Corporate Governance

Hülya (2016) argued that corporate governance of a firm plays a key role in financial performance of firms since key decisions by managers directly affects the financial outcome. They found that good corporate governance practices lead to higher chances of better performance and business survival. Although conflict of interest may affect relationship between managers and shareholders, the board of directors helps in resolving these issues. Therefore, through oversight managers are forced to pursue investments that are beneficial and contribute to the firm’s financial performance to guarantee shareholders fair returns.
2.3.4 Financial Leverage

Meanza (2014) found out that financial leverage was negatively and significantly linked to profitability of insurance firms. Research by Ansah-Adu et al. (2012) found that financial leverage was positively and significantly linked to profitability. Contrary to this, Charumathi (2012) found that micro-life insurers were insignificantly linked to financial leverage. Bobakova (2013) studied the determinants of profitability of Indian life insurers and the findings showed that financial leverage, size of the firm were significantly linked to profitability. This view coincides with the suggestions of Chen (2014) who found that financial leverage was significant related to ROA. Well capitalized firms are more profitable while above-average growth of loans impacts positively on profitability.

2.3.3 Firm Size

Size of a company determines the amount of debt that the company can access for investments or project financing. Large firms are advantaged due to economies of scale and use of average cost of production because of efficiency in their operations and capacity to invest in sophisticated technologies. It is easier for larger firms to access debt as compared to their smaller firms because large firms maintain a positive corporate reputation that is got from their stakeholders (Cheng, 2008). Due to instability of smaller firms, most financial institutions get discouraged to give credit to these smaller firms. Smaller firms record high growth rates that necessitate the need for debt while large firms are stable and established. According to Meanza (2014) larger companies are competitive than their smaller companies in exploiting economies of scale, this results to high levels of profitability. When size of a company increases, its performance is likely to increase (Alchian & Harold, 2011). However, Berger and Ofek (2015) indicate that for large companies, the impact of their size might be adverse due to bureaucracies, company structure among other factors.
2.4 Empirical Review

Financial risks are a subject of concern by many investors. Therefore, this matter has attracted the attention of researcher in the recent past. There are many empirical studies on financial risk and firm performance, but these studies have outlined mixed results. This section covers various studies conducted both globally and locally. Globally, Arif and Showket (2015) researched on the relationship of financial risk and financial performance of insurance firms’ in India. The study used descriptive research design. The population of the study was 24 insurance firms in India and a sample of 8 life insurance firms was taken from the population for a period from 2006-2013. Secondary data on the predictor variables (liquidity risk, capital management risk, solvency risk, firm size and underwriting risk) was collected from the firm’s annual reports. Data analysis was done through SPSS and multiple linear regression model was used to show the relationship between independent and dependent variables. The study concluded that solvency risk, liquidity risk, capital management risk and firm size had a negative significant relationship with financial performance while underwriting risk had an insignificant relationship. This study creates a contextual knowledge gap which the current study seeks to fill because it was done in India and therefore, cannot be generalized in Kenya.

Eneyew (2013) carried out a study on the effect of financial risks on profitability of commercial banks in Ethiopia. The study adopted descriptive research design. The population of the study was eight commercial banks for a period of 2000-2011. Secondary data was collected from the commercial banks financial statements and macroeconomic factors data was collected from relevant sources. The study concluded that the relationship between liquidity risk and credit risk was negative and statistically significant to profitability while foreign exchange risk and interest rate risk had an insignificant relationship. The study creates a contextual knowledge gap which the current study seeks to feel because it was done on banking sector in Ethiopia.
Yemane and Raju (2015) researched on the impact of corporate governance on performance of insurance firms in Ethiopia. The study used descriptive research design. The population of the study was 15 insurance firms operating in the market but a sample of 10 firms was used. Secondary data was collected from annual reports of the firms for a period of 2009-2013. Data was analyzed through regression analysis to show the relationship among the predictor variables and responsive variable. The finding indicated that the relationship between board compensation, firm size and board meeting was positive and statistically significant to financial performance while gender diversity, board size and board committees had no significant impact. This study presents a contextual knowledge gap which the current study seeks to fill because it focused on corporate governance.

Sisay (2017) carried out a study on the effect of financial risk on performance of insurance firms in Ethiopia. Descriptive research design was employed in the study. The population of the study was 16 privately owned insurance firms. The study used six independent variables (solvency risk, underwriting risk, credit risk, technical provision risk, credit risk and liquidity risk) while return on asset was the dependent variable. Secondary data was collected from annual reports of the firms for period covering 2000-2015. Data was analyzed through E-view software and regression analysis was used to show the relationship between the variables. The study found that financial risk has a significant positive effect on financial performance of insurance firms. The study creates a contextual knowledge gap because it was done in Ethiopia and cannot be generalized in Kenyan sector.

Locally, Mirie (2015) researched on the determinants of financial performance of insurance firms in Kenya. Descriptive research design was adopted for study purposes. The population of the study comprised 23 general insurance firms. Secondary data was used and was collected from financial statements of the firms for period covering 2009-2012. Data was analyzed through multiple linear regression analysis. The study concluded that management competency, equity capital and leverage
were positively related to financial performance while ownership structure and firm size were negatively related. The study creates a conceptual knowledge gap because it focused on overall determinants of financial performance and the current study is specific on financial risks.

