FIRM CHARACTERISTICS AND FINANCIAL PERFORMANCE OF INSURANCE FIRMS IN KENYA

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DOCTOR OF PHILOSOPHY

(Business Administration)

JOMO KENYATTA UNIVERSITY

OF

AGRICULTURE AND TECHNOLOGY

2022

Firm Characteristics and Financial Performance of Insurance Firms in Kenya

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A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in Business Administration of the Jomo Kenyatta University of Agriculture and Technology

2022

DECLARATION

This thesis is my original work and has not been presented for any degree in any other University.

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This thesis has been submitted for examination with our approval as the University supervisors.

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DEDICATION

This thesis could not have been written if it were not for my dear parents; Mr. and Mrs. Isaac and Pauline Kamau for denying themselves for the sake of my education. I dedicate it to them. I also appreciate my wife Lucy Maina and my four children Whitney, Arthur, Einstein and Britney Maina for sacrificing in various ways in order to make this dream of PhD a reality.

ACKOWLEDGEMENTS

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ABBREVIATIONS AND ACRONYMS

AKI	Association of Kenya Insurers
CEO	Chief Executive Office
CFO	Cash from Operations
CLRM	Classical Normal Linear Regression
CR	Current Ratio
EBIT	Earnings before Interest and Tax
EPS	Earnings Per Share
FEM	Fixed Effect Model
GDP	Gross Domestic Product
GDP	Gross Domestic Product
GMM	Generalized Method of Moments
IAP	Pakistan Insurance Association
IRA	Insurance Regulatory Authority
KCB	Kenya Commercial Bank
KES	Kenya Shillings
KRA	Kenya Revenue Authority
MPT	Modern Portfolio Theory
NBE	National Bank of Ethiopian

NSE	Nairobi Securities Exchange
OECD	Organizations for Economic Corporation and develop-ment
OLS	Ordinal Least Square
OLS	Ordinary Least Squares
REM	Random Effect Model
ROA	Returns on Assets
ROE	Returns on Equity
ROI	Returns on Investments
SACCOs	Savings and Credit Co-Operative Society
SACCOs	Savings and Credit Co-operatives Societies
SME	Small Medium Enterprises
UAE	United Arabs Emirates
UK	United Kingdom
USA	United States of America
USD	United States dollar

DEFINITION OF TERMS

Equity Capital This is a form of business financing contributed by the owners of business (Pandey, 2010)

Firm Leverage This refers to the money borrowed by a business in order to increase its production capacity, sales volume and eventually its earning power (Brigham & Houston, 2016)

Firm Liquidity Firm liquidity is interpreted as the to the ability of a corporation or an individual to pay its debts and financial obligation as and when they fall due (Johnson, 2008).

Financial Performance Pertains to the level at which a business transforms and converts its inputs to valuable output in a profitable manner or its ability to use the resources under its disposal to generate revenue and profit (Lee, 2014).

Firm Size Refers to the relative size of a firm's assets measured as a natural logarithm of total assets (Flannery & Rangan, 2006)

Underwriting Risk Underwriting risk is the possibility of losing money in a process of risk evaluation assessment when insurance premiums are insufficient to cover claims (Adams & Buckle, 2000; Fuad et al., 2018).

Firm Characteristic Refer firm's demographic and managerial variables which, in turn, comprise part of the firm's internal environment. Firm characteristics in relation to insurance sector include leverage, liquidity, sales growth, asset growth and turnover (McKnight and Weir, 2008).

ABSTRACT

Insurance firms in Kenya continue to experience low penetration rate compared to their counterparts in the financial sector both locally and globally. This greatly hampers their financial performance because widespread coverage and high penetration rate means great customer base. Insurance industry has in the past received minimal attention from scholars and researchers compared to commercial banks. The larger part of the studies done in the insurance sector has concentrated in the mature and the developed economies as opposed to developing countries like Kenya. There is a great need to conduct more studies in the insurance sectors in developing economies. The purpose of this study was to investigate the influence of firm characteristics on the financial performance of insurance firms in Kenya. The specific objectives were; to investigate the influence of equity capital, underwriting risk, firm leverage, and firm liquidity on financial performance of insurance firms in Kenya; and finally, to investigate the moderating influence of firm size on the relationship between firm characteristics on performance of insurance firms. The study was anchored on the following theories; agency theory, trade off theory, liquidity preference theory and modern portfolio theory. The research philosophy adopted was positivism while the correlation research design was adopted. The study used secondary data which was collected using data collection sheet from Insurance Regulatory Authority (IRA), Association of Kenya Insurers (AKI) and individual firms' websites. The target population of the study was 54 insurers that operated in Kenya for the ten years (2010-2018). The unbalanced panel data was analyzed using Random and Fixed effect model where Hausman test select model for testing the hypotheses. Various tests were conducted related to panel data in order to ensure stationarity of the data for reliable end results. The tests for unit root tests were Pesaran and Shi W-stat, ADF- Fisher Chi-Square, PP-Fisher Chi-Square and Levin, Lin and Chu t* statistic. Wooldridge Test statistic was used to check for serial correlation cases while White's test was used to check for heteroscedasticity. Multicollinearity was tested using the VIF test. The study found that underwriting risk, liquidity and equity capital had a significant negative effect on financial performance while the leverage had a positive and significant effect on the financial performance of insurance firms in Kenya. firm size negatively moderated the relationship between; underwriting risk and financial performance, liquidity and financial performance. However, firm size did not moderate the relationship between equity capital, leverage and financial performance. The study recommends that insurance firms to embrace feasible financial leveraging strategies that can boost firm profitability. Also, they need to conduct effective liquidity management to maximize the value of the company and its financial performance. Besides, they should divert their focus towards increasing premium to reduce underwriting risk and enhance their financial performance. Finally, it is crucial for the insurance firms to utilize Equity Capital optimally such that it does not become a liability as a consequence of the interest paid.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Insurance as a business has existed since the time immemorial and in Kenya it dates back to the pre-colonial period. The industry has evolved from being informally operated to the modern insurance industry which is more professionally operated and managed (Borome, 2015). The regulators of the insurance industry in Kenya are the Insurance Regulatory authority of Kenya and the Association of Kenya insurers (Waweru, 2014). The modus operandi of insurance sector is different and unique from other financial sector players in the economy as it is involved in the management and spreading of financial risks for other businesses (Thaker et al., 2020). Insurance operates on the basis of probability theory in which they price their products (insurance premium) before determining the exact cost of production of the same product.

Insurance industry helps to promote financial stability by transferring individual and entities' financial risks to itself. Individuals and firms are therefore able to specialize in wealth creation and to undertake projects that they would have avoided in absence of insurance (Mehari & Aemiro, 2013). Insurance helps to mobilize savings from the household level and channel them for investment by financial entities. A robust insurance sector reduces pressure on the government budget to the extent that they reduce pressure on demand for government social security programs as they are considered as the alternative choice to personal retirement programs (Barakat, et al., 2022). The general economy is heavily reliant on insurance services. Insurance further reduces the total risk faced by an economy in the sense that, they are better able to measure, manage the risk which they are exposed and faced with as well as initiate risk mitigation activities (Regasa, 2014).

Kenya has one of the most robust financial sectors in Africa. According to the World Bank (2020), Kenya has the third largest financial sector in Sub–Saharan Africa. Insurance sector is one of the key pillars of financial sectors. The others are the

commercial banks, mortgage companies, non-financial banks, saving and Credit Co-operative Societies and private equity firms, pension and provident funds (Insurance Regulatory Authority, 2016). These different sectors together with insurance sector are responsible for the growth of any economy. Unlike Sacco's, which controls more than 30% of the gross domestic product of Kenya, insurance sector only accounts for 2.78% of the GDP (Damtew, 2021).

The insurance industry in Kenya has had a relatively low penetration rate of 2.7% compared to the global rate of 6% (Insurance Regulatory Authority, 2017). In the year ended 2017, Safaricom Ltd, KCB bank, Equity Banks, Co-operative bank and East Africa Breweries Ltd individual net profits were more than the net profit reported in the same year by the 52 insurance firms in Kenya (Muigai, 2018)

This statistics points to an underlying problem in the insurance sector since it reported a net profit of Kshs 13.6 billion compared to Safaricom Ltd Kshs 45.1 billion in 2017 (Insurance Regulatory Authority, 2017). The country's macro-economic factors are common for the insurance sector and any other sector like the commercial banks and the telecommunication sectors which have better profits than the insurance sector.

1.1.1 Global Perspective of Firm characteristics and Performance of Insurance Firms

The global insurance industry continued to register strong performance and has continued to enjoy profitability (Pidchosa, & Dovhosheia, 2019). The returns on equity remained positive and there was an increase in the shareholder's equity. For example, according to Organizations for Economic Corporation and development ((OECD), 2017) the global performance of insurance firms using Return on Equity (ROE) also had a positive trajectory and was higher in all types of insurances which was linked 3.7% average increase of the underwriting risk in the life sector and a further 2.0% in the non-life.

According to OECD (2017) insurance firm characteristics such as the type of insurance product and the market share are essential in the development of insurance

markets in European insurance industry. They play a significant role in enhancing client perception about the industry. The firm characteristics context can considerably influence the growth and performance of insurance industry. The good performance of the sector makes it attractive to customers resulting to a high demand of the services when the economy is performing well and decelerates when there are hurdles in the economy (Ahmad, 2017).

In 2017, Turkey, Costa Rica, and Russia had highest insurance performance in European insurance industry due to increase in premiums and leverage to 30% and 12% respectively from 2015 and 2016 (OECD, 2017). In 2016, increase in several insurance firm characteristics such as firm liquidity, equity capital, firm size and premiums made the European insurance industry takes the lion's share of the market with 32% of the global market, it was closely followed by North America at a 31% and Asia which had a 30%. That high insurance penetration in Turkey of to 9.3% compared to 4.6% Latvia and 2% in Iceland 4.5% in 2014 was related to the high size of the firm low loss ratio, high current ratio, and high premium growth rate (Insurance Europe, 2016; Emine, et al., 2015). Also, In Turkey, Kaya (2016) found the firm characteristics such as current ratio, firm size, premium growth, firm age and the premiums had significant influence on technical profitability and sales profitability ratios that were used to measure the profitability.

In Romania, Burca and Batrinca (2020) showed the importance of insurance firms characteristics influencing the decisions of the firms which are relevant to the financial performance of insurance companies. They linked increase in firm leverage, size , underwriting risk and retention ratio with increase in financial performance of Romanian insurance firms. Batool and Sahi (2019) found that asset turnover, leverage, liquidity, firm size had positive influence on performance of insurance firms In United States of America (USA), while leverage, asset turnover and interest rate has negative significant impact on performance of insurance firms in United Kingdom (UK)

European insurance companies have undergone a significant change in their performance from 2011-2020 because of the deregulation in Europe that were

directed on banking institutions (Puławska, 2021). The liberalization of this sector has enabled in increase of size of the firms through mergers and acquisition activities changing the structure and performance of the European insurance sector. It is therefore believed that the increased consolidation and alterations in the firm characteristics has accelerated competition and forced companies to seek for various ways of increasing their performance. Different firms use various methodologies to survive in the sector. Some have invested in technological improvements others have enhanced their managerial efficiency to survive in the ever-changing economic landscape and finding alternative channels. All these firm characteristics combined would have had a significant or considerable effect on the profitability of the firms in the insurance sector (Ostrowska-Dankiewicz & Simionescu, 2020).

The Indian insurance industry has performed well with the insurance density at 11.23, and the insurance penetration reached 3.4% in the year 2016. The total insurance market expanded from USD23 billion in 2005 to USD 75.68 billion in 2015 which was related with 12.6% increase in gross written premiums (India Brand Equity Foundation, 2017). However, the global insurance market continues to face challenges, especially in the growth and performance of life and non-life sectors. Some of the countries that experienced growth in the industry are those that had low insurance penetration. Many claim that the insurance sector has a significant role to play in the growth and performance of the economy. In 2017, there was a massive margin pressure, but the global insurance premium growth improved by 3% despite the interest rates staying low. Ahmad (2017) argues that improvement observed in 2017 was mainly due to savings products, mostly in the emerging market. One of the main concerns for the global insurance market was low yields as a result of large life insurance firms in the global market.

In Indonesia, performance of listed insurance firms was positively affected by total premiums and underrating risk, while firm's characteristics such as reserve claims and claims payments reduced the performance (Johny, et al., 2022). On the contrary, Also, Tarsono, et al.,   (2019) net premium growth and claim ratio did neither increase nor decrease the financial performance of insurance company listed on the Indonesian Stock Exchange from 2014-2018, however, increase in risk-based capital

reduced financial performance of life insurance. Similarly, Almajali, Alamro, and Al-Soub (2012) found that returns on assets used as the dependent variables was significantly affected by the management competence, liquidity, size of the company and leverage.

Based on the global perspective review on link between firm characteristics performance of insurance firms several firm characteristics that positive or negatively performance of insurance firms emerged such as type of insurance product, market share , premium, leverage, equity capital, firm size, loss ratio, current ratio, asset turnover, leverage, liquidity, underrating risk. However, the study analyzed effect equity capital, firm liquidity, firm leverage underwriting risk on financial performance of insurance firms in Kenya

1.1.2 Regional Perspective of Firm characteristics and Performance of Insurance Firms

Most of African countries are overwhelming supporting the performance of insurance sector for the sustainability and development of the economy (Olarewaju & Msomi, 2021). This encourages development in equity capital and financial markets. The insurance sector in Africa remains one of the most challenged, but at the same time industry representatives continue to develop and make adjustments to take full advantage of the many opportunities for growth which are also emerging (Padayachee et al., 2019).

Africa's insurance industry is valued at about $68 billion in terms of percentage of nominal GDP and is the eighth largest in the world—although this is not equally distributed across the continent (Bagus, 2020). The value of the market for micro insurance in Africa is approximately USD 25 billion. One can further estimate the market for a few generic micro insurance products: 560 million lives for health insurance, 300 million lives for life products, 75 million lives for credit life, 65 million policies for agriculture and 100 million policies for property (Nhabinde & Heshmati, 2020). However, performance of insurance in Sub-Saharan Africa has been affected by inconsistent markets are in terms of size, mix, growth, and degree of consolidation, with 91 percent of premiums concentrated in just ten countries

(Asongu & Odhiambo, 2020). South Africa, the largest and most established insurance market, accounts for 70 percent of total premiums which has highly contributed to performance of insurance firms (Olarewaju and Msomi, 2021).

South Africa is doing very well and has the fourth biggest insurance sector in the developing economies community (Chinaka, 2016). The South African insurance sector is underpinned by a stable regulatory environment, a diversification multi-channel distribution and a strong degree of local competitiveness (Mushunje & Mashasha, 2020). South Africa has the highest insurance penetration of the developing economies under analysis at 12.89 per cent, well above China at 4.2 per cent, which placed second on this index (Asongu & Odhiambo, 2020). The border markets of Namibia are an excellent country with a penetration rate of 7.25 per cent, while the rate of Tunisia is 2.14 per cent. Overall, Zimbabwe witnessed healthy overall premium growth in 2018

In Nigeria, for example, commercial insurance has performed strongly, with oil and gas growing at 9 percent per annum and marine and aviation at 10 percent per annum between 2014 and 2018. In 2018, oil and gas insurance and marine and aviation insurance accounted for 34 percent and 11 percent, respectively, of nonlife gross premiums in that country. In Ghana, the Ghana Oil and Gas Insurance Pool (GOGIP) almost doubled from $25 million in 2016 to $48 million in 2019 and represents approximately 15 percent of total nonlife premiums in that country (deloitte, 2020) Ajao and Ogieriakhi (2018) indicated these performance was directly and statistically related to firm characteristics such as age, size and growth rate of insurance firms, however, in long-run, size of insurance had inverse relationship financial performance which is an indication of diseconomies of scale suffered by insurance firms due to uncontrolled increase in size.

Performance of non-life insurance firms in Southern African Development Community (SADC) was affected by equity capital, investment capability, lagged return on assets and operational efficiency, leverage (Msomi & Nyide, 2021). In Ethiopia, Teklit and Jasmindeep (2017) established that while underwriting risk had a negative relationship with returns on assets, the firm size, and leverage and asset

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tangibility while liquidity, age and written premium growth had none. Similarly, Deyganto and Alemu (2019), found that performance of Ethiopian insurance was improved by increase in premium growth, solvency ratio.

In Kenya, Murigu and Mwangi (2015) found that management competence index, leverage and Equity Capital had a positive correlation with Returns of Assets (ROA), but company size and ownership structure registered an inverse relationship with Returns on Equity (ROE). Contrary to the expectations of the researcher, there was no relationship between ROA and age of the firm, underwriting risk, liquidity and the retention ratio. The Insurance industry in East Africa is dominated by general insurance in terms of gross premiums written and the performance of these insurers is therefore of paramount importance to development of the sector (IRA, 2014)

1.1.3 Local Perspective of Firm Characteristics and Performance of Insurance Firms

Financial performance of insurance firms in Kenya has been low compared to developed nations (Morara and Sibindi, 2021). The insurance industry in Africa experienced a marginal growth of 0.5% in real terms in the year 2017 dropping from 5.1% in 2015 and 2.8% in 2016 (Chege, et al., 2019). Hence, firm characteristics that driver financial success of the insurance industry are of interest to several players in any economy including the government; policymakers; policyholders; and investors. Some of the common measures of profitability are the return on equity and the return on assets (Charumathi, 2012). Mumo (2017) claims that the performance of an insurance firm when it comes to financial aspects can be measured through net premiums earned, return on equity, annual turnover, return on investment and underwriting activities. The components are classified as profit as well as investment performance measures. The majority of researchers conducting studies in the field of insurance have done study on how the industry can become profitable.

According to Ngwili (2014), the financial performance of a company in the insurance sector has a negative relationship with leverage. Firm management and its effectiveness in contributing to financial performance is a reflection of growth and development within an organization. Most of the organization in the insurance sector

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measure profitability through liquidity, firm size and leverage. In a broader sense, financial performance ensures that the objectives of the company are accomplished and the goals are achieved successfully

According to the finding of Kisenge (2012), market related firm characteristic, structured related firm characteristics and equity capital related characteristic had positive effect on performance of micro finance organizations. In addition, the relationship between the age and size of microfinance was positive. On the other hand, micro finances, high Capital structure and those that practice market oriented and diversification strategies are seen to be better performers. Firm size, firm age, leverage and liquidity relate positively with financial performance and size of board variable was related negatively to firm financial performance

1.1.4 Insurance Industry in Kenya

The insurance industry in Kenya is characterized by very high competition as a result of the numerous industry players which comprises of 56 insurance firms (28 non-life insurance, 15 life insurers, 9 composite insurers and 4 re-insurers). Other players in the sector include 4 re-insurance firms, 9348 insurance agents, 5 claims settling agents, 32 insurance surveyors, 142 insurance investigators, 11 reinsurance brokers, 221 insurance brokers, 31 medical insurance providers, 126 motor assessors, 9 risk managers and 32 loss adjusters (IRA, 2018).

The insurance penetration in Kenya stands at 2.71% as at the end of December 2017. This can be compared to the rate of insurance penetration in Africa which stands at 3% and the global rate of 6% respectively (Swiss Re, 2016). Therefore, Kenya insurance industry is less developed and entrenched compared to other nations either from Africa or other continents. In 2017, the Kenyan insurance industry reported total gross premium of USD 2.09 billion, against USD 66.7 for the entire African continent and USD 4.89 trillion globally (Insurance Regulatory Authority, 2017).

According to IRA industry report (2018) some of firm's characteristics that negatively affect lack of sustainable equity capital and uncontrollable firm size. IRA (2021) report showed insurance industry in Kenya had gross written premium

standing at KES 276.06 billion as at end of Q4 2021 representing an increase of 18.5% from KES 232.95 billion in Q4 2020. However, General insurance business underwriting results reduced significantly from a loss of KES 1.18 billion in Q4 2020 to a loss of KES 6.34 billion in Q4 2021. This was mainly attributed to high increase in underwriting loss in class classes due to relaxation of restrictions that had been imposed on travel due to COVID19 pandemic. Where motor private made an underwriting loss of KES 6.17 billion and motor commercial an underwriting loss of KES 3.32 billion. General reinsurers incurred claims amounting to KES 13.80 billion and direct expenses (commissions and management expenses) of KES 10.14 billion. according to IRA (2014) annual report some insurance companies don't possess the required capitalization levels to write major and emerging risks such as political violence and terrorism. This created the need for a study on Kenyan insurance sector

1.2 Statement of the Problem

High performance of insurance firms in Kenya is crucial for increase insurance penetration nationwide toward economic growth and attaining sustainable growth. However, despite few firms increasing their performance such as UAP insurance company, CIC general insurance company, GA insurance company, APA insurance company and jubilee health insurance, most insurance have indicated decline in their performance from 2016-2021 (IRA, 2021). For example, in the year 2016 the ROA was 3.6% which decreased to 3.2% in the year 2017, 2.3% in 2018, 2.3 in 2019 and 1.75 in 2020 (Kiptoo, et al., 2021). These has resulted to low growth of insurance industry with a marginal growth of 2.5% compared to the global real term growth of 4% (Chege, et al., 2019). In addition, Kenyan insurance industry is also experiencing growth coupled with increased competition by entry of global insurance companies such as Sanlam and Old Mutual Group (AKI, 2014). Despite Kenya having 55 registered insurance underwriters as at 2017 (IRA), only ten (10) underwriters enjoy 60% of the market share. Many insurance companies have experienced stiff competition from major underwriters and are yet to experience significant growth or break even. This trend explains the high rate of insurance firms falling into receivership and liquidation problems. More than eight insurers have

been put under statutory management since 2008 (Insurance Regulatory authority, 2013).

These worrying statistics are peculiar to the insurance sector since the commercial banks and SACCOs statistics support a different narrative (Sing'ombe, 2016). Therefore, the question that begs for answers is what specific firm factors in insurance firms that are responsible for the persistent below average financial results in some of the insurance firms. To stem and address the eminent insolvency risk coupled with profitability challenges faced by insurance firms, the government of Kenya intervened by increasing the minimum equity capital requirement by insurers in 2013 (Waweru, 2014). The minimum equity capital requirement was reviewed to 400 million, 600 million and 1 billion for life, general and composite insurers by June 2018 respectively. Several researchers have indicated the need by insurers to enhance their firm characteristics such as equity capital by increasing the volume of equity capital in order to be adequately for purposes of dealing with the increased combined ratio expenses (Muchiri, 2016). In 2011 the regulator raised the concern of insurers having a challenge in matching asset – liability maturities periods and hence the exposure of insurance firms to both funding and market liquidity risks (Insurance Regulatory Authority, 2011). Local studies linking firms' characteristics such as Odira, (2018) who studied firm characteristics (leverage, liquidity, and underwriting) on performance of 32 general insurance companies in Kenya using data from 2011-2016. Too and Simiyu (2018) determined effect of firm characteristics (ownership structure, firm size, capital structure and firm age) on performance of 47 General insurance companies in Kenya from 2011-2015. Other studies such as Obudho, 2014; Wahome, 2015 have also studied firm characteristic and performance of non-life and listed insurance firms respectively. However, these studies did not conclusively show how equity capital, underwriting risk , firm leverage , liquidity affect performance of all insurance firms for a larger period exceeding five years. Previous research identified a number of potential characteristics that influence various measure of firm performance, but very few linked with return on asset. In addition, they did not consider firm size as moderator. Thus, the study sought to find the influence of firm characteristics (equity capital, underwriting risk, leverage and liquidity) on the financial performance of insurance

firms in Kenya. The relation between the four mentioned explanatory variables and the dependent variable was moderated by the influence of size of insurance firms.

1.3 Research Objectives

The study was guided by two broad research objectives, namely the general objective and specific objectives.

1.3.1 General Objective

The general objective of this study was to investigate the influence of firm characteristics on the financial performance of insurance firms in Kenya

1.3.2 Specific Objectives

The following were the specific objectives of the study;

i. To determine the influence of equity capital on financial performance of the insurance companies in Kenya

ii. To assess how underwriting risk influences financial performance of the insurance companies in Kenya.

iii. To establish how firm leverage influences financial performance of the insurance companies in Kenya.

iv. To ascertain the influence of liquidity on the financial performance of insurance firms in Kenya.

v. To determine the moderating influence of firm size on the relationship between firm characteristics and financial performance of insurance firms in Kenya.

