EFFECT OF FINANCIAL RISK ON FINANCIAL PERFORMANCE OF INSURANCE COMPANIES IN KENYA

BY

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A RESEARCH REPORT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, FACULTY OF BUSINESS AND MANAGEMENT SCIENCE, UNIVERSITY OF NAIROBI

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DECLARATION

I, declare that I am the author of this research project report and to the best of my knowledge

it has not been presented for the purpose of obtaining a degree at any other university.

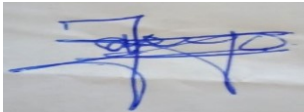Signature: …………………………….   Date: 29/11/2023.……

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This research project report has been submitted for the award of degree of master of

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DEDICATION

This research is devoted to Almighty God for His guidance and blessings throughout this journey, to my parents whose affection and principles have served as my wellspring of motivation, to my son and daughter for the happiness and understanding they displayed during the course of my research, and to my spouse for his unwavering confidence in my capabilities.

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LIST OF ABBREVIATIONS AND ACRONYMNS

AKI	Association of Kenya Insurers
ANOVA	Analysis of Variance
CMA	Capital Market Authority
EBIT	Earnings before Interest and Tax
ERM	Enterprise Risk Management
FP	Financial Performance
IRA	Insurance Regulatory Authority
MFIs	Microfinance Institutions.
MPT	Modern Portfolio Theory
NSE	Nairobi Securities Exchange
OECD	Organizations for Economic Corporation and development
ROA	Returns on Assets
ROE	Returns on Equity
ROI	Returns on Investments
SACCOs	Savings and Credit Co-operatives Societies
SME	Small Medium Enterprises
SPSS	Statistical Package for Social Sciences
VIF	Variance Inflation Factors

ABSTRACT

The study's objective was to examine the effect of financial risk on financial performance of insurance companies in Kenya, utilizing a descriptive research design. The target population comprised 56 insurers and a census survey approach was employed to gather data. Secondary data sourced from annually published financial statements spanning the years 2018 to 2022 formed the basis of the analysis. The study employed descriptive and inferential statistical methods. Financial risk indicators namely liquidity risk, operational risk, counterparty default risk, and solvency risk, were considered in the analysis. To account for variations in the sizes of insurers, size of a firm was included as a control parameter. Correlation analysis revealed a weak negative correlation linking financial performance of insurers and liquidity risk. A moderate negative correlation was identified linking financial performance and operational risk. The correlation between financial performance and counterparty default risk was weak and negative, while financial performance and solvency risk exhibited a substantially weak negative correlation. Conversely, the correlation coefficient between financial performance and the size of the firm was positive and strong. Regression results indicated that the independent variables collectively explained 51.7% of changes in financial performance of insurers with the overall model achieving statistical significance ($p<0.05$). The study concluded that increased exposure to liquidity, operational, and solvency risks significantly reduced insurers financial performance. Regarding the effect of counterparty default risk, it was concluded that it insignificantly lowered financial performance. Lastly, the study found that the size of the firm had a significant positive effect on insurers financial performance. Recommendations arising from the study include urging regulatory bodies and policymakers to formulate policies incentivizing insurance firms to adopt effective risk management strategies for enhanced financial performance. Continuous monitoring of risk-taking by insurance companies is also recommended to ensure industry stability. The study underscores the necessity for insurers to institute robust risk management strategies as internal control measures to mitigate counterparty defaults, liquidity challenges, operational issues, and solvency risks thereby fortifying financial performance. Additionally, the study suggests continued investment by insurers to increase their size as this is expected to result in better financial performance. Future research could explore external risk analysis to assess the risks that insurers in Kenya are exposed to from external sources, such as economic, regulatory, or political factors.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Globalization, liberalism, and the phenomenal development of computer technology have ushered in new economic and financial prospects while also exposing businesses to risks with greater complexity and varied than ever (Basel & Oudat, 2020). Financial risk is one of the threats in the business world today due to environmental changes that have put pressure on firms' efforts to maximize profits. Recurring worldwide financial meltdowns have underlined the necessity for the management of risks by enterprises (Coskun, 2013). Financial risks are brought on by an organization's exposure to the financial markets, interactions with other parties, and reliance on its systems, processes, and workforce. Today, risks are more often seen as potential opportunities than as threats with negative financial effects. Financial risk includes all risks connected to financing and investing activities. Pablo et al., (2020) defines financial risk as the unexpected variation in returns. Muriithi (2016) posited that, financial institutions frequently underperform as a result of improper financial risk management. This is because, enterprises encounter variety of financial risks which could negatively affects their profitability and, consequently, financial performance. Financial risks therefore continue to be a concern for all institutions in the finance sector (Zhongming, Frimpong, & Guoping, 2019).

Financial distress theory, Modern portfolio theory and Agency theory conceptualized this study. Financial distress theory by Gordon (1971) was the anchor theory. The scholar opines that financial distress is the decline in an enterprise's capability to pay its debts propelling an increased likelihood of default. Financial risk can be seen as the rise in default likelihood. According to Whitaker (1999), a company enters the early stages of financial

trouble in the first year when its cash inflows are less than anticipated maturity of its long-term commitments. Modern portfolio theory as devised by Markowitz (1952) demonstrate how portfolio risk can be lowered through maintaining a diverse portfolio. This theory enhances the need for diversifying insurance products, geographical distribution and investing in diversified assets portfolio so as to lower risks. Pioneers of Agency theory, Ross (1973) and Jensen and Meckling (1976) argued that, agents make choices that benefit their own personal interests which can cause conflict inside the agency. The theory directed the study on the need for strengthening monitoring tools like the use of external auditors, effective internal controls and corporate governance so as to achieve operational efficiency. The insurance sector is critical in the overall economic growth through promoting trade and commerce, enhancing monetary stability, creation of new money, funding of development initiatives, and other factors that are vital for achieving sustainable economic growth (IRA, 2017). Risk-taking is a business practice for insurance companies and these companies operate all over the world and deal with a variety of risks that directly affect their profitability. Insurance companies provide comprehensive risk coverage for individuals, groups, and businesses since their core function is taking-up risks transferred to them. The insurance regulating authority in Kenya released an extensive risks procedures and guideline for compliance by the insurance sector. According to the guidelines, an insurance company must manage a number of risks, including operational, market, strategic, legal and regulatory, liquidity, counter-party default, concentration, and re-insurance agreements risks (IRA, 2013). According to Nyarangi and Ngali (2021) it is critical for insurers to manage their exposures to risks.

1.1.1 Financial Risk

The concept of financial risk is increasingly gaining prominence in today's business landscape. According to Fali, Mustapha and Nyor (2020), financial risk is the unanticipated unpredictability of returns. Financial risk as defined by Mutuku (2018), is the danger that arises when corporate institutions lack the funds necessary to meet their own obligations. Financial risk is a company's failure to create enough cash flow to fulfill both planned and unforeseen cash demands (Panigrahi,2013). According to Pablo et al., (2020) the five primary categories of risks relating to the financial aspect of businesses are operational, legal, market, credit, and liquidity risks. Financial risks relating to underwriting, operational, market, credit, liquidity, strategic in the form of reputational and compliance are only a few of potential pitfalls affecting performance of businesses (Ahmad, 2020). Financial risk is connected to the provision of services that jeopardize the flow of funds and financial operations of the company. The challenge of unexpected risk and threats exposure continues to be a significant problem (Ernst et al., 2023).

Companies must manage a number of risks, including operational, market, strategic, legal and regulatory, liquidity, counter-party default, concentration, and re-insurance agreements risks (IRA, 2013). The current study operationalized financial risk in terms of liquidity, operational, solvency and counter-party default as explanatory factors. When external financing is too expensive or unavailable, an organization can finance its activities using its liquid assets (Wani & Dar, 2015). Examining liquidity is necessary since it demonstrates the proficiency of the firm in maintaining normal working capital levels and aptly converting assets to cash. Liquidity risk was measured using current ratio. Operational risk measures the vulnerability triggered by ineffective policies and processes including system failure, fraud, and personnel mistakes and mishaps (Basel II committee, 2017). This was

measured using cost to income ratio. Solvency risk is pertinent in determining if a company is able to fulfill its long-term commitments while also supporting ongoing growth (Menna, 2020). Solvency ratio was employed as a metric for risk of solvency. Examining counter party default risk was important as insurers obtain payments from third parties like reinsurers and investment partners (IRA, 2013). This was measured using debt to net assets ratio.

1.1.2 Financial Performance

Financial performance quantifies the degree to which business objectives are being achieved (Ahmad, 2020). In addition to increasing the market value of individual businesses, corporate performance also supports the expansion of the industrial sector which in turn helps the economy expand and prosper (Sharma, 2018). The financial performance of a company hinges on its adeptness in utilizing its resources to achieve the desired outcomes (Fatma, 2020). Bashaija (2022) opined that a corporate's proficiency in creating income from its primary mode of business can be measured by examining its financial performance. Examining an institution's financial performance necessitates an intricate analysis of its cash flow, income statement and balance sheet (Kenton, 2023). Financial performance is therefore a tailored way of gauging an enterprise's capacity and potential to employ assets from its core business line effectively and efficiently and generate income.

Since insurance businesses serve as financial intermediaries in the economy, examining their financial performance is essential. Basel and Oudat (2020) posits that ROA, ROE and productivity are the three metrics frequently employed in gauging financial performance. The analysis of financial statements is essential for assessing a company's financial performance, as it furnishes managers with valuable ratios that informs decision-making

and potential corrective measures. ROA was adopted as a metric for financial performance. ROA measured the managements' capacity to create money by making use of the resources at their discretion. According to Kiptoo, Kariuki and Ocharo (2021) return on asset demonstrates how adeptly the corporate management produces net income utilizing entirely existing resources. ROA was given as the net income for each of the years being examined divided by their corresponding total assets.

1.1.3 Financial Risk and Financial Performance

Companies handle varied risks that directly affects their day-to-day operations and if these risks are not appropriately managed, they could seriously hinder efforts to achieve targeted financial results and growth in terms of returns. According to Pablo et al., (2020), the fluctuation of financial institutions' performance is attributed to financial risks. Financial risks prove to be a bigger hindrance in achieving business expansion, growth in assets, and performance, which is measured by returns (Ahmad, 2020). Managers can increase a company's value by minimizing risks and maintaining continued profitability (Banks, 2004). According to Ana-maria and Ghioghe (2021), enterprises encounter variety of financial risks which could negatively influence their profitability and, consequently, financial health.

According to Kioko et al., (2019) organizations and institutions should proactively manage and monitor financial risks to boost profitability and reduce losses. The scholars posited that financial institutions frequently fall into disarray and perform poorly due to uncontrolled financial risk. The relationship between different risk types and their overall effect on a firm's performance has been theorized (Muthinja & Chipeta, 2018). The theoretical statement that financial risks in an organization influences the business's financial performance is supported by Mbinga (2022) which builds on the theoretical

arguments made by Fatma (2020), Roble (2020), Desalegn (2019), Muinde (2018), and Wani and Dar (2015). Although numerous theoretical and empirical scholars have discussed financial risk and its relationship to financial success, their debates have produced debatable results making it challenging to draw firm conclusions. Obudho (2014) opines that financial risk has a detrimental connection with financial performance. According to Zhongming, Frimpong, and Guoping (2019), a positive relation exists between financial risk and financial performance.