Wanjiku (2016) researched on the effect of financial risks on the efficiency of firms listed in the NSE. The study employed descriptive research design. The population of the study comprised of the 63 firms listed in the Nairobi Securities Exchange. Secondary data was collected from firms’ annual reports for period covering 2011-2015. Multivariate regression model was used in data analysis to show the relationship between the independent variables and dependent variables. The study found that financial risks (interest rate risk, foreign currency risk, liquidity risk and credit risk) had positive relationship with efficiency. The study focused on all listed firms but the current study is on insurance sector only.

Chipa and Wamiori (2017) did a study on the effect of risk management on financial performance of insurance firms in Mombasa County. The study employed descriptive research design. The population of the study was 15 insurance firms with offices in Mombasa. Primary data was collected through 150 administered questionnaires to senior management while secondary data was collected from firms’ annual reports for period covering 2010-2015. Data was analyzed SPSS and quantitative were employed. The study concluded that the financial risk management has a positive statistical effect on financial performance of firms in the insurance sector. The study creates a conceptual knowledge gap because it focused on risk management process and the current study is looking at financial risks.

Hakima (2017) researched on the effect of capital structure on financial performance of listed insurance firms at the NSE. The study adopted descriptive research design. The population of the study was six listed insurance firms. Secondary data was collected from annual reports and financial statements of the listed firms for period covering 2011-2016. Data analysis was through multiple
regression and correlation analysis models. The finding indicated that liquidity and debt ratio had a positive significant relationship with financial performance. The relationship between firm size and return on assets was negatively insignificant. The study creates a conceptual research gap which the current study seeks to fill because it focused on capital structure.

2.6 Conceptual Framework

The Conceptual framework describes the relationship between independent and dependent variables of the study. This research seeks to establish effect of underwriting risk, solvency risk, reinsurance risk and liquidity risk, financial leverage and firm size (independent variables) on financial performance (dependent variable).

![Conceptual Framework Diagram](image)

**Independent Variable**
- Financial Risk
  - Underwriting risk
  - Solvency risk
  - Reinsurance risk
  - Liquidity risk

**Dependent Variable**
- Financial Performance
  - ROA

**Control Variables**
- Financial Leverage
- Firm Size

Source: Researcher, 2018
2.7 Summary of Literature Review

It can be deduced that the empirical studies support theories that anchor this study. They include credit risk theory, agency theory and enterprise risk management theory. The literature has shown that a variety of factors affect financial performance of insurance firms, however, from the empirical findings, the most notable financial risks includes; underwriting risk, reinsurance risk, liquidity risk and solvency risk. Empirical studies have demonstrated a mixer of reaction from findings obtained from various studies carried out locally and internationally. However, limited studies have zeroed in on the link between financial risk and financial performance in the insurance industry particularly insurance companies.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methodology that was applied to realize the research objective. Research methodology is an approach employed to collect and analyze data in order to address research question. Sections discussed in this chapter are research design, study population, data collection and analysis.

3.2 Research Design

Research design can be defined as an outline of the actual measures, adopted by an investigator for testing the correlation involving dependent variables as well as independent variables (Kothari, 2008). Descriptive survey research design was adopted for the study. A descriptive study involves a description of all the elements of the population. The descriptive research design is chosen based on the research objectives and the fact that data and information can be obtained using the method without changing the environment. Descriptive survey research design is appropriate for this study since it provides an in depth evaluation of particular situations in seeking answers to the research question.

3.3 Study Population

Population of a study is bringing together the various elements with which an assumption can be made (Cooper & Schindler, 2003). Insurance companies listed at the NSE in the periods under study were six. For this study the researcher is of the opinion that since only six firms are listed at the NSE there was no need of any sampling to be carried out. All the six firms were selected to form part of the target population. (Appendix I).
3.4 Data Collection

Data collection makes mention of the organization of data in such a way that it can be used to give results. For this study the researcher used secondary data. This type of data is readily available in the annual reports of the firms and NSE published handbooks. The data obtained from financial reports includes; firm’s annual net income, total liabilities, claims incurred and premium earned, premium ceded and total assets, current assets and liabilities.

3.5 Diagnostic Tests

The nature and strength of the relationship between the dependent and independent variables in linear regression model was measured through various diagnostic tests such as normality, Multicollinearity test among the variables and autocorrelation.

3.5.1 Normality Test

Normality test is done because it is impractical to achieve accurate and reliable deductions about the reality on whether the population from which the sample is derived is normally distributed (Ghasemi & Zahediasl, 2012). This study used Shapiro Wilk test of normality to assess whether the data is normally distributed.

3.5.2 Multicollinearity Test

To ensure the data collected is free from biasness and one variable data is not related to another variable data, the study conducted a multicollinearity test. It occurs when there is nearly exact or exact linear relation among two or more of the independent variables. The variance of Inflation was used to test multicollinearity. Whenever the values of VIF les between 1 and 10, then there is no multicollinearity while when the VIF is less than 1 or greater than 10, then there is presence of multicollinearity. When the test fails you should standardize the continuous variables by choosing on
a standardization method on the regression dialog box. For instance, you may choose variable centering approach (Cohen, West & Aiken, 2013).