1.4 Hypotheses

To conduct this study the researcher tested the following hypotheses;

$H_{01:}$ Equity capital has no significant influence on the financial performance of the insurance companies in Kenya.

$H_{02:}$ Underwriting risk has no significant influence on the financial performance of the insurance companies in Kenya.

$H_{03:}$ Firm leverage has no significant influence on the financial performance of the insurance companies in Kenya.

$H_{04:}$ Firm liquidity has no significant influence on the financial performance of the insurance companies in Kenya.

$H_{05:}$ Firm size has no significant moderating influence on the relationship between firm   characteristics and financial performance of insurance firms in Kenya.

1.5 Significance of the study

1.5.1 Management of Insurance Firms in Kenya

One of the main beneficiaries of the findings of this research is likely to be the life, non-life and composite insurers in Kenya. This is because the researcher brought to light drivers of either poor or good financial performance of the Kenyan insurance sector. In the recent past, the risk of firms going under has increased significantly due to cut-throat competition and the adverse influence of technology which have significantly increased cyber-crimes and fraud cases. It is on this ground that every manager is required to be pro-active in order to alleviate the many risks facing the insurance firms. This study helped to paint picture on the key areas that need an extra attention for the firms to be able to remain stable, to grow and to develop in the midst of the many challenges both in internal and external operating environment.

1.5.2 Policy Makers

Policymakers, regulators, and strategists might draw useful information from the findings of this study. The professionals involved in setting and formulating polices and strategies in the insurance sector might immensely benefit and gain useful insights from this study. This is because, policy makers rely heavily on research works in order to identify the changing trends in the consumer needs and the emerging issues that influence the financial performance of insurance firms.

Similarly, policy makers in other facets of the financial industry for instance banks and SACCOs might gain immense wealth of knowledge from this study since all the players in the financial sectors are interconnected, interdependent and interrelated.

1.5.3 Investors

Kenyan Investors as well as the global ones are likely to gain important insights and tips about the insurance landscape in Kenya. This might enable them to invest wisely by putting more weight on the insurers with strong financial muscle and by avoiding insurers in financial turmoil. The study results facilitated the investors to make informed and rational choices according to the prevailing conditions in the market. The study identified the firms that are struggling financially due to unfavorable specific firm factors vis a vis the firms that indicate the possibility of significant growth potential based on the robustness of their systems.

1.5.4 Researchers and Scholars

Similar to most other studies; this study enhanced and developed further the current body of knowledge in the field of the insurance. The study contributes to conceptual and theoretical gaps on link between firm characteristics (equity capital, underwriting risk, leverage and liquidity) on the financial performance of insurance firms in Kenya for all insurance firms in Kenya. Researchers both present and in future will use the content of this study to build on their academic work. Other scholars might read the current study with the aim of understanding better the linkage between firm characteristics and the financial strength and health of the insurers operating in the Kenyan Market.

1.5.5 Government Agents

Various government agencies like Kenya Revenue Authority, KRA, stand to gain substantial benefits from this study. The Insurance Regulatory Authority and other government agencies mandated to oversee the growth and development of the insurance sector will profit from this study abundantly. IRA in particular which is the government body mandated to promote and oversee the growth of the insurance

sector has a significant and paramount interest in this study. This will in future lead to better financial performance by insurance firms and consequently widen the tax collection base for the Kenya Revenue Authority.

1.6 The Scope of the Study

This refers to the requirement by the researcher to delineate and specify the area of study. The delineation and creation of study boundaries are done by defining the geographical location that the study sought to cover, the time period under review, the specific market of interest, historical and ideological boundaries. The scope gives a disclaimer on the extent to which the outcome of the study can be generalized to other related areas of study.

The scope of the study was the 54 insurance firms which operated in the Kenyan market between 2010 and 2018 as per the IRA Annual Report for 2018. The researcher chose this period because it provided the most recent data. The study narrowed down on the insurance firms' characteristics that influence their financial performance. A census of all the 52 insurance companies was taken to collect secondary data. The study was of paramount Importance to insurance policy makers in order to improve insurance competition and achieve the proposed insurance concentration of 5% by the year 2020. Despite the existence of numerous firms' characteristics that may affect the financial performance of insurance firms, the researcher chose four factors based on the identified gaps in financial theories and recommendations given by previous researchers and scholars for further studies. The explanatory study variables are equity capital, underwriting risk, liquidity, leverage and firm size as the moderating variable.

1.7 Limitations of the Study

The study had numerous challenges but the researcher found means to overcome the same in order to ensure the quality of the study was not adversely affected. For instance, the availability of secondary data posed a great challenge for some insurance firms because of the non-existent of the annual reports of both Insurance Regulatory Authority and Association of Kenya Insurers. To overcome this challenge

the researcher consulted the information published on individual firms' websites in order to bridge the missing information gap. The researcher visited the offices of the insurance firms whose data was not published in any online platform. The researcher used an introductory letter for the collection of the secondary data that was issued by the University and also guaranteed the insurance firms that data collected shall only be used for the research work only.

Another challenge was some insurance firms were not in operation for the entire period under consideration. Some insurers ceased operating due to bankruptcy problems while other were incorporated a few years ago. To ensure the integrity of the data and reliability of the regression results unbalanced panel data was used.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses the various theories on which the variables of the study are anchored on and the related literature content. Therefore, the chapter begins by discussing the theoretical framework that guides and informs the researcher in navigating and executing this research. Both the dependent and independent variables were discussed, analyzed and reviewed in depth based on the previous empirical studies and research works done in this area. The chapter further discusses the possible moderating influence of firm size. This chapter ends by discussing the empirical review, and by offering constructive criticism in terms of methodological, contextual and theoretical irritations of the existing literature and finally by highlighting the research gap discovered from the literature reviewed.

2.2 Theoretical Literature Review

A theory is a collection of ideas intended to define or explain something or a situation by setting general principles on which the existence of such a situation is based. It can further be defined as an idea or a statement that is used to explain or justify a situation or occurrence. The researcher should be well versed with theories existing in his or her area of study (Calomiris & Jaremski, 2016). The theoretical framework helps the researcher to identify which variables to measure and what kind of a relationship he should expect as an outcome. Grant and Osanloo (2016) separately argued that a researcher is able to view clearly the variables under study and to come up with research design to use in order to accomplish his objective. Each variable of the study should be supported by at least one theory. The researcher needs to discuss how each particular theory has evolved over time and the manner in which other researchers have used the subject theory in their academic works (Jouison, 2014).

2.2.1 Agency Theory

Jensen and Meckling (2019) defined agency as an association of two parties referred to as the principal and the agent. The principal is therefore the appointing authority of the agent and as such the latter is required and mandated to act in the best interests of the former. Large firms are well positioned to handle agency –principal problems by increasing the monitoring costs and giving incentives to managers (Vithessonthi & Tongurai, 2015).

Highly leveraged firms have moderately low agency costs since they are able to mitigate the risk of managers acting arbitrarily (Man, 2019). Any counterproductive decision a manager makes increases the bankruptcy rate and subsequently the risk of losing the job. However, an increase of debts levels, beyond a certain limit, raises the agency costs as the debt holder demand for representation in the firm's management board (Rossi & Harjoto, 2020). Conversely, high liquidity firms have high agency costs as it has to increase the monitoring costs to reduce the likelihood of misappropriations of resources by the managers (Muhammad, et al., 2016). Agency theory has gained immense recognition by various scholars and researchers in financial management, as it positions the shareholders as the main stakeholder, residual claimant, owner of the firm and the risk bearer (Jensen and Meckling, 2019).

The use and adoption of the agency theory increased significantly in the 1980s as firms replaced the school of thought of managerial equity capitalism with managers been viewed as shareholders agents (Salehi, et al., 2020). Agency theory was able to address the growing concern and accusations that managers were involved in empire building with total disregard of shareholders interest in wealth maximization.

Michael Jensen termed this as systematic fleecing of bondholders and shareholder. Agency problem deepens according to the size and complexity of firm's operations. Majority of shareholders have no time and knowhow to manage their business and hence the need to engage managers as agents and trustees (Zhu, et al., 2020). Ultimately, the need to achieve separation of control and ownership of the firm arises. This is in accordance with the best international practices of governing an entity. Unfortunately, a problem occurs when risk seeking managers choose to pursue selfish, greedy and personal objectives at the expense of the interests of the

risk-neutral shareholders (Baulkaran & Bhattarai, 2020). Chances of moral hazards occurring increase due to the rise of opportunistic behavior of self-interest start to be the guide for managers (Ballwieser et al., 2012).

Moral hazard is bound to exist between the insurer and the insured as each aspires to increase their utility; profit and benefit respectively (Rossi et al., 2020). The problem of moral hazard which is the source of the agency theory introduces agency costs. The principal aspires to reduce information asymmetry by using performance contracts, motivating and giving incentives to his managers and implementing rules and regulations with the aim of minimizing adverse consequence. However, achieving zero agency costs is a far-fetched fallacy, since the marginal costs of achieving this, would surpass the benefits of proper and perfect alignment between managers and principal (Wani & Dar, 2013). The more effective the board of directors is in monitoring and measuring the behavior and performance of managers the better the profitability.

The relevance of this theory in discussing influence of underwriting risk and equity capital on financial performance of insurance firms is based Kader et al., (2018) use of agency Theory in explaining that insurance firms with higher underwriting risk are likely to acquire greater reinsurance coverage than insurers that write less risky lines of insurance. his is because reinsurance helps to mitigate the adverse financial effects of mis-priced assumed risks, unexpectedly severe losses, and associated earnings volatility. Also, using agency theory, Charumathi, (2012) and Muhammad, et al., (2016) explained that increase in equity capital develop agency problems due to the need to separate management and ownership. Agency costs incurred are; monitoring and commitment costs to ensure that the managers act in the best interest of the shareholders and win their trust. However, one major criticism of agency theory is that agency theory assumes that behaviors and consequences are relatively homogeneous and easily controlled, which is not true in the real world (Zogning, 2017).

2.2.2 Trade-off Theory

Trade-off Theory by Myers (1984) is incongruent with the principles propounded by Modigliani and Miller regarding the irrelevance of the capital structure that advocated existence of an ideal market, where the government does not impose taxes on its citizens and businesses, where the investors are rational and where the availability of perfect information for free (Al-Kahtani, & Al-Eraij, 2018). Khoa and Thai, (2021) appreciate the existence of market imperfections and failures and thus originated the trade-off theory with more practical and realistic assumptions compared to the Modigliani and Miller theory. The static trade-off theorists believe that an optimal debt-equity ratio exists and that rational firms struggle to achieve and operate on that level.

The target debt-equity ratio is a theoretical and an imaginary point where the marginal cost of an extra unit of debt coincides with the incremental benefit arising from the employment of extra debt in firm's operations (Ai et al.,2020). The findings by Sogorb (2003) reiterate the firm preferred and the desired debt level occurs when the difference between the marginal benefits and marginal costs is nil. Trade theory claims firms with taxable income should increase their debt level in order to benefit from tax shield. However, this should not surpass a theoretical optimal level since increased debt inherently drives the risk of financial distress up (Chod & Lyandres, 2021).

The theory underscores that firms make a trade-off between risk of bankruptcy and the related financial distress costs against the benefit of tax shield when making a decision on how to structure their financing. They seek to attain an optimal debt-equity ratio that will reduce the weighted average cost of equity capital. This optimal balance between debt and equity is difficult to achieve and firms gradually re-organize their Capital structure as they struggle to achieve it (Foulon, 2020).

The trade-off theory is an improvement of Modigliani and Miller Proposition to the extent that it incorporates the influence of tax and bankruptcy costs in its argument. Firms that employ the use of debt as a financial strategy gain a tax shield benefit but increased debt levels benefits are eroded by the increased risk of financial distress

and turmoil. With the increase in debt levels, the debt-holders will demand a premium on their rate of return. Similarly, the shareholders will also demand better rate of return for their investment (Lambrecht & Myers, 2017).

According to, Brealey et al., (2020), companies with huge asset base and large taxable income need to use huge debt levels in order to minimize tax burden through tax planning strategies. However, unprofitable firms and those with narrow asset base have no choice but to technically depend on equity financing. Assuming none existence of transaction costs involved in adjusting the capital structure then every firm would operate at its optimal level. According to, Hovakimian et al., (2012), the static trade-off theory, a firms financial performance influences its capital structure as is reflected in the type of securities it issues to finance its operations.

Dynamic trade theory states that rebalancing of debt and equity composition in the Capital structure of a firm is expensive as well as costly and may be counter-productive. Due to this reason firms settle for a leverage ratio that is not optimal and only seeks to adjust it when the benefit of such a change is superior to the associated costs (Dudley, 2007). The observation that profitable firms seek to finance their operations using debt was supported by (Hovakimian et al., 2012).

Based on previous empirical studies concordant with the provisions of dynamic trade theory in discussing leverage and financial performance (Tripathy & Shaik, 2020; Rahman et al., 2021). Abdullah and Tursoy (2021) made a further observation that profitable firms find it prudent to re-adjust their debt levels in order to align with the optimal capital structure and conform with the dynamic trade-off theory. The theory introduces an important perspective in this study by indicating how leverage affects the financial performance of insurance institutions in Kenya. According to the theory, an increase of the leverage of a firm leads to a similar increase in profitability of a firm. However, the theory is widely criticized because it alleges that there are no transaction costs to issuing or re-purchasing of securities as firms endeavor to attain and maintain the optimal capital structure.

2.2.3 Liquidity Preference Theory

Liquidity Preference Theory by Keynes, (1964) is anchored on the belief that an investor prefers short-term investments like treasury bills and other money markets products and not long-term investments like bonds and other equity capital market products due to the need to hold cash for transactional, precautionary and speculative purposes (Chen et al., 2020).

Transactional money function is associated with the payment of salaries and other firm's operational costs while precautionary involves holding of cash in anticipation of any claims that may be launched by the insured (Pusch, 2017). Similarly, the speculative use of money by an insurance firm entails the need to profit out of the market inefficiencies characterized by mispricing of securities and other financial assets (Raongo, 2015). Similarly, investors demand higher interest rates if the investment period is characterized by interest rates volatility.

The risk appetite and profile of the investor determines the choice of the length of the investment period. Investors with no stable income would prefer short-term investments as they are liquid and easily converted to cash albeit low rate of return (Van den Bergh, 2019). Similarly, an insurance firm with uncertain sources of income and claims from the insurance policies would prefer to hold or invest its premium in cash or near cash equivalent investments.

The relevance of this theory to the in determining the effect of firm liquidity and financial performance of insurance firms is based on Marozva (2015) use of Liquidity Preference Theory in his argument that firm with high liquidity can easily take advantage of opportunities by making investments that can promote better returns. Ja'afar, et al., (2022) used Liquidity Preference Theory supporting the link between firm liquidity and performance of listed insurance firms. The greater the liquidity of an investment, the simpler it is to sell it quickly and at its full market value, when necessary, hence the high the firm profitability. However, critics of the theory ((Hazlitt, 1977; Parguez, 2008; Rothbard, 1962) argues that Investors and firms are encouraged to save their money so as to accumulate interests, however, according to Keynes (1964), what they get after saving is not interest but a reward to

part with their money. wealthy individuals and organizations with numerous sources of income prefer long-term investments and zero-coupon bonds which do not offer periodical interests.

2.2.4 Modern Portfolio Theory

Modern portfolio theory by Harry Markowitz in 1952 was advanced by Elton and Gruber, (1997) proved the fundamental theorem of mean variance portfolio theory, namely holding constant variance, maximize expected return, and holding constant expected return minimize variance.   The theory addresses the choice that an investor makes to come up with an efficient portfolio (Fajartama & Faturohman, 2021). The theory underpins the selection of securities for inclusion in a portfolio should be guided by its mean and variance of the return. This led to the invention of an efficient frontier that underscores the rationality of selecting the least risk portfolio in the event an investor is faced with different portfolios with different risks but same return. Similarly, in an array of portfolios with same risks but different returns, Harry Markowitz emphasized on selecting the portfolio with the highest returns. However, the movement of security returns need has to be considered alongside other with the aim of reducing the variance and variation of the portfolio returns.

Modern portfolio theory (MPT) is a theory in investment and portfolio management that shows how an investor can maximize a portfolio's expected return for a given level of risk by altering the proportions of the various assets (firm size) in the portfolio (Iyiola, et al., 20120. The MPT is a theory of investment which attempts to maximize portfolio expected return for a given amount of portfolio risk, or equivalently minimize risk for a given level of expected return, by carefully choosing the proportions of various assets (Brandi et al., 2020). The theory encourages asset diversification to hedge against market risk as well as risk that is unique to a specific company (Pinto, 2020).

Thus, the study is relevant in the study in discussing moderating effect of firm size (measured as natural logarithm of total assets) on relationship between underwriting risk, leverage, liquidity, equity capital and financial performance of insurance firms in Kenya based Sukharev, (2020) that The MPT mathematically formulates the

concept of diversification in investing, with the aim of selecting a collection of investment assets that has collectively lower risk than any individual asset. This theory is relevant to the current study as it explains difference in firm size. Firms mainly issue an initial public offer and trade subsequently trades its shares in an exchange commission in order to obtain long term funding from the general public (Rutto, 2013). Some firms however, prefer to raise funds and to finance its operations from retained earnings, owners savings or debt as opposed to listing on securities exchange due to fear of diluting ownership (Waweru, 2014). Therefore, firms obtain their funding from different sources in accordance to the level of risk and return associated with the source of money under consideration. This is in unison with the modern portfolio theory which states that a firm will choose the option with the least risk among options faced with similar return. Equally a firm will select the strategy with the highest return when faced with strategies with similar risks (Mutua, 2016). However, theory is not flawless, Critics and opponents of modern portfolio theory argue it cannot be relied upon since its judgment criteria only relies on the observations of a single period. However, most investments span over multi-period, (Fama and French 1992; Hakansson,1974; Merton,1990).

2.3 Conceptual Framework

A conceptual framework is a pictorial diagram that shows the interdependence and the connection among various variables in a study and the manner in which such variables will be measured and quantified. Its purpose is to group, categorize and describe concepts and ideas that are relevant to the underlying study. This study has four independent variables (underwriting risk, firm leverage, firm liquidity and equity capital) while firm size is moderating variable between firm characteristics factors and the financial performance of insurance firms.

```
Firm size
 • Natural log
   Total asset
```

```
Equity- Capital
 • Natural  log  of  Equity
   Capital
```

```
Underwriting risk
 • incurred claims
 • Total premiums
```

```
Firm Leverage
 • Total debt
 • Total assets
```

```
Firm Liquidity
 • Current assets
 • Current liabilities
```

```
Financial performance
 • Returns on Asset
```
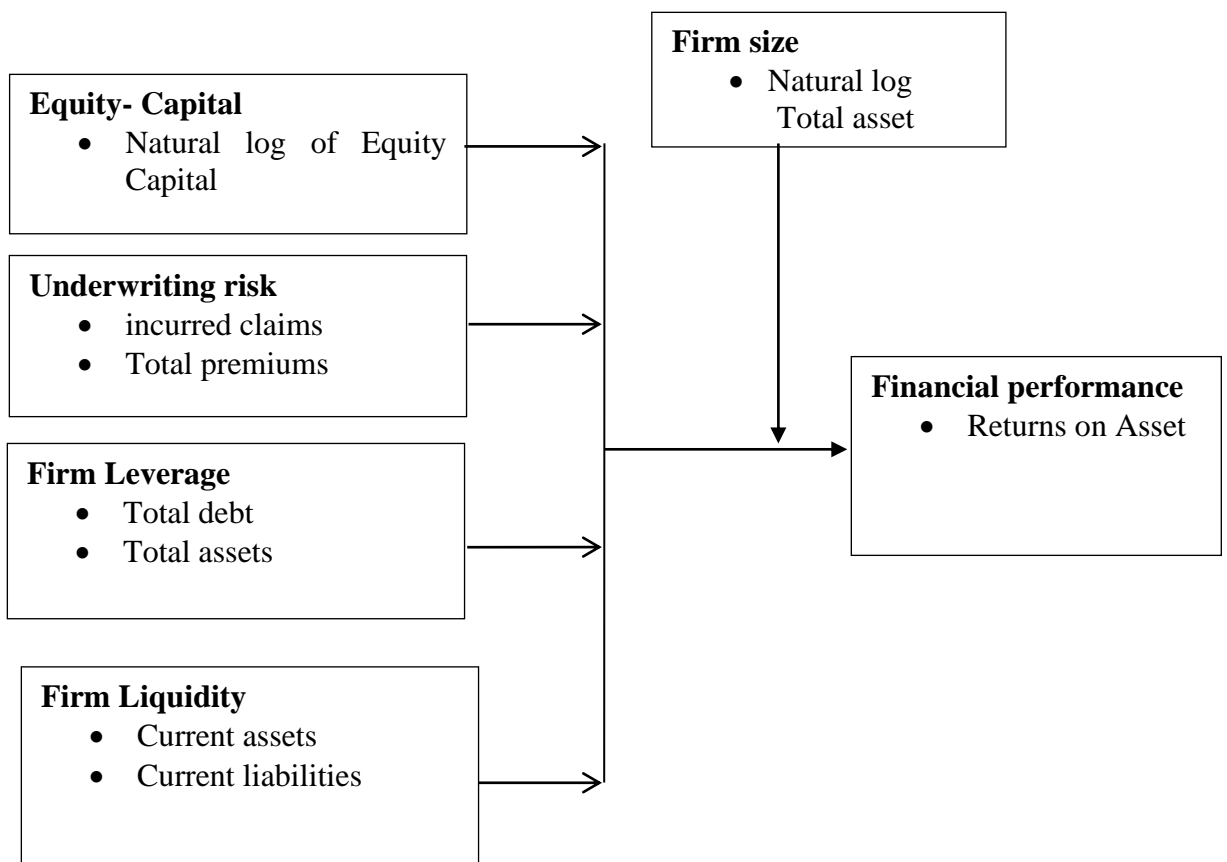
Independent Variable   **Moderating Variable**   **Dependent Variable**

Figure 2.1: Conceptual Framework

Source ; Author (2020)

2.3.1 Equity Capital

Equity Capital is a critical factor of production, the other production factors are land, entrepreneurship and labor (Milosević, et al., 2020). Insurance firms need adequate equity capital in order to pay claims raised by the policyholders, meet operating expenses and invest for purposes of creating value and wealth for the shareholders. In the recent past, some insurance firms have been declared bankrupt due to cash flow problems and have been unable to pay claims payable to the policyholders.

Countless studies on the impact of volume of equity on financial performance have been conducted since time immemorial. However, little attention has been accorded to the insurance sector despite the high risk that insurance companies operate in. Mudida and Ngene (2010) argued that equity capital is important to a firm and there exists a capital structure at which cost of equity capital is minimized and it is also the point that firm value is also maximized.

Capital and its formation have been an issue of discussion in the extant literature, but the fact remains that no business exists without capital. Capital could be in form of share capital, such that the shareholders, the general public would subscribe to it. It also refers to cash contributed originally by the shareholders commonly called sweat money. Although, it is one thing to provide capital, yet, it is also another thing for the capital to create value for the providers. Okolo, Okwu, Egbe and Monyei (2019) asserted that Banks survival is directly dependent on its ownership structure. Also, Eriki, Idolor, and Eghosa (2012) divulge that the carefulness behind the ideas of financing a company shows how crucial it is to the optimization of corporate returns, and its value to the owners and as such, underscores the magnitude of financial management to the execution of business organizations.

In the word of Gurnam (2012), whenever funds have to be secured, the financial manager should weigh the rewards and disadvantages of the various sources of funds and choose the more profitable sources keeping in view the expected capital structure. That is because neither does a firm operates with intention to make lose nor a shareholder wanting a negative value as returns, thereby making the decision regarding choice of financing a bank a critical importance and has to be approached with a great care. This study considers equity capital financing otherwise. Tariq, Waqar, and Muhammad (2014); Gurnam (2012) observed that debt is riskier when compared to equity because it gives room for the financial risk. More so, interest and principal payments on debt must be paid promptly when due. Else, bankruptcy, loss of control for the owners may arise. Finally, they conclude that some debt, but not hundred percent debt financing (optimal) will be reached by introducing various market imperfections.