1.1.4 Insurance Companies in Kenya

The Kenyan insurance sector is essential in achieving the financial services objectives outlined in Kenya's Vision 2030 economic blueprint because it serves as a fundamental cornerstone in the establishment of the country's financial system. The Kenyan body authorized to create, oversee, regulate and supervise the functions and activities of insurance companies is known as Insurance Regulatory Authority (IRA). The year 1987 was characterized by the establishment of Association of Kenya Insurers which is in charge of defending and advancing the common interests of its members, encouraging ethical corporate behavior, fostering cooperation among its members, raising awareness to the public, conducting market research, accelerating the growth of the insurance capital in Kenya, and developing capacity.

Insurers in Kenya play a crucial role in tackling the nation's societal, economic, and environmental issues through the provision of inventive financial solutions. Nevertheless, Kenyan insurance firms frequently encounter financial risks and challenges. In response to these difficulties, the regulator implemented comprehensive risk management directives. According to the Insurance Regulatory Authority (IRA, 2013), insurers must actively manage various risks, including operational, market, strategic, legal, regulatory, liquidity,

counter-party default, concentration, and re-insurance agreement risks. Despite these measures, the sector continues to grapple with persistent issues and financial losses, prompting inquiries into the effectiveness of the established risk management guidelines and the specific risk the industry faces. As at December 2022, 56 licensed insurance companies in Kenya were in operation. Kenya also has six insurance companies that were publicly trading as at December 2022.

1.2 Research Problem

Exploring the variations in performance between two companies operating in the same environment has been a key area of finance research. As a result, studies have probed a range of internal and external factors in an attempt to elucidate these disparities. In a fast-paced and uncertain world that we live in, insurance companies continually come across financial risks that are pervasively present in all industries. Businesses worldwide are attempting to develop appropriate risk mitigation strategies to reduce the rising financial risk. It is therefore highly unlikely or perhaps even impracticable for insurers to succeed without apt reduction of risk measures and mitigation practices. Sisay (2017) emphasized on the interconnection between financial and actuarial risks on insurers' performance. Current empirical studies predominantly focus on financial risk management within the framework of enterprise risk management (ERM), resulting to limited data specifically addressing financial risks. Additionally, many of these studies concentrate on operational, liquidity, and market risks, often overlooking other critical financial risk factors like counter-party default and solvency risk. Additionally, a noticeable gap emerges in the scholarly landscape that revolves around the absence of a thorough comparative analysis of financial risk measures and their effectiveness. Scholars have also established inconsistencies and contradictory findings around the concept of financial risk and its

determinants. This study aims to address this void by taking a comprehensive perspective that incorporates liquidity, counterparty default, solvency, and operational risks as explanatory factors of financial risk.

Notwithstanding the numerous attempts made by the regulatory body in Kenya to ensure insurance firms adopt and comply with efficient risk management, incidences of financial problems or insurance firm collapse has not been entirely minimized. Customer complaints resulting from insurance firms' failure to meet customer claims have happened in Kenya. Insurance companies such as Blue Shield, Standard Assurance, Concord, and United Insurance were handed over to statutory control (IRA, 2017). According to the Insurance Regulatory Authority (IRA, 2013), insurers must actively manage various risks, including operational, market, strategic, legal, regulatory, liquidity, counter-party default, concentration, and re-insurance agreement risks. Kiptoo, Kariuki and Ocharo (2021) examined how financial performance of insurers in Kenya correlates with financial management of risks using credit, market, operational and liquidity risks management. Odipo (2020) investigated financial risk management of insurers in Kenya utilizing credit and liquidity risks. Muinde (2018) looked at how reinsurance, solvency, underwriting and liquidity risks affects listed insurers in Kenya. While existing studies have explored the effect of financial risk management and financial risk on insurers' performance, there is a need for more comprehensive research that thoroughly addresses each of the risks outlined in the issued IRA guideline. To bridge the existing research gap, the present study scrutinized all insurance firms operating within the Kenyan market whilst evaluating unexplored financial risk factors that have not been collectively investigated in prior research within insurers so as to minimize both the margin error and the residual error.

Prior empirical investigations into the connection between financial risk and financial performance have yielded inconsistent and equivocal findings. While some studies provide support for this link, others do not. Studies such as Wani and Dar (2015), Menna (2020), Mbinga (2022) and Kariuki and Ocharo (2021) all demonstrated that risk of liquidity is beneficially and substantially connected to financial performance, the latter also reached the conclusion that credit risk had an adverse and notable influence on financial performance. Contrarily, Nderitu (2022), Roble (2020), Obudho (2014) and Odipo (2020) concluded that liquidity risk was negatively connected to financial performance and the latter also deduced that management of credit risk positively influenced financial performance. These divergent findings underscored the requirement for further research in this domain. Fali, Nyor & Mustapha (2020) and Desalegn (2019) applied purposive sampling technique and explanatory design on listed insurance companies. Sisay (2017) applied a mixed research approach that entailed qualitatively and quantitatively collection of data. This research employed a census approach using descriptive research design. Obudho (2014) and Mutuku (2018) used a study period of 5 years. The five-year period examined in these studies may not suffice for broad generalizations. Rising inflation, and post-election political instability have significantly influenced businesses in Kenya, particularly the insurance industry. This highlighted the importance of considering more current data for a comprehensive understanding of the current business environment. The current study filled the noted inadequacies through addressing the question: "What is the effect of financial risk on financial performance of Kenyan Insurance companies?"

1.3 Research Objective

Establishing the effect of financial risk on financial performance of insurance companies in Kenya.

1.4 Value of the Study

Policy makers will immensely benefit from the study's findings when drafting policies pertaining to financial managing of risks. The findings and conclusion provides novel insights to regulatory organizations such as IRA, AKI, and CMA on measures and methodologies to be utilized in improving the quality of practices relating to managing financial risk. Managing financial risks and enterprise risk management (ERP) practices can all be combined to help the regulator choose the most effective risk management policies and strategies.

The study is geared to academicians and scholars who would want to further pursue the concept of financial risks. The insights, results and conclusion of the current study dispenses essential literature in addition to the substantial amount of work already available connecting financial risks and financial performance in the diverse sectors and industries making up the economy. Potential scholars may use the findings to further explore this or related topic matters with the intention of closing other identified knowledge gaps in the existing literature body.

This study offers valuable insights into the particular areas where insurance companies need to intensify their efforts in order to ensure stability, promote growth, and succeed despite the numerous financial risks that emerge from their internal operations and external business surrounding. With the aid of this research, insurance providers in Kenya are able to improve their financial risk management techniques and implement practical financial risk management policies that will boost their businesses' financial success. As a result, insurance companies will be able to expand their businesses, run more efficiently, and maintain a competitive edge.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter systematically organizes previously published literature. It begins with an exploration of foundational theories, proceeds to narrate the factors affecting financial performance, provides an overview of prior empirical studies, summarizes the reviewed literature, and concludes by pictorially unveiling the study's conceptual framework.

2.2 Theoretical Review

This research's conceptualization is firmly rooted in applicable theories, including Financial Distress Theory, Modern Portfolio Theory, and Agency Theory.

2.2.1 Financial Distress Theory

The theory attributed to Gordon (1971) delineates financial distress as the diminishing capacity of an enterprise in fulfilling its debt obligations, resulting in a heightened risk of default. The theory postulates that financial distress symptoms manifest before default risk is identified. The duration of time that a debt goes unpaid beyond the due date can be used to calculate default, which is a factor of credit risk. Myers (1984) bolstered the theory by connecting a company's credit and interest rate risk to its financial turmoil. The scholar contended that as the leverage ratio increases, it leads to a compromise between the advantages of interest tax shields and safeguards against bankruptcy. According to Whitaker (1999), a company enters the early stages of being financial distressed in the initial year when its cash inflows are beneath anticipated maturity of its extended commitments and obligations. The most well-known empirical study on financial distress was done by Altman in 1968. The scholar developed a multi-factor discriminant model that employs financial ratios to forecast bankruptcy. According to the theory and numerous bankruptcy prediction models, a company's financial statement information can be

leveraged to forecast its financial condition. According to Jensen's (1989), financial difficulty can boost a company's worth and performance by compelling managers to undertake difficult value-maximizing decisions that they might otherwise ignore.

The relevance of the theory is in explaining how risks related to a corporation failing on its contractual commitments and obligations can be identified using financial statement data and using ratios. Financial distress theory demonstrates why researchers have deduced that financial risk, as determined by different ratios of finance strongly and inversely correlates with financial performance. Rising debt levels have a negative influence on profitability since they exacerbate financial distress (Zhang, Hu & Luo, 2020). An organization would experience financial distress if there was a persistent imbalance between cash inflow and outflow. The first indicator of financial crisis is when an organization has a significant credit risk which if not appropriately handled poses a direct danger to an organization's ability to continue operating and can put businesses in crisis (Ikpesu, Olusegun and Olamitunji, 2019). This theory underpinned the study by providing clarity of how counterparty default risk, risks of liquidity and solvency can ultimately adversely affect insurers hence the need to ensure proper and calculated tradeoff at all levels. The theory has drawn its fair share of criticism more specifically, the theory has been questioned for its use of particular models in predicting and forecasting distress, such as the Z-score, which is regarded as a subpar long-term forecaster of bankruptcy.

2.2.2 Modern Portfolio Theory

The essentiality of the diversification technique as accentuated by Harry Markowitz (1952) in building an efficient portfolio was the whole idea behind the theory's development. The scholar made the case that because circumstances are not correlated in a perfect manner, investors who are wise and rational should build a collection of assets that minimizes risk

while maximizing profits. Instead of concentrating on risks associated with each specific asset class, Markowitz (1952) postulated investing in multiple classes of assets since a diversified portfolio tends to be less turbulence than holding its individual parts. In contrast to a portfolio's volatility, a single asset's volatility might be very high. The advantage of managing risks collectively ensures that some of the adverse effects are diversified away in the event of hedging. Effective portfolio risk mitigation is crucial for investors who want to maximize their investment performance and reach their financial objectives while limiting potential losses. Investors can more effectively navigate the complicated world of investing and accomplish long-term financial success by regularly assessing and controlling risk through diversification strategies (Tamplin, 2023).

The pertinence of the theory is in outlining that wealth can be protected, risk reduced, returns maximized, and long-term performance on investments improved through diversification. Insurance business are players in the money market and capital market through investing in different asset allocation classes. The business of reinsurance also encourages diversification of risks as its meant to reduce the impact of any adverse uncertainties. The Modern portfolio theory also provides pertinent insights on how to reduce insurers risks such as counterparty default and concentration risks. This can be done through products and geographical diversification. However, critics of the Modern portfolio theory disagree with the expectation that all investors are rational and risk- averse and will always select the best portfolio. According to them, MPT has intrinsic flaws because investors frequently fail to make logical choices and don't always opt for the portfolio with lesser risk. (Davidow, 2021).