### 3.5.3 Autocorrelation Test

Autocorrelation is the measurement of the similarity between a certain time series and lagged value of the same time series over successive time intervals. It was tested using Durbin-Watson. This test reports a test statistic with a value of 0 to 4 where 2 is no autocorrelation, where the statistic is less than two there is positive autocorrelation and where greater than two there is negative autocorrelation (Khan, 2012).

### 3.5.4 Unit Root Test

Unit root test is conducted to ensure that the variables are stationary. Gujarati (2003) posit that a data has no unit roots if the variance, autocorrelation and mean of the data structure do not vary with different time periods. Unit Root Test is the measurement of whether time series variable is non-stationary and possesses a unit root over successive time intervals. Levin-Lin-Chu test was undertaken to test for panel unit root. This test reports a test statistic with a \( p<0.05 \) variable is non-stationary, where the statistic is \( p>0.05 \) there exists unit root.

### 3.6 Data Analysis

Data analysis involves collection of data, validating the data, coding it and finally checking for any exclusions and mistakes. Statistical software was used for data analysis. For this study the researcher used SPSS version 21 for this exercise. Computation of regression analysis was done to achieve this study’s objective. Annual reports published were used to extract data from the financial statements for the years under review which is 2012-2016. Multiple regressions was used to assess what effect financial risks has on ROA and also check influence of variables.
3.6.1 Analytical Model

A responsive variable is the financial performance while the predictor variables are underwriting risk, solvency risk, reinsurance risk and liquidity risk, financial leverage and firm size

\[ Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \epsilon \]

Where;

\[ Y = \text{Financial Performance}; \text{ measured by ROA (Net Income/ Total Asset)} \]

\[ X_1 = \text{Underwriting risk}; \text{ measured by ratio of loss/claim incurred to premium earned} \]

\[ X_2 = \text{Solvency Risk}; \text{ Measured by ratio of Net Income to total Liabilities.} \]

\[ X_3 = \text{Reinsurance risk}; \text{ measured by as a ratio of Net premium to total assets} \]

\[ X_4 = \text{Liquidity risk}; \text{ measured by ratio of current assets to current liabilities} \]

\[ X_5 = \text{Financial Leverage}; \text{ measured by ratio of Total Liabilities to total assets} \]

\[ X_6 = \text{Firm size}; \text{ measured by natural log of total assets} \]

\[ \alpha = \text{Constant; y intercept that is, the value of y when x is equal to zero} \]

\[ \beta = \text{Coefficients of the model} \]

\[ \epsilon = \text{Error term} \]
3.6.2 Test of Significance

The F and t tests was used to test statistical significance where F test was used to determine the significance of the analytical model while t – test was used to determine the significance of the coefficients of the regression model where a t value greater than two (t>2) was be considered significant at 95% confidence level.
CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This section represents study’s findings established on the objectives of research. This chapter focused on collected data analysis from financial statements to determine the impact of financial risk on financial performance of insurance companies quoted at the NSE. Using descriptive statistics, correlation analysis and regression analysis, the results of the study were presented in form of tables for easy interpretation.

4.2 Diagnostic Tests

The researcher carried out diagnostic tests on the collected data. A test of Normality, Multicollinearity, autocorrelation and unit root test was undertaken.

4.2.1 Normality Test

The Shapiro Wilk test was used to verify if normality exists. As indicated in Table 4.1 below, data collected for analysis is normally distributed. Results indicated that the null hypothesis was rejected as the p value was greater than .05.

Table 4.1: Normality Test

<table>
<thead>
<tr>
<th></th>
<th>Shapiro-Wilk</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Performance</td>
<td>.972</td>
<td>36</td>
<td>.469</td>
</tr>
<tr>
<td>Underwriting Risk</td>
<td>.956</td>
<td>36</td>
<td>.165</td>
</tr>
<tr>
<td>Solvency Risk</td>
<td>.927</td>
<td>36</td>
<td>.120</td>
</tr>
<tr>
<td>Reinsurance Risk</td>
<td>.938</td>
<td>36</td>
<td>.064</td>
</tr>
<tr>
<td>Liquidity Risk</td>
<td>.844</td>
<td>36</td>
<td>.324</td>
</tr>
<tr>
<td>Financial Leverage</td>
<td>.968</td>
<td>36</td>
<td>.364</td>
</tr>
<tr>
<td>Firm Size</td>
<td>.963</td>
<td>36</td>
<td>.264</td>
</tr>
</tbody>
</table>

4.2.2 Multicollinearity Test

As shown in Table 4.2 below, all the statistics reported a VIF value of less than 10. This means that in the current study, the problem of multicollinearity is not present between the explanatory variables. Thus the research finding can be interpreted with much confidence.

Table 4.2: Test for Multicollinearity

<table>
<thead>
<tr>
<th>Model</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Underwriting Risk</td>
<td>.556</td>
</tr>
<tr>
<td>Solvency Risk</td>
<td>.343</td>
</tr>
<tr>
<td>Reinsurance Risk</td>
<td>.489</td>
</tr>
<tr>
<td>Liquidity Risk</td>
<td>.553</td>
</tr>
<tr>
<td>Financial Leverage</td>
<td>.392</td>
</tr>
<tr>
<td>Firm Size</td>
<td>.458</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Financial Performance

Source: Research Findings (2018)

4.2.3 Autocorrelation

Autocorrelation test was done to check if there was similarity between the data and their lagged value in time series.