Equity capital is the main source of funds for a business. It represents the section of a business value that would remain if a business had no liabilities left unpaid. The owners of the ordinary share Equity capital, the shareholders are the residual beneficiary in the event that a firm is wound on insolvency grounds. Many scholars and researchers have delved and dissected this variable because of the critical role it plays in a business (Wainaina, 2014). The size of the Equity capital owed by a firm is used to categorize it either as large or medium sized or small firms.

The main role of equity capital in insurance companies is to provide a cushion against deviations of realized losses from expected losses. Thus, the amount of equity capital an insurance company has on its balance sheet relative to its liabilities to policyholders determines its probability of insolvency, and regulators monitor insurers' Equity capitalization levels carefully (Carson, Doran, & Dumm, 2011). Insurers then determine their optimal equity capitalization level by trading off the costs and benefits of holding equity capital. Lu et al., (2020) shows how an insurance company determines its optimal capital structure by trading off the costs of holding Equity capital with the increased probability of having to raise costly external equity capital after the realization of unexpected losses. If the costs of raising external equity capital after a shock are relatively low insurance companies' optimal level of equity capital will be relatively low; the insurers will then simply rely on their ability to easily raise equity capital later if needed (Cheng & Weiss, 2012).

2.3.2 Underwriting Risk

Underwriting risk is the possibility of losing money in a process of risk evaluation assessment when insurance premiums are insufficient to cover claims (Adams & Buckle, 2000). Underwriting risk is the most essential operations undertaken by insurers. Underwriting process in risks include assessing the level of risk posed by policyholders. This process is getting ready to calculate the right insurance premium (Fuad et al., 2018).

Underwriting risk could also come in the form of underpriced current business operations or undervalued liabilities from underpaid or unpaid (expired) past policies. It could result from poor underwriting, improper or faulty estimates about

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the severity and frequency of losses, or variables beyond the underwriter's control (Angima et al., 2017). This could be also because a large portion of the total written premiums has remained uncollectible for a long time (Shiu, 2004). While it is unrealistic to expect it to be totally eliminated, underwriting risk is at the heart of an insurer's major risk management activities, and mitigating this risk is thus critical for the company's profitability in long-term (Berhe & Kaur, 2017).

underwriting risk refers to the activities in determining an individual's risk exposures and coverage options in order to make an appropriate underwriting decision. Acceptance or denial of coverage, or acceptance with conditions, are examples of these decisions. The risk unit is then assigned to the appropriate risk group within the risk underwriting insurer's portfolio (Angima et al., 2017). In some extreme cases, an underwriter may have limited prior experience evaluating possible claims and must rely heavily on gut instinct to make his decision. However, an underwriter often has the benefit of previous experience with many identical claims, which can be studied and exploited. An individual could therefore identify the most important underwriting aspects (i.e., the attributes which are most influential in determining annual claim costs under the contract) and categorize contracts based on them. The identification and measurement of these elements or features necessitates a thorough statistical investigation (Diacon & Carter, 1998).

In order to underwrite health risks, an underwriter must complete the following procedures: (i) Calculate the average yearly claims for each risk category, based on the frequency distribution data for the number of claims and claim size. (ii) Analyze the primary underwriting elements that influence the degree of health risk, which is determined by the underwriter's experience. They are insured and placed into several risk categories based on these variables, with each risk group's degree of health risk being similar. (iii) Evaluation of the suggested health risk and classification of the suggested health risk within the proper risk group, based on the research of factors determining the degree of risk. The underwriting health risks procedure tries to reduce the negative consequences that an insurance business may face as a result of new insurance applicants being selected against it. In addition, within varied groupings, decreasing the degree of danger in inherent dangers. Due of its negative

repercussions for the insurer's financial performance and stability, adverse selection is a popular topic in the insurance literature. For the insurer, adverse selection could be a manageable issue (Lee Colquitt, et al., 2012). As a result, insurance companies must adhere to tight underwriting guidelines, and each department of the insurance industry must practice it. At the equilibrium underwriting, low risks obtain greater coverage than they would without underwriting (Brown & Kamiya, 2012)

The underwriting risk, which is largely utilized in the insurance sector, is a proportion ratio of losses paid out to premiums generated. The goal of underwriting risk is to give insurer firms a large assessment of their business performance by contrasting the expenses of claims paid to the received premiums. Underwriting risk, which shows the percentage of incurred claim payouts settled with insureds, has been a lengthy indicator of profitability in the insurance industry (Götze & Gürtler, 2019). The efficiency of insurance firms in terms of underwriting achievements is measured by underwriting risk, that also articulates applicable underwriting results (Berhe & Kaur, 2017). Insurance companies may be in trouble if they have a history of high underwriting risks or excessive claim payouts, which implies their claim and expenditure payouts are too large in comparison to their paid premiums to make a sustainable profit. Furthermore, riskier insurance lines, such as auto insurance, fire insurance, and miscellaneous insurance, will have greater uncertain losses. Transitioning to high-risk underwriting policy and applying laxer claim or loss adjustment procedures are two potential causes of moral hazard identified in the literature connected to reinsurance and alternative risk transfer (Götze & Gürtler, 2019). In this study, underwriting risk is measured as the ratio of incurred claims to earned premiums and is calculated by dividing the net incurred claims with the total premiums (Mehari & Aemiro, 2013).

2.3.3 Firm Leverage

Financial leverage is the use of borrowed money (debt) to finance the purchase of assets with the expectation that the income or capital gain from the new asset will exceed the cost of borrowing (Ezechukwu & Amahalu, 2017). The borrower assumes that the asset bought through the borrowed fund or the business will generate better

returns than the cost of borrowing. It also refers to the degree in which a firm uses fixed interest assets for instance the preferred shares, bonds and debentures to finance its operations. High leverage is synonymous to high interest rate expenses and therefore reduced earnings per share(Hayes. 2021). Firm leverage defines how a firm is indebted through loans, debentures and other forms of borrowing by the firm. The firm borrows with the aim of earning and generating superior returns on its investment compared to the cost of borrowing. Firms which become successful on this front do increase the wealth of the shareholders as well as enhance their financial performance (Pandey, 2010).

Leverage as a variable and a determinant of financial performance of firms has been researched largely by scholars as they seek to decide on the ideal capital structure that a firm ought to adopt (Ofulue et al., 2022). Various finance theories address the subject of leverage and the optimal Capital structure. These theories vary from each other in defining and explaining the capital structure.

For instance, the Modigliani and Miller postulates the non-existence of any relationship between the worth and value of a firm in comparison with the nature of the Capital structure adopted. Though the theory acknowledges the positive contribution of the debt financing to a firm as a result of the tax shield on borrowed funds, the theory also appreciates that a highly leveraged firm faces the bankruptcy risks and therefore increases the cost of future financing (Muigai, 2016).

2.3.4 Firm Liquidity

Liquidity has been defined by different authors and researchers. It measures the degree to which an asset can be sold or bought quickly without compromising its market value. The most liquid asset is cash, both at hand and in the bank, Chipa and Wamiori (2014). In the same vein, liquidity is a technical term referring to the ability of a firm to pay off its liabilities, whose re-payment period is less than twelve months, by using its liquid assets at its disposal and not by liquidating its fixed assets. A firm may have a huge volume of equity capital but still suffer from liquidity problems due to mismatch of assets and liabilities maturity timelines (Olajide, Funmi, & Olayemi, 2017).

Firm liquidity deals with the firm's inflow and outflow of cash and whether a firm has sufficient funds to offset its short term financial obligations without disposing its fixed assets and by the use of cash and cash equivalent assets (Demirgünes, 2016). Liquid firms have lower risk of running into solvency problems as it is able to pay its dues promptly as and when they arise. However, high liquidity comes at the expense of investment income that the firms fail to generate by not investing the funds whenever it chooses liquidity over investment. A firm has to make a hard decision as it seeks to find equilibrium between the benefit of liquidity and that of high profitability (Nugraha et al., 2022). Unfortunately, liquidity generates the principal - agency problems mainly because the manager is prone to misuse and misappropriate the excess funds at his disposal and ultimately hurt the financial wellbeing of a firm (Evgeny, 2015). Most firms prefer to reduce the liquidity of a firm and therefore raise its leverage as a way of discouraging rogue and corrupt managers from making substandard and counter-productive choices for their own benefits but ends up lowering the real value of the firm.

Liquidity position refers to the capability of a firm to attend to its temporary objectives whenever and however they crop up. Cash is a critical factor when matters of liquidity position of a firm are concerned (Sadiq et al., 2022). When a firm lacks sufficient money to attend to its temporary activities, the administration may choose to withhold dividends in an attempt to ensure that the withheld money is on standby when needed (Ahmed, 2014). Liquidity is a key influencing factor when settling on dividend adjudication. Zaipul (2012) notes that dividend payout pattern of a company as well as its liquidity bears an explicit relationship. In the case where a firm has sufficient flow of funds, it would be more apt to disburse the dividend payments so as to ensure its investors remain satisfied (Hussain, 2011). Marlina and Danica, (2009) add that companies are required to roll out dividend payouts in cash and as such they have little option but to be sufficiently liquid so as to disburse dividend payments without compromising the firm's solvency. Current ratio (CR) and cash from operations (CFO) are the determinants of the liquidity level of a company.

Fama and French (2001) discovered that the liquidity of the company, income and investment prospects available as well as ownership structure influences the firm performance protocol. According to Gupta and Banga (2010) and Kania and Bacon (2005) liquidity is instrumental in determining firm performance. Anil and Kapoor (2008) discovered that liquidity and beta (year-to-year income fluctuations) are the significant determinants of firm performance proportion of the Indian Information Technology industry whereas increased sales, continuous flow of cash and business tax failed to elaborate the firm performance sequences in the industry.

In their research, scholars Amidu and Joshua (2006), Marlina and Danica (2009), Al-Ajmi and Hussain (2011), Ahmed (2014) and Al-Twaijry (2007) discovered that liquidity was definitively linked to firm performance. The testing of the variable employed OLS panel regression and mean comparison. On the flip side, in a recent analysis carried out by Yarram and Dollery (2014) employing random effect panel logit regression implied a different school of thought regarding liquidity arguing that liquidity bears a considerable negative impact on firm performance. Zaipul (2012) in their analysis in Indonesia stock market, at an equally fitting time applying regression discovered that liquidity holds no relevance in establishing firm performance.

2.3.5 Firm Size

Almashhadani and Almashhadani, (2022) firm size can be concluded as how large a company is reflected by its total asset, sales, or market equity capitalization. According to Cahyanti te al., (2022) Firm size is a picture of large or small companies that appear in the value of total assets, and it's measured by logarithm of total assets. From the statement above, Fujianti and Satria (2020) conclude that firm size is describes how large or small of a company measured by its total assets or by its total equity capitalization,

The size of the firm is the most crucial trait since it determines its vertical integration and the profitability of the industry at large. Firm size has a direct correlation with the financial performance of an organization as it aids in achieving the economies of scale (Cordeiro & Tewari, 2015). Waweru & Riro (2013) argue that, bigger

companies are more efficient and perform better than smaller ones. The size of the firm can determine its investment opportunities. Large firms can access more Equity Capital due to their market power as compared to small companies. According to Babalola (2013), the larger a firm is, the more influence it has over its equity investors, and as a result, large firms tend to benefit from economies of scale and outperform small firms.

Size has over time immemorial attracted the interest of researchers as they struggle to document the exact influence of size on financial performance of a firm. The IRA directed all the insurance firms to enhance their minimum equity capital to Kshs 400 million and Kshs 600 million for life and non-life insurers by June 2018 respectively. However, many insurance firms have not been able to comply with this directive and hence the IRA decided to change the date of implementation to June 2020 (Insurance Regulatory Authority, 2017). Insurance firms are categorized in four main types. These are life insurers, general insurers, composite insurers and re-insurance firms.

The basic assumption is that larger firms outperform smaller firms in international markets because they have a larger resource stock. A large corporation, in contrast to a small firm, is able to exercise more bargaining power, overcome bureaucratic red tape, conduct costly market research, develop more successful marketing tactics due to a larger skill pool, and exploit unused capacity in the market to a greater extent (Kigen, 2014). According to the author, a high business size enhances the likelihood of a firm functioning well. Large companies have a larger stock of human capital, allowing them to launch goods more quickly than smaller companies (Mutugi, 2012).

Large companies have a larger stock of human capital, allowing them to launch goods more quickly than smaller companies (Mutugi, 2012). Employees with higher experience and technical knowledge are preferred. According to several studies, there is a link between insurance performance intensity and business size as assessed by the number of employees. Only by developing competitive advantages in respect to product uniqueness or technology niche items can a small business overcome the absence of economies of scale in its worldwide operations.

The issue of business size is critical to an economy's financial sector's stability. It has always been in the forefront of debates. It was prominent during the global financial crisis of 2007/2008. Large banks were clearly responsible for a significant share of the economic damage. Following the upheaval, the debate over the ideal firm size has exploded (Hernández et al., 2020). This debate has intensified in response to the significant changes in financial structure that have occurred in recent years as a result of financial regulation.

2.3.6 Financial Performance

Financial performance is a method of assessing how successful or otherwise are the policies and operations of a firm (Boubaker & Sghaier, 2012). All profit-oriented firms are keen to maximize their shareholders wealth and hence managers and administrators besides relying on the audited financial statements, go a step further to compute the financial ratios. The financial position and income statement items for instance the net profit before and after tax, the current liabilities, and total income collected and current liabilities among others are used to measure the financial performance (Welc, 2022).

The most used financial ratios to measure the financial performance are the profitability ratios. These are returns on assets (ROA), return on equity capital employed, returns on equity (ROE) and returns on investment (Nejjari, & Aamoum, 2022). These ratios measure performance but are unique in terms of interpretation and hence different researchers use different profitability measures based on the hypotheses and objectives of the study (Kumar & Rajakamal, 2022). Other measures of financial performance are free cash flow and the annual sales and revenue growth.

Financial performance measures are key in measuring and comparing the performance of firms in a certain sector, industry or region. The concept of financial performance is underpinned by the agency theory which stipulates that the principal must ensure the agent's decisions are in favor of the organization and not to the agent as individual (Hoang et al., 2022). Financial performance suffers adversely in cases where the agents choose to abandon and abdicate their fiduciary duty and the duty of

care that they owe the organization and instead pursue selfish and egocentric economic goals (Smith, 2011).

According to Kurshev and Strebulaev (2015) organizational performance has different aspects, such as relationship-building performance, short-term and long-term performance, financial and non-financial performance. Firm performance in finance strictly refers to financial performance, for example, return on investments made by the firm and its shareholders in firm itself. It excludes all other types of performance specifically social performance of the firm. Theoretically speaking, the larger the firm is, the larger its operations will be, and the more it will produce resulting in more sales. Higher sales will lead to higher revenue and higher revenue means high profit; high profit will ultimately mean high income, and the more the income or profit after taxes, the more will be the return on investments/assets and return on equity.

The stakeholders' theory has significant contribution to the concept of financial performance. This theory advocates for the interests of every stockholder of an organization to be addressed in order for the organization to achieve its goals and objectives as an entity (Monyi, 2017). The main goal of a profit-oriented organization been profit. It further prescribes the share option ownership concept for the managers for purposes of harmonizing the interests of the principal and the agents of the organization. Financial performance thrives and excels when both the principal and the agent interests are at the equilibrium and are aligned (Njogu, 2017).

According to Sporta (2018), financial performance is a subjective strategy to measure how well an organization is able to utilize it assets and equity capital to produce income. There are different methods of assessing financial performance which are revenue generated from operating activities, total sales or net cash flow improvements. Financial performance is usually used to determine the financial health of a company or business and the results obtained can be compared with similar results for other firms in the same industry (Chimkono, 2016).

Financial performance is usually done on a yearly basis after each firm publishes its financial statements. All insurance firms in Kenya are mandated by their regulator Insurance Regulatory Authority to furnish them with financial statements and also to publish their financial performance on their individual websites. Similarly, listed firms on Nairobi securities exchange are mandated to file their financial statements with both the commission and the equity capital management authority (Muigai, 2016).

Financial analysts use financial ratios to determine the financial position of an organization. The most popular ratios are the ROA and ROE representing Returns on Assets and Returns of Equity respectively (Gonga & Sasaka, 2017). A return on Assets is measured by Earnings before Interests and Taxes over Total Assets. ROA seeks to establish the effectiveness of a firm in utilizing its assets in creating value for its shareholders. ROA is as a method of measurement is popular due to its simplicity and that it uses data which is readily available from financial statements. Numerous researchers used this ratio in their studies for instance (Burca et al., 2014)

2.4 Empirical Literature Review of Related Studies

Empirical literature review relates to a collection of facts and ideas from published works, journals, articles, thesis, dissertations and other scholarly materials done in the area of the researcher's interest (Kothari, 2004). This section explains all the variables in which this study was anchored on. It gives justification on the reasons that informed the researcher to select the subject variables and not others.

2.4.1 Equity Capital and Financial Performance

Berhe and Kaur (2017) conducted a study in Ethiopia on determinants of profitability of the insurance firms in operation in between 2006 – 2015. A total of 17 insurers both life and non-life formed the target population. The results of the fixed influence model indicated that the key determinants of financial performance of insurance firms were equity capital, firm size, and liquidity. Equity capital was measured as the equity capital ratio presented as a ratio of equity to total assets. The profitability of the insurance firms was measured using ROA. The findings of the study proved that

highly equity capitalized insurance firms are more profitable than the less equity capitalized counterparts. That was because firms with strong financial base have numerous investment opportunities at their disposal compared to the poorly financed insurance firms. Berhe and Kaur (2017) therefore encouraged the insurance firms' managers to increase the volume of equity capital in order to make the firms more profitable.

Wani and Dar (2013) supported the findings of Berhe and Kaur (2017) that an upward movement of the Equity Capital is followed by a similar increase in the profitability of the firm in question. That was despite the varying methodology employed by the two researchers. Wani and Dar (2013) used paned data analysis method and measured the volume of Equity Capital as a ratio between equity and total assets while Berhe and Kaur (2017) used multiple linear regressions as the natural logarithm of the book value of equity. Malik (2011) also suggested that an increase in the volume of equity capital enhances the financial performance of insurance firms in Pakistan. That was the outcome of a study on determinants of profitability of insurance firms and used leverage, age, underwriting risk, the volume of equity capital as the explanatory variables. Volume of equity capital was measured as the natural logarithm of the book value of equity whereas profitability was measured by ROA presented as a ratio of profits before taxes divided by the total assets. The data collected and analyzed were sourced from the financial statements of firm covering a period of 4 years from 2005 to 2009.

Some studies differed with the narrative that the volume of equity capital is positively and significantly correlated to financial performance. Kripa and Ajasllari (2016) concluded in their study to investigate the driving factors for profitably of insurance firms in Albania, the volume of equity capital was positive but insignificantly correlated to the financial performance. The study suggested for firms to enhance their profitability, keen attention should be paid to size, liquidity and growth rate. The study used quantitative research design where a total of 7 life and non-life insurance firms operating in Albania were analyzed. Kripa and Ajasllari (2016) findings deferred strongly with Yuqi (2007) who suggested that highly equity capitalized firms have good survival mechanism and are able to cope with the

turbulent financial sector characterized by frequent disruptions by macro-economic factors for instance the fiscal and monetary policies, balance of trade, inflation, exchange rate, gross domestic product growth rate.

Yuqi (2007) did a study on the determinants of banks profitability operating in UK in between 1999 and 2006. According to Yuqi (2007) strong Equity Capital base is equals to low bankruptcy risk and less dependence to external funding and hence good financial performance as a result of reduced credit cost. However, Charumathi (2012) in a study on the drivers of financial performance of Indian life insurers noted that increase in the volume of Equity capital resulted in a reduction of profitability of the 23 insurance firms that were in operation in the Indian insurance sector between 2008- 2011. Charumathi (2012) explained that more than 50% increase in the volume of equity capital by the insurance firms in India was used to offset the accumulated losses from previous years incurred by the insurers. Furthermore, Equity capital influx leads to the opening of new branches which results in the increased cost of operations and hence reduced profitability.

Policyholders prefer insurers with sound and healthy financial status. Solvency ratio is widely used to measure the equity capital of insurance firms. Solvency margin refers to the excess of business equity capital over liabilities. Empirical studies indicate that solvency ratio has been measured using different methods. For instance, Ismail (2013) used net assets over net premium collected. The study sought to find the determinants of the financial performance of the Takaful and general insurance firms in Malaysia. Panel data was used on the secondary data collected for the period between 2004 and 2007. The study measured financial performance as investment yield.

Ismail (2013) concluded that solvency margin was inversely related to the financial performance of insurance firms. The finding went against the expectation that prospective policyholders prefer firms with high solvency margin or with huge volume of equity capital. The study concluded that many policy holders consumed products of Takaful insurance firms based on their support for Islamic values and culture and not mainly because the firm had a high solvency margin. Similarly, firms

with high solvency margin mean there is excess funds that has not been invested and hence the poor financial performance of such firms due to the unutilized investment opportunities. However, the findings by Ismail (2013) were supported by (Shiu, 2004)

Lire and Tegegn (2016) did research on the profitability-determinants of private insurance firms in Ethiopia. The study carried out a non-probabilistic and judgmental sampling technique to select 8 insurance firms out of a total of 17. The study relied on data that emanated from analyzing the financial statements of firms that were in operation within 2005 to 2015. The explanatory variables were inflation, GDP, interest rates, reinsurance dependence, company size, premium growth, solvency ratio and the underwriting risks. Solvency ratio was measured as total liabilities over total assets. The study found out that solvency ratio was inversely related to ROA.

However Burca et al., (2014) preferred to use solvency margin as computed by obtaining the difference between total assets and total liabilities. Other researchers, Komen (2012); Wani and Dar (2013) used available solvency margin over the required solvency margin and ratio between admitted assets and admitted liabilities respectively.

Shamsuddin et al., (2020) did an analysis of how capital structure influences the performance of listed insurance firms in Jordan. The study relied on secondary data sourced from the Amman stock exchange. The data covered 10 years right from 2007 to 2017. The effect of Capital structure on insurance firms' performance was determined using static panel data analysis. capital structure was proxied by equity financing as well as long- and short-term debt. On the other hand, financial performance was measured in terms of Tobin's Q, ROA and ROE. The results indicated that Capital structure contributed to the profitability (ROA, ROE and Tobin's Q) of the insurance firms. Nevertheless, there was no significant relationship between short term debt and Tobin's Q. Though there was no specific focus on equity capital, the study suggested that equity financing is among the key determinants of insurance firms' profitability. In fact, the study deemed it necessary for the insurance sector in Jordan to diversify their financing options to avenues such

as equity financing as opposed to solely relying on debt financing. In that way, the sector will be in a position to mitigate financing risk.

Also, Ondigi and Muturi (2016) examined the determinants of profitability among listed insurance firms in Kenya. The focus of the research was on the influence of equity, debt, liquidity and firm size on the profitability of insurance firms. Emphasis was on six insurance firms listed in the NSE. The research utilized secondary data for a period of five years right from 2010 to 2014. The results from the study indicated that liquidity was a key determinant of the firms' profitability. On the other hand, equity also contributed to the profitability of the insurance firms. The authors found it utmost necessary for insurance firms in Kenya to maintain adequate levels of liquidity so that their profitability levels are not affected. Regarding equity, the firms are required to utilize it optimally such that it does not become a liability as a consequence of the interest paid.

Besides, Gugong, Arugu and Dandago (2014) delved into the influence of ownership structure on the performance of listed insurance firms in Nigeria. The period of focus was from 2001 to 2010 with panel data utilized to address the study's objectives. Taking cognizance of the fact that there are different dimensions that influence firm performance, the emphasis of the research was on managerial and institutional shareholding as attributes of the ownership structure. The findings of the analysis indicated that there is a positive link between ownership structure and the financial performance of insurance firms in Nigeria. The study suggested that the owners' equity has the potential to further enhance firm performance in the sense that it serves as a check and balance mechanism. As such, it largely contributes to the firms' continuity and profit making.

2.4.2 Underwriting Risk and Financial Performance

There has been link between underwriting risk and financial performance of firms. Wongsuwatt et al. (2020) look into the impact of underwriting risk on insurance firms (non-life) company profitability as moderated by firm type. The study collected secondary data from database of 52 insurance firms (non-life) in Thailand. Results from Ordinal Least Square (OLS) regression and fixed effect revealed that

underwriting risk had negative effect on financial performance of non-life insurance firms.