2.2.3 Agency Theory

The authors of this theory, Ross (1973) and Jensen and Meckling (1976) propounded that despite owners' expectations that management will raise their wealth and interests, managers occasionally make decisions that serve their own personal interests which can cause conflict. According to Panda (2017) there could be conflict if owners and management teams are not integrated because of the varied risk appetites and the existence of asymmetry information which can cause moral hazard and/or adverse selection. An agency issue occurs when an insurance company is mismanaged, which results in losses and eventual failure and as a result, the stockholders are unable to recuperate their investments or get dividends (Mutua, 2023). According to Stulz (1984), agency theory advocates for the fundamental execution of solid risk mitigation procedures in order to position a state of balance between managers and shareholders' interests and to improve company's financial performance.

This theory is vital in this study as it stipulate ways of addressing and resolving agency conflicts through strengthening monitoring tools, effective internal controls and corporate governance. Agency theory posits an obvious or direct connection between organization's management performance and financial outcomes. The theory advocates for minimization of operational risks through scrutiny of management decisions and operations so as to limit risks while making investment and financial decisions. According to Zogning (2022) establishing controls to situate and adjust the interests of all parties, restrain conduct, and intensify reports through corporate governance is crucial in preventing agency conflicts. Hirsch et al. (1990) criticized the Agency theory, contending that it is judgmental to assume that everyone is self-centered and only considers their own financial interests when making decisions.

2.3 Determinants on Financial Performance

Present market conditions place a lot of focus on a company's ability to achieve sustainable profitability through operational, investment, and system choices. According to Al Khero, Janudin, and Ahmed (2019), it is important to gauge how well a company is functioning in regards to attaining its financial targets. Determinants on financial performance included financial risk and firm size. Financial risk factors were liquidity and operational, counter party default as discussed below;

2.3.1 Liquidity Risk

Liquidity demonstrates an organization's capacity to turn its assets into cash and its capacity to maintain normal working capital levels. When external financing is too expensive or unavailable, an organization can finance its activities using its liquid assets (Wani and Dar, 2015). Liquidity risk therefore, refers to the possibility that there won't be enough liquid assets available to cover project payouts. In accordance with IRA (2022), insurers are required to ensure that they have access to sufficient funds to fulfill their commitments, which mainly include paying claims and payments of benefits to policyholders when they become due. According to Menna (2020), financial performance is beneficially and substantially affected by liquidity risk. Conversely, Fali, Nyor, and Mustapha (2020) contended that liquidity risk had an adverse but modest influence on the financial performance. The assessment of liquidity risk commonly involves the utilization of three (3) essential ratios: current, cash and acid-test ratios. Marketable securities and cash are the most predominant company's assets that have the capacity for swift conversion into cash. The present study employed the current ratio as a measure of liquidity.

2.3.2 Operational Risk

According to Fadun & Oye (2020), operations risk becomes apparent through business interruption, control failures, and potential errors. Events involving operational risk can result in both financial and reputational harm, which could ultimately hurt the company's profitability. Toroitich (2018) gave some examples of operational risks which include vandalism, fraud, and broken customer relationships. Any vulnerability triggered by ineffective policies and processes including system failure, fraud, and personnel mistakes and mishaps are what defines operational risk (Basel II Committee, 2017). When operational risks are improperly managed, losses arise. Muia (2016) opined that, competent management of operational risks has a notable influence on a company's proficiency to operate effectively and efficiently. Cost income ratio is the most well-known metric of quantifying operational risk. The current study utilized the Cost-income ratio by comparing the costs an insurance company incurs to its income.

2.3.3 Counter- party default Risk

Insurance Regulatory Authority Guideline (2013) states that, in order to survive, insurers rely on obtaining payments from third parties like their reinsurers and investment partners. There is a chance that counterparties may lack the capability to pay their ongoing obligations for example; counterparties will not promptly or completely settle interest on a corporate bond or rent by a lessee. Despite a legal requirement to do so, an investment may not be converted into cash (such as a redeemable preference share) or it may not happen within the agreed-upon time limit. Credit risk falls under this category (IRA, 2013). Vaughan and Vaughan (2007) asserted that risk of default is the consequence of negative financial outcomes resulting from the incapacity to meet financial obligations, ultimately exerting a detrimental effect on financial performance. Mbinga (2022) deduced that default

risk should be at the lowest level. The study measured counter-party default risk using outstanding debtors to net assets ratio. According to IRA (2013), counter-party default risk affects financial performance of insurance companies.

2.3.4 Solvency Risk

Solvency pertains to the capability of honoring long-run commitments while also supporting ongoing growth and expansion (Muinde, 2018). Solvency is the condition of having sufficient financial equity to offset liabilities. When a corporation meets this condition, it exhibits positive equity in accordance with the accounting rule which states that assets are equal to liabilities plus equity. Conversely, the risk related to the incapacity to honor monetary commitments is referred to as solvency risk. A corporation is deemed financially stable when it can fulfill its obligations but is categorized as bankrupt when it cannot. According to Menna (2020), solvency risk unfavorably and notably affects financial performance. This perspective is supported by Mutuku (2018) and Wani and Dar (2015). In contrast, Fali, Nyor, and Mustapha (2020) concluded that risk of solvency considerably and favorably influenced financial performance. The current study measured solvency risk using solvency ratio in the form of net income to total liabilities.

2.3.5 Firm Size

According to Eyigege (2018), companies with high asset and resource levels gain from economies of scale making them financially viable in contrast to tiny businesses. Large organizations are thought to have well-organized resource bases and high-quality equipment that supports good financial performance thereby placing them in a superior spot than their tiny counterparts in terms of market performance, operational efficiency, and human resource capabilities. Khan, Nouman, & Khan (2015) guarantees therefore that, a

firm' size is a factor influencing its financing performance. Larger businesses also draw better personnel, and they are more capable and resourceful than smaller businesses.

2.4 Empirical Literature Review

Menna (2020) explored the interaction between Financial risk and Private Insurance Companies' Performance in Ethiopia. An explanatory research design was employed. Target population was made up of eight (8) private insurance firms. Secondary panel data was gathered and examined for the years 2007 to 2018. Liquidity, Credit, technical provisions, solvency, reinsurance, and underwriting risks were utilized as explanatory factors. Company size was also analyzed. The quantification of financial performance was done using ROA. The regression analysis showed that ROA was favorably and substantially influenced by liquidity risk, reinsurance risk, and firm size, whereas technical provisions, solvency and credit risks all had unfavorable and substantial influence on ROA. The conclusion was that financial performance of private insurance companies in Ethiopia are substantially influenced by financial risk.

Fali, Nyor, and Mustapha (2020) examined the existing connection between financial risk of publicly listed insurers in Nigeria and their financial performance. Population of 27 publicly traded insurers was included in the study. The investigation utilized 19 businesses from a population of 27 publicly traded insurers as its sample size. Secondary data and a correlational methodology were examined. Credit, liquidity, and solvency concerns were used to evaluate the independent variable. To gauge financial performance, ROA was metricized. It was established that liquidity and credit risks had negatively but slightly affected ROA whereas Solvency risk beneficially and substantially influenced ROA.

Desalegn (2019) examined how management of risks intertwines with financial performance of Ethiopian insurers. Determinants of risk management included operational,

ERM and financial factors. Secondary data from 2009 to 2017 was gathered and examined using regression modeling. The study opted for a quantitative research strategy and an explanatory research design. Financial performance was noted to be positively and considerably affected by financial risk, especially liquidity risk. Operational risk metricized using claim settlement, cost-to-income, and asset utilization ratios had mixed effects on financial performance. Furthermore, enterprise risk management, assessed through business size, showed a favorable statistical association with financial performance.

Wani and Dar (2015) conducted a research that centered on how financial performance of 24 life insurers in India was affected by financial risk. Secondary sources of information were used to collect data covering the years 2005 to 2013.The study incorporated company's size and its capital amount as control variables. Financial risks measures utilized were capital management, solvency, liquidity, and underwriting risks. ROA metricized financial performance. Based on the multiple regression analysis, capital management risk and solvency risk did not show a notable positive association with ROA whereas company size, liquidity risk, and capital volume were positively linked to financial performance. The conclusion was that there was unfavorable effect from underwriting risk though it was substantiated to be insignificant.

Nderitu (2022) explored the connection between financial performance of deposit-taking savings and credit cooperatives (SACCOs) in Kenya and their management of risk methods. As at December 2021, there were 175 DT-SACCOs in Kenya that constituted the study's population. 2017-2021 formed the study's span. The independent variable was represented by risk of liquidity, operations, credit and market management. Capital sufficiency and business size were controlled by this study. The calculation of return on assets quantified financial performance. Study's objective was met by a descriptive

research design. Six (6) proxies were used as determining factors of risk management. The ROA of DT-SACCOs was negatively impacted by liquidity and credit risk management. Although they both had a beneficial effect on ROA, operation, market and interest rate risks did not reach statistical significance.

Mbinga (2022) explored the connection underpinning financial performance of forty-seven (47) Kenyan Microfinance Institutions (MFIs) to financial risk. Financial risk factors considered included interest rate, credit, liquidity, and operating risks. The measuring of performance was quantified using ROA. Capital sufficiency and MFI size served as Control variables. The researcher applied a descriptive research approach and focused on all 47 MFIs. Secondary data was acquired yearly from 2017 to 2021. Descriptive, correlational, and regression analysis were done. According to the results of the multivariate regression study, operating risk and interest rate risk did not exhibit a statistically notable influence on ROA, whereas credit and liquidity risks did show such an impact. Additionally, firm size and having sufficient capital had a notable and positive effect on ROA.

Kiptoo, Kariuki, and Ocharo (2021) delved into the linkage between management of risks and financial performance of insurers operating in Kenya. The study covered the years 2013 to 2020. 51 licensed insurers as at December 31, 2020 were the source of secondary data analyzed. The determinants of risk management in the study included the management of credit, market, operational, and liquidity risks. ROA metricized financial performance. Through regression analysis, it was discovered that management of risks significantly affected insurers' financial performance. Credit risk management had an adverse and notable effect, while management of market risk favorably and notably influenced ROA. Operational risk management had a favorable and notable effect, and management of

liquidity favorably and substantially influenced on ROA. The researcher concluded that management of risk substantially influenced the financial performance of insurers.

Odipo (2020) looked at how Kenyan insurance companies' financial performance was affected by enterprise risk management. Representing the independent variable were; liquidity risk, company size, and credit risk. Financial performance was derived from calculating return on asset. From 2009 through 2019, secondary data on the fifty- four (54) IRA-registered insurance businesses was gathered. The data collected was presented for analysis using SPSS software. Contrary to a favorable association linking financial performance and credit risk management, the study also established an adverse association linking liquidity risk management and financial performance. Financial performance and firm size were favorably significantly related. A substantial association linking financial performance to the total set of the independent variables was discovered.