Table 4.3: Test for Autocorrelation

<table>
<thead>
<tr>
<th>Model</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.597</td>
</tr>
</tbody>
</table>


The study used the Durbin Watson test to test for autocorrelation presence. The Ho of this test was that autocorrelation exists. Results indicated that reject the null hypothesis thus no autocorrelation.
4.2.4 Unit Root Test

The study used the Levin-Lin-Chu test to test for unit root test. Results as shown in Table 4.4 below indicated that the all the variables were stationary with p<0.005. This shows that the result will hold in the future.

**Table 4.4: Unit Root Test**

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Statistic(Adjusted)</th>
<th>P-Value</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Performance</td>
<td>-5.5552</td>
<td>0.000</td>
<td>Stationary</td>
</tr>
<tr>
<td>Underwriting Risk</td>
<td>-9.0265</td>
<td>0.000</td>
<td>Stationary</td>
</tr>
<tr>
<td>Solvency Risk</td>
<td>-6.5443</td>
<td>0.000</td>
<td>Stationary</td>
</tr>
<tr>
<td>Reinsurance Risk</td>
<td>-47.8135</td>
<td>0.000</td>
<td>Stationary</td>
</tr>
<tr>
<td>Liquidity Risk</td>
<td>-4.200</td>
<td>0.000</td>
<td>Stationary</td>
</tr>
<tr>
<td>Financial Leverage</td>
<td>-3.7616</td>
<td>0.001</td>
<td>Stationary</td>
</tr>
<tr>
<td>Firm Size</td>
<td>-3.0984</td>
<td>0.001</td>
<td>Stationary</td>
</tr>
</tbody>
</table>

4.3 Descriptive Analysis

ROA was the dependent variables of the firm while underwriting risk, solvency risk, reinsurance risk, liquidity risk, financial leverage and firm size are the independent variables during the period 2012-2017 for Insurance firms listed at the NSE. Results of descriptive statistics are shown in Table 4.5 below:
Table 4.5: Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>36</td>
<td>.0261</td>
<td>.0690</td>
<td>.046560</td>
<td>.0112321</td>
</tr>
<tr>
<td>X1</td>
<td>36</td>
<td>.4089</td>
<td>.9981</td>
<td>.741797</td>
<td>.1914114</td>
</tr>
<tr>
<td>X2</td>
<td>36</td>
<td>.3946</td>
<td>.8876</td>
<td>.617231</td>
<td>.1568542</td>
</tr>
<tr>
<td>X3</td>
<td>36</td>
<td>.2606</td>
<td>.8533</td>
<td>.624300</td>
<td>.1599869</td>
</tr>
<tr>
<td>X4</td>
<td>36</td>
<td>1.0423</td>
<td>3.1145</td>
<td>1.803858</td>
<td>.5575170</td>
</tr>
<tr>
<td>X5</td>
<td>36</td>
<td>.5507</td>
<td>.9760</td>
<td>.768603</td>
<td>.1143789</td>
</tr>
<tr>
<td>X6</td>
<td>36</td>
<td>5.3459</td>
<td>6.0252</td>
<td>5.691880</td>
<td>.1805985</td>
</tr>
</tbody>
</table>

Source: Research Findings (2018)

As presented in table 4.4 the average value of the performance of the firms measured by ROA, for 36 observations was 4.65 percent (0.046560) with a standard deviation of 0.01114501, maximum value of 0.06895 and 0.02606 minimum value. The positive ROA indicate that the firms were in average profitable. The standard deviation for the mean value depicts the existence of less disparity across insurance firms listed at NSE.

The average underwriting risk over the 6 years was 0.741789; the maximum was 0.9981 while the minimum was 0.4089. The average form of solvency risk over the 6 years was 0.607715; the maximum was 0.8876 while the minimum was 0.3946. The average reinsurance risk over the 6 years was 0.624294; the maximum was 0.8533 while the minimum was 0.2606.

The liquidity of the firm as measured by current ratio, had a mean of 1.803860, maximum value was found to be 3.1145 and 1.0423 was the lowest value of liquidity in the analysis. The variation from the average was found to be 0.5575074.

The results indicated that the debt ratio is 0.768597 with a maximum of 0.9760 and a minimum of 0.5507. This indicates that all the insurance firms finance their operations by a certain level of debt.
hence they are highly geared. The standard deviation was 0.1614019. Size of firm as measured by log of total assets had a 5.691880 average, a maximum of 6.0252 and a minimum value of 5.3459. The variation from the average was found to be 0.1805985.

4.4 Correlation Analysis

Correlation analysis are used to test whether a relationship exists between two variables and often range between (-1) strong negative correlation and (+1) perfect positive correlation. The study employed the Pearson correlation to analyze the level of correlation. A p-value of 0.05 or less was used to indicate significant correlations.