Malik (2011) looked into the factors that influence profitability in Pakistani insurance companies. A 4-year secondary data (2005-2009) from a sample of 35 publicly traded life and non-life insurance companies was gathered. Data was sourced from financial statements of the insurance businesses, annual financial publications of the State Bank of Pakistan, and data from Pakistan Insurance Association (IAP) published in Insurance Year Book. Using panel data analysis showed that underwriting risk and leverage ratio had a negative but substantial link with profitability.

Berhe and Kaur (2017) examine the factors affecting financial performance of Ethiopian non-life insurance firms, using data from the years 2011 to 2016 from a sample of 12 insurance companies giving a total of 72 observations. The study collected secondary data from firms audited financial annual reports using documentary analysis. This data was sourced from general insurers which obtained from National Bank of Ethiopian (NBE) and head office of each insurance companies. Assumption of the classical normal linear regression (CLRM) were tested to ensure data was free of multicollinearity and autocorrelation and was normally distributed and homoscedastic to fulfill OLS analysis. Regression analysis using panel least square revealed financial performance of non-life insurance firms was positively associated with underwriting.

In their work, Daniel and Aemiro (2013) looked at the factors that influenced financial performance of Ethiopian insurance firms from 2005 to 2010. From 2005 to 2010, nine insurance firms were included in the sample. The National Bank of Ethiopia (NBE) and insurance businesses' annual publication reports were used to get audited annual reports (Balance sheet and Profit/Loss account) of insurance companies. The findings demonstrated that underwriting risk was statistically significant in explaining the performance of Ethiopian insurance companies, however underwriting risk was adversely related (ROA).

Daare (2016) used panel data to investigate the factors that influence non-life insurance financial performance in India, focusing on 8 general insurance companies (6 private and 2 public) from 2006 to 2016. Secondary data from annual audited financial accounts was used in this study. The data was analyzed using the multivariate linear regression OLS model. The findings showed that underwriting risk is connected to return on investment (ROI).

Using secondary data from 12 trading insurance firms in stock market for a period of 7 years (2006-2013), Kazeem (2015) employed panel data approach to evaluate the impact of firm specific variables on the financial performance. Data was derived from audited financial statements and analyzed data using multiple regressions as tool for analysis. Hausman test was employed to select random effect over fixed effect model in testing the hypotheses. Underwriting risk is the most significant and critical indicator of bank performance in the Nigerian insurance business, according to the results of multiple regression. As a result, underwriting risk have a negative relationship.

Saeed and Khurram (2015) carried a study on determinants of non-life insurance firms in Pakistani. Data was sourced from 24 insurance (non-life) firms for 9 years from 2005-2013. Fixed and random effect model was used to analyzed data. Hausman model results favored the use of fixed effect model in testing hypothesis. Results highlighted that there was empirical evidence of a negative effect of underwriting risk on profitability of non-life insurance companies operated in Pakistan.

In Ethiopia, Teklit and Jasmindeep (2017) analyzed effect external and internal factors of financial performance (profit) of insurance firms using panel data approach of 10 years from 2006 to 2015. Fixed effect model was chosen by Hausman test and revealed that underwriting had insignificant impact of profitability of insurance firms. However, profitability in terms of ROA was negatively affect by underwriting risk at 0.05 level of significance

A study conducted by Doumpos et.al., (2012) estimated and explained the determinants of non-life insurance firms' profitability (casualty and property). Their

study sampled 2000 non-life insurers from 91 countries for a period of 5 years (2005-2009) consistently. Data was collected from insurance firm's database and annual reports. Two stage analysis was employed, where the first stage used multi-criteria technique to analyze the insurers condition while bearing in mind at the same time a set of differing financial conditions. Then, regression analysis was used in the second stage in testing hypothesis of firm specific variables and financial performance assed from the first stage. Based on the results, it was found that underwriting risk had significant but negative effect on financial performance of non-life insurance companies.

A study carried for a period of 8 years (2005-2012) using panel data by Simon (2016) assessed internal determinants relating with profitability of insurance companies (measured as proxy of return on asset). Data for identifying variables was collected from audited annual financial report such as income statements and balance sheet using documentary guide. Aided by STATA v.11, panel analysis using fixed and random effect revealed that underwriting risk has no effect Insurance firms' profitability in Ethiopia.

Mistire (2015) investigated the factors that influence performance (profitability) in Ethiopia's insurance business. Using a sample of 9 organizations and data collected through dynamic panel and primary data, the study explored both firm specific attributes from 2003 to 2014. underwriting risk was one of the firm specific attributes. Results from panel analysis (OLS) revealed that underwriting risk was negatively correlated with profitability of insurance companies significant at 0.05 level of significance.

In a study by Meaza (2014), effects of firm specific factors (underwriting risk/ risk was one of the factors) on ROA (as measure of firm profitability) using panel secondary data of 6 years consistently from 2008-2013. The study sampled 10 insurance firms. The study's findings showed that underwriting risk has a major impact on profitability (ROA). Underwriting risk, on the other hand, is inversely and significantly connected to profitability.

Mehari and Aemiro (2013) investigated the firm attributes that influence insurance businesses' profitability in Ethiopia, taking into account variables such as underwriting risk (risk), leverage, size, growth in writing premium, tangibility, age and liquidity. In testing the hypotheses of the study, multiple regression analysis was employed to analyzed panel data collected from 9 insurance firms from 2005 to 2010. The study's findings demonstrated that leverage, tangibility and insurers' size are statistically significant and positively associated to return on total asset, whereas underwriting risk is statistically significant and adversely connected to ROA as measure for firm financial performance or profitability. As a result, the scale of insurers, their underwriting risk, tangibility, and leverage are major factors of their performance in Ethiopia.

2.4.3 Firm Leverage and Financial Performance

Akinlo and Asaolu (2012) did a study about the influence of leverage and size on the profitability of firms in Nigeria. The study used a sample of sixty-six purposively selected non-financial firms listed on Nigerian Securities Exchange. The researcher analyzed the collected data using t-statistics, chi-square, F-test and fixed and random influence framework. The study analyzed all the listed firms between 1997- 2007. Empirical research indicates that there is no universally agreeable position on whether leverage positively or negatively influences the financial performance of firms. They concluded that leverage was negatively correlated with profitability and hence made a recommendation to corporate firms to reduce the level of debt in the capital structure to enable them achieve better financial performance. Akinlo's findings were in congruent with the pecking order theory that postulates that profitable firms are less inclined to use debt compared to retained earnings and equity (Frank & Goyal, 2003).

This finding was complemented by Quang and Xin (2014), in their study to analyze the contribution of capital structure and ownership structure on the financial performance of Vietnamese firms. The study analyzed a total of 134 firms listed in the Ho Chi Minh City Stock Exchange in between 2009-2012 using purposive sampling method. The study deduced that leverage is inversely related to financial

performance. Quang and Xin (2014) measured the financial performance using ROA and ROE whereas the leverage was measured using total debt over total assets.

Similarly, Kale (2013), in a study to analyze the impact of leverage on the financial performance of non-financial firms found that leverage has an inverse relation with financial performance. Kale conducted the research between 2008 and 2013, using all the OLS chips non-financial firms listed in Nairobi Securities Exchange 20 share index (NSE 20 Share Index) as the unit of study. The study variables included leverage, firm size, liquidity, and firm age. These finding cements and buttresses the pecking order theory which postulates firms prefer to raise Equity capital from internal sources over the external ones. However, the results were against the premises of the agency theory which postulates that the heavier the firm is leveraged the better the financial performance due to reduced monitoring costs. The results were also in contrast with the expectations of the Modigliani and Miller II. Financial performance was measure as ROA, ROE and Tobin's Q while liquidity was measured as total debt over total assets.

Sambasivam and Ayele (2013), in a study to examine the cause-effect of the selected factors on the financial performance of insurance firms in Ethiopia, carried out a multiple regression analysis on the nine insurance firms that were in operation between 2003 and 2011. Sambasivam and Ayele (2013), used a purposive sampling technique to narrow down on the nine insurers firm for the purposes of data collection and analysis. The study which controlled for leverage with 8 other independent variables found out that leverage was positively and significantly related to ROA. The study concluded that highly profitable insurance firms follow the pecking order theory to fund their operations since the more leveraged an entity is the better it's Returns on Assets.

Similarly, Zeitun and Tian (2014) explored the influence of capital structure on the financial performance of firms in Jordan between 1989 and 2013. The study incorporated firm size, risk, industrial sector influence and political stability as control factors for leverage. A panel sample of 167 firms was identified through

purposive sampling. Leverage was identified as being strongly and negatively correlated with firm financial performance.

Siahaan Ragil and Solimon (2014) analyzed the effect of leverage on corporate performance, concluded that leverage has a positive and significant coefficient with financial performance. The findings by Boadi, Antwi, and Lartey (2013) were in agreement with that of (Siahaan, et al., 2014) to the extent that leverage as a variable had a positive linkage to financial performance of manufacturing firms in Indonesia. Highly indebted firms are favored by the signaling influence as investors interpret such firms have better investment opportunities able to generate higher returns compared to the borrowing costs.

Boadi et al., (2013) analyzed a sample of 16 insurers that were in operation in between 2005 to 2010. The study used quantitative research design and secondary data were used. ROA was captured as net income before interest and tax divided by total assets. The positive and significant relationship between leverage and financial performance was further underscored by (Chen & Wong, 2004). Other studies with the positive linkage between leverage and financial performance and hence validate the suggestion of trade off theory that debt enhances profitability of a firm due to tax shield influence are; (Abor, 2005; Chandrakumarmangalam, 2010; Robb & Robinson, 2010).

Ahmed, Ahmed, and Ahmed (2010), in their study to determine the influence of capital structure on corporate performance and firms' value, found that leverage was negatively and significantly correlated to financial performance. The study was conducted between 2000 and 2007, where the five insurers operating in Pakistan were analyzed. The study variables had leverage as the dependent variables whereas profitability, liquidity, size, age, risk, liquidity, and tangibility of assets were the explanatory variables.

The study by Ahmed et al., (2010) contravenes the belief that use of debt compared to equity capital is cheaper due to the tax shield advantage associated with debt (Modigliani & Miller, 1958). However, Berteji (2016), in a study to ascertain the financial performance of the 8 insurance firms operating in Tunisia between 2005

and 2014 found out that leverage was positively and significantly correlated to ROA. Panel data regression was conducted by use of statistical software to determine the relationship of the study variables. However Derbali (2014) in a study of 8 insurance firms operating in the Tunisian market between 2005-2012 found no significant relationship between leverage and ROA.

Cekrezi (2015) investigated the factors that contribute to the financial performance of insurance firms in Albania. The analysis for the financial performance of the insurance firms was done at a microeconomic level with the focus on the firm leverage (total debt to total assets), tangibility and risk. The study targeted five insurance firms for a period ranging from 2008 to 2013. Cross-sectional time series data was sourced from financial documents of the insurance firms as well as the official documents submitted to the tax office. Data was also collected from the websites of the insurance firms. The findings indicated that leverage and risk negatively impact on the financial performance of insurance firms in Albania while on the other hand, tangibility positively impacts on the financial performance.

Meher and Zewudu (2020) investigated the link between firm characteristics and macroeconomic variables on the financial performance of insurance firms in Ethiopia. The study adopted a quantitative approach that relied on balanced panel data from nine insurance firms. The data covered the period from 2002 to 2016. Both the Pearson correlation and OLS regression were utilized in assessing the link between the explanatory variables and the dependent variable. The results indicated that firm size and the GDP per capita had a positive and significant influence on the insurance firms' financial performance. On the other hand, leverage and liquidity negatively impacted on the profitability of the targeted insurance firms. The implication from the study is that an increase in the asset base of the insurance firms enhanced its financial performance. However, dependence on borrowed equity capital negatively impacted on the financial performance. Consequently, firm leverage negatively influenced the financial performance of insurance firms in Ethiopia.

Also, Almajali and Shamsuddin (2019) did an analysis of the relationship between capital structure and the profitability of insurance firms in Jordan. The research targeted 19 insurance firms that were listed on the Amman Stock Exchange. The period under investigation was between 2008 and 2017. The analysis relied on correlation and regression to ascertain the relationship among the variables of interest. The proxies of profitability were Tobin's Q, ROE and ROA. On the other hand, capital structure was measured in terms of short- and long-term debt as well as equity financing. The findings indicated that the short- and long-term debt exhibited a positive and significant influence with the ROE with a negative correlation with Tobin's Q. Moreover, firm leverage had a positive and significant effect on the profitability of the Jordanian insurance firms. As such, an increase in the financial is linked to an improvement in the financial performance of the targeted insurance firms.

Moreover, Dey, Adhikari and Bardhan (2015) examined firm characteristics that play a role in influencing the financial performance of insurance firms in India. The study targeted a total of 13 insurance firms that were in operation for a period of ten years right from 2003-04 to 2012-13. The dependent variable in the study was the ROE while the firm size, tangibility, volume of equity capital, liquidity and leverage as the independent variables. The findings indicated that a positive link between firm size and ROE of the insurance firms in India. Also, leverage and the volume of equity capital negatively impacted on the financial performance of the insurance firms. Finally, there was an insignificant relationship between liquidity and tangibility with insurance firms' financial performance.

Further, Aadmassie (2019) investigated the influence of capital structure on the financial performance of Ethiopian insurance firms. The study utilized a quantitative approach with panel data to address the study's objectives. Purposive sampling technique was used to select nine private insurance firms. The panel data covered 10 years right from 2008 to 2017. The independent variables in the study were premium growth, firm size, leverage, claim ratio and reinsurance dependence. On the other hand, the financial performance of the private insurance firms was proxied by the return on equity. Analysis was done with the use of the OLS estimation method. The

Hausman test indicated that the random effect model was appropriate for establishing the effect of the predictor variables on the outcome variable. The findings of the random effect model indicated that leverage, firm size, debt ratio and claim ratio significantly influenced the profitability of the insurance firms in Ethiopia. Moreover, premium growth and reinsurance dependence had no effect on the ROE of the insurance firms in Ethiopia.

Getachew (2014) investigated the nexus between corporate governance and the performance of selected insurance firms in Ethiopia. To attain the study's objectives, secondary data were collected from ten insurance firm for the period ranging from 2008 to 2012. The independent variables for the study were firm leverage, board composition and size, firm size and board gender diversity. Insurance firm performance was measured in terms of return on equity. The research relied on secondary data obtained from the annual financial statement of the insurance firms to conduct analysis. The findings of the regression analysis indicated that firm leverage, firm size and board gender diversity had a positive and significant influence on the performance of the insurance firms in Ethiopia. Conversely, board composition and board size had no significant influence on the performance of the insurance firms in Ethiopia. Consequently, the study deemed it necessary to enhance the participation of women in the board to enhance the financial performance of the insurance firms. Besides, there was also a need to increase the firms' total assets since it contributed to the overall firm performance. The variable of interest in the study (firm leverage) elicited a positive effect on the performance of the insurance firms in Ethiopia. The study established if the same holds for the insurance firms in Kenya. There is however no focus on corporate governance attributes but instead emphasis is on firm size as a moderating variable.

Also, Bhattarai (2020) did an analysis of the influence of capital structure on the financial performance of insurance firms in Nepal. The study relied on annual reports in sourcing secondary data on the Capital structure and financial performance. The research targeted 14 insurance firms with the data covering the period from 2007/08 to 2015/16. The Hausman test indicated that the random effect model was appropriate for establishing the effect of the predictor variables on the outcome

variable. The independent variables in the study were leverage, firm size, asset tangibility and liquidity ratio. The results indicated that leverage and asset tangibility positively impacted on the profitability of the Nepalese insurance firms.

Besides, Birhan, (2017) examined the factors influencing the performance of Nile Insurance in Ethiopia. The study relied on a descriptive research design. Both primary and secondary data were utilized in addressing the study's objectives. The unit of analysis were 319 active clients from the Nile insurance firm. The findings indicated that the significant determinant of the profitability of the company were firm size, leverage and the tangibility of asset. Further, liquidity and firm age had a medium impact on the profitability of the Nile insurance company. The implication is that firm leverage is a key determinant of the profitability of the Nile insurance firm. The current study ascertains if indeed there is a link between firm leverage and the performance of insurance firms in Kenya.

Moreover, Batool and Sahi (2019) did a comparative study of the insurance industry in the UK and USA to ascertain the determinants of financial performance. The study targeted 24 insurance firms and collected quarterly data from 2007 when there was a global financial crisis to 2016. The independent variables in the study were leverage, liquidity, firm size and asset turnover. The proxies for profitability were ROE and ROA. The findings indicated that in the USA, leverage, liquidity, firm size and asset turnover positively impacted on the financial performance of insurance firms. On the other hand, in the UK, firm size and liquidity had positive influence on profitability whereas leverage and asset turnover negatively impacted on the profitability of the insurance firms in the UK. The implication was that the insurance firms in the USA were more efficient when compared to those in the UK.

Getahun, (2016) researched into firm specific factor that influence the performance of insurance firms in Ethiopia. The period of interest was between 2004 to 2013. The study collected secondary data from the annual reports of the targeted insurance firms in Ethiopia. The findings of the analysis indicated that firm leverage, firm size, business risk and tangibility are significant predictors of the performance of insurance firms. Besides, there was no significant relationship between liquidity and

the performance of Ethiopian insurance firms. The study findings validate the pecking order theory in the sense that it confirms that firm leverage is a key determinant of firm performance. Specifically, leverage negatively influences the performance of Ethiopian manufacturing firms. It is therefore prudent for the firms to focus on equity financing as opposed to debt financing because of its potential to boost the firms' financial performance with no inherent risks.

Also, Olaniyan, Oyinloye and Agbadua (2020) examined the influence of firm leverage on shareholders' returns in a business environment that is dynamic. The study utilized unbalanced panel data that was analysis with the generalized method of moments (GMM) estimator. The data covered the period ranging from 2008 to 2017. The study targeted 18 insurance firms. The findings indicated that debt ratio negatively impacted on shareholders returns. Nevertheless, when interest coverage ratios and debt-equity ratio are used as the leverage ratio, the effect on shareholders' returns is positive and significant. The study validated the pecking order theory by confirming that the effect of firm leverage on shareholders returns is largely dependent on the decomposition of firm leverage. Consequently, it is utmost necessary for the management of insurance firms to reassess the costs and risks associated with firm leverage before embarking on a given financing decision. Emphasis needs to be on lowering indebtedness to reduce the negative impact of firm leverage on shareholders' returns.

Further, Almajali and Shamsuddin (2019) examined the link between profitability and the Capital structure of Jordanian insurance firms. The study targeted 19 listed insurance firms in the Amman Stock Exchange. The variables of interest covered a 10-year period from 2008 to 2017. The empirical results indicated a positive correlation between short-term and long-term debt with the ROE and negative correlation with Tobin's Q. Further, firm leverage had a positive and significant effect on the profitability of Jordanian insurance firms. The findings suggested that an increase in the firm leverage is associated with an increase in financial performance. The study however did not indicate if the composition of the firm leverage plays a significant role in influencing firm financial performance. The current study established if this is the case among insurance firms in Kenya.

Kosumi and Poposka (2016) investigated whether the internal factors in an insurance firm contributes to its profitability. The study utilized annual data for the period 2013 to 2016 with emphasis on 9 non-insurance firms in Kosovo. The ROA was the dependent variable while the firm size, underwriting risk, liquidity and leverage were the predictor variables. The regression findings indicated that firm size, liquidity and leverage were key determinants of the profitability of non-life insurance firms in Kosovo.

In Tanzania, Ibrahim, (2013) investigated the factors influencing the performance of the insurance industry. To address the objective of the study, there was reliance on both primary and secondary data. Questionnaires were used to collect the primary data while the secondary data was obtained from the internet and books. Evidence from the results indicated that the performance of insurance firms in Tanzania was affected by underwriting risk, limited knowledge on the insurance service as well as clients reporting fake claims. Further findings indicated that the delay by investors in producing reports on a timely basis was detrimental to the performance of the insurance firms. Other than that, the insurance firms faced infrastructural challenges such as the lack of facilities to train its personnel and the systems to facilitate the insurance services. The other challenge is that the insurance firms had not equity capitalized on either debt or equity financing to improve on its current performance. Despite the study not indicating any direct link between firm leverage and insurance firms' financial performance, it is clear that it plays a role in determining the direction of performance.

Kebede (2016) examined the determinant of profitability among insurance firms in Ethiopia. To attain this objective, the research utilized a quantitative approach with reliance on panel data covering ten years (2006 to 2019). The unit of analysis were nine insurance firms within Ethiopia. Linear regression model was utilized to ascertain the effect of the independent variables on the outcome variable. The independent variables in the study were leverage, firm size, underwriting risk, market share and motor insurance. The dependent variable was profitability and it was proxied by ROA. The Eviews8 software was used to conduct the analysis. The findings from the analysis indicated that firm leverage, firm size and underwriting

risk were significantly associated with the insurance firms' profitability. Nevertheless, motor insurance and market had a positive but insignificant effect on the insurance firms' profitability. Further, reinsurance dependent had a negative and insignificant effect on the firms' profitability. Evidently, firm size, underwriting risk and firm leverage are the key determinants of profitability among the targeted insurance firms in Ethiopia. Consequently, for the firms to enhance their overall financial performance and gain a sizeable share of the insurance market, they have to consider these factors to enhance their profitability levels.

Wanyama and Olweny (2013) examined the influence of corporate governance on the financial performance of Kenyan listed insurance firms. The independent variables in the research were firm leverage, board composition, board size and CEO duality. On the other hand, the dependent variable was proxied by both ROE and ROA. The research adopted a descriptive research design and targeted all the listed insurance firms at the NSE as of December 2012. The study relied on both primary and secondary data to address the objectives. Questionnaires administered to the personnel at the listed insurance firms was utilized to collect primary data. To obtain the sampled number of personnel at the insurance firms, stratified random sampling technique was utilized. There was also a preliminary study to ascertain the reliability of the instrument used to collect the primary data. All the variables had a Cronbach value of over 0.7 indicating that they were all reliable for analysis. Secondary data was obtained from annual financial statement of the firms covering the period from 2007 to 2011. The regression analysis was used to test the hypotheses of the study. Results from the analysis indicated that corporate governance mechanisms significantly influenced the performance of the insurance firms. Particularly, board size negatively influenced the performance of the insurance firms. Conversely, board composition had a positive influence on the performance of the listed insurance firms in Kenya. The study revealed that the experience, skills and talent on the board were the key attributes that contributed to improved financial performance. Besides, firm leverage had a positive and significant influence on the performance of the listed insurance firms at NSE. Moreover, the separation of the chair and CEO positively influenced performance of the insurance firms. It meant that there was no potential conflict of interest or rent seeking when there is a separation of the roles.

Finally, Jadi (2015) did an empirical analysis of the determinants of profitability among insurance firms in the United Kingdom. The emphasis of the study was on the financial strength of 57 insurance firms drawn from the United Kingdom. The secondary data was sourced from an online non-US database. The study covered the period from 2006 to 2010. The independent variables in the research were firm leverage, liquidity, firm size, business type, growth, reinsurance and the form of the organization. The results from the regression analysis indicated that firm size, the form of the organization and liquidity were significant determinants of profitability among the targeted insurance firms in the United Kingdom. However, firm leverage elicited no significant effect on the profitability of the targeted firms.

2.4.4 Firm liquidity and Financial Performance

Empirical research indicates that there is no consensus on the direction and degree of influence that liquidity has on the financial performance of insurance firms. According to, Wani and Dar (2013), liquidity has a positive and significant influence on profitability. This is according to a study they did on the relationship between the financial performances of the 8 out of 24 life insurance firms that operated in India in between 2005 to 2013. The two researchers engaged the use of a multiple regression model to analyze 5 independent variables and liquidity as the sixth independent variable was measured as current assets over current liabilities.

Kaya (2015) focused on a study to establish the influence of assorted firm -based factors on the profitability of the 24 non-life insurances that operated in Turkey between 2006 and 2013. The findings were that the current ratio is inversely related to profitability. Similarly, leverage was measured as the current ratio whereas profitability was measured both by sales profitability ratio and technical profitability ratio. Kaya (2015) proved that low liquid firms are more profitable than highly liquid firms though he concluded that firms should seek and pursue the equilibrium point of liquidity and profitability.