Fatma (2020) analyzed how financial performance of traded non-financial enterprises interacts with liquidity, leverage, and stock price risks. The use of a longitudinal design and a descriptive cross-sectional approach was applied. Secondary data was gathered. Inferential statistics and descriptive statistics were generated using SPSS. Financial Performance demonstrated a positive correlation with financial risk. ROA was determined to be reliably predictable with business size, risk of equity price, risk of liquidity, and leverage risk. The revelation was that, financial performance of traded non-financial enterprises is significantly impacted by financial risk. Additionally, a strong connection between financial risk and performance was identified.

Roble (2020) focused on six (6) state owned commercial banks operating in Kenya in examining the interconnection between the management of financial risks and financial performance. The study employed a descriptive survey approach and analyzed data from

secondary sources spanning the years 2010 to 2019, using both inferential and descriptive statistics. It was established that interest rate risk had a small but favorable influence on financial performance, while foreign currency risk had a larger but inconsequential negative effect. Liquidity risk was discovered to exhibit an adverse and substantial effect. The study's conclusions suggested a mixed connection linking financial performance and management of financial risk.

Njiru (2020) investigated on financial risk and its association with Kenya's commercial banks' financial performance. Financial risk proxies included, credit, liquidity, interest rate, and operating risks, while ROA gauged financial performance. Control variables included the bank's size and its level of capital adequacy. Secondary data covering the period from 2015 to 2019 for a total of 42 banks was gathered. Descriptive cross-sectional approach was utilized. Data analysis employed included regression, correlational, and descriptive models. Financial performance was found to be favorably and statistically linked to capital adequacy, but adversely and statistically significant to credit and interest rate risks. The remaining variables, such as operating risk, bank size, and risk of liquidity had no statistically notable effect on ROA.

Mutuku (2018) empirically analyzed the linkage between financial risk and financial performance of NSE-listed insurers. Descriptive research approach was applied in analyzing the regression model. Liquidity, underwriting, solvency, and reinsurance risks were the study's important financial risk determinants. Six insurance firms provided data for the study, which covered the years 2012 through 2017. The analysis of the analytical model involved the derivation of descriptive and inferential statistics. With the exception of reinsurance risk, which had a favorable correlation, all financial risks were shown to be negatively connected to ROA and to have a statistically insignificant effect.

Muinde (2018) assessed how financial risk influenced financial performance of NSE-trading insurers utilizing a population of six insurance providers, spanning from 2012 to 2017. Financial risk explanatory factors used by the scholar were reinsurance, solvency, underwriting and liquidity risks. Quantitative secondary data was collected, and the analysis was conducted using SPSS version 22, utilizing both descriptive and inferential statistical methods. The study discovered that solvency, underwriting and liquidity risks all had a statistically insignificant detrimental influence on financial performance whereas reinsurance risk was found to have favourable correlation with financial performance.

Obudho (2014) conducted research on Kenyan insurance businesses' financial performance and its relationship to financial risk. 49 insurance companies provided secondary data spanning the years 2009 to 2013. Risks associated with capital management, financial, solvency and liquidity were employed as independent variable determinants. Size was controlled by the model. Return on asset quantified the dependent variable. Using SPSS Version 20, the data were analyzed, and a multiple regression modelling generated inferential statistics. Risks inflicted by capital management, financial, solvency, and liquidity were demonstrated to negatively affect the financial performance of insurers whereas insurers firm size was discovered to positively influence financial performance.

2.5 Summary of Literature Review and Research Gap

The empirical studies conducted globally and locally have some shortcomings that the current study wants to address. First, there are equivocal findings and conclusions explaining the linkage between financial risk and financial perfomance. Fatma (2020), Menna (2020), Odipo (2020) and Kiptoo, Kariuki and Ocharo (2021) in their respective studies unanimously concluded that financial risk measures resulted to a substantial effect

on financial performance. Roble (2020) identified a mixed relationship between financial performance and financial risk. Consequently, Kariuki and Ocharo (2021) and Menna (2020) both found that financial performance of insurers was positively and significantly impacted by risk of liquidity. These findings are in contrary with Mutuku (2018) and Odipo (2020) who discovered that risk of liquidity was adversely connected to financial performance of insurers and that they all had a statistically insignificant effect.

Reviewed studies conducted internationally includes Fali, Nyor, and Mustapha (2020), Menna (2020), Desalegn (2019) and Wani and Dar (2015). Locally, Mutuku (2018) examined how liquidity, underwriting, solvency, and reinsurance risks affects financial performance of NSE-listed insurance businesses. This study ignored insurers not listed at the NSE. Odipo (2020) examined financial risk management from the viewpoint of liquidity and credit risk management. The current study incorporates additional financial risks determinants not considered which are operational, solvency, and counter-party risks. Mutuku (2018) looked at how exchange risk, solvency risk and liquidity risk affects listed insurance companies. The current study addresses additional financial risk measures which are counter party default risk and operational risk and it also addresses the contextual gap by looking at every insurance company that held a valid license in Kenya as of December 2022. Other studies such as Nderitu (2022), Roble (2020), Fatma (2020), Mbinga (2022) and Njiru (2020) concentrated on other industries other than the insurance industry. This current study intends to address the mentioned gaps by primarily focusing on effect of liquidity, counter-party default, solvency and operational risks on financial performance of insurers in Kenya.

2.6 Conceptual Framework

This is a diagrammatic representation of study variables' direction. Independent variable proxies were risks pertaining to liquidity, operational, solvency and counter-party. Firm size was applied as the control variable. ROA metricized financial performance.

Independent Variable   **Dependent Variable**

Financial Risk		**Financial Performance**
• Liquidity Risk	→	▪ Return on Assets
• Operational Risk		
• Solvency Risk		
• Counter Party Default Risk		
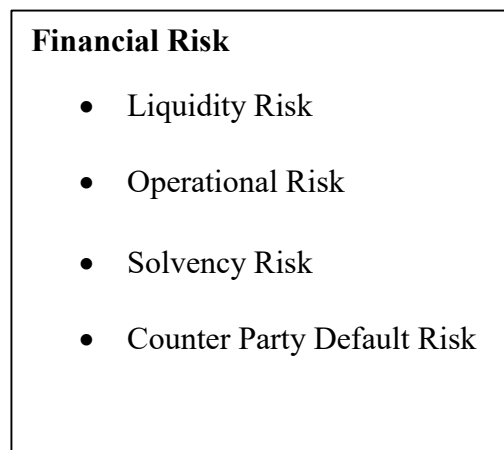
Control Variable
• Firm Size
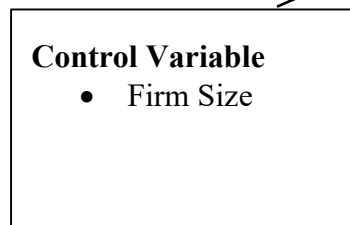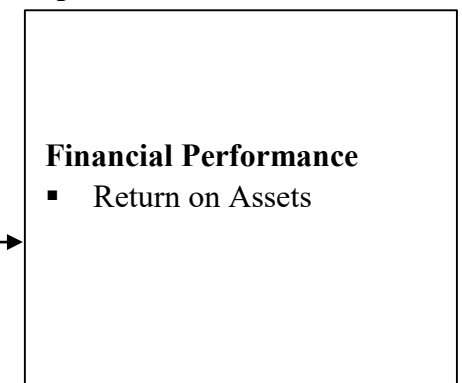
Source: Researcher's Conceptualization (2023).

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The section encompasses comprehensive discussions covering the research design, population targeted, techniques of data collection, diagnostic tests to be conducted, methods for data analysis, and the analytical framework that were employed to accomplish the research's intended objective.

3.2 Research Design

The study employed a descriptive research design. According to Mugenda & Mugenda (2013), a descriptive research design involves collecting information to address questions concerning the present condition or situation of the study's subjects. Siedlecki (2020) opined that a descriptive research design attempts to methodologically collect data to characterize phenomena, event, or population under study. The objectivity of this design in gathering and analyzing factual data motivates its adoption since it prohibits the researcher from influencing the study's findings. The study evaluated, interpreted, and presented the findings without changing the data that was gathered. Additionally, adoption of this design gave a thorough explanation of how the variables relate to one another.

3.3 Population of the Study

This entails gathering components or elements that satisfy particular universal criteria (Rahi, 2017). According to IRA (2022) there were 56 registered insurance companies in Kenya. The entirety of these companies formed the population for this study. Due to the finite size of the population (see appendix II), the study adopted a census approach.

3.4 Data Collection

The study exclusively depended on secondary data which was extracted from entities such as IRA, AKI and the individual websites of insurance companies. Data from secondary

sources focused on audited financial statements of the licensed companies offering insurance products and services in Kenya. The specific data to be collected include; total liabilities, net assets, net income, current liabilities and assets, total operating expenses and income, premium debtors, reinsurance debtors and other debtors annually for the years 2018 to 2022.

3.5 Diagnostic Tests

Examining multicollinearity, heteroscedasticity, autocorrelation and multiple normal distribution, the data set was assessed to make sure the intended estimate doesn't go above the benchmark as outlined in Table 1.

Table 1: Diagnostic Tests

Test	Definition	Statistical Technique	Interpretation	Diagnosis
Multicollinearity	Arises when the independent variables in a regression model show a high and substantial level of correlation creating challenges in determining the individual effect they have on the dependent variable.	Variance Inflation Factors (VIF)	If VIF will be found less than 10, it will be interpreted that there is no multicollinearity. and tolerance coefficients greater than 0.20 indicate no significant correlation between independent variable.	Data that will have VIF>10 will be adjusted using log transformation

Heteroscedasticity	This occurs when the data deviates from the assumed homoscedasticity, meaning it does not exhibit uniform variance of residuals as expected by the regression model.	Plotting Scatter of Standardized Residuals and Standardized Predicted Values	When data is divided into high and low values, and there is a substantial difference between the two sets, heteroscedasticity may exist.	Heteroscedasticity will be corrected using robust standard errors by allowing the fitting of the model.
Autocorrelation	Occurs when the scores for the dependent variable's obtained and anticipated values do not differ independently from one another.	Durbin-Watson Test	If the test result falls within the critical value range of 1.5 to 2.5, it suggests the absence of autocorrelation.	Utilize a correlogram, or Auto Correlation Function (ACF) plot, since it is a valuable tool for reviewing model specification
Normality	To determine how closely the study data adhere to the normal distribution, which is necessary in running the study's parameter tests.	Kolmogorov-Smirnov Test and Shapiro Wilk Test	When the p-value is large, the group of data is considered to be distributed normally; when it is small, it is not.	Abnormal data distribution will be adjusted for using logarithmic transformation method

3.6 Data Analysis

Data analysis employed SPSS version 27, and the findings were quantitatively depicted through graphs and tables. Data analysis involved the use of regression analysis and correlation analysis. The research explicitly utilized a multivariate regression analysis technique to achieve its objective. The observed variables were summarized and explained

using descriptive statistics and presentation of results were tabled with percentages, central tendencies, measures of dispersion, and frequencies.

3.6.1 Analytical Model

The study assessed Liquidity, Operational, Counterparty default, and Solvency risks. Additionally, firm size served as the control variable, and ROA metricized financial performance. The model was as follows;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

Where;

Y = Financial performance measured by Return on Assets

β_0 = The value of Y that is not affected by X

X_1 = Liquidity Risk.