Table 4.6: Correlation Analysis

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Y</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Performance</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>-.541**</td>
<td>-.614**</td>
<td>.379*</td>
<td>-.098</td>
<td>-.155</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.001</td>
<td>.000</td>
<td>.023</td>
<td>.571</td>
<td>.366</td>
<td>.000</td>
</tr>
<tr>
<td>Underwriting Risk</td>
<td>Pearson Correlation</td>
<td>-.541**</td>
<td>1</td>
<td>.501**</td>
<td>.374*</td>
<td>.006</td>
<td>.054</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.001</td>
<td>.002</td>
<td>.025</td>
<td>.974</td>
<td>.755</td>
<td>.088</td>
</tr>
<tr>
<td>Solvency Risk</td>
<td>Pearson Correlation</td>
<td>-.614**</td>
<td>.501**</td>
<td>1</td>
<td>.099</td>
<td>-.033</td>
<td>-.392*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.002</td>
<td>.566</td>
<td>.850</td>
<td>.018</td>
<td>.000</td>
</tr>
<tr>
<td>Reinsurance Risk</td>
<td>Pearson Correlation</td>
<td>.379*</td>
<td>.374*</td>
<td>.099</td>
<td>1</td>
<td>.087</td>
<td>.506**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.023</td>
<td>.025</td>
<td>.566</td>
<td>.613</td>
<td>.002</td>
<td>.042</td>
</tr>
<tr>
<td>Liquidity Risk</td>
<td>Pearson Correlation</td>
<td>-.098</td>
<td>.006</td>
<td>-.033</td>
<td>.087</td>
<td>1</td>
<td>.015</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.571</td>
<td>.974</td>
<td>.850</td>
<td>.613</td>
<td>.933</td>
<td>.648</td>
</tr>
<tr>
<td>Financial Leverage</td>
<td>Pearson Correlation</td>
<td>-.155</td>
<td>.054</td>
<td>-.392*</td>
<td>.506**</td>
<td>.015</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.366</td>
<td>.755</td>
<td>.018</td>
<td>.002</td>
<td>.933</td>
<td>.684</td>
</tr>
<tr>
<td>Firm Size</td>
<td>Pearson Correlation</td>
<td>.584**</td>
<td>.289</td>
<td>.621**</td>
<td>.341*</td>
<td>-.079</td>
<td>-.070</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.088</td>
<td>.000</td>
<td>.042</td>
<td>.648</td>
<td>.684</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

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

Source: Research Findings (2018)
The correlation result in Table 4.6 shows underwriting risk, solvency risk, liquidity risk and financial leverage have negative correlation with return on asset for measurement of listed insurance companies’ performance. It refers that when these risks increases, performance of quoted insurance companies at NSE will go down. However, reinsurance risk has positive correlation with return on asset which indicates that while reinsurance risk decreases, at the same time performance of quoted insurance companies at NSE will be decrease. On the other hand, there is a positive correlation between firm size and ROA.

The Pearson of correlation in the above table shows -0.541, -0.614, -0.098, -0.155 for underwriting risk, solvency risk, liquidity risk and financial leverage respectively. This implies that underwriting risk, solvency risk, liquidity risk and financial leverage are highly negatively correlated with return on asset. However, reinsurance risk and firm size has 0.379 and 0.584 respectively coefficient number which is lower estimate of positive correlation contrast to the above variables.

4.5 Multiple Regression Analysis

Financial performance of quoted insurance firms at the NSE was regressed against six predictor variables; underwriting risk, solvency risk, liquidity risk, reinsurance risk, financial leverage and firm size. The regression analysis was executed at 5% significance level. The study obtained the model summary statistics as illustrated in table 4.7 below
4.5.1 Model Summary

Table 4.7: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.837a</td>
<td>.701</td>
<td>.683</td>
<td>.0309724</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Firm Size, Financial Leverage, Liquidity Risk, Underwriting Risk, Reinsurance Risk, Solvency Risk


Regression analysis results presented in table 4.7 above indicate R which is simple correlation coefficient was 83.7% (0.837) which points to a strong relationship between the studies variables. Coefficient of determination ($R^2$) of 0.701 indicates that 70.1% of the variations in financial performance is expounded by the predictor factors in the analytical model (firm size, financial leverage, liquidity risk, underwriting risk, reinsurance risk, solvency risk). While 29.9% of the variation in value of financial performance, is explained by other factors excluded in the model. The value of adjusted R was .683 which indicates that there was 68.5% variation in financial performance of the listed insurance firms due to changes in number of independent variable.
### 4.5.2 Analysis of Variance

**Table 48: Analysis of Variance (ANOVA)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>.407</td>
<td>6</td>
<td>.068</td>
<td>70.698</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>.028</td>
<td>29</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>435</td>
<td>35</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Firm Size, Financial Leverage, Liquidity Risk, Underwriting Risk, Reinsurance Risk, Solvency Risk

**Source:** Research Findings (2018).

The significance value is 0.000 which is less than $p=0.05$. This implies that the model was statistically significant in predicting how underwriting risk, solvency risk, liquidity risk, reinsurance risk, financial leverage and firm size affect financial performance of listed insurance firms at the NSE.