Mehari and Aemiro (2013) were interested to find out the effect of certain firm characteristics on the profitability of insurance firms in Ethiopia. The study relied on a sample of 9 purposively selected firms from a universe of 14 insurance firms. ROA

was measured as net profit over total assets and liquidity as the ratio of current assets and current liabilities. The finding of this study buttressed that of Kaya (2016) in that as the liquidity of an insurance firm goes up, the profitability goes down. According to agency theory, high liquidity might increase agency costs as managers may take advantage of excess liquidity to do business transactions out of selfish and not corporate. Consequently, high liquidity can be detrimental to the financial performance of an insurance firm since it exposes it to reinvestment risk (Boadi et al., 2013).

A study by Charumathi (2012), in which 22 private and 1 public insurance firms' specific factors were analyzed using six explanatory variables (volume of equity, the growth of premium, liquidity, leverage and company size). Secondary data collected for the period 2008 to 2011 was entered into a panel regression model and yielded the required output parameters inform of standard deviation, F statistics and the P-value. Returns on Assets played the role of a dependent variable. The study resolved that increase in liquidity of a firm had a corresponding increase in the financial performance of the firm's understudy. The study concluded that the more liquid a firm is the more profitable it becomes. This finding contravenes the tenets of the agency theory which stipulates that manager tend to commit firms' excess funds investments based on self-interest and not for the interest of the firm.

However, it is evident that a no significant relationship between liquidity and financial performance has been the outcome of some studies. For instance, carried a study with the main objective of investigating existence of correlation between a specific array of factors and the financial performance of general underwriters in Kenya. The study was conducted from 2009 to 2013. The study variables were management competence index, leverage, and size, retention ratio, firm age and equity capital. The study failed to get any linkage between liquidity and financial performance. On the flip side, Sambasivam and Ayele (2013), conducted a study in Ethiopia to determine the influence of specific firm factors on financial performance. The findings supported other scholars who contended that there is a negative linkage between the liquidity and insurance firms' financial performance. However Boadi et al. (2013) in a study conducted between 2005 and 2010 in Ghana on the insurance

firms' profitability found out that decrease in liquidity of a firm triggered a similar drop in the profitability.

Similarly, Gebremariyam (2014), inferred there was no concrete relationship between liquidity and profitability of the 10 insurance firms that operated in the Ethiopian market between 2008 and 2013. The study used secondary data and multiple regression data analysis technique. Other study variables were managerial efficiency, firm growth, underwriting risk, leverage, size and tangibility of assets. Liquidity was measured as the current asset over current liabilities and profitability as ROA.

On the contrary a study by Muhammad et al., (2016) resulted in varying findings in regards to the relationship between liquidity and ROE and liquidity and ROA. The research sought to establish the determinants of the profitability of 20 non-life insurance firms that operated in the Pakistan market between 2005 and 2013. The study used quantitative research technique and used panel data to analyze data using Eviews 7. ROA was measured as premium over total assets while ROE as premium over equity. However liquidity was measured as current assets over current liabilities. Muhammad et al. (2016) expected a negative correlation between liquidity and both ROA and ROE which both represented the profitability of the insurance firms. However, ROA increased every time liquidity of a firm was increased but ROE reacted in the opposite manner as it declined for every increase in liquidity. The findings indicated that investors are not concerned by the level of the firm liquidity but they are interested on the returns generated by the firm.

A study by Kripa (2016), sought to find the determinant of financial performance of insurance firms in Albania. The data collection and analysis were done on a set of 7 insurers comprising of life and non-life firms that existed and operated in between 2008 to 2013. The researcher used firm characteristics (liquidity, the volume of equity capital, leverage, age, fixed assets, and growth rate). Secondary data was used and quantitative research design was adopted. The findings of the study proved that high liquid firms are less profitable compared to the lesser liquid firms. The main

reason is that highly liquid firms can invest the excess and idle cash to generate more income for the firm.

Muriithi (2016) did a study to determine the effect of the liquidity risk on the financial performance of the 43 commercial banks operating in Kenya between 2005 and 2014. Liquidity was measured as net stable funding ratio and as liquidity coverage ratio. The study concluded that net stable funding was negatively related to the bank financial performance. However, the study showed that change in liquidity coverage ratio did not have any corresponding change on the financial performance. Nevertheless, the overall effect of liquidity on the financial performance was registered as negative.

Alomari and Azzam (2017) found that liquidity was inversely related to ROA. The study population included the 24 listed insurance firms operating in Jordan in between 2008 to 2014. The other study variables were inflation, gross domestic output, underwriting risk and leverage.

Kinyua (2018) examined the micro factors that play a role in influencing the profitability of insurance firms in Kenya. The study was motivated by the fact that the insurance industry in Kenya has over the years experienced numerous challenges due to the significant changes in the insurance industry in Kenya. The research utilized a descriptive research design. A census was conducted to sample insurance firms in Kenya that are licensed to operate. From the census, the study targeted 6 listed insurance firms. Regression analysis was used to ascertain the relationship between the micro factors and financial performance. The micro factors that the research focused on were firm size, liquidity, insurance claims and retention ratio. The analysis of the data was done with the STATA software. The findings from the analysis indicated that liquidity had no significant effect on the profitability of the targeted insurance firms. Besides, firm size had a negative and significant effect on the profitability of the insurance firms in Kenya. On the other hand, claim ratio and retention ratio had a negative and insignificant effect on the profitability of the listed insurance firms in Kenya. It was therefore deemed utmost necessary for insurance firms in Kenya to evaluate their strategies on working equity capital management,

market penetration and asset accumulation. The current study established if liquidity elicits a significant effect on the financial performance of insurance firms in Kenya.

Further, Abdeljawad et al., (2020) examined the factors influencing the profitability of insurance firms in Palestine. The research targeted seven insurance firms operating in the country and relied on unbalanced data to address the objective. The data covered the period ranging from 2006 to 2018. The results of the analysis indicated that liquidity, growth and firm size had a positive and significant influence on the profitability of the insurance firms in Palestine. In contrast, motor claims had a negative and significant influence on the firms' profitability. Besides, claims ratio and leverage ratio had no influence on the profitability of the firms. Consequently, the implication was that it was utmost important for the insurance firms to ensure that they maintain higher liquidity levels to elicit an increase in their profitability. As well, there should be a diversification of the insurance firms' portfolio away from motor insurance since it is detrimental to their overall financial performance.

Zainudin et al., (2018) did an exploratory analysis of internal firm characteristics that impact on the profitability of insurance firms in selected Asian countries. The countries that the research focused on were Malaysia, Thailand, Singapore, South Korea, Hong Kong, Japan, Singapore and Taiwan. The period of focus was from 2008 to 2014. The study relied on the resource-based view in investigating the internal factors that contribute to firm performance as opposed to the external factors because internal sources are key to attaining a competitive edge. The study utilized panel data to test the hypotheses on the eight Asian countries. The Hausman test indicated that the random effect model was appropriate for testing the hypotheses. The results of the random model indicated that the firm size, underwriting risk and the volume of Equity Capital were significant determinants of profitability for the life insurance firms in the targeted Asian countries. On the other hand, liquidity, premium growth and asset tangibility had no effect on the profitability of the insurance firms. The implication was that the life insurance firms in the selected Asian countries need to focus in securing a large volume of Equity Capital to facilitate expansion to new markets. The study offered new insights on how liquidity does not play a key role for life insurance firms in determining their overall

profitability. It therefore contributes to the literature. The current study intended to ascertain if the same holds for Kenyan insurance firms. There is a possibility of divergence since Zainudin et al., (2018) delved into life insurance firms that engage in cross-border activities and have penetrate global markets. However, the research offers important insights to the current study.

Abebe and Abera (2019) delved into the factors influencing the performance of firms in the insurance industry in Ethiopia. The period of focus was between 2010 and 2015. The study relied on panel data from nine insurance firms in Ethiopia. The data was obtained from annual financial statements of the insurance firms. The profitability of the insurance firms was proxied by ROE and ROA. To ascertain the factors influencing the financial performance of the insurance firms, the study utilized OLS regression. The findings from the regression analysis indicated that liquidity, equity capital, firm size, age and leverage were among the key factors that influenced the profitability of the Ethiopian insurance firms. The results suggest that financial performance of insurance firms in Ethiopia was driven by internal factors that are instrumental in attaining the competitive advantage and increasing the market share of the insurance firms. Consequently, attention needs to be given to liquidity, Equity capital, firm size, age and leverage for insurance firms to attain superior financial performance.

Ngunguni, Misango and Onsiro (2020) delved into the financial factors that influence the profitability of Kenyan general insurance firms. The dependent variable in the study was profitability which was proxied by ROA. The study period ranged from 2013 to 2017. The explanatory variables in the study were liquidity, leverage, underwriting risk and expense ratio. The utilized descriptive and inferential statistics in addressing the objectives. A census was conducted to sample the general insurance firms in Kenya. The study targeted all of the 28 general insurance firms in Kenya. Secondary data was sourced from the annual financial statement of the general insurance firms for the period 2013 to 2017. After the collection of data, it was sorted, coded and analyzed using regression analysis. The findings from the regression analysis indicated that underwriting risk and leverage ratio had a negative and insignificant effect on the profitability of the general insurance firms in Kenya.

Conversely, expense ratio had a negative and significant effect on the profitability of the general insurance firms. It implied that an increase in the expense ratio would result to a decline in the profitability levels of the general insurance firms. Moreover, liquidity had a positive and significant influence on the profitability of Kenyan general insurance firms. It implied that the availability of liquid assets was instrumental in boosting the performance of the insurance firms. As such, for the Kenyan general insurance firms, emphasis needs to be on maximizing on the liquid assets available to boost the profitability while minimizing on the expenses. The study established if the same holds for the targeted insurance firms in Kenya. Also, it will give insights on how firm size moderates the relationship between liquidity and the financial performance of the insurance firms in Kenya.

Kipngetich (2019) examined the effect of liquidity on the financial performance of insurance firms in Kenya. The study was motivated by the fact that the way in which insurance firms manage their liquidity has a role in influencing their profitability. The study targeted 47 licensed insurance firms in Kenya. The secondary data comprise of annual data on the liquidity ratio and the ROA. The period under investigation was between 2014 to 2018. The quantitative data was analyzed with SPPSS V 25.0 and the findings presented in the form of frequencies and percentages. The findings indicated that liquidity had a positive and significant influence on the financial performance of the targeted insurance firms in Kenya. Besides, increasing asset quality would result in superior performance among the insurance firms. As well, prudent management of liquidity is associated with superior performance of the insurance firms. Also, equity capital is linked to an increase in the profitability levels for the insurance firms. Further, an increase in the size of the firms contributed to their improved financial performance. In a nutshell, liquidity, prudent liquidity management, asset quality and firm size are key determinants of superior financial performance of the targeted insurance firms in Kenya. It is therefore instrumental for IRA to develop new requirements of liquidity since it is instrumental in boosting the financial performance of insurance firms. With an improvement in the performance of insurance firms, there is also a likelihood of promoting economic stability.

Maina (2016) examined the influence of liquidity on the performance of Kenyan insurance firms. The study utilized a descriptive research design. The independent variables in the research were liquidity ratio and annual fraud loss. Conversely, the dependent variable was financial performance and it was proxied by ROA. Regression analysis was used to establish the effect of liquidity ratio and annual fraud loss on the ROA. The results from the analysis indicated that there is a strong positive relationship between liquidity ratio and annual fraud loss with the financial performance of Kenyan insurance firms. The results suggest that ensuring insurance firms have adequate liquidity assets contributes to their improved performance. Also, having a control mechanism that ensures there are limited or no instances of fraud among insurance firms would contribute to superior performance of the Kenyan insurance firms. Consequently, the insurance firms in Kenya need to focus on establishing an antifraud department within their organization and ensure they have sufficient liquidity ratio.

Patrick (2018) delved into the effect of liquidity management on the performance of Nigerian insurance firms. The period of focus was between 2003 and 2012. The independent variables in the study were liquidity ratio, equity capital, working equity capital, investment, firm size and under-writing risk. The dependent variable was firm performance. The study utilized panel data to address the research's objectives. The Hausman test indicated that the random effect model was the most appropriate to test the hypotheses. The findings from the random effect model indicated that liquidity management does not significantly influence the performance of Nigerian insurance firms. On the other hand, both working Equity Capital and investment positively influence insurance firms' performance. It appears that the insurance firms are less involved with liquid cash hence their focus needs to be on Equity Capital which has the potential to improve their performance. The current study however focused on liquidity as opposed to liquidity management.

Further, Derbali and Jamel (2014) examined the influence of firm characteristics that influence the profitability of insurance firms in Tunisia. The independent variables that the study focused on were liquidity, leverage, firm size and age, risk and growth. Conversely, the dependent variable was profitability proxied by ROA. The period of

focus was between 2005 to 2015. The findings indicated that the key determinants of the profitability of Tunisian insurance firms were size, age and growth. However, liquidity and leverage had no effect on the profitability of the Tunisian insurance firms. The study will establish if the same holds for Kenyan insurance firms.

Moreover, Mazviona, Dube and Sakahuhwa (2017) delved into the factors influencing the performance of insurance firms in Zimbabwe. The study targeted twenty insurance firms in the country. To address the objective of the research, secondary data was obtained from the annual financial statement and the websites of the insurance firms in Zimbabwe. The period of focus was between 2010 and 2014. The study utilized regression analysis in determining the factors that influence the performance of the insurance firms. The results indicated that claims ratio, expense ratio and firm size negatively influence the performance of Zimbabwean insurance firms. Conversely, liquidity and leverage positively influenced the performance of the insurance firms. As such, the emphasis by the Zimbabwean insurance firms needs to be on reducing the operational costs so as to enhance their performance.

Additionally, Zeyede (2018) did an analysis of the determinants of the performance of non-life insurance firms in Ethiopia. To address the research's objective, an explanatory research design was adopted. The study obtained data from the financial statements of the non-life insurance firms in Ethiopia as well as the National Bank of Ethiopia. The period under investigation was 2003 to 2017.Also, the study relied on primary data that was obtained with interviews. The random effect panel model was used to analyze the data. The findings indicated that liquidity and inflation had an insignificant influence on the performance of Ethiopian insurance firms. The current study will establish if the same holds for the insurance firms in Kenya.

Finally, Bawa and Chattha (2013) investigated the factors influencing the performance of life insurance firms in India. The independent variables in the study were liquidity, leverage and solvency. On the other hand, performance of the life insurance firms was assessed in terms of the profitability levels. The study sample comprised of 18 life insurance firms in India. Out of the targeted sample, 18 of the firms were in private sector while one was in public sector. The period of focus was

between 2007 to 2011. Regression analysis was used to determine the extent to which liquidity, leverage and solvency influenced the performance of the life insurance firms in India. The findings indicated that liquidity and firm size positively influenced the profitability of the insurance firms. In contrast, solvency and leverage had no effect on the profitability of life insurance firms in India.

2.4.6 Moderating Role of Firm Size

Financial policy of a firm describes a firm's decision regarding debt–equity mix (Capital structure, leverage), maturity structure, cash holdings and method of financing and hedging decisions. From theoretical perspective, large firms will be more levered than small firms. As large firms have more investment opportunities to grow, Ebel Ezeohai (2018) argued that this means large firms would be able to get more financing because of its growth. Taking it from another perspective, banks are always more willing to give debt to those customers whether individual or institutional who have more creditworthiness. Large firms because of their reputation in society would thus appear more suitable to be given loan than small firm.

Previous research has shown mixed results with some researchers reporting positive relationship between the two firm size and firm performance (Dang, Li, Yang, 2018), while some other reporting negative relationship between two (Hashmi, Gulzar, Khan & Akhtar, 2018). However, the first school of thought appears to be dominating in the literature. Further, as previously mentioned Ebel Ezeoha (2018) in his study mentioned that these mixed results do not mean that size simultaneously is positively and negatively related neither to leverage neither does it mean that all these findings are contextually wrong nor that size and leverage are totally not correlated.

According to Ebel Ezeoha (2018), it is the difference in definitions of firm size employed by all of the papers. From another perspective, large firms can generate investor's trust more than small firms. This means that investor will trust the company and this trust would be shown in equity market by the investor. High trust of investor means high investment by the investor in the market, and high investment by the investor would ultimately raise the market value of equity (ignoring the fact

that it might get overvalued). A high value of equity is another strong financial indicator.

Empirical evidence also suggests a relationship between firm size and performance/profitability (Kurshev & Strebulaev, 2015). In Indonesia, a study by Kartika, Handayani and Dwiputra (2016) on the effect of size of the firm, current ratio, operating cash flow and financial ratios on earnings per share of the 19 companies listed during the for the years from 2010 to 2014 period. The study employed descriptive quantitative analysis and purposive type of sampling technique and used multiple regressions to evaluate the data. The finding showed that the net profit ratio, debt ratio, turnover ratio, and firm size have a positive influence on EPS while operating cash margin ratio has a negative effect on EPS. The research finds current ratio had an insignificant influence on EPS.

Oskouei and Zadeh (2015) studied predicting the prospect stock return by emphasizing on lifecycle based on cash flow statement. The study employed simple sample research and the variables of the study were earning per share, the change in earnings and the stock return and risk factors and equity ratio, size of the firm, market model beta. The raw data was obtained from the investigation of 1123 firms-years during the period between 2002 to 2011 and analyzed using multivariate regression equations to test the research hypotheses. The findings indicated that earning per share has a significant and positive effect on the prediction of future stock return, but the earning per share has a non-significant and positive effect on future stock return. Furthermore, the study found out that the firm size had a negative effect on future stock return, the change in earnings per share (EPS) had significant and positive effects on expecting the prospect stock return. In addition, the results showed that the lowest of the book value to market value ratio in the mature stage had a positive effect on prospect stock return.

In Tehran, Pouraghajan, Mansourinia, Bagheri and Emamgholipour (2013) investigated the effect of operating cash flows, financial ratios, and size of the firm on earnings per share (EPS) of 140 companies listed at stock exchange during the time span 2006-2010. The study adopted descriptive-correlation and adopted

multivariate regression to analyze panel data. The study findings mentioned that financial ratios had a positive effect and significant on the size of the firm with earnings per share (EPS). Also, the study revealed that operating cash flows had no significant effect on earnings per share (EPS).

In Jordan, another study by (Taani & Banykhaled, 2011) on effects of financial ratios, firm size and operating cash flows on earnings per share of 40 firms listed at the Amman Stock Market. Multiple regression method and stepwise regression models were employed in measuring the impact of ratios (profitability, debt to equity, liquidity, market ratio, firm's Size) on earnings per share. The study results mentioned that ROE, Market ratio, leverage ratio and cash flow from operation/ sales had a considerable impact on earnings per share. The study findings indicated that company size had a positive but inconsequential correlation with the return.

Martani, Malone and Khairurizka (2009) carried research on the relationship between firm size, financial ratios and operating cash flows with the stock returns in 48 manufacturing business units listed in the Indonesia Stock Exchange for the period of 2003 to 2006. The study findings mentioned that ratios of profitability and market had a positive and major effects on stock returns and there was no correlation between the debt ratios, firm size with stock returns.

Taani and Banykhaled (2011) conducted a study on effects of financial ratios, firm size and operating cash flows on earnings per share Jordanian industrial sector. The study objective was to examine the effect of accounting information on earning per share by using five categories of financial ratios. They selected a sample of 40 firms traded in the Amman Stock Market. Multiple regression method and stepwise regression models were employed in measuring the impact of ratios to earnings per share by taking profitability, liquidity, debt to equity, market ratio, size which is derived from firm's total assets, and cash flow from operating activities as independent variables and Earning Per Share as the dependent variable. The results show that ROE, Market ratio, cash flow from operation or sales and leverage ratio had a significant impact on earnings per share. The study found that company size had a positive but insignificant correlation with the return.

In Iran, Vahid, Mohsen and Mohammadreza (2012) studied the effect of investment cash flow management, financing cash flow management and firm's size on the profitability of 28 companies listed at TSE. Data was gathered for 5 (five) years 2005 -2009 period. The study findings disclosed a negative correlation involving aggressive financing and conservative investment or savings policies with value and profitability. Lastly, the outcome disclosed that the size of the firm over and above firm growth had a positive outcome on the organization's profitability and value, alongside firm leverage showed the negative impact. The study concluded that cash flow management and size of the play a vital function for accomplishment/success failure or success of the organization in a trade because of its profitability or productivity and liquidity

According to Niresh and Velnampy, (2014), firm size is a primary factor in determining the profitability of a firm due to the concept of economies of scale in the neo classical view of the firm. Essentially, it means larger manufacturing entities can obtain cost leadership relative to smaller firms. Firms size is seen by manufacturing companies as a resource in obtaining sustainable competitive advantage in terms of profit and market share.

Ramasamy, Ong and Yeung, (2005) observed that the association between firm performance and firm size was ambiguous and cautioned need for industry specific consideration while, advising researchers to proceed on a case-by-case basis of analysis and avoid the tendency to generalize. Oladele et al (2013) observed that the nature of the relationship that exists between firm size and profitability is an essential matter that may shed some light on the factors that enhance profits in firms.

The link between firm size and performance has been contentious since the link between firm size and performance has been contentious Palangkaraya, Stierwald and Yong (2005) in their study showed that larger and older firms were less productive, but found the evidence less than conclusive. In more recent studies, however, a positive relationship has been established between the size of the firm and profit. Akinyomi et al., (2013) in their study found that firm size, both in terms of total assets and in terms of total sales, has a positive effect on the profitability in

Nigerian manufacturing companies. Accordingly, Cabral and Mata, (2003) in their study of Portuguese manufacturing firms validated the view that availability of more accurate and complete data set has been adduced as the reason for the conflict between what was previously held as independent relationship between firm size and growth and new findings that there is positive relationship.

Wu (2006) in Prasetyantoko and Parmonon (2012) argued that larger firms have stronger competitive capability than the smaller ones as a result of their superior access to resources. Thus, while size has been accepted as a main feature in the firm performance debate (Niresh & Velnampy, 2014; Akinyomi & Olatunji , 2013; Cabral & Mata, 2003; Prasetyantoko & Parmono, 2012), it is not clear how it affects the actual planning performance dynamics. Firm size was thus introduced as a moderator in determining its interaction effect in the relationship between firm specific and firm performance.

Onsongo (2015) conducted a study to investigate determinants of financial performance of insurance companies in Kenya. The study variables were; retention ratio, size of the firm, diversification, firm leverage, and investment ratio, the growth of premium and solvency margin. Financial performance was measured by Returns on Asset (ROA). The study used multiple regression analysis with data for 24 life insurance firms that were doing business in Kenya in between 2010- 2014. The study concluded that diversification, retention ratio and investment ratio had a strong and positive correlation with the dependent variable. However, leverage and solvency ratio showed a positive relation too with the financial performance through the relation was not significant. Company size and growth of premium showed a weak negative relationship with financial performance.

Wainaina (2014) conducted research by analyzing 36 insurers operating in Kenya between 2008 and 2012. The study objective was to quantify the effect of Capital structure if any on the financial performance of the firms under consideration. The independent variables were size, the age of the firm, and inflation against the dependent variable return of asset as the dependent variable. Multiple regression technique was used to analyze both primary and secondary data collected from the

insurance firms identified. Firm leverage and size of the firm had a positive and significant correlation with the dependent variable. The more the years a firm has been in operation and the more the growth of premium the worse the on the financial performance of insurance firms.

Kigen (2011) conducted a study to investigate the influence of size on the profitability of insurance firms in Kenya. Size as the independent variable was represented by total assets, market share, and leverage of the firm. The dependent variable which was the profitability of insurance firms was equated to Returns on Assets ratio (ROA). A census of the general life insurance firms (46 firms) operating in Kenya between 2009 and 2013 was conducted. The study used both primary and secondary data obtained from the financial statements filed with Insurance Regulatory Authority (IRA). A regression model was used in analyzing the data. The study concluded that there was no correlation between total assets of the firm and profitability. Market share and leverage were found to have a significant positive correlation with the profitability of insurance firms.