X_2 = Operational Risk

X_3 = Solvency Risk

X_4 = Counter Party Default Risk

X_5 = Size of the firm

β_1, β_2, β_3, β_4 and β_5 are coefficients of regression equation.

ε = error term

3.6.2 Operationalization Table

The process of operationalizing study variables assists in converting the variables' hypothetical form into tangible, quantifiable components, making it easier to determine any causal relationships between them. The operationalization is laid out in Table 2.

3.7 Test of Significance

The significance of each variable was assessed through statistical methods, including the F-test, t-test, and p-values. The F-statistic and p-values was used to assess the applicability and practicality of the regression formula, while the employment of coefficient of determination (R^2) was used to quantify the proportion of variation in return on assets that the independent variable accounts for. These were carried out with an accuracy of 95%. Furthermore, the computation of beta coefficients and correlation analysis was applied to discern the nature of the association linking return on assets and the independent variable.

Table 2: Operationalization of Study Variables

Variables	Indicators	Ratio Utilized	Data Source	Study Replicate
Liquidity Risk	**Current Ratio**	$\dfrac{\text{Current Assets}}{\text{Current Liabilities}}$	Annual Financial report of registered insurance companies for the study period	Sisay (2017) Wani and Dar (2015)
Operational Risk	**Cost to Income Ratio**	$\dfrac{\text{Operating Expense}}{\text{Operating Income}}$	Annual Financial report of registered insurance companies for the study period	Desalegn (2019) Kiptoo, Kariuki and Ocharo (2021)

Counter Party Default Risk	Insurance debtors and trade debtors against net assets	$\dfrac{\text{Premium debtors} + \text{due from reinsurance} + \text{other receivable}}{\text{Net Assets}}$	Annual Financial report of registered insurance companies for the study period	Menna (2020)
Solvency Risk	Solvency Ratio	$\dfrac{\text{Net Income}}{\text{Total Liabilities}}$	Annual Financial report of registered insurance companies for the study period	Fali, Nyor & Mustapha (2020) Muinde (2018)
Firm Size	Total assets	Log of total assets	Annual Financial report of registered insurance companies for the study period	Njiru (2020)
Financial Performance	ROA	$\dfrac{\text{Net profit before interest and tax}}{\text{Total assets}}$	Annual Financial report of registered insurance companies for the study period	Mbinga (2022)

Source: Research Data (2023)

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This section concentrated on analyzing research data collected from fifty-one (51) out of the intended 56 insurance companies in Kenya. Commencing with diagnostic analysis that evaluated the data appropriateness for regression analysis followed by the computed Inferential and Descriptive. It then interpreted and concluded with a comprehensive discussion of the findings.

4.2 Diagnostic Tests

Assessing potential violations of assumptions in regression analysis within the data collected were done. The examinations specifically targeted the assessment of linearity, residual normality, autocorrelation, heteroscedasticity, and multicollinearity.

4.2.1 Linearity Test

It requires assessing the factuality of a linear correlation linking the dependent and predictor variables. An assessment was conducted to detect any notable departure from linearity. If the significance probability associated with the deviation from linearity exceeded 0.05, it was inferred that there was no significant departure from linearity at a 5% level of significance.

Table 3: Linearity Test Result

			Sum of Squares	df	Mean Square	F	Sig.
Financial performance * Liquidity risk	Between Groups	(Combined)	.551	198	.003	2.141	.533
		Linearity	.022	1	.022	17.157	.000
		Deviation from Linearity	.529	197	.003	2.065	.401
	Within Groups		.069	53	.001		
	Total		.620	251			
Financial performance * Operational risk	Between Groups	(Combined)	.501	194	.003	1.244	.168
		Linearity	.101	1	.101	48.764	.000
		Deviation from Linearity	.400	193	.002	.998	.519
	Within Groups		.118	57	.002		
	Total		.620	251			
Financial performance * Counter party default risk	Between Groups	(Combined)	.521	188	.003	1.765	.105
		Linearity	.011	1	.011	6.933	.011
		Deviation from Linearity	.510	187	.003	1.738	.746
	Within Groups		.099	63	.002		
	Total		.620	251			
Financial performance * Solvency risk	Between Groups	(Combined)	.543	197	.003	1.945	.402
		Linearity	.030	1	.030	21.350	.000
		Deviation from Linearity	.513	196	.003	1.845	.205
	Within Groups		.077	54	.001		
	Total		.620	251			
Financial performance * Firm size	Between Groups	(Combined)	.558	205	.003	2.006	.103
		Linearity	.270	1	.270	199.383	.000
		Deviation from Linearity	.287	204	.001	1.039	.454
	Within Groups		.062	46	.001		
	Total		.620	251			

Source: Research findings (2023)

Table 3 indicates the statistics for linearity test. The significance probability of deviation from linearity between financial performance and liquidity risk was 0.401 which being greater than 0.05 showed that there was no significant deviation from linearity. The p-values for deviation from linearity linking financial performance and operational risk,

financial performance and counter party default risk, financial performance and solvency risk and financial performance and firm size were determined as 0.519, 0.746, 0.205, and 0.454 respectively. Since 0.519>0.05, 0.746>0.05, 0.205>0.05 and 0.454>0.05 there was no significant deviation from linearity between the variables.

4.2.2 Normality of Residuals Test

To test if residuals had normal distribution, the residuals were plotted on a histogram and normal P-P plot was drawn. Kolmogorov-Smirnov and Shapiro-Wilk test were also carried out.
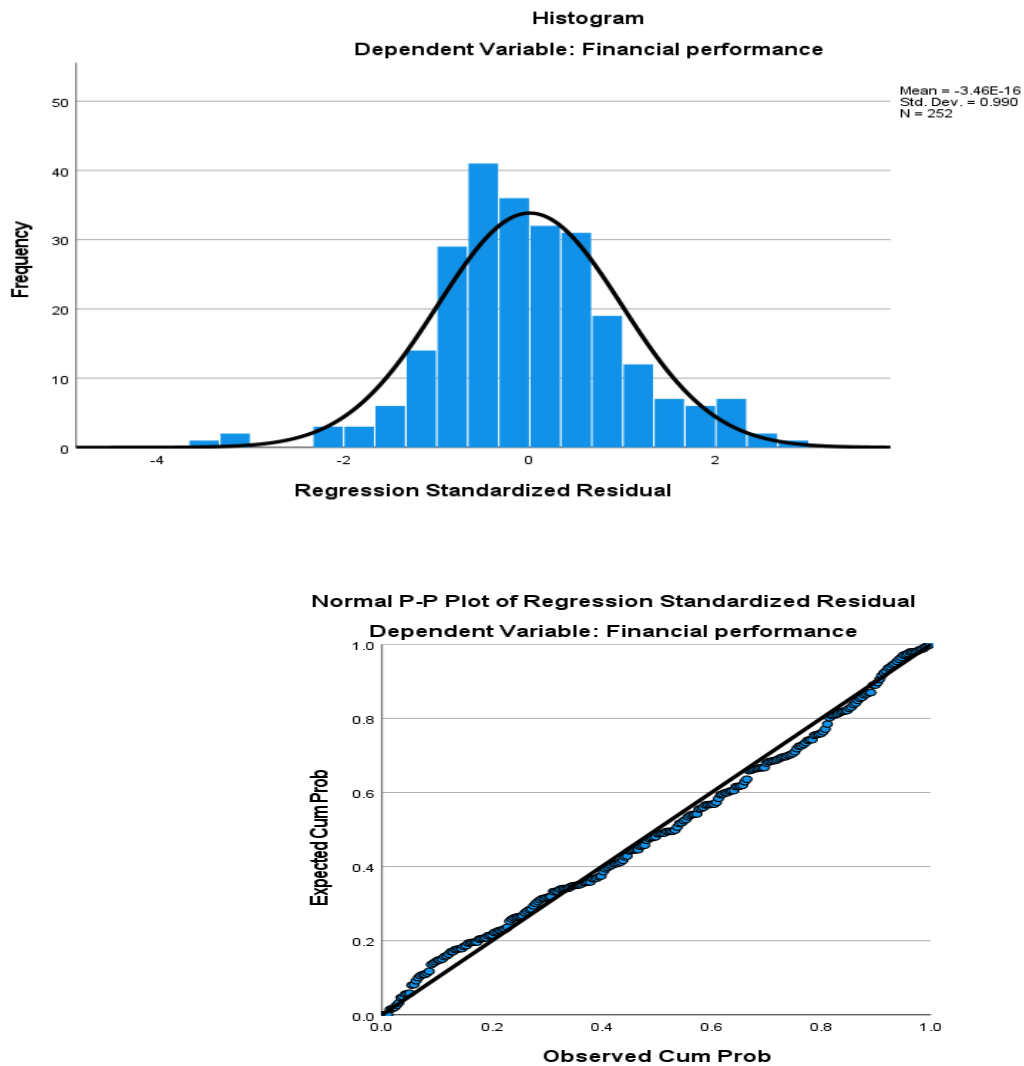
Figure 4.1: Normality Plots
Source: Research findings (2023)

Figure 4.1 illustrates the distribution of residuals and a normal probability-probability plot of these residuals. In the histogram, the residuals make a bell-shaped curve, closely approximating a normal distribution. Upon examining the normal probability-probability (P-P) plot, it was observed that the residuals align closely with the diagonal line indicating a reasonable approximation to a normal distribution. This alignment and the bell-shaped curve in the histogram are positive indicators suggesting that the assumptions of normality in the residuals for the regression analysis are reasonably satisfied.

Table 4: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.046	252	.200[*]	.985	252	.301
Standardized Residual	.046	252	.200[*]	.985	252	.301

The Kolmogorov-Smirnov and Shapiro-Wilk tests offer more specific assessments of normality. The outcome of these tests were as displayed in Table 4. The significance probabilities for these tests were 0.200 and 0.301, respectively. Given that both 0.200 and 0.301 are greater than 0.05, it can be concluded that the assumption that residuals had a normal distribution is supported.