### 4.5.3 Coefficients of Determination

The researchers further computed co-efficient of determination to establish the direction of the relationship between the variables. The co-efficient of determination are shown below.
Table 4.9: Coefficients of Determination

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>-.239</td>
<td>.214</td>
<td>-1.115</td>
<td>.274</td>
</tr>
<tr>
<td>Underwriting Risk</td>
<td>-.010</td>
<td>.035</td>
<td>-.017</td>
<td>-0.288</td>
</tr>
<tr>
<td>Solvency Risk</td>
<td>-.773</td>
<td>.057</td>
<td>-1.070</td>
<td>-13.649</td>
</tr>
<tr>
<td>Reinsurance Risk</td>
<td>.011</td>
<td>.045</td>
<td>.016</td>
<td>.241</td>
</tr>
<tr>
<td>Liquidity Risk</td>
<td>-.015</td>
<td>.010</td>
<td>-.076</td>
<td>-1.593</td>
</tr>
<tr>
<td>Financial Leverage</td>
<td>-.551</td>
<td>.063</td>
<td>-.566</td>
<td>-8.809</td>
</tr>
<tr>
<td>Firm Size</td>
<td>.028</td>
<td>.041</td>
<td>.046</td>
<td>.694</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Financial Performance

**Source:** Research Findings (2018).

Result of regression model in Table 4.8 above indicates that the explanatory variables have differing associations with the dependent variable. The model provided a constant with a negative coefficient at -0.239 (t= -1.115) with p-value of 0.274. Standard error explains more about the mean. When the standard error is small, it means that the sample mean can more accurately reflect the actual population mean. This is evidenced by the small standard error of 0.0310. The model confirmed a statistically significant factor of solvency risk in determining the change in financial performance with a negative coefficient of 0.773 (t= -13.65) and a p-value of 0.000 which is less than 0.05. Liquidity risk and financial leverage had negative coefficient hence negative relationship with ROA but financial
leverage was significant with a p<0.05 (i.e. 0.000). The reinsurance risk and firm size recorded a
positive coefficient meaning a positive relationship with ROA which was not significant.

The following regression equation was estimated:

\[ Y = -0.239 - 0.010X_1 - 7.73X_2 + 0.011X_3 - 0.015X_4 - 5.51X_5 + 0.028X_6 \]

Where,

- \( Y \): Financial performance; measured by ROA (Net Income/ Total Asset
- \( X_1 \): Underwriting Risk; measured by ratio of loss/claim incurred to premium earned
- \( X_2 \): Solvency Risk; Measured by ratio of Net Income to total Liabilities
- \( X_3 \): Liquidity Risk; measured by ratio of current assets to current liabilities
- \( X_4 \): Reinsurance Risk; measured by a ratio of Net premium to total assets
- \( X_5 \): Financial Leverage; measured by ratio of Total Liabilities to total assets
- \( X_6 \): Firm Size; measured by natural log of total assets

This model can be summarized as a unit increase in the underwriting risk results to a reduction in the
financial performance of the firm (ROA) by 0.010; a unit increment in the solvency risk will also
reduce ROA by 0.773 while an increase in liquidity risk by a unit will reduce the performance of the
firm by 0.015. In addition, a unit increase in financial leverage leads to a 0.551 decrease on ROA.
While an increase in reinsurance risk and firm size by one unit will increase ROA by 0.011 and 0.028
respectively.

4.6 Discussion of Research Findings

The research purposed to explore the effect of financial risks on financial performance of insurance
firms quoted at the NSE. The firm’s financial performance was measured using return on asset ratio
was the dependent variable while the financial risks (underwriting risk, solvency risk, liquidity risk,
reinsurance risk), financial leverage and firm size were used as control variables measured as debt to
equity ratio, current ratio and log of total asset respectively were dependent variables. The effect of each of the independent variable on the dependent variable was analyzed in terms of strength and direction. The chapter conducted inferential statistics to find out the effects of financial risks on the financial performance.

The Pearson correlation coefficients between the variables revealed that only reinsurance risk has a positive correlation effect on the financial performance which indicates that while reinsurance risk decreases, at the same time performance of quoted insurance companies at NSE will be decrease. Underwriting risk, solvency risk and liquidity risk have negative correlation with return on asset for measurement of listed insurance companies’ performance. It refers that when these risks increases, performance of quoted insurance companies at NSE will be go down. On the other hand, there is a positive correlation between firm size and ROA. Financial leverage measured by debt ratio was found to influence ROA of insurance firms listed at NSE negatively. Results can be interpreted as increase in debt in the insurance firms would lead to a lower financial performance. These results are in agreement with Eneyew (2013) who found that liquidity risk was negatively insignificantly related with ROA. However, the results contrast the study done by Hakima (2017) found that liquidity and debt ratio had a positive significant relationship with financial performance. The relationship between firm size and return on assets was negatively insignificant.

The results from the regression analysis indicated that, there is a strong (R= 0.837) association between the financial risks and the financial performance of insurance firms listed at Nairobi Security Exchange. While R² of 0.701 indicates that 70.1% of the variations in financial performance is expounded by the predictor factors in the analytical model (firm size, financial leverage, liquidity risk, underwriting risk, reinsurance risk, solvency risk). While 29.9% of the variation in value of financial performance, is explained by other factors excluded in the model. The value of adjusted R
was .683 which indicates that there was 68.5\% variation in financial performance of the listed insurance firms due to changes in number of independent variable. The significance value of .001 from the ANOVA results of the study shows that the model was significant at 5\% significance level with an F-ratio of 68.698.