Kigen (2011) conducted a study to establish the influence of interest rates on the financial performance of insurance firms in Kenya. The research also assessed the influence of both micro and macroeconomic factors on the insurance firms. The researcher used various independent variables as indicated; gross domestic product (GDP), Liquidity risk, size and age of the firm and inflation. The descriptive research design was used and findings were presented in form of tables and charts. The study found that interest rate, GDP, inflation, and liquidity risk all had a negative correlation with the profitability of insurance firms. Age was the only variable that depicted a positive and significant correlation with the dependent variable. Kigen (2011) sought to establish the determinants of solvency margins of insurance firms in Kenya. He conducted a census survey of all the insurance firms operating in Kenya between 2001 and 2010. Multivariate data analysis technique was used to analyze both the primary and secondary data. The analysis established that liquidity ratio, combined margin ratio, operating margin and premium growth ratio had a strong positive correlation with solvency margin. However, investment ratio and Underwriting risk had a negative correlation with the dependent variable.

Burca and Batrinca (2014) conducted a study to evaluate determinants of the financial performance of the insurance firms in Roman between 2008 and 2012. They observed that firm leverage, company size, retention ratio, solvency margin and Underwriting risk are the main drivers of financial performance of insurance firms in the Romanian market.

Mwangi and Murigu (2015) conducted a study to establish factors influencing the profitability of general insurers in Kenya. The study conducted multiple regression analysis for all the general insurance operating in Kenya in between 2009-2012. The dependent variable was return on assets which was used as a proxy of profitability. The study found that profitability was significantly correlated to leverage, management competence index and Equity Capital. However, size and ownership structure were negatively correlated with the profitability of insurance firms. The study did not find any relationship between financial performance and age, retention ratio and liquidity ratio.

Mwangi and Iraya (2014) conducted a study to determine factors influencing the financial performance of general insurers in Kenya. The study analyzed various factors; the size of the firm, the growth of underwriting risk, retention ratio, investment yield, earning assets and expense ratio. The data employed multi-regression analysis technique to analyze 22, 23 and 25 underwriters for 2010, 2011 and 2012 respectively. The study found that earning assets and investment yield were positively correlated to financial performance. However, returns on assets which were used as a proxy for financial performance was negatively correlated to underwriting risk and expense ratio. Financial performance was not significantly correlated with the size of the underwriter, growth of underwriting risk, and retention ratio.

Kaguri (2013) conducted a study to investigate the factors that influence financial performance of Albanian insurance firms. The study combined both micro and macro factors. Five insurance firms which were in operation in between 2008 and 2013 were evaluated. The investigation used cross-sectional time series data which were collected from the financial statements filed with the regulator. The study concluded

that leverage and business risk are negatively correlated with financial performance. However, asset tangibility (fixed assets to total assets) was positively related to financial performance which was measured as returns on assets.

2.5 Critique of the Existing Literature

Empirical studies to determine the nature and strength of linkage between the underwriting risk and financial performance are inconclusive and have yielded different outcomes. The current study puts into consideration the gaps and flaws identified in such studies in order to get the true and genuine relationship between the two variables. Wongsuwatt et al. (2020) study used firm type as moderating variable while the current study used firm as moderating variable. Further, focused only on non-life insurance firms which current study sampled all insurance firms

Malik (2011) underwriting risk linked with profitability in Pakistani insurance companies. However, his study used a small sample of 35 publicly traded life and non-life insurance companies was gathered. This study used a large sample to make conclusive inferences on effect of underwriting risk on financial performance (ROA). Also, Berhe and Kaur (2017) used a small sample of 12 insurance companies and employed regression analysis using panel least square revealed while the current study used a large sample size and employed fixed and random effect in testing hypothesis

Similarly, Mehari and Aemiro (2013) sampled only nine insurance firms in demonstrating the association between underwriting risk and performance of Ethiopian insurance companies. The study use 9 firms was inadequate in giving conclusive findings. In addition. Daare (2016) used panel data to from 8 general insurance companies (6 private and 2 public) from 2006 to 2016. Secondary data from annual audited financial accounts is used in this study. Kazeem (2015) employed panel data approach and multiple regressions. The current study used a large sampled and employed fixed and random effect in assessing effect of underwriting risk linked with profitability among Kenya insurance firms.

The influence of leverage or Capital structure on the profitability of firms has attracted the attention of researchers since time immemorial. However, such studies are few and scanty in the field of insurance but dominate commercial banks, SACCOs and manufacturing firms. The research article by Akinlo and Asaolu (2012) aimed to determine the influence of profitability on leverage. The article fails to elaborate how a target population of 66 firms was selected from the other entire non-financial firm listed in Nigerian Stock Exchange. Moreover, the study did not indicate the methodology used to measure and quantify leverage and hence complicated the process of interpreting and understanding the results.

Furthermore, Quang and Xin (2014) study was conducted in Vietnamese and used multivariate regression model to assess the influence of ownership structure and Capital structure on 134 non-financial firms in operation between 2009-2012. The study briefly discussed how the tradeoff theory relates to leverage and financial performance, but avoided to explain the causal influence relationship between the two.

The underlying interest to discover the impact of liquidity on financial performance cannot be underestimated. One of the studies that delved into this search was Boadi et al. (2013), with keen interest in the insurance sector in Ghana. The researchers employed exploratory research design instead of descriptive research design based on the fact that, numerous other researches had already been done on the research topic.

The confidence level for the study was 80% compared with the standard for social sciences studies of 95%. The results and the conclusion of the study was exposed to high risk of committing type 1 error. Similarly, in their quest to provide answers to how liquidity related to profitability, Mehari and Aemiro (2013), carried out a research on specific factors influencing profitability of insurance firms in Ethiopia. The study was however based on a target populated of 9 out 14 insurers in operation between 2005 and 2010 notwithstanding the fact that the universal population was small and hence a census-based study would have yielded more accurate and precise results. Likewise, Mwangi and Murigu (2015) in a research study on the

determinants of financial performance of general underwriters in Kenya failed to provide the theoretical foundation on which the study was anchored on.

The influence of volume of Equity Capital on financial profitability has received global attention due to the integral role played by Equity Capital in the operations of any firm. Malik (2011) research on the analysis of profitability of insurance firms in Pakistan that operated in between 2005 – 2009 failed to offer a recommendation to decision makers and the interested parties on how the outcome of the study would be applied to enhance to the welfare of insurance firms. However, the study found out that volume of equity capital was one of the main determinants of financial performance of insurance firms.

Al-Shami (2008) on the other hand in a research article, on the determinants of insurance firms profitability used abbreviation UAE in the title to refer to the United Arabs Emirates despite the fact no abbreviations should be used as part of the research title. Berhe and Kaur (2017) article on determinants of Ethiopian insurance firms failed to discuss the research problem clearly and hence the purpose of the study was not well defined. Nevertheless, the study concluded that the volume of equity capital referred to us Equity capital in that study was positively and strongly correlated to the financial performance of insurance firms in Ethiopia.

2.6 Research Gaps

The reviewed literature has confirmed the existence of both conceptual and contextual gaps. The conceptual gap is evident since the researcher has ascertained no past studies have exactly the same variables with the current one. Furthermore, several studies which share similar one or two similar variables with the current research have registered differing results. The contextual gaps have been established as past studies were done in different time period, regions and in varying financial sector players.

Burca et al., (2014) conducted research on the insurance firms operating in the Romanian market. The study analyzed 13 explanatory variables which posed a challenge in the analysis as some variables had little influence or their influence to

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dependent variable was explainable through other explanatory variables already incorporated in the model. The study applied multiple regressions to examine the data collected on 21 insurers.

Charumathi (2012) analyzed the determinants of profitability of insurance firms operating in India between 2008- 2011 compared to the current study set to do a study for insurance firms operating in Kenya between 2013- 2017. Hailegebreal (2016) studied macroeconomics and firm characteristics influencing the profitability of insurance firms in Ethiopia. The conceptual gap between that particular study and the current study is whereas it incorporated macroeconomics factors as the study variables besides specific factors, the current studies concentrated on specific firm factors limited to equity capital, underwriting risk, leverage and liquidity.

Akinlo and Asaolu (2012) in their study; profitability and leverage on non-financial firms in Nigeria, analyzed 66 purposively selected firms on the Nigerian Stock Exchange. The study concentrated on the listed non-financial firms in the Nigerian Stock Exchange compared to the current study on insurance sector in Kenya and there is a need to bridge this contextual gap. Quang and Xin (2014), on the other hand, studied the impact of Capital structure and ownership on the profitability of Vietnamese firms. The study involved 134 firms compared to the current study target population of 54 insurers in Kenya. Al-Shami (2008) study on the impact of leverage on the financial performance of non-financial firms in Kenya is different from the current study since Al-Shami incorporated panel data and random influence model compared to the current study use of multiple regression models. The study was limited to OLS-chip companies listed in the Nairobi Securities Exchange and hence the current study seeks to address the entire universe population of insurance firms operating in Kenya between 2008- 2017. Furthermore, Al-Shami (2008) analyzed the influence of leverage as the explanatory variable which was controlled by other variables but the current study plan to expand the scope of explanatory by including underwriting risk, leverage liquidity and volume of Equity Capital.

Boadi et al., (2013) in a study on the drivers of profitability of Nigerian insurance firms employed descriptive research design as the roadmap for their study. However,

the current study used correlational research designs. Kripa and Ajasllari (2016), on the flip side, analyzed the influence of liquidity on the insurance firms in Albania. Albania's economy is a mature and developed one compared to the Kenyan economy categorized as an emerging developing one. Therefore, there was a need to conduct the current study in order to bridge both the conceptual and contextual gaps.

Mehari and Aemiro (2013) used a target population of 9 out of 14 to analyze the influence of firm characteristics on the financial performance of insurance firms in Ethiopia. However, the current study appreciated the influence of large numbers on the quality of the research outcome and hence conducted the study based on the census population of all the life and general insurance firms in Kenya. Similarly, Murungi (2014) conducted a study on the determinants of general insurance firms in Kenya in operation in between 2009-2012. The study concentrated on general insurers compared to the current study that spread its tentacles to both life and general insurance firms operating in Kenya.

Berhe and Kaur (2017) delved into the determinants of insurance firms' financial performance of the insurance industry in Ethiopia. However, despite incorporating both macroeconomic factors alongside the selected firm characteristics failed to use a moderating variable. The current study is different as it sought to use the influence of size of insurance firms as a moderating variable on the influence of firm characteristics on the financial performance of insurance firms in Kenya. Yuqi Li (2007), on the other hand, analyzed the determinants of profitability of banks and their implications for risk management practices. Despite the study been based in commercial banks, it was conducted in a developed country whereas the current study dwells on insurance firms in Kenya which is an emerging and developing economy.

Table 2.1: Summary of Research Gaps

Authors	Title/research questions	Methodology	Findings	Gaps
Equity Capital				
Berhe and Kaur (2017	determinants of profitability of insurance firms in operation in between 2006 – 2015 in Ethiopia	A total of 17 insurers both life and non-life formed the target population	The results of the fixed influence model indicated that the key determinants of financial performance of insurance firms were equity capital, firm size, and liquidity	The study was limited to only non-life insurance and firm size was used as predictor
Kripa and Ajasllari (2016)	investigated the driving factors for profitably of insurance firms in Albania,	Census technique for 7 companies, including non-life and life insurance companies, from 2008-2013.	the volume of equity capital was positive but insignificantly correlated to the financial performance	Used a small sample size of 7 firms and measured equity capital using ratios
Shamsuddin et al., (2020)	capital structure influences the performance of listed insurance firms in Jordan	secondary data sourced for 10 years right from 2007 to 2017. Employed static panel data analysis. capital structure was proxied by equity financing as well as long- and short-term debt. On the other hand, financial performance was measures in terms of Tobin's Q, ROA and ROE.	the study suggested that equity financing is among the key determinants of insurance firms' profitability	The study used capita structure as proxy of equity financing but there was no specific focus on equity capital
Ondigi and Muturi (2016)	examined the determinants of profitability among listed insurance firms in Kenya	Targeted six insurance firms listed in the NSE. The research utilized secondary data for a period of five years right from 2010 to 2014.	The results indicated that equity contributed to the profitability of the insurance firms	The study was only conducted for 4 years and did not include firm size as moderating variable. The findings were limited to multiple regression analysis which is not suitable for panel data

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Gugong, Arugu and Dandago (2014)	influence of ownership structure on the performance of listed insurance firms in Nigeria	The period of focus was from 2001 to 2010 with panel data utilized to address the study's objective	The study suggested that the owners' equity has the potential to further enhance firm performance in the sense that it serves as a check and balance mechanism	The study only suggested equity as major predictor of performance of listed insurance firms in Nigeria but did not provide empirical evidence

Underwriting Risk

Wongsuwatt et al. (2020)	impact of underwriting risk on insurance firms (non-life) company profitability as moderated by firm type	The study collected secondary data from database of 52 insurance firms (non-life) in Thailand. Results from Ordinal Least Square (OLS) regression and fixed	underwriting risk had negative effect on financial performance of non-life insurance firms	The study only sampled non-life insurance firms and measured firm performance using Tobin Q
Berhe and Kaur (2017	examined the factors affecting financial performance of Ethiopian non-life insurance firms	used data from the years 2011 to 2016 from a sample of 12 insurance companies giving a total of 72 observations. Assumption of the classical normal linear regression (CLRM) were tested to ensure data was free of multicollinearity and autocorrelation and was normally distributed and homoscedastic to fulfill OLS analysis	Regression analysis using panel least square revealed financial performance of non-life insurance firms was positively associated with underwriting	The study only sampled non-life insurance firms. The sample size was too small to provided conclusive findings
Teklit and Jasmindeep (2017)	effect external and internal factors of financial performance (profit) of insurance firms in Ethiopia	employed panel data approach of 10 years from 2006 to 2015. Fixed effect model was	revealed that underwriting had insignificant impact of profitability of insurance firms. However, profitability	The study give insignificant results which might because the

		chosen by Hausman test	in terms of ROA was negatively affect by underwriting risk at 0.05 level of significance	sample size. In addition, the study used profit and ROA as different measure of financial performance
Simon (2016)	assessed internal determinants relating with profitability of insurance companies (measured as proxy of return on asset)	Used panel data for period of 8 years (2005-2012). Aided by Stata v.11, panel analysis using fixed and random	effect revealed that underwriting risk has no effect Insurance firms' profitability in Ethiopia	The study sample of 9 firms for 8 years was too small when testing hypothesis and might not provide satisfactory findings
Mehari and Aemiro (2013	investigated the firm attributes that influence insurance businesses' profitability in Ethiopia,	multiple regression analysis was employed to analyzed panel data collected from 9 insurance firms from 2005 to 2010	underwriting risk is statistically significant and adversely connected to ROA as measure for firm financial performance or profitability	The findings were limited to multiple regression analysis which is not suitable for panel data
Firm Leverage				
Meher & Zewudu (2020	investigated the link between firm characteristics and macroeconomic variables on the financial performance of insurance firms in Ethiopia	study adopted a quantitative approach that relied on balanced panel data from nine insurance firms. The data covered the period from 2002 to 2016. Both the Pearson correlation and OLS regression were utilized	leverage and liquidity negatively impacted on the profitability of the targeted insurance firms	The study used balanced data, meaning some firms were not included in the study, the current study used unbalanced data
Almajali and Shamsuddin (2019)	analysis of the relationship between capital structure and the profitability of insurance firms in Jordan	targeted 19 insurance firms that were listed on the Amman Stock Exchange The period under investigation was between 2008 and 2017. correlation and regression were used to analyze data	short- and long-term debt exhibited a positive and significant influence with the ROE with a negative correlation with Tobin's Q. Moreover, firm leverage had a positive and significant effect on the profitability of the Jordanian insurance firms	The findings were limited to listed insurance firms. In addition, the study uses ROE and Tobin q to measure financial performance the current study used

			ROA
Aadmassie (2019)	investigated the influence of capital structure on the financial performance of Ethiopian insurance firms	The study utilized a quantitative approach. The panel data covered 10 years right from 2008 to 2017. Analysis was done with the use of the OLS estimation method	The findings of the random effect model indicated that leverage, firm size, debt ratio and claim ratio significantly influenced the profitability of the insurance firms in Ethiopia	Measure leverage as debt-equity ratio which is specific for the capital structure
Bhattarai (2020)	analysis of the influence of capital structure on the financial performance of insurance firms in Nepal	study relied on annual reports in sourcing secondary data from 14 insurance firms with the data covering the period from 2007/08 to 2015/16. The Hausman test indicated that the random effect model	The results indicated that leverage and asset tangibility positively impacted on the profitability of the Nepalese insurance firms	Measure leverage as debt-equity ratio which is specific for capital structure
Batool and Sahi (2019)	comparative study of the insurance industry in the UK and USA to ascertain the determinants of financial performance	The study targeted 24 insurance firms and collected quarterly data from 2007 when there was a global financial crisis to 2016	The findings indicated that in the USA, leverage, liquidity, firm size and asset turnover positively impacted on the financial performance of insurance firms. On the other hand, in the UK, firm size and liquidity had positive influence on profitability whereas leverage and asset turnover negatively impacted on the profitability of the insurance firms in the UK	The study was comparative for two developed nations and findings could be generalized for emerging economies
Olaniyan, Oyinloye and Agbadua (2020)	examined the influence of firm leverage on shareholders' returns in a business environment that is dynamic in Nigeria	study utilized unbalanced panel data that was analysis with the generalized method of moments (GMM) estimator. The data covered the period ranging	The findings indicated that debt ratio negatively impacted on shareholders returns. Nevertheless, when interest coverage ratio and debt-equity ratio are used as the leverage ratio, the effect on shareholders' returns is	Measure leverage as debt-equity ratio which is specific for capital structure. Sample was small for employing

		from 2008 to 2017. The study targeted 18 insurance firms	to positive and significant	generalized method of moments (GMM) estimator
Almajali and Shamsuddin (2019)	examined the link between profitability and the Capital structure of Jordanian insurance firms	The study targeted 19 listed insurance firms in the Amman Stock Exchange. The variables of interest covered a 10-year period from 2008 to 2017	The empirical results indicated a positive correlation between short-term and log-term debt with the ROE and negative correlation with Tobin's Q. Further, firm leverage had a positive and significant effect on the profitability of Jordanian insurance firms. The findings suggested that an increase in the firm leverage is associated with an increase in financial performance	The study however did not indicate if the composition of the firm leverage plays a significant role in influencing firm financial performance. The current study established if this is the case among insurance firms in Kenya
Jadi (2015)	determinant of profitability among insurance firms in the United Kingdom	Targeted 57 insurance firms drawn from the United Kingdom. The secondary data was sourced from an online non-US database. The study covered the period from 2006 to 2010. regression analysis	firm leverage elicited no significant effect on the profitability of the targeted firms	The findings were limited to multiple regression analysis which is not suitable for panel data

Firm Liquidity

Wani and Dar (2013)	assessed relationship between the financial performances of life insurance firms that operated in India	Sampled 8 out of 24 life insurance firms that operated in India in between 2005 to 2013. multiple regression model	Empirical research indicates that there is no consensus on the direction and degree of influence that liquidity has on the financial performance of insurance firms	The study focused only on life insurances firms while current study targeted all insurance firms. Mutiple regression used was not adequate for panel data
Kaya (2015)	influence of assorted firm -based factors on the	24 non-life insurances that	The findings were that the current ratio is	The study focused only

	profitability of the non-life insurances that operated in Turkey	operated in Turkey between 2006 and 2013, leverage was measured as the current ratio whereas profitability was measured both by sales profitability ratio and technical profitability ratio	inversely related to profitability	on non-life insurances firms while current study targeted all insurance firms. Further, The findings were limited to multiple regression analysis which is not suitable for panel data
Mehari and Aemiro (2013)	effect of certain firm characteristics on the profitability of insurance firms in Ethiopia	a sample of 9 purposively selected firms from a universe of 14 insurance firms.	the liquidity of an insurance firm goes up, the profitability goes down	The study sample of 9 firms for 1 years was too small when testing hypothesis and might not provide satisfactory findings
Charumathi (2012)	On the Determinants of Profitability of Indian Life Insurer	22 private and 1 public insurance firms. Secondary data collected for the period 2008 to 2011 was entered into a panel regression model	The study resolved that increase in liquidity of a firm had a corresponding increase in the financial performance of the firm's understudy	The study findings were limited to lifer insurers. regression analysis which is not suitable for panel data
Gebremariyam (2014)	Determine the relationship between liquidity and profitability of the insurance firms that operated in the Ethiopian	10 insurance firms that operated in the Ethiopian market between 2008 and 2013. The study used secondary data and multiple regression data analysis technique	Liquidity was measured as the current asset over current liabilities and profitability as ROA. was no concrete relationship between liquidity and profitability	The study only sampled 10 insurance firms which were a small sample size and might have resulted to insufficient results
Muhammad et al., (2016)	established the determinants of the profitability of non-life insurance firms that operated in the Pakistan	20 non-life insurance firms that operated in the Pakistan market between 2005 and 2013 The study used quantitative research technique and	negative correlation between liquidity and both ROA	The study targeted on non-life insurers while current study targted all insurance firms

		used panel data to analyze data using Eviews 7.	
Muriithi (2016)	determine the effect of the liquidity risk on the financial performance of the commercial banks operating in Kenya	43 commercial banks operating in Kenya between 2005 and 2014	The study concluded that net stable funding was negatively related to the bank financial performance. However, the study showed that change in liquidity coverage ratio did not have any corresponding change on the financial performance. Nevertheless, the overall effect of liquidity on the financial performance was registered as negative	The study was conducted in banking sector while current study was carried n insurance sector
Kinyua (2018)	examined the micro factors that play a role in influencing the profitability of insurance firms in Kenya	The research utilized a descriptive research design. A census was conducted to sample 6 listed insurance firms. Regression analysis was used	The findings from the analysis indicated that liquidity had no significant effect on the profitability of the targeted insurance firms	A census of 7 listed insurance firms is in adequate for generalization of the findings and use of regression analysis was not suitable for panel data
Abdeljawad et al., (2020)	examined the factors influencing the profitability of insurance firms in Palestine	The research targeted seven insurance firms operating in the country and relied on unbalanced data to address the objective. The data covered the period ranging from 2006 to 2018	The results of the analysis indicated that liquidity, growth and firm size had a positive and significant influence on the profitability of the insurance firms in Palestine	Though the findings greatly contribute in the current study, it did not use Fixed or random effect model
Zainudin et al., (2018)	Determine effect of internal firm characteristics on the profitability of insurance firms in selected Asian countries	The period of focus was from 2008 to 2014 The study utilized panel data to test the hypotheses on the eight Asian countries. The Hausman test indicated that the random effect	liquidity, premium growth and asset tangibility had no effect on the profitability of the insurance firms	The study was conducted among many Asian countries and findings could not be generalized in Kenya context.

		model was appropriate for testing the hypotheses	
Ngunguni, Misango and Onsiro (2020)	financial factors that influence the profitability of Kenyan general insurance firms	The utilized descriptive and inferential statistics in addressing the objectives. The study targeted all of the 28 general insurance firms in Kenya. Secondary data was sourced from the annual financial statement of the general insurance firms for the period 2013 to 2017. analyzed using regression analysis	liquidity had a positive and significant influence on the profitability of Kenyan general insurance firms	The study used multiple regression model which was not reliable for panel data
Kipngetich (2019)	examined the effect of liquidity on the financial performance of insurance firms in Kenya	e study targeted 47 licensed insurance firms in Kenya. The secondary data comprise of annual data on the liquidity ratio and the ROA. The period under investigation was between 2014 to 2018. The quantitative data was analyzed with SPSS V 25.0	The findings indicated that liquidity had a positive and significant influence on the financial performance of the targeted insurance firms in Kenya	The study used multiple regression model with aid of SPSS which was not reliable for panel data
Patrick (2018)	effect of liquidity management on the performance of Nigerian insurance firms	The period of focus was between 2003 and 2012. The study utilized panel data to address the research's objectives. The Hausman test indicated that the random effect model was the most appropriate to test the hypotheses	The findings from the random effect model indicated that liquidity management does not significantly influence the performance of Nigerian insurance firms	The current study however focused on liquidity as opposed to liquidity management.