4.2.3 Heteroscedasticity Test

Heteroscedasticity implies that variance of residuals is not constant. This was tested using a scatter plot of standardized residuals and standardized predicted values.
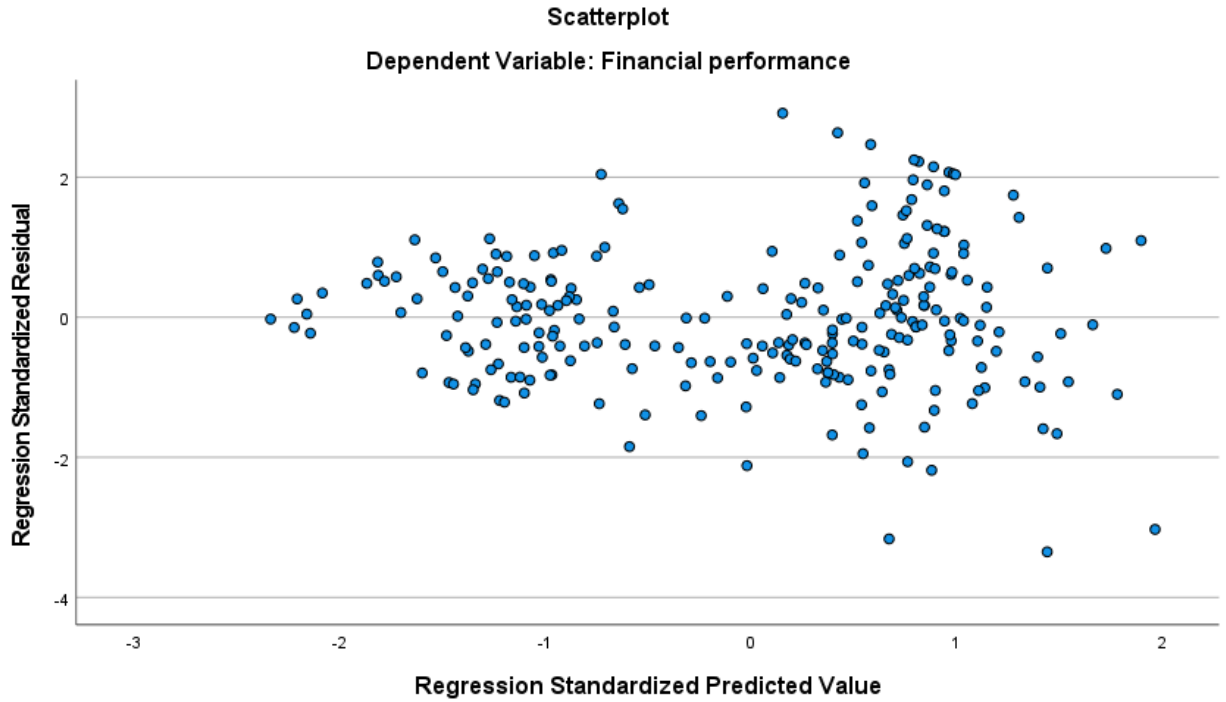
Figure 4.2: Scatter Plot

Source: Research findings (2023)

Figure 4.2 displays a scatter plot featuring standardized residuals plotted against standardized predicted values. Except for a few instances, the residuals fall within the ±2 range and remain relatively constant, indicating that the residuals exhibit a consistent variance. This suggests that the residuals are homoscedastic.

4.2.4 Auto-Correlation Test

Auto-correlation arises if residuals happen to be significantly correlated. This was tested using Durbin-Watson statistic.

Table 5: Auto-Correlation Test

Model	Durbin-Watson
	2.027

Source: Research findings (2023)

Table 5 displays the results of testing for autocorrelation of residuals. Notably, the Durbin-Watson statistic was approximately 2.0. This resulting inference was lack of substantial correlation observed among the residuals.

4.2.5 Multicollinearity Test

The presence of multicollinearity was evaluated using two metrics; VIF and collinearity tolerance statistics. VIF<10 and tolerance coefficients>0.20 indicate no significant correlation between independent variable.

Table 6: Collinearity Coefficients[a]

Model	Collinearity Statistics	
	Tolerance	VIF
Liquidity risk	.740	1.352
Operational risk	.508	1.967
Counter party default risk	.896	1.116
Solvency risk	.599	1.669
Firm size	.628	1.593

Source: Research findings (2023)

Table 6 provides statistics for the collinearity test. The VIF values provided are indicative of no significant correlation among the predictor variables (VIF<10)

The researcher was satisfied that there was no violation of regression assumptions and proceeded to carry out correlation and regression to determine relationship between study variables.

4.3 Descriptive Statistics

The research data was analyzed through descriptive statistics, presenting key metrics such as the minimum, maximum, mean, and standard deviation for each variable.

Table 7: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Financial performance	252	-.021	.170	.06366	.049695
Liquidity risk	252	-.062	1.450	.44774	.336689
Operational risk	252	.787	2.094	1.27286	.345326
Counter party default risk	252	.105	1.342	.66313	.279599
Solvency risk	252	-.044	.153	.04351	.043395
Firm size	252	4.976	8.870	7.18776	1.390153
Valid N (listwise)	252				

Source: Research findings (2023)

Table 7 presented a summary of descriptive statistics. Specifically, financial performance of insurers in Kenya is characterized by 0.063 mean and 0.0496 standard deviation values. Liquidity risk averaged 0.448 having 0.337 standard deviations. The mean value for operational risk was 1.272 and standard deviation of 0.345. Counterparty default risk showed mean value of 0.663 and 0.279 standard deviations. Mean value for solvency risk was 0.043 having 0.043 standard deviations. Lastly, firm size averaged 7.187 with 1.390 standard deviations.

4.4 Correlation Analysis

Correlation determines nature and strength of association between pairs of variables. This was done using Pearson correlation. Correlation coefficients greater than 0.6 were interpreted to indicate strong correlation, between 0.30 and 0.59 were interpreted as showing moderate correlation while below 0.3 was interpreted as indicating weak correlation. Significance of correlation was evaluated at 5% level of significance.

Table 8 : Correlations Matrix

		Financial performance	Liquidity risk	Operational risk	Counter party default risk	Solvency risk	Firm size
Financial performance	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	252					
Liquidity risk	Pearson Correlation	-.190**	1				
	Sig. (2-tailed)	.002					
	N	252	252				
Operational risk	Pearson Correlation	-.404**	-.184**	1			
	Sig. (2-tailed)	.000	.003				
	N	252	252	252			
Counter party default risk	Pearson Correlation	-.133*	-.115	-.069	1		
	Sig. (2-tailed)	.036	.067	.277			
	N	252	252	252	252		
Solvency risk	Pearson Correlation	-.221**	.383**	.344**	-.314**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
	N	252	252	252	252	252	
Firm size	Pearson Correlation	.660**	.204**	-.583**	.032	-.037	1
	Sig. (2-tailed)	.000	.001	.000	.614	.555	
	N	252	252	252	252	252	252

Source: Research findings (2023)

Table 8 illustrate the results of the correlation analysis linking financial performance with

each individual predictor. A weak negative correlation was observed regarding financial

performance and liquidity risk with coefficient -0.190 and a significant p-value 0.002 (<

0.05) at 5% significance level. Additionally, a moderate negative correlation was exerted by financial performance and operational risk with -0.404 as the coefficient together with a highly significant p-value 0.000 (<0.05) at 5% level of significance. Regarding financial performance and counterparty default risk, the correlation was weak negative denoted by-0.133 coefficient associated with a substantial p-value of 0.036<0.05 at 5% level of significance. Similarly, a weak negative correlation linking financial performance and solvency risk was established with a coefficient of -0.221 and a highly significant p-value of 0.000 at 5% level of significance, given that the p-value was less than 0.05. Financial performance and firm size correlated in a strong positive manner with 0.660 as the exerted coefficient and a highly significant p-value of 0.000 (<0.05) at 5% level of significance.

4.5 Regression Analysis

Reported in table 9 are summary statistics for the regression model. The adjusted R-squared was determined as 0.517. This showed that independent variables collectively explained 51.7% of variation in financial performance of insurers in Kenya.

Table 9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
	.726[a]	.526	.517	.034545	2.027

Source: Research findings (2023)

Table 10 displays the ANOVA employed to examine the regression model's significance. F-statistic was reported as 54.687 with a p-value as 0.000<0.05 establishing a significant outcome statistically at 5% level of significance.

Table 10: Analysis of Variance

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.326	5	.065	54.687	.000
Residual	.294	246	.001		
Total	.620	251			

Source: Research findings (2023)

4.5.1 Regression Coefficients

Table 11 presents the individual connections between different predictors and financial performance, along with their coefficient betas. The results suggested that liquidity, operational, counterparty default, and solvency risks exhibited negative coefficients as follows: $\boldsymbol{\beta}$= -.015 for liquidity risk, $\boldsymbol{\beta}$= -.029 for operational risk, $\boldsymbol{\beta}$= -.013 for counterparty default risk, and $\boldsymbol{\beta}$= -.376 for solvency risk. Conversely, company's size demonstrated a favorable influence on financial performance as indicated by a coefficient of $\boldsymbol{\beta}$= 0.021.

Table 11: Regression Coefficients

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	-.048	.023		-2.088	.038
Liquidity risk	-.015	.008	-.099	-1.999	.043
Operational risk	-.029	.009	-.205	-3.330	.001
Counter party default risk	-.013	.008	-.074	-1.587	.114
Solvency risk	-.376	.065	.328	5.787	.000
Firm size	.021	.002	.576	10.397	.000

Source: Research findings (2023)

From Table 11 the constant value was -0.048 with p-value 0.038. The resulting coefficient of Liquidity risk was -0.015 indicating that a unit of movement in regards to liquidity risk results to 0.015 effect on financial performance. The effect was deemed substantial as p-value 0.043<0.05 at 5% level of significance. Operational risk significantly affected

financial performance negatively exhibiting a slope coefficient of -0.029 and p-value of 0.001<0.05. This signifies that, financial performance is affected by a unit movement in operational risk by 0.029. The effect of Counterparty default risk on financial performance was negative with a co-efficient of -0.013 and p-value 0.114 suggesting that, a unit of movement of counter party default risk affects financial performance by 0.013 units. The reduction was not significant at 5% level (p-value 0.114>0.05). Solvency risk negatively affected financial performance with a coefficient of -0.376 and p-value 0.000. Attributing an increment in one unit of solvency risk exposure reduces financial performance by 0.376. Firm size had a significant and favorable effect on insurers' financial performance exhibiting a coefficient 0.021 and p-value 0.000<0.05. This attributes 0.021 change in financial performance to be as a result of a unit of movement of firm size.

The emerging regression model was;

FP=-0.048-0.015X_1-0.029X_2-0.013X_3-0.376X_4+0.021X_5

4.6 Discussion of Findings

The study aimed to establish the extent to which financial performance of insurers is affected by financial risk. It focused on four specific financial risks determinants that including liquidity, operational, counterparty default, and solvency risks. Size of the firm was taken into account as a control variable. Correlation analysis and regression coefficients were assessed using two-tailed t-test at 5% level of significance.

A coefficient of -0.190 was established though correlation as disclosed in tale 8 between financial performance and liquidity risk with a corresponding p-value of 0.02. This suggested a weak negative correlation linking financial performance and liquidity risk. The correlation was revealed significant at 5% level as evidenced by the two-tailed t-test given

that the p-value 0.02<0.05. Furthermore, the regression coefficient as reported in Table 11 was -0.015 for liquidity risk with an associated p-value of 0.043 suggesting that when liquidity risk increases by a single unit, it decreases financial performance by 0.015 units. The adverse effect of liquidity risk on financial performance was established significant statistically at the 5% level since p-value 0.043<0.05.

Correlation analysis in table 8 showed a coefficient of -0.404 between financial performance and operational risk exhibiting p-value of 0.000 suggesting a moderate adverse association linking financial performance and operational risk. The correlation was significant at the 5% level given that the p-value 0.000<0.05. Additionally, the regression analysis in Table 11 reported a slope coefficient of -0.029 for operational risk with a p-value of 0.001. This suggested that an increment in operational risk by a single unit has a detrimental effect on financial performance by 0.029. Operational risk effect on financial performance was deemed significant statistically at the 5% level given p-value 0.001<0.05.