The level of standard error was 0.0310, which represent the unexplained percentage of the study model indicating that there exist other factors, which can make the model better for prediction purposes. The significance value of .000 from the ANOVA results of the study shows that the model was significant at 95\% significance level with. The model ANOVA analysis thus indicates the capability of the independent variables in providing explanations of about 70.1\% of total variations in the financial performance. Therefore, the overall regression model was statistically significant and suitable in predicting how the independent variables selected affects ROA of listed insurance firms in Kenya.

Other studies also show similar results. Arif and Showket (2015) found that financial risk had a strong relationship with financial performance while firm size had a positive and insignificant relationship. Sisay (2017) found that financial risk has a negative effect on financial performance of insurance firms. Wanjiku (2016) found that foreign currency risk, credit risk and interest rate risk had positive relationship with firm efficiency. Chipa and Wamiori (2017) concluded that the financial risk management has a positive statistical effect on financial performance of firms in the insurance sector.
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter shows the summary of the results of the prior chapters, the conclusions drawn from the study findings and the encountered shortcomings during the course of the study. The chapter makes also policy recommendations, which can be executed to attain high financial performance and firm’s worth. Finally, the chapter shows suggestions for future research studies, which can be helpful to future scholars.

5.2 Summary of Findings

The study sought to investigate the effect of financial leverage on financial performance of on insurance firms listed at the NSE. The independent variable for the study was financial risks (firm size, financial leverage, liquidity risk, underwriting risk, reinsurance risk, solvency risk) and the dependent variable was firm’s financial performance while the control variables included; financial leverage and firm’s size. It adopted descriptive research design. The population consisted of all 6 insurance firms quoted at the NSE. The sampling period was 6 years from 2012 to 2017. The study used quantifiable secondary data which was analyzed using descriptive and inferential statistics to analyze on SPSS version 22. Out of the targeted six insurance firms, the researcher was able to obtain complete data from all the six thus a response rate of 100%. The data sources included all NSE hand books and company’s annual reports for the study period was from year 2012 to year 2017. From the results of correlation analysis, it was established that all financial risks negatively correlated to ROA which had statistically insignificant effect, except reinsurance risk which was positively correlated. Financial leverage had a negative and statistically insignificant relationship with financial performance while firm size was positively related with ROA but statistically insignificant.
The co-efficient of determination shows a strong relationship between the model variables while R-square value was 0.701 implying that the predictor variables selected for this study explains 70.1% of changes in the dependent variable. This means that there are other factors not included in this model that account for 29.9% of changes in financial performance of insurance companies quoted at the NSE. The model is fit at 95% confidence level $p=0.000$. Therefore, the overall multiple regression model was statistically significant and thus suitable in explaining how the financial performance of the insurance firms quoted at the NSE is affected by the selected independent variables.

This model can be summarized as a one-percent increase in the underwriting risk results to a reduction in the financial performance of the firm (ROA) by 1.0%, a 1% increment in the solvency risk will also reduce ROA by 77.3% while an increase in liquidity risk by 1% will reduce the performance of the firm by 1.5%. In addition, an increase in financial leverage leads to a 55.1% decrease on ROA. While an increase in reinsurance risk and firm size by one unit will increase ROA by 11% and 2.8% respectively.

**5.3 Conclusion**

Underwriting risk has negative relationship with Kenyan insurance companies’ performance. This implies that an increase in underwriting risk, certainly lead to a decrease in performance of insurance companies. This concludes that insurance companies suffer high claims beyond its ability to meet the obligations. Solvency risk has shown negative relationship with performance of Kenyan insurance companies. This concludes that an increase in solvency risk, certainly lead to a decrease in performance of insurance companies. It means that higher debt to asset ratio leads to a need of external funding and therefore performance of Kenyan insurance companies could be affected adversely. Reinsurance risk has positive and insignificant effect on listed insurance companies’ performance. This implies that an increase in reinsurance risk, certainly not lead to a decrease in performance of
listed insurance companies at NSE. Even though, reinsurers buffer insurance companies against huge losses, most of the significant claims have been covered by insurance companies. The infant stage of industry sector in the economy made the effect of reinsurance risk on performance of Kenyan insurance companies is unlikely. Liquidity risk has also negative and significant association with Performance of Kenyan insurance companies. This implies that an increase in liquidity, definitely lead to a decrease in performance of Kenyan insurance companies. It refers that holding of excess cash and failed to invest on the available investment lead to the consequence of losing an opportunity of making additional revenue.

However financial leverage measured as debt ratio was found to have a negative relationship with ROA this means that the firms have more in debt than equity stocks in their capital structure. Findings by Simerly and Li (2003) support these conclusions when they argue that capital structure affects financial performance negatively. Fama and Fench (2000) also support the argument. Debt ratio and size were negatively related to ROA while liquidity was found to be positively correlated.