Mazviona, Dube and Sakahuhwa (2017)	factors influencing the performance of insurance firms in Zimbabwe	The study targeted twenty insurance firms in the country. secondary data was obtained from the annual financial statement and the websites of the insurance firms in Zimbabwe. The period of focus was between 2010 and 2014. The study utilized regression analysis	liquidity and leverage positively influenced the performance of the insurance firms	The study used multiple regression model with aid of SPSS which was not reliable for panel data

Firm Size

Kartika, Handayani and Dwiputra (2016)	effect of size of the firm, current ratio, operating cash flow and financial ratios on earnings per share of the companies listed in Indonesia	19 companies listed during the for the years from 2010 to 2014	employed descriptive quantitative analysis and purposive type of sampling technique and used multiple regressions to evaluate the data	Firm size was used as predictor, current study used firm size as moderator
Oskouei and Zadeh (2015)	prospect stock return by emphasizing on lifecycle based on cash flow statement	The raw data was obtained from the investigation of 1123 firms-years during the period between 2002 to 2011 and analyzed using multivariate regression equations to test	study found out that the firm size had a negative effect on future stock return.	the study linked firm size with stock return as proxy of financial performance current study used ROA as measure or financial performance
Pouraghajan, Mansourinia, Bagheri and Emamgholipour (2013)	investigated the effect of operating cash flows, financial ratios, and size of the firm on earnings per share (EPS) of companies listed at stock exchange in Tehran	140 companies listed at stock exchange during the time span 2006-2010	The study findings mentioned that financial ratios had a positive effect and significant on the size of the firm with earnings per share (EPS)	The findings were limited to listed firms
Wainaina (2014)	effect of Capital structure if any on the financial performance of insurers operating in Kenya	36 insurers operating in Kenya between 2008 and 2012	Multiple regression technique was used to analyze both primary and secondary data	The study used multiple regression model with aid of SPSS which was not reliable for panel

2.7 Summary of the Existing Literature

This chapter has discussed the relevant literature on specific firm characteristics and financial performance of insurance firms. Both empirical and theoretical literature have been reviewed with keen interest been given to landmark research works done in the field of insurance. Various finance theories were reviewed to anchor and put the study variables into perspective. These were agency theory, liquidity preference theory, trade-off theory and modern portfolio theory. Conceptual framework representing a diagrammatical view of all the study variables was developed; equity capital, underwriting risk, leverages and with the moderating influence of size of insurance firms.

Numerous studies relating to financial performance was reviewed. However, most of the articles reviewed dwelled on commercial banks, savings and credit co-operative societies, small medium enterprises and manufacturing firms. Some were done in mature and developed economies. The number of studies done on specific factors and financial performance in Africa is scarce while an insignificant volume of studies relates to the financial performance of the insurance sector in Kenya. This study, therefore, is of paramount importance as it sought to bridge the gap in the existing body of knowledge by addressing the influence of firm characteristics on the financial performance of insurance firms in Kenya with keen interest on the moderating influence of the size of insurance firms.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter expounds on the research philosophy on which the entire study is anchored on, the research design, the population and the target population of the study. Finally, the chapter discusses the data collection procedure, and data processing and analysis techniques to be adopted by the study.

3.2 Research Philosophy

According to Thornhill, Saunders, and Lewis (2012) knowledge is divided into two main philosophies namely ontology and epistemology. Epistemology is a subset in the psychology field which examines, the nature, the source and the limitation of human knowledge while ontology is a branch of philosophy that is interested in identifying and classifying the underlying principles and theoretical foundations of a concept, idea or a field of enquiry or study (Bryman & Bell, 2007). Epistemology helps the humankind to understand the world better through a process of creating a distinct difference between the reality and illusion as well as the truth and what is false. Ontology, on the other hand, is a study of what is in existences, its nature, and scope and how it relates with other factions of the world (Gay, Mills, & Airasian, 2011).

Research philosophy is the main framework which demonstrates the assumptions and how these assumptions help to plan and act as the blueprint for the study. Generally, there are various types of research philosophies as there are different disciplines of study. In the business field, there are four types of philosophies, which are pragmatism, interpretive, realism, and positivism (Saunders et al., 2012). The research methodology of this study was based on positivist social science as an approach in order to conduct a quantitative collection and analysis of data in annual reports. Research philosophy is defined as the development of research background, research knowledge and its nature (Sounders et al., 2007). Positivist social science

research is characterized by the usage of detailed analysis such as quantitative data, experiments, surveys or statistical analysis (Neuman, 2006; Padgett, 2016). This type of approach refers to research reliant on the examination and analysis of quantitative data (Baker & Lee, 2011).

Therefore, the study sought a quantitatively measured description and exploration of the perceived reality of firm characteristics and financial performance. However, when it comes to choosing the research paradigm, it follows that the transition zones that constitute multiparadigm approaches (Gioia and Pitre, 1990; Arghode, 2012) was suitable for the current study. The authors argued that multiparadigm approaches offer the possibility of creating fresh insights because they start from different ontological and epistemological assumptions and therefore can tap different facets of organizational phenomena and can produce markedly different and uniquely informative theoretical views of events under study.

Similarly, Walliman (2017) argued that reality is independent of human beings and emphasizes the importance to reach and discover theories based on empirical research. This is summarized in the reasoning that logical reasoning and mathematical proof are rationally justified rather than focusing on subjectivity and interpretation. The argumentation discussed above is connected to this study since it is statistically tested. Positivism is often linked with quantitative, scientific, traditionalist and objective research especially when the data is predetermined and highly structured which is related to the understanding of this research. This study used positivism research philosophy. This is because the research was highly structured, used large samples and in these cases a census and was quantitative in nature. However, positivism has a major weakness in that it does not incorporate the influence of the meaning the world attaches to different phenomena.

The selection of positivism was informed by its ability and its proficiency in making observations of phenomena as they occur. Moreover, it uses mathematical models and formulas which help to extrapolate and to generalize and hence objectively test the empirical hypothesis. Positivism assures objectivity of approach to issues, precise measurements and validity and reliability of results (Bryman & Bell, 2007).

3.3 Research Design

The research design is an elaborate plan or guide that keeps the researcher focused on the data collection method, the nature of data to used, which data processing and analysis techniques and methods to be used (Blumberg, Cooper, & Schindler, 2011). Similarly Creswell (2014) defines research design as a structured and properly arranged sequence of activities with the main aim of enabling the researcher to respond to the research questions. This study used correlation research design. It helped define the research phenomenon by analyzing the independent variables (insurance firm characteristics) and how their variations make changes in the dependent variable (financial performance). It also helped the researcher to conduct hypothesis testing and to analyze the outcome whether significant or not (Gay et al., 2011).

Correlation research design was used to test the hypotheses on the assumed influence of firm characteristics on the financial performance of insurance firms in Kenya. Correlation research design requires the researcher to identify the key variables that have a causal effect relationship with a given phenomenon (DeFusco, 2007). Coefficient of correlation as a statistical parameter explains the degree and the nature of relationship between two variables. A positive change in the value of one variable may cause a similar and a positive change in another variable (Kothari & Garg, 2014). These two variables tend to be perfectly positively correlated. If the mentioned variables decreased whenever the other one was decreased, then such variables are said to be perfectly negatively correlated. Similarly, if a change in one variable does not trigger any effect on the other variable, then the two variables are said not to be correlated. On the other hand, the degree of determination explains the total variation on the dependent variable that is related to the change on the explanatory variables in question.

3.4 Target Population

According to Newing (2011), population refers to a collection of objects, individuals or events with similar characteristics and forms the unit of study. Similarly, Kothari (2004) referred to it as all the items or observations that form a field of inquiry that the researcher is interested in. The population was 54 insurers that were in operation in Kenya as at 31st December 2018 (Appendix II).

The target population is also known as the theoretical population. It refers to the whole group of objects or individuals whether firms or persons that the researcher is concerned and interested in to make the generalized conclusion about his findings (Kothari, 2004). The study target population was all the insurance firms operating in Kenya between 2010 and 2018. The list of insurance firms operating within the specified time period was obtained from Insurance Regulatory Authority and Association of Kenya Insurers' websites and annual reports. As at 31st December 2018, there were 54 insurance firms and they all form the target population for the current study (Appendix II).

3.5 Sampling Frame

The sampling frame is the source device or material from which a study sample is drawn. It encompasses all the list of items in the population which may include, households, institutions or individuals (Creswell, 2014). Similarly, sampling frame is a hypothetical and imaginary frame that confines all the members of population of a given phenomenon from which the sample ought to be picked (Kothari, 2004). However, this study used census method since the size of the population was small. This comprised all the insurance firms that operated in Kenya from 2010 to 2018.

3.6.1 Sample Size and Sampling Technique

A sample refers to the units identified and set aside from the universe population for purposes of conducting the study and making the generalization about the character of the population (Kothari, 2004). Kothari (2004), argued that for purposes of

obtaining reliable statistical inferences about the population, the larger the size of the sample the more accurate is the generalization about the population.

A census is a survey of the entire population by enumerating all the items comprising a target population and subjecting the collected data to a well-defined statistical methodology (Saunders et al., 2012). Census reduces errors associated with sampling techniques and generalization of the sample character as a reflection of the character of the entire population. Mugenda and Mugenda (2003), propagated that conducting a census is ideal where the study population is not large, manageable and comprising of less than 100 observations. Therefore, since the current study population consists of 54 insurance firms, a census was carried out and therefore no sample and sampling technique were required.

3.7 Data Collection Procedure

Data collection procedure consists of searching and gathering information about specific objects or subjects of interest to the researcher in an organized systematic way that enables the researcher get answers to the study research hypotheses and then evaluate the findings (Creswell, 2014). The study used panel data over a period of 10 years (2010-2018). The study extracted and utilized secondary data from the websites, annual reports and other publications of Insurance Regulatory Authority, Association of Kenya Insurers and individual insurers using the data collection sheet (Appendix I). To ensure existence of enough degree of freedom in the data analysis model the acquired data was sorted and categorized on yearly basis giving 10 different data sets representing the 10 years period.

The researcher wrote a letter to Insurance Regulatory Authority to request information that was not available in the IRA website. The collected data was then input in an excel spreadsheet. The researcher did not engage services of a research assistant as accuracy and precision are of utmost importance at that stage in order to guarantee the success of the project.

The panel data was used as it enables the researcher to analyze the specific factors of each insurance firm over time and collectively (Gujarati, 2003). Polit and Beck

(2010) underscored the importance of using secondary data as it is less time consuming and affordable but still as qualitative and useful as the primary data source. Kothari (2004) propounds that secondary data can be used successfully in a research program provided the quality of such data are found to be reliable, suitable for the research at hand and adequate to fully give the relevant information about the study variables.

3.7.1 Variable Measurement

The study used Returns on Assets (ROA) as measure of financial performance. ROA indicates the effectiveness of the assets of a firm in generating income while ROE measures the productivity of the income utilized by a firm in its operations. The researcher used measure ROA as Earnings before Interest and Tax (EBIT) over Total Assets.

Underwriting risk indicates the losses that occur as results of over incurred claims of insurance over earned premiums companies. It signals insurance firms underwriting and operational efficiency (Berhe & Kaur, 2017). In this it measured as ratio of incurred claims value divided by earned premiums (Berhe & Kaur, 2017).

Firm leverage is a measure of how a firm incorporates debt financing in its Capital structure. Firm leverage has attracted the attention and interests of researchers since time immemorial and various theories have been created on it, the trade-off theory, the dividend irreverence theory by Miller and Modigliani and the pecking order theory. Mehari and Aemiro (2013) measured this variable as total liability to total assets a measure that was emulated in this study.

Firm liquidity is a measure of the ability of an insurer to pay off its financial debts without liquidating its assets at a price lower than the market rate. Insurance firms with liquidity problems tend to increase the premium charged to the existing policyholders or lower premium in order to attract new policyholders. The variable was measured by a current ratio; current assets over current liabilities, similar to the method adopted by Mwangi and Murigu (2015) in their studies.

The size of equity capital denotes the amount of the funds contributed by the shareholders of the firm and from retained earnings ploughed back. Debt and borrowed funds in a firm Capital structure do not qualify as Equity Capital. Equity Capital shareholders are the residual claimant of the assets of the financially troubled firm and they rank in terms of priority of compensation to debt holders. Many other researchers, Charumathi (2012) measured this variable as a natural logarithm of equity capital.

Firm size which was used as moderator in the current study was measured using log of total asset. In relation to the previous literatures, it seems to be assented that profitability of firm is positively correlated with firm size expressed as the natural logarithm of total assets. Accordingly, larger firms are more preference to reduce their costs, have motivation strength and double profitability of their assets. In this case the coefficient estimate for firm size is expected to be positive. On the other hand, a negative relation between size and profitability may expect that assets are not used efficiently (Baguley, 2012).

Table 3.1: Variable Measurement

Variable	How to measure	previous studies which used this measurement method
Dependent Variable		
ROA	EBIT/Total Assets	(Banafa, 2016; Mwongeli & Joan, 2016; Obudho, 2014)
Independent Variable		
Underwriting risk	incurred claims value/earned premiums	(Berhe & Kaur, 2017)
Liquidity	Current assets/Current Liability	(Akenga, 2017; Olalekan, 2018; Ongore & Kusa, 2013)
Leverage	Total debt/Total Assets	(B. M. Ismail, 2016; Kale, 2013; Regasa, 2014)
Size of Equity Capital	Natural Log of Equity Capital	(Charumathi, 2012; Kripa & Ajasllari, 2016; Yuqi Li, 2007)
Moderating Variable		
Firm size	Natural Log of Total Asset	Işık et al., 2017

3.8 Data Processing and Analysis

Data collected for purposes of this study was first cleaned, edited and coded using excel datasheet before being input to Stata statistical software. According to Kothari (2004), data analysis entails computation of specific measures and searching for any trends and patterns of relationship that exist among any set of the data group. Mugenda and Mugenda (2003) argues that data preparation by cleaning and coding is essential in ensuring that all the requisite data is gathered and considered in making the anticipated comparison and analysis of variables.

Data processing starts with data preparation, coding, editing, and cleaning. Sekaran and Bougie (2011) suggest that data analysis is performed to achieve three primary objectives; getting a feel for the data, testing the goodness of fit of the data and testing the study hypothesis. The study achieved the first objective by analyzing descriptive statistics including frequency distribution, mean skewness, kurtosis and standard deviations.

3.8.1 Justification for use of the Panel Data

Panel data is also referred as combined or pooled data as it contains characteristics of both the time series and cross-sectional data. Panel data is robust as it considers data of individual firm alongside other firms in its cross-sectional characteristic in the industry and contains data sets covering different time periods as an attribute of time series (Kropko & Kubinec, 2020). The outcome of having both time series and cross-sectional data results in more reliable data, minimal bias, minimal correlation among variables and increased degree of freedom (Hamaker & Muthén, 2020. Panel data has the ability to combine data from different units of observation and still maintain the autonomy by presenting the subject units as heterogeneous and hence produces unbiased time variant estimates. This process helps to eliminate any biasness that may be experienced if data is analyzed purely as cross sectional or time series data.

3.8.2 Descriptive Statistics

Descriptive statistics involves the transformation of raw data into a form that would be easy to understand (Zikmund et al., 2013). The study used descriptive statistical tools which include frequency distribution, measures of central tendency and dispersal such as mean and standard deviation. Descriptive statistics describe the main characteristics of the data sets, including the size, mean, standard deviation, skewness and kurtosis of dependent and explanatory variables.

Descriptive statistics were used to examine the location of data, for example, where data tend to fall as measured by the mean and variability of data, for instance, how spread-out data are, as measured by the standard deviation. Descriptive statistics provide a general picture of the individual variable, determining the suitability or otherwise of multivariate statistical tests (Zikmund et al., 2013). Descriptive statistics was used as a guide in identifying the correct functional form of the model to be analyzed. The researcher sought to find the mean, standard deviation, mode and standard errors of the model. A correlational matrix was made in order to analyze any multicollearity problem between two or more variables.

3.8.3 Correlation Analysis

Besides using the descriptive statistics to establish the character and the qualities of the data, correlation analysis was conducted in order to identify any cases of multicollinearity between independent variables. Pearson product moment correlation coefficient lies between -1 and +1. A value of positive one means the two variables have perfect correlation and a unit change in one variable leads to a similar change in the other. If such relationship is established between variables in the same model, one of them should be dropped in favor of the other to avoid multicollinearity (Quintero-Rincon, D'Giano & Risk, 2020. This is because both variables have the same effect on the dependent variable and including both of them in the model would lead to unreliable outcome.

A value of negative one means the two-variable move in opposite direction in which an increase in value of one variable by a unit leads to a decrease in value by a unit in the other variable. To correct the model one of these variables should be dropped too. A correlation coefficient value of zero means there is no relationship between the two variables. According to Gujarati (2003), a correlation coefficient value more than 0.8 indicates the presence of strong correlation between the two variables. This necessitates a remedial action to taken in order to guarantee the validity of the model. A value less than 0.8 indicate the relationship between the study variables in question is not severe.

3.8.4 Panel Specification and Rationale of Variables

The study used panel data to establish the relationship among the study variables. STATA statistical software was used to sort, categorize and analyze the data. Panel data is also referred as combined or pooled data as it contains characteristics of both the time series and cross-sectional data. Panel data is robust as it considers data of individual firm alongside other firms in its cross-sectional characteristic in the industry and contains data sets covering different time periods as an attribute of time series (Schaffer, 2020. The outcome of having both time series and cross-sectional data results in more reliable data, minimal bias, minimal correlation among variables and increased degree of freedom.

Panel data has the ability to combine data from different units of observation and still maintain the autonomy by presenting the subject units as heterogeneous and hence produces unbiased time variant estimates (Roodman, 2020). This process helps to eliminate any biasness that may be experienced if data is analyzed purely as cross sectional or time series data.

3.8.5 Choice of Model: Testing for the Validity of the Fixed Effects Model

There are three panel data analysis techniques at the disposal of the researcher depending with the type of the panel data to be analyzed. These are the pooled OLS (Ordinary least squares), fixed effects models and the random effects models. Pooled OLS treats both the time series and cross section data as data of the same caliber by analyzing it using the ordinary least squares (Hamiye & Bandyopadhyay, 2020).

According to, Berenson et al., (2012) the assumption of constant slope and intercept makes the pooled OLS to be the easiest panel data technique to use but at the same time the most demanding in terms of the conditions that the data must meet to qualify for this technique. Pooled OLS does not factor in the individuality of firms and the possibility of firms being heterogeneous. All the collected data is pooled in one batch and treated as if it was sourced from one-unit in a single period as opposed to multi-periods. Pooled OLS does not consider cross sectional related to space or temporal variation. It assumes the entire data set has constant intercept and slope.

Fixed Effects Model (FEM) appreciates that the omitted and unobserved variables may affect the cross sectional and the time series intercepts of the panel data analysis model. The unobserved effects may be management style, organization culture and tax policies unique to each firm. FEM allows the intercept to vary among individual observations in acknowledgement of the fact that each time series or cross-sectional observation may have some unique characteristics (McNeish & Kelley, 2019). However, the slope of fixed effects model remains constant and does not vary as in the case of the intercept. FEM model adds a dummy variable in order to account for the changing intercepts.

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The FEM model is therefore referred to as the Least Square Dummy Variable (LSDV). The introduction of dummy variable to cater for cross sectional usually leads to reduction of the degree of freedom which is likely to bring up statistical problems. Alternatively, the researcher may design the fixed effects model in a way there is a variation in the intercept in regards to space (cross sectional) and time but still ensuring that the slope coefficients remain constant (Yusra et al., 2019). In such a case, the model captures both the space and time invariant characteristics of the data such as change in regulatory framework, tax rate policies and any other external factors. This can only happen by introducing more dummy variables whose downside effect is the possibility of weakening the model due to the likelihood of multicolinearity problem among the dummy variables and also the reduction of the degree of freedom.

Random Effects Model (REM) is similar to the FEM but allows for the slope of the regression equation to vary as opposed to the intercept. It is considered more superior than the FEM as it accounts for both the cross sectional and time series disturbances and does not reduce the degree of freedom by introducing dummy variables to control for the fixed effects. The use of dummy variables in FEM leads to the presence of huge standard errors in the model which can result in statistical problems. Random effects model assumes that the omitted variables are not by any way correlated to the included variable unlike in the case requiring the use of fixed effect models. However, though the random effects model works properly in the event the omitted variables are uncorrelated with the included variables, the model needs to check for serial correlation and heteroscedasticity (Schreck, Piepho, & Schlather, 2019).

In order to determine which model is most suitable for the current study, Hausman test was conducted. This involved sequentially testing the two models starting with FEM, against the alternative hypothesis that the random effect model was suitable at 5% significance level. The Hausman test output was in the form of the chi-square and the p-value which helped in making the decision whether to accept or reject the null hypothesis.

3.8.6 The Hausman Test

Panel data rule of thumb is each entry has a unique and distinct character which may or not influence the behavior of the independent variables. Random and fixed effects models are used to control for these traits in order to guarantee the integrity of the regression coefficients. The point of departure between random and fixed effects is whether the unobserved and individual specific trait are correlated with the independent variables or not (Sheytanova, 2015). Fixed effect assumes that the unobserved effect is correlated with the independent variable and hence the dependent variable is said to be influenced by other unobserved explanatory variables which are correlated with the study independent variables.

Fixed effects assume that the entity individual characteristics do not change over time and hence the model constants and error term depict the true picture of an entity. Fixed effects therefore remove any changes that may happen on the firm specific characteristics over time and hence the end results are the net effect of the independent factors on the criterion variable (Mainzer, 2018). On the contrary random effects assume that the unobserved effects on the firm characteristics are uncorrelated with the independent factors. The variation across entities is considered to be random and not correlated with the predictor variables.

The researcher chooses which model to use between FE and RE based on the nature of data to be analyzed. The recommended procedure is the use of the Hausman test, which involves running regression analysis on the data to determine whether the error term is correlated with the independent variables or otherwise. Hausman test null hypothesis is that there is no significant relationship between the unobserved individual effects and the independent variables. A rejection of the null hypothesis means we accept the alternative hypothesis that the error term is correlated with the independent variables and hence conclude to use random effects model.