Table 8 illustrates the coefficient between financial performance and counterparty default risk as -0.133 with 0.036 p-value indicating a weak negative correlation linking financial performance and counterparty default risk. The correlation was noted to be substantial at level 5% of significance given that the resulting p-value 0.036<0.05. The regression coefficient for counterparty default risk was -0.013 given by p-value of 0.114 concluding that that counterparty default risk negatively affects financial performance of insurers. Specifically, a unit increment in exposure to counterparty default risk is associated with a reduction in financial performance by 0.013. This reduction was however not significant statistically at the 5% level as the p-value 0.114>0.05.

Table 8 presents a correlation of -0.221 between financial performance and solvency risk with a p-value of 0.000 signifying a weak negative correlation linking financial

performance and solvency risk at the 5% level of significant established by p-value 0.000< 0.05. The regression results reported in Table 11 indicates solvency risk to be having a coefficient of -0.376 and p-value of 0.000 signifying that solvency risk detrimentally effects financial performance of insurers in Kenya. Specifically, an increase in one unit of solvency risk exposure is associated with a reduction in financial performance by 0.376 units. This effect was established to be significant at 5% level of significance as p-value 0.000<0.05.

As indicated in Table 8 is a coefficient value of 0.660 and a p-value of 0.000 linking financial performance and firm size. The positive correlation observed was statistically substantial at 5% level given that the resultant p-value of 0.000<0.05. In Table 11, the regression coefficient for firm size was determined as 0.021 and a p-value of 0.000. This effect was established to be positive, suggesting that increasing the firm size by a unit led to a 0.021 increase in financial performance, holding other factors constant. The significance was confirmed by applying two-tailed t-test at 5% level of significance since p-value 0.000<0.05.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Assessing how financial performance of insurers in Kenya is affected by financial risk was the primary objective of the research. The section proceeds by summarizing the findings discussed in the preceding chapter, offers conclusions, and acknowledges the constraints experienced by the research. Lastly, it presents recommendations to decision makers and suggesting study areas to be explored by future researchers.

5.2 Summary of Findings

The study met its objective utilizing descriptive, correlation, and regression analyses. The study performed relevant diagnostic examinations to affirm that the necessary criteria for regression were met. Multivariate regression examination found a significant association linking financial risk and financial performance. Adjusted R squared found that 51.7% of changes in financial performance was attributed to liquidity risk, counter-party default risk, operational risk, solvency risk and size of the firm. Analysis of variance yielded F-statistic that was significant at 5% level of significance. These findings suggest that, financial risk substantially relates with financial performance. Additionally, liquidity risk, operational risk, counter party default risk, solvency risk and firm size reliably predict financial performance.

A weak negative correlation linking financial performance and liquidity risk was found with -0.190 coefficient and p-value of 0.002< 0.05. The correlation was significant at 5% level. Regression coefficient also established that liquidity risk negatively affects financial performance with a coefficient of -0.015 and p-value 0.043< 0.05. The effect of was substantial at 5% level of significant.

Financial performance was found to correlate moderately negative with operational risk. The yielded relationship had a correlation coefficient of -0.404 and p-value 0.000<0.05 signifying a significant effect at 5% level. Regression result revealed that operational risk had a slope of -0.029 and p-value of 0.001< 0.05 which was deemed significant at 5% level of significance. This implies that operational risk negatively and significantly affects financial performance.

Financial performance and counterparty default were found to exhibit a weak negative correlation established by a coefficient of -0.133 and 0.036 p-value. Based on two tailed t-test the correlation was found significant as p-value 0.036<0.05. Utilizing regression analysis, coefficient of counterparty default risk was -0.013 with a p-value 0.114> 0.05. This reduction effect wasn't significant at 5% level.

A weak negative correlation was found in regards to financial performance and solvency risk with a coefficient of -0.221 and p-value 0.000. The correlation was substantial at 5% significance level given p-value 0.000<0.05. Regression analysis did establish that, Solvency risk negatively effects financial performance with a coefficient of regression as -0.376 and a p-value 0.000<0.05. Based on two tailed t-test the effect was significant at 5% level.

Financial performance and firm size were positively correlated exhibiting a coefficient of 0.660 and p-value of 0.000. This association was established substantial at 5% level given by p-value 0.000<0.05. Regression outcome also indicated that firm size positively affects financial performance. The slope coefficient was 0.021 with a significant p-value 0.000< 0.05 at 5% level of significance.

5.3 Conclusion

It was established that financial risk affects financial performance of insurers in Kenya. Specifically, risk of liquidity exerted a weak negative effect on insurers' financial performance. Operational risk exhibited a moderately adverse effect on insurers' financial performance. Counter party default risk reported a weak negative effect on insurers' financial performance. Solvency risk reported a weak negative effect on insurers' financial performance. The findings signified that, an increase in exposure to liquidity, operational and solvency risks substantially reduced financial performance of insurers at 5% level of significance. Increase in counterparty default risk insignificantly reduced financial performance at 5% level of significance. Company size exerted a strong positive effect on financial performance of insurers which was deemed significant at 5% level. The findings indicate that larger firms in the insurance sector experience a notable increase in their financial performance.

It's noteworthy acknowledging that this study's findings align with those of Mutuku (2018) who delved into examining how financial risk affects financial performance of NSE-listed insurers. The scholar observed that risks of liquidity and solvency were adversely related to financial performance of NSE listed insurers. Similarly, Obudho (2014) demonstrated that solvency and liquidity risks adversely affected the financial performance of Kenyan insurers. Firm size was established to have a strong favorable interconnection with financial performance of insurers.

5.4 Recommendations of the Study

To foster financial success in insurance firms, managers need to ensure that receivables are collected promptly to avoid non-performing receivables and enhance overall performance. Policymakers should prioritize counter-party default risk when formulating policies to

enhance return on assets (ROA) for insurance companies. Financial institutions and their boards should consider counter-party default risk when implementing strategic management practices to improve profitability. Insurance companies should take measures to increase their asset quality by implementing rigorous customer vetting, counter-party default risk analysis, and other internal controls to reduce counter-party defaults.

Insurance companies' directors and managers should focus on bolstering their solvency through policies formulation aimed at enhancing assets while simultaneously reducing solvency risk, as this will directly influence their financial performance. The identified negative interconnection linking financial performance and liquidity risk informs the imperativeness for policy adjustments aimed at effective liquidity risk management. Managers are advised to vigilantly monitor the current assets to current liabilities ratio, ensuring an adequate coverage of current liabilities by current assets. Policymakers and regulators should proactively formulate policies and regulations incentivizing insurance firms to adopt robust risk management strategies for an overall performance enhancement. In tandem, directors and managers within insurance companies should establish and implement sound risk management strategies, specifically addressing counterparty defaults, liquidity, operational, and solvency risks, thereby fortifying financial performance.

Insurance companies' management should aptly consider efficient coordination and monitoring of operations so as to decrease operational costs and enhance overall efficiency. This strategic approach can result in a rise in net premiums, thereby exerting a favorable influence on the firm's overall financial performance. Risk managers should establish and regularly review risk tolerance limits to ensure the business remains with what would be considered best operating levels. Hedging the risks wherever positive would also assist

mitigate their detrimental influence on financial performance. Industry regulators should also constantly monitor risk taking by insurance companies to ensure industry stability since excessive risk taking would reduce insurers' financial health which may result in bankruptcy. The current study offers valuable insights in addition to existing research by empirically examining diversity in management of risk and the need for development and implementation of diverse strategies by insurers. Policymakers can leverage these findings to evaluate and refine existing management of risks mechanisms.

5.5 Limitations of the Study

Concentration on a specific set of explanatory variables by the current study results to neglecting other potential parameters that could affect insurers financial health. Variables including management efficiency, leverage, external economic factors including economic growth, exchange rates, and unemployment may also play a role in influencing financial performance. Recognizing and incorporating these additional variables in future research could offer a more comprehensive understanding of the myriad factors impacting the financial landscape of insurers.

A heavy lean on analytical data collection approach potentially limits the study's ability to capture the entirety of factors influencing the relationship interconnecting financial risk and financial performance. Qualitative data collection methods such as the use of open-ended questionnaires, interviews or focus group discussions could offer more comprehensive understanding of this intricate relationship. By incorporating qualitative insights, future research endeavors might uncover nuanced perspectives and provide a richer context for the dynamics between financial risk and insurance industry's financial health.

The study's data analysis was confined to the years 2018-2022, introducing uncertainty about the enduring relevance of its findings over a more extended time frame. Long-term

economic cycles encompassing periods of prosperity and downturns could exert a substantial influence on the association between financial risk and financial health. Extending future studies' period over a longer time horizon would be beneficial in offering a more comprehensive view and allowing for the exploration of potential variations in the identified relationship over diverse economic conditions.

The use of a multiple linear regression model for data analysis has inherent limitations. This model can produce misleading or inaccurate results, and it may not allow for precise generalizations of the study findings. Alternative statistical techniques or additional sensitivity analyses could help address these limitations. These limitations highlight the need for future research to consider a broader range of factors, utilize diverse research methodologies, and extend the study's timeframe to deepen the comprehension of the interconnection between financial risk and the Financial health of Kenyan insurers.

5.6 Suggestions for Further Research

Incorporating qualitative analysis in future studies could significantly enrich the understanding of how financial risk is interconnecting with the financial performance of insurers in Kenya. Interviewing key stakeholders in the insurance industry could reveal valuable insights into the nuances of this relationship. While this study used ROA as a financial performance metric, future research could consider using additional measures such as Return on Equity (ROE) to investigate whether the observed relationship holds under different performance metrics.

While this study employed a multiple linear regression model, future studies might consider investigating using alternative statistical models. For instance, future studies can incorporate Vector Error Correction Model in formulating analytical models and scrutinizing the interconnection between financial risk and Financial performance.

Additionally, the study's focus on a five-year period was constrained by data availability. Future research endeavors could extend the analysis to cover longer time spans, such as 10 or 15 years, to encompass the effects of business life cycles, economic fluctuations, and other enduring trends on the interconnecting between financial risk and Performance.

Other variables such as management efficiency, leverage, political stability, regulatory, external economic factors including economic growth, industry practices, market risk, exchange rates, unemployment, ownership structures, growth opportunities, and capital adequacy of insurance firms should be examined by future researchers to understand their effect on financial performance. This can provide policymakers with a more comprehensive understanding of the tools that can be used to manage performance.

Future studies should also expand their scope beyond insurance companies and investigate how financial risk affects other industries. Researchers can explore how financial risk impacts other metrics beyond financial performance, such as availability and accessibility of credit, financial planning, poverty reduction, and overall economic growth. These suggestions present opportunities for researchers to broaden their comprehension in regards to the effect of financial risk on financial Performance. The insights derived from such research endeavors have the potential to offer valuable contributions to both the broader economy and policymakers seeking a nuanced understanding of these dynamics.

REFERENCES

Ahmad, A. W. (2020). Relationship between financial risk and financial performance: An insight of Indian insurance industry.