5.4 Recommendations

Based on the findings which are obtained from regression analysis, the researcher has drawn the following recommendations. The study revealed that underwriting risk had negative effect on listed insurance companies’ performance. For this reason, listed insurance companies at NSE should consider to minimize their costs and claims through proper estimation pricing and valuation technique taking in to account risk of specific sector and catastrophic event. In line with this, they have to provide sufficient premium price for insurance policies which takes high insurance coverage. Furthermore, insurance companies should offer adequate diversification of insurance policy portfolio to have better premium earning that can compensate other loss when it’s occurred. Hence, the listed
insurance companies at NSE should give due attention on these areas to reduce the effect of underwriting risk for their performance.

The result disclosed that solvency risk had negative effect on the performance of listed insurance companies at NSE. Therefore, insurance companies should strive to attract more customers and boost their income through provision of enhanced estimation technique on insurance policy premium price to maximize their net premium earning and net asset. Since the country is growing and transforming into the age of industry with the existing paid up capital, it will be likely for insurance companies to face solvency risk. Hence, the researcher recommends to increase their paid up capital for those insurance companies who don’t full fill minimum paid up capital requirement by selling additional stock for the existing as well as new shareholders.

The finding explained that liquidity risk had negative effect on listed insurance companies’ performance. Hence, insurance companies should consider investing their idle of cash on various sectors by diversifying their investment portfolio. Thus, listed insurance companies should employ this directive properly through develop and implement suitable investment portfolio management which can improve their return.

Reinsurance risk had insignificant effect on listed insurance companies. Accordingly, the researcher recommends listed insurance companies to keep up their attempt to cover most of their claim by themselves. As the cost of reinsurance is mostly very expensive as it is paid in hard currency as well as it has less involvement of reinsurers to indemnify the insured at this time. However, they should make preparation as they engage to including high risk portfolio of clients, because Kenyan economy is growing and the countries policy is emphasizing on industrialization which made it likely that gradually the emergence of several huge industries in the country is the probability, so when this
industries demand insurance coverage they should get it without jeopardizing the going concern of the insurance companies.

The analysis indicated that financial leverage had negative effect on listed insurance companies’ performance. Thus, insurance companies should manage their receivable amount properly through providing payment arrangement for their debtors which is suitable to pay their debt. By categorizing each debtor’s outstanding receivable balance with their period, listed insurance companies can offer different mode of repayment for debtors to pay their obligation. For instance, for long period of outstanding receivable balance, insisting the debtors to pay their total debt in installment on certain period of time, it could be quarterly, semiannually or annually.

5.5 Limitations of the Study

One of the limitations of was the quality and type of the data. It is illusion to derive conclusions from the study since the legitimacy of the situation cannot be ascertained. The data that has been used is only assumed to be accurate. The measures used may keep on deviating from one year to another subject to prevailing condition. Secondary data that had already been retrieved was utilized for the study, unlike the primary data which is first-hand information. The study also considered selected determinants and not all the factors affecting financial performance of insurance companies quoted at the NSE mainly due to limitation of data availability.

For data analysis purposes, the researcher applied a multiple linear regression model. Due to the shortcomings involved when using regression models such as erroneous and misleading results when the variable values change, the researcher cannot be able to generalize the findings with certainty. If more and more data is added to the functional regression model, the hypothesized relationship between two or more variables may not hold.
Another challenge that was encountered by the researcher especially during data collection is that some of the variables were quite difficult to get as the industry operates in a different way. Getting liquidity risk for an insurance company is tricky as items under assets and liabilities were not well defined and varied from firm to firm.

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

The scope of this study was for six years 2012-2017. It has not been determined if the results would hold for a longer study period. Furthermore, it is uncertain whether similar findings would result beyond 2017. A longer study period is more reliable as it will take into account major happenings not accounted for in this study.

5.6 Suggestions for Further Research

This study focused on financial risks and financial performance of insurance firms quoted at the NSE and relied on secondary data. A research study where data collection relies on primary data i.e. in depth questionnaires and interviews covering all the 6 insurance firms listed at the NSE is recommended so as to compliment this research.

This study only considered the effect of financial risk on performance of listed insurance companies in Kenya. However, it is recommended for future researchers to further assess other factors of
financial risk that can affect firms’ performance by incorporating additional insurance specific and macro-economic factors. Due to the shortcomings of regression models, other models such as the Vector Error Correction Model (VECM) can be used to explain the various relationships between the variables.

The study concentrated on the last six years since it was the most recent data available. Future studies may use a range of many years e.g. from 2000 to date and this can be helpful to confirm or disapprove the findings of this study. The study limited itself by focusing on insurance firms listed at the NSE. The recommendations of this study are that further studies be conducted on other non-listed insurance firms operating in Kenya.
REFERENCES


Ernst & Young (2010). Analysis and valuation of insurance companies. Center for Excellence in Accounting & Security Analysis, Columbia Business School


APPENDIX I: Listed Insurance Firms at Nairobi Securities Exchange

1. Jubilee Holdings Ltd
2. Sanlam Kenya PLC
3. Kenya Re-Insurance Corporation Ltd
4. Liberty Kenya Holdings Ltd
5. Britam Holdings Ltd
6. CIC Insurance Group Ltd
### APPENDIX II: Data

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