Anamaria, B., & Ghiorghe, B. (2014). The Determinants of Financial Performance in the Romanian Insurance Market. *International journal of academic research in accounting, finance and management sciences, 4* (1), 300-308.

Banks, E. (2004). *Integrated risk management through Insurance, Re-insurance and the Capital Markets.*

Basel II Pillar 3. (2017). CIMB Investment Bank: Berhad.

Basel, J. A., & Oudat, S. M. (2020). "Financial Risk and the Financial Performance in listed Commercial and Investment Banks in Bahrain Bourse".

Cooper, R., & Schindler, S. (2008). *Business research method.* New York: MC Grawhill.

Coşkun, Y. (2013). Financial engineering and engineering of financial regulation. Guidance for compliance and risk management departments. *Journal of Securities Operations & Custody 6* (3).

Davidow, T. (2021). Goal-Based Investing: A visionary Framework for wealth management.

Desalegn, G. D. (2021). The effect of risk management on financial performance of insurance companies in Ethiopia.

Ernst & Young (2023). *Global Insurance Outlook: How to drive purposeful change in uncertain times*

Fadun, O. S., & Oye, D. (2020). Impacts of operational risk management on financial performance: a case of commercial banks in Nigeria. *International Journal of Finance & Banking Studies, 9* (1), 22-35.

Fali, I. M., Nyor, T., & Mustapha, L. O. (2020). Financial Risk and Financial Performance of listed Insurance Companies in Nigeria. *European Journal of Business and Management*.

Fatma, A. M. (2020). Effect of Financial Risk on Financial Performance of Non-Financial Firms Listed at Nairobi Securities Exchange, *Unpublished MBA project,* University of Nairobi.

Gordon, J. M. (1971). Towards a Theory of Financial Distress. *Journal of Finance, 26* (2), 347-56.

Hirsch, P. M., Friedman, R., & Koza, M. P. (1990). Collaboration or paradigm shift? Caveat emptor and the risk of romance with economic models for strategy and policy research. *Journal of organization Science, 1*(1), 87-97.

Ikpesu, F., Vincent, O., & Dakare, O. (2019). *Financial Distress Overview, Determinants, and Sustainable Remedial Measures.*

IRA. (2013). *Guideline on risk management and internal control,* Nairobi.

IRA. (2017). *Insurance industry annual report,* Nairobi

IRA (2022). *Insurance industry annual report,* Nairobi

Jensen, M. C., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics, 3*, 305-360.

Jensen, M. C. (1989). Active Investors, LBOs, and the Privatization of Bankruptcy. *Journal of Applied Corporate Finance, 2* (1), 35–44.

Kenton, W. (2023). *Financial analysis tool. Financial performance definition, how it works and examples.*

Khan, M. K., Nouman, M., & Imran, M. (2015). Determinants of financial performance of financial sectors. An assessment through economic value added. University Library of Munich, *Germany MPRA Paper* 81281.

Kioko, C. M., Olweny, T., & Ochieng, L. (2019). Effect of financial risk on the financial performance of commercial banks in Kenya listed on the Nairobi Stock Exchange. *The Strategic Journal of Business & Change Management,* 6 (2), 1936 –1952.

Kiptoo, I. K., Kariuki, S. N., & Ocharo, K. N. (2021). Risk management and financial performance of insurance firms in Kenya. *Cogent Business & Management,* *8*, 1-17

Markowitz, H. (1952). Portfolio selection. *The Journal of Finance*, *7* (1), 77–91.

Mbinga, J. W. (2022). *Effect of Financial Risk on Financial Performance of Microfinance Institutions in Kenya, Unpublished MBA project,* University of Nairobi.

Menna, B. E. (2020). The Effect of Financial Risk on Performance of Private Insurance Companies in Ethiopia. *A Thesis Submitted to The Department of Accounting and Finance, College of Business and Economics*, Addis Ababa University.

Mugenda, O. M., & Mugenda, A. G. (2013). *Research Methods. Quantitative and Qualitative Approaches.* Nairobi.

Muia, J. S. (2016). The Effects of operational risk management practices on financial performance in Insurance Companies in Kenya, *Unpublished MBA project*, University of Nairobi.

Muinde, A. M. (2018). Effect of financial risk on the financial performance of Insurance companies limited at the NSE, *Unpublished MBA project*, University of Nairobi.

Mutuku, A. M. (2018). The effect of financial risk on performance of insurance companies listed at Nairobi Securities Exchange. *International Journal of Financial Studies, 6* (7), 66-71.

Muriithi, J. G. (2016). Effect of financial risk on financial performance of commercial banks in Kenya. *International Journal of Financial Studies, 4* (5), 88-91.

Myers, S. C. (1984). The Capital Structure Puzzle. *Journal of Finance, 39* (3), 575–592

Nderitu, G. (2022). Effect of Risk Management Practices On Financial Performance of Deposit Taking Savings and Credit Cooperatives in Kenya, *Unpublished MBA project*, University of Nairobi.

Njiru, G. N. (2020). Effect of Financial Risk on Financial Performance of Commercial Banks in Kenya, *Unpublished MBA project*, University of Nairobi.

Nyarangi, J. M., Ngali, R. (2021). Risk management practices and financial performance of insurance companies listed in Nairobi Securities Exchange, Kenya. *International Academic Journal of Economics and Finance, 3*(7), 176-197

Obudho, A. R. (2014). The Relationship Between Financial Risk and Financial Performance of Insurance Companies in Kenya, *Unpublished MBA project*, University of Nairobi.

Odipo, S. O. (2020). The Effect of Enterprise Risk Management on Financial Performance of Insurance Firms in Kenya, *Unpublished MBA project*, University of Nairobi.

Pablo, F., Apellániz, E., & Acín, F. J. (2020) Market Risk Premium and Risk-Free Rate used for 81 countries. *IESE Business School Working Paper No. WP-1244-E.*

Panda, B., & Leepsa, N. (2017). Agency Theory: Review of Theory and Evidence on Problems and Perspectives. *Indian Journal of Corporate Governance, 10,* 74-95.

Panigrahi, A. K. (2013). Liquidity Management of Indian Cement Companies. *Journal of Business and Management, 14,* 49-61.

Rahi, S. (2017). Research Design and Methods: A Systematic Review of Research Paradigms Sampling issues and Instruments Development. *International Journal of Economic and Management Sciences, 6*, 403.

Roble, I. A. (2020). Effect of financial risk management on financial performance of state-owned commercial banks in Kenya, *Unpublished MBA project*, University of Nairobi.

Ross, S. A. (1973). The Arbitrage Theory of Capital Asset Pricing. *Journal of Economic Theory, 13*, 341-360.

Siedlecki, S. (2020). Understanding Descriptive Research Designs and Methods. *Clinical nurse specialist, 34*, 8-12.

Sisay, D. (2017). The effect of financial risk on performance of insurance companies in Ethiopia. *College of Business and Economics*, 1-120.

Sharma, A., Jadi, D. M., & Ward, D. (2018). Evaluating financial performance of insurance companies using rating transition matrices. *The Journal of Economic Asymmetries*.

Stulz, R. M. (1984). Optimal hedging policies. *Journal of Financial and Quantitative Analysis, 19,* 127-140.

Tamplin, T. (2023). "Portfolio Risk Management".

Toroitich, A. (2018). Effect of operation risk exposure on financial performance of commercial banks in Kenya, Unpublished *MBA project*, Kabarak University.

Vaughan J. E., & Vaughan, M. T. (2007). *Fundamentals of Risk and Insurance.*

Wani, A. A., & Dar, S. A. (2015). Relationship between financial risk and financial performance: An insight of Indian insurance industry. *International Journal of Science and Research, 4* (11), 1424-1433.

Whitaker, R. (1999). The early stages of financial distress. *Journal of Economics and Finance, 23* (2), 123-132.

Zhang, J., Hu, J., & Luo, Q. (2020). *Debt Effects on Profitability.*

Zhongming, T., Frimpong, S., Guoping, D. (2019). Impact of Financial Risk Indicators on Banks' Financial Performance in Ghana. *Business and Economic Research, 9* (4), 23-52.

Zogning, Félix. (2022). *Agency theory: A critical review.*

APPENDIX I: DATA COLLECTION SHEET

Year	Firm Size (Total Assets)	Liquidity Risk (Current Assets/ Current Liabilities)	Counter-Party Default Risk (Premium debtors+ Due from reinsurance+ Other receivables/ Net Assets)	Operational Risk (Operational Cost/ Operational Income)	Solvency Risk (Net Income/ Total Liabilities)	Return on Assets (Net profit before interest and tax/ Total Assets)
2018						
2019						
2020						
2021						
2022						

APPENDIX II: LIST OF LICENSED INSURANCE COMPANIES IN KENYA

1.AAR Insurance Company Limited

2.Africa Merchant Assurance Company Limited

3. AIG Kenya Insurance Company Limited

4. Allianz Insurance Company of Kenya Limited

5. APA Insurance Limited

6.APA Life Assurance Company Limited

7.Absa Life Assurance Kenya Limited

8.Britam General Insurance Company (K) Limited

9. Britam Life Assurance Company (K) Limited

10.Metropolitan Cannon General Insurance Company Limited

11. Metropolitan Cannon Life Assurance Limited

12.Capex Life Assurance Company Limited

13.CIC General Insurance Company Limited

14.CIC Life Assurance Company Limited

15. Corporate Insurance Company Limited

16. Direct line Assurance Company Limited

17. Fidelity Shield Insurance Company Limited

18. First Assurance Company Limited

19. GA Insurance Limited

20. GA Life Assurance Limited

21.Geminia Insurance Company Limited

22. Geminia Life Insurance Company Limited

23. ICEA LION General Insurance Company Limited

24.ICEA LION Life Assurance Company Limited

25. Intra Africa Assurance Company Limited

26. Invesco Assurance Company Limited

27. Kenindia Assurance Company Limited

28.Kenya Orient Insurance Limited

29. Kenya Orient Life Assurance Limited

30. KUSCCO Mutual Assurance Limited

31. Liberty Life Assurance Kenya Limited

32. Madison Insurance Company Kenya Limited

33.Madison General Insurance Kenya Limited

34. Mayfair Insurance Company Limited

35.Occidental Insurance Company Limited

36.Pacis Insurance Company Limited

37.MUA Insurance (Kenya) Limited

38. Pioneer General Insurance Company Limited

39. Pioneer Assurance Company Limited

40. Prudential Life Assurance Company Limited

41. Saham Assurance Company Kenya Limited

42.Sanlam General Insurance Company Limited

43.Sanlam Life Insurance Company Limited

44. Takaful Insurance of Africa Limited

45. Tausi Assurance Company Limited

46. The Heritage Insurance Company Limited

47. Jubilee Life Insurance Limited

49. Jubilee Health Insurance Limited

50.The Kenyan Alliance Insurance Company Limited

53. UAP Insurance Company Limited

54. UAP Life Assurance Limited

55.Xplico Insurance Company Limited

56. Trident Insurance Company Limited.

Source: Insurance Regulatory Authority (2022)