3.8.7 Panel Regression Equations

The researcher used the following equation for the purposes of the study at hand.

$$\ln(ROA_{it}) = \beta_{0it} + \beta_{1it}\ln EC_{it} + \beta_{2it}\ln UR_{it} + \beta_{3it}\ln LEV_{it} + \beta_{4it}\ln LIO_{it} + \varepsilon_1.....1$$

Where;

ROA_{it} = Returns on Asset of insurance i at time t

EC_{it} = Equity Capital of insurance i at time t

LEV_{it} = Leverage of insurance i at time t

UR_{it} = Underwriting risk of insurance i at time t

LIQ_{it} = Liquidity of insurance i at time t

Ln= the natural log

α_o = Constant return

$_{\mu it =}$ Composite error term

β's = Coefficient of the independent variables

Moderation analysis is applied when the outcome of the relationship between a dependent variable and independent variable is impacted upon a third variable (Baron & Kenny 1986). A moderator is a qualitative variable that influences the relationship between the dependent variable and independent variable. A moderator variable impacts on the direction and magnitude of the relation between a predictor and an outcome (Fairchild & MacKinnon, 2009). The statistical tool used to measure moderation should test the differential effect of the independent variable on the dependent variable as a function of the moderator (Baron & Kenny 1986). The

study's conceptual and statistical diagrams are depicted in figure 3.1 and 3.2 below for moderation analysis according to model 1 Hayes (2013).
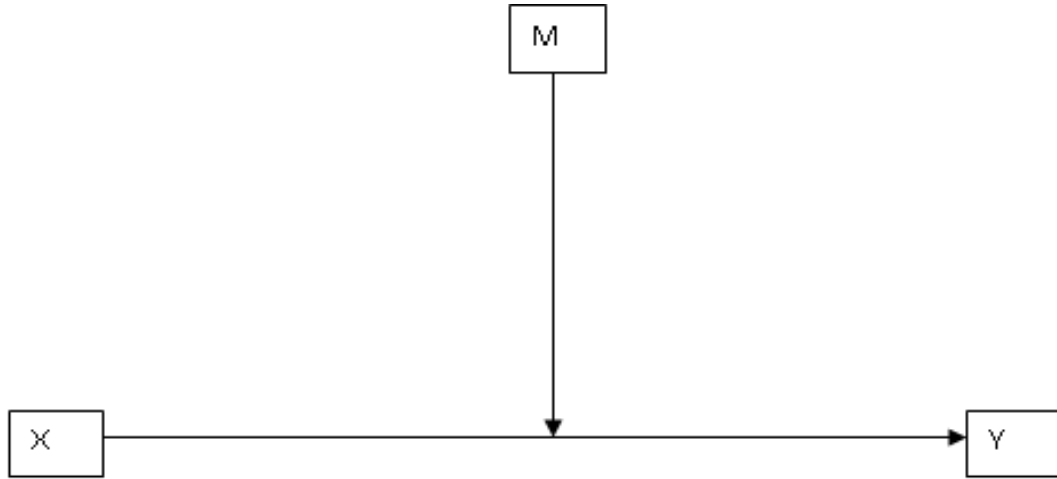
Figure 3.1: Conceptual diagram for moderation analysis

Source; Model 1 by Hayes (2013)

Where;

X; Independent variable (firm characteristics)

M; Moderating variable (firm size)

Y; Dependent variable (firm performance)
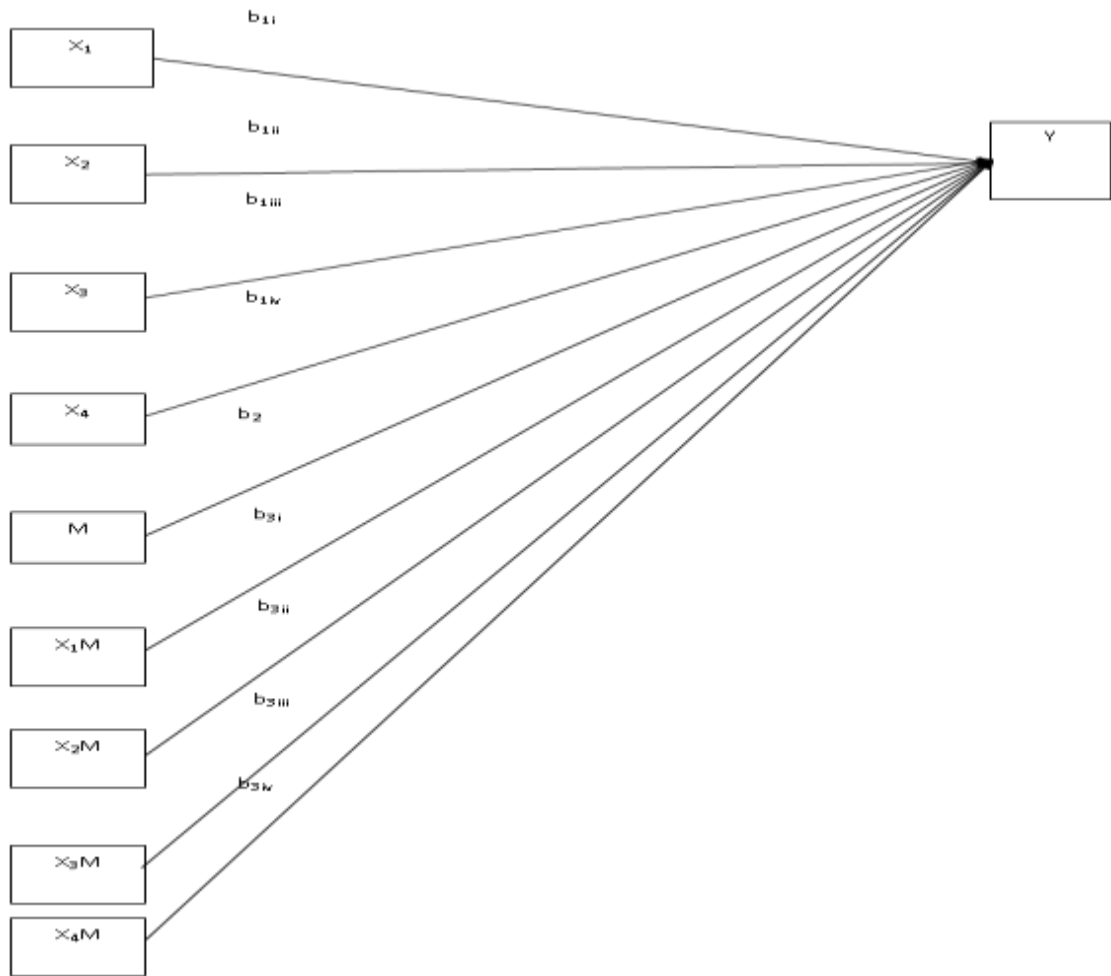
Figure 3.2: Statistical diagram for moderation analysis

Source; Model 1 by Hayes (2013)

b1i, b1ii, b1iii, b1iv, b2, b3i, b3ii, b3iii, and b3iv; Paths of the model.

Conditional indirect effect of X on Y = (b1i+ b1ii+ b1iii + b1iv) + (b3i + b3ii + b3iii + b3iv) M .

Where;

X1; Independent variable 1 (Equity Capital)

X2; Independent variable 2 (Underwriting risk)

X3; Independent variable 3 (leverage)

X4; Independent variable 4 (liquidity)

M; Moderating variable (Firm Size)

Y; Dependent variable (financial performance)

Hence the following model was derived

$$\ln(y_{it}) = \beta_{0it} + \beta_{1it}\ln EC_{it} + \beta_{2it}\ln UR_{it} + \beta_{3it}\ln LEV_{it} + \beta_{4it}\ln LIO_{it} + \beta_5 FS_{it} + \\ + \beta_{6it}\ln EC_{it} * FS + \beta_{7it}\ln UR_{it} * FS + \beta_{8it}\ln UR_{it} * FS + \beta_{8it}\ln LIO_{it} * FS + \varepsilon_2$$

.... 2

ROA_{it} = Returns on Asset of insurance i at time t

EC_{it} = Equity Capital of insurance i at time t

LEV_{it} = Leverage of insurance i at time t

UR_{it} = Underwriting risk of insurance i at time t

LIQ_{it} = Liquidity of insurance i at time t

Ln= the natural log

α_o = Constant return

μ_{it} = Composite error term

β's = Coefficient of the independent variables

The use of hierarchical multiple regression analysis to check for moderator influence was observed by Baron and Kenny's (1986) and Frazier et al., (2004). The Procedures have been employed to examine and interpret the forms of interaction as proposed by Aiken and West (1991). Moderation occurs when the relationship between two variables varies in magnitude, direction or statistical significance

depending on the level of another variable. A hierarchical multiple regression analysis was done to evaluate the effects among the variables and to test the hypotheses. The hierarchical regression analysis was used to specify a set entry order for variables to test the impacts of certain predictors, regardless of the impact of others (Pallant, 2010).

To achieve this, hierarchical regression model was used. In hierarchical regression analysis, only some of the variables are utilized simultaneously across every stage. At every step, R^2 was computed to indicate the incremental alteration with the addition of the most recently entered predictor that was exclusively related with the predictor. The benefit of using hierarchical regression is to regulate the integration of variables; each phase of the interactive method approaches the determination of the true value of each variable's contribution. The coefficient of determination, $R2$, measures that part of the total variance of Y that was explained by understanding the value of X.

The study hypotheses were evaluated in four stages using multiple analysis of regression and hierarchical moderated regression as per Barron and Kenny (1986) model. The control variables were first regressed against the dependent variable. Secondly, control and independent variables for direct effects were regressed with the financial performance which is the dependent variable. Thirdly, the control, independent and the moderator were brought in the opposition of the dependent variable. Finally, the interaction term between each independent and moderator variable was calculated by multiplying the two variables yielding a product term that represents the interaction effect which was done at different stage for each individual interaction

3.9 Diagnostic Tests

Some econometric issues have the potential to render the findings of regression biased and spurious unless they are discovered and dealt with as a result. Different econometric tests were performed to diagnose these prospective econometric issues and ultimately needed steps were taken to fix them. Typically, when identified or suspected, there are various methods to deal with econometric issues. Therefore, all

hypotheses are anticipated to have the same prospective econometric issues due to the comparable nature of the regression processes in this research. A general discussion on significant econometric problems was addressed in this study.

3.9.1 Unit Root Test

For purposes of ensuring that the right model specification is used, the data needs to be investigated for stationary in order to ensure the model results are reliable and not spurious. For a panel data to be stationary, it means both the mean and the variance of the subject data has to be constant otherwise it would be impossible to predict future patterns (Herranz, 2017). The study conducted various diagnostic tests to ensure the data was stationary and did not contain a unit root.

Im, Pesaran and Shin W statistic

This test follows the Augmented Dickey Fuller procedure to test for unit root of the panel data. The data can either be deterministic type or stochastic. The deterministic data can further be categorized as trend or seasonal while an example of stochastic is random walk which best method to predict a future trend is the current observation due to the absence of a constant mean even if the mean is stationary (Nazlioglu & Karul, 2017).

PP-Fisher Chi-Square

This test is named after Peter Phillips and Pierre Perron who invented it as a measure of presence of a unit root. The null hypothesis for this test is that the time series data is integrated of order 1. The test takes cognizance of the fact that the time series data may exhibit a unit root at an order higher than the one attended by Augmented Dickey Fuller Test. This test is robust in identifying and treating for the unidentified auto correlation and heteroscedasticity problems as it uses non parametric technique.

Levin, Lin & Chu t*

The study employed the use of this test to check for the stationarity of the time series data. The null hypothesis was the presence of a unit root test and 1 percent level of

significance was used to make the decision on either the null or the alternative hypothesis.

3.9.2 Multicollinearity

Multicollinearity happens when there is a similarity in the relative movement of two or more independent variables. In this, it becomes impossible to differentiate between variables by standard OLS estimates. Since many other independent variables in this research can be suspected of multicollinearity, Variance Inflation Factor (VIF) was assessed to examine the nature of correlation between variables after each normal OLS regression (Cooper & Schindle, 2014). If VIF is above 5, there is the presence of multicollinearity. One of the solutions to this problem is that if there are two or more factors with a high VIF, the variable causing multicollinearity is excluded from the model.

3.9.3 Heteroscedasticity

Heteroscedasticity happens when the regression residuals are heteroskedastic. That is, for all observations, the residual variance is not constant. In such a situation, minimum variance is no longer produced by the standard OLS estimators. The coefficients ' standard error provides erroneous estimates. In the presence of heteroscedasticity, the calculated parameters can remain coherent but inefficient. The study used Heteroscedasticity Breusch-Pagan / Cook-Weisberg Scale to diagnose this problem (Li, Z., & Yao, 2019). Therefore, variance of the terms of disturbance also known as continuous variance of the error terms should be homoscedastic.

3.9.4 Autocorrelation

One of the basic assumptions of the Classical Linear Regression Model (CLRM) is that the covariance between the error terms is equal to zero over time, or that the conditions of error terms are not correlated (Brooks 2010). However, if the error term conditions are related, there will be issues with auto-correlation or serial correlation; the initial error bias will result. Therefore, regular OLS estimators are no longer minimal variance estimators. Thus, after each standard OLS regression of the study,

a diagnostic test is required to verify the existence of serial correlation. A long-term sequence study of seven years will lead to a presumption of a priori self-correlation. The graphical approach is often used to determine the nature of autocorrelation as a first-hand tool. But the presence of autocorrelation needs to be verified through a formal statistical test. This research adopted Wooldridge test for autocorrelation method to detect auto-correlation (Born, & Breitung, 2016). Transformation of data is among other techniques which can be used to correct autocorrelation.

3.9.5 Normality Test

This study performed a normality test using the Jarque-Bera test, as Jarque and Bera (1987) suggested for omnibus testing, skewness and kurtosis. Statistics from Jarque-Bera represent the distribution of chi-squares in two degrees. Under the null normality principle, the predicted stat value is two. A normal distribution has a skew of zero (for instance, the mean is completely symmetrical) and a kurtosis of three; it gives an idea of how large the distribution is, and how much information is in the tails. The box plots technique may be used to evaluate the existence of outliers for individual variables if the data set is not normally distributed.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the data analysis as well as the findings of the study based on the study objectives. The data was summarized and presented using tables. The collected data was analysed and interpreted in line with the study objectives and hypotheses. The study employed different statistical techniques aided by Stata to analyze the data. This chapter also describes the data analysis, presentation and interpretation of the findings. The findings relate to the objectives that guided the study.

4.2 Descriptive and Trend Analysis Statistics

Descriptive statistics helped to identify trends, patterns and characteristics of the data in order to allow for further analysis. Data was collected from websites, annual reports and other publications of Insurance Regulatory Authority, Association of Kenya Insurers and individual insurers covering nine years. The findings on profits (ROA), underwriting risk, liquidity, leverage, Equity Capital and firm size are presented in the subsequent sections.

4.2.1 Trend Analysis for Firm Performance (ROA)

ROA refers to the amount of net income returned as a percentage of total assets. In the study, ROA is an indicator for financial performance. ROA is one of the key financial information that is taken into consideration during decision-making. For investors to make decisions about their investments, they rely on financial information contained in the financial statements, especially on the reported profit. Consequently, the study deemed it important to establish the financial performance of insurance firms in Kenya. Basing on the findings in Table 4.1, the insurance firms elicited high performance in 2009 and 2010 (mean = 0.10) and the lowest performance in 2016 (mean = 0.01). Further findings indicated that financial

performance exhibited Further findings indicated that financial performance did not exhibit a trend over the period ranging from 2009 to 2018 (F = 1.57, p > 0.05).

Table 4.1: Trend Analysis for Firm Performance

Year	N	Min	Max	Mean	P50	Sd	Skewness	Kurtosis
2009	6	-0.01	0.44	0.10	0.04	0.17	1.69	4.04
2010	49	-0.10	0.71	0.08	0.04	0.12	3.29	16.54
2011	49	-0.24	0.64	0.06	0.03	0.13	2.19	11.04
2012	49	-0.17	0.22	0.05	0.05	0.07	-0.56	5.16
2013	50	-0.11	2.89	0.10	0.04	0.41	6.67	46.39
2014	50	-0.13	0.36	0.05	0.04	0.08	2.14	10.15
2015	52	-0.31	0.23	0.02	0.03	0.07	-2.12	16.15
2016	50	-0.32	0.29	0.01	0.02	0.11	-1.09	5.75
2017	50	-0.67	0.22	0.02	0.03	0.12	-3.60	20.56
2018	46	-0.20	0.32	0.03	0.02	0.07	0.79	8.53
F		1.57						
Prob > F		0.1228						
Bartlett's test for equal variances: chi2(9)		353.339 2						
Prob>chi2		0.000						

4.2.2 Trend Analysis for Equity Capital

Equity capital refers to the amount of funds contributed by the shareholders the firms and is also inclusive of retained earnings ploughed back. The equity capital shareholders rank high in priority in terms of compensation in the event that a company goes under. The study sought to establish the influence of equity capital on financial performance of the insurance companies in Kenya. The period of interest was between 2009 and 2018 . Table 4.2 highlights the findings. From the findings in the Table, equity capital ranged from a low of 2017 in 2018 to a high of 20.86 in 2014. Besides, there was a significant difference in the equity capital for the targeted insurance companies (F= 1.91, ρ=0.0483<0.05). Also, Bartlett's Test was significant, $\chi 2$ (9) = 117.2354, p-value < 0.000.

Table 4.2: Trend Analysis for Equity Capital

Year	N	Min	Max	Mean	P50	Sd	Skewness	Kurtosis
2009	6	18.95	120.87	20.15	20.37	1.01	-0.13	1.74
2010	49	16.14	998.94	20.39	20.40	1.06	-1.01	7.02
2011	49	19.02	1004.98	20.51	20.42	0.89	0.56	3.05
2012	49	18.83	994.23	20.71	20.68	0.91	0.15	2.43
2013	50	18.63	1041.52	20.83	20.64	1.00	0.16	2.56
2014	50	17.82	1043.18	20.86	20.76	1.01	-0.26	3.46
2015	52	18.92	1094.49	21.05	21.13	1.02	0.14	3.20
2016	50	17.79	1038.98	20.78	20.74	1.14	0.15	3.49
2017	50	18.54	1051.31	21.03	20.95	1.10	0.35	3.02
2018	48	18.57	1010.13	21.04	21.05	1.03	-0.27	2.57
F	1.91							
Prob > F	0.0483							
Bartlett's test for equal variances: chi2(9)	117.23 54							
Prob>chi2	0.000							

4.2.3 Trend Analysis for Underwriting Risk

The underwriting risk indicates and measures the efficiency of underwriting operations. An increase in the underwriting risk s collected results in a subsequent increase in the profitability and the efficiency of insurance firms (Kozak, 2011). As such, the study sought to establish how financial underwriting risk influence the performance of insurance firms in Kenya. Table 4.3 and figure in Appendices III illustrates the findings. Based on the results, underwiring risk decreased from 2009 to 2010, however, in had sharp increase from 2010 to 2014. It appears that the underwriting risk have exhibited a rollercoaster of ups and downs between 2009 and 2018. Notably, there is a statistically significant difference in underwriting risk for the targeted insurance firms in Kenya (F= 2.88, ρ=0.00<0.05). Also, the Bartlett's Test was significant.

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Table 4.3: Trend Analysis for Underwriting Risk

Year	N	Min	Max	Mean	p50	sd	Skewness	Kurtosis
2009	6	0.11	0.70	0.51	0.61	0.12	0.17	2.28
2010	49	0.13	0.52	0.42	0.47	0.33	2.92	1.71
2011	49	0.16	1.18	0.68	0.61	0.20	1.52	1.46
2012	49	0.09	1.01	0.83	0.71	0.37	1.55	1.37
2013	50	0.17	0.91	0.70	0.62	0.55	2.01	1.18
2014	50	0.07	1.14	1.26	0.74	0.70	2.02	1.49
2015	52	0.11	0.82	0.68	0.49	0.51	0.71	1.99
2016	50	0.09	0.82	0.73	0.53	2.97	1.45	1.31
2017	50	0.13	0.93	0.83	0.87	1.50	1.76	1.52
2018	47	0.16	0.71	0.69	0.46	0.34	1.42	1.17

F	2.88
Prob > F	0.0026
Bartlett's test for equal variances:	
chi2(9)	247.7786
Prob>chi2	0.00

4.2.4 Trend Analysis for Firm Leverage

The study conducted trend analyses firm leverage. For firms that are profitable, they tend to borrow more since their repaying capacity is guaranteed; hence leverage has also been associated with profitability (Bashir & Hassan, 2003). As well, a firm with high leverage means large fixed payments for external financing, which indeed is a substitute for the dividend payments. In light of the preceding, the study deemed it important to establish how firm leverage influences financial performance of the insurance companies in Kenya. The period of interest was between 2009 and 2018. Table 4.4 illustrates the results. As evidenced in the Table, the use of debt financing was highly evidenced in 2012 (mean = 0.69) though it declined to its lowest in 2017 (mean = 0.58) (appendices III). Notably, firm leverage did not exhibit a trend over the years

(F = 0.95, p > 0.05). However, Bartlett's Test was significant, χ^2 (9) = 146.717, p-value < 0.00.

Table 4.4: Trend Analysis for Firm Leverage

Year	N	Min	Max	Mean	P50	Sd	Skewness	Kurtosis
2009	6	0.49	0.87	0.67	0.66	0.13	0.32	2.52
2010	49	0.2	0.98	0.64	0.67	0.18	-0.29	2.74
2011	49	0.27	0.94	0.65	0.65	0.17	-0.25	2.42
2012	49	0.29	1.65	0.69	0.67	0.21	1.93	10.98
2013	50	0.2	0.94	0.66	0.69	0.17	-0.63	3.17
2014	50	0.27	0.98	0.67	0.67	0.17	-0.33	2.69
2015	52	0.17	0.97	0.67	0.68	0.18	-0.65	3.26
2016	50	0.11	0.97	0.65	0.67	0.21	-0.46	2.39
2017	50	0.11	0.92	0.58	0.57	0.2	-0.07	2.24
2018	46	-2.66	0.98	0.59	0.63	0.52	-5.37	34.2
F	0.95							
Prob > F	0.4822							
Bartlett's test for equal variances:								
chi2(9)	146.7177							
Prob>chi2	0.00							

4.2.5 Trend Analysis for Firm Liquidity

Liquidity position relates to the ability of the firm to meet short term obligation as and when they arise. It is considered the most accurate method as cash used to pay off dividends is subtracted, thus giving a truer picture of the operating cash flow. Basing on the results in Table 4.5, the liquidity levels were highest in 2012 (mean = 24.85) and lowest in 2009 (mean = 1.70). The insurance firms have high liquidity levels that could facilitate financial performance. Nevertheless, liquidity did not exhibit a trend across the period of 2009 to 2018 (F = 0.95, p < 0.05). Finally, the Bartlett's Test was significant.

Table 4.5: Trend Analysis for Firm Liquidity

Year	N	Min	Max	Mean	P50	Sd	Skewness	Kurtosis
2009	6	1.01	2.45	1.70	1.73	0.54	0.02	1.77
2010	49	0.15	67.98	4.97	2.40	10.37	4.97	29.49
2011	49	0.23	65.44	5.95	2.53	10.75	4.06	21.22
2012	49	0.29	941.34	24.85	2.70	134.09	6.72	46.42
2013	50	0.38	52.60	5.02	2.67	7.85	4.69	28.37
2014	50	0.31	40.42	4.38	2.72	6.05	4.45	26.48
2015	52	0.51	70.04	5.54	3.19	9.80	5.67	37.65
2016	50	0.13	26.51	5.53	3.12	5.88	1.90	6.24
2017	50	0.12	38.01	5.10	2.84	6.76	2.94	13.30
2018	46	0.29	31.85	4.70	2.75	6.28	2.77	10.64
F	0.95							
Prob > F	0.4838							
Bartlett's test for equal variances:								
chi2(9)	1300							
Prob>chi2	0.00							

4.2.6 Trend Analysis for Firm Size

Table 4.6 presents the descriptive statistics of firm size for the targeted insurance firms in Kenya. From the table below, the firm size for the insurance firms was at a mean ratio of 9.26 in 2009 while at its highest in 2018 (mean = 9.71). The minimum firm size was 8.36 while the maximum 10.9. Further findings indicated a statistically significant difference in firm size for the targeted insurance firms (F= 2.53, ρ=0.00<0.01). Also, the Bartlett's Test was significant.

Table 4.6: Trend Analysis for Firm Size

Year	N	Min	Max	Mean	P50	Sd	Skewness	Kurtosis
2009	6	8.63	9.82	9.26	9.22	0.41	-0.16	2.29
2010	49	8.45	10.42	9.38	9.34	0.46	0.24	2.48
2011	49	8.49	10.45	9.43	9.37	0.47	0.28	2.59
2012	49	8.59	10.53	9.54	9.47	0.49	0.34	2.40
2013	50	8.38	10.65	9.58	9.56	0.51	0.15	2.82
2014	50	8.65	10.74	9.63	9.62	0.48	0.27	2.71
2015	52	8.68	10.79	9.70	9.69	0.50	0.10	2.66
2016	50	8.67	10.84	9.58	9.56	0.49	0.45	2.79
2017	50	8.44	10.84	9.62	9.55	0.48	0.42	3.23
2018	48	8.36	10.90	9.71	9.72	0.44	-0.19	4.11
F	2.53							
Prob > F	0.01							
Bartlett's test for equal variances:								
chi2(9)	1.69							
Prob>chi2	1.00							

4.2.7 Descriptive Statistics

The summary statistics for the financial performance, underwriting risk, liquidity, leverage, Equity Capital and firm size are presented in Table 4.7. Findings showed that the return on assets was at a mean ratio of 0.05. More findings revealed that liquidity levels were at an overall mean of 7.25 while leverage was at a mean of 0.66. The average equity capital was at 20.79 and the underwriting risk is 0.75. Finally, the firm size was at a mean ratio of 9.54.

Table 4.7: Descriptive Statistics

Stats	N	Min	Max	Mean	P50	Sd	Skewness	Kurtosis
ROA	454	-0.67	2.89	0.05	0.03	0.17	11.20	192.53
Equity Capital	454	16.14	9398.64	20.79	20.72	1.04	0.00	3.68
Underwriting risk	454	0.12	0.82	0.75	0.61	0.66	1.55	1.55
leverage	454	0.66	1.65	0.65	0.66	0.24	-5.58	78.10
liquidity	454	0.12	941.34	7.25	2.70	44.88	20.09	418.06
firm size	454	8.36	10.90	9.57	9.54	0.49	0.23	2.79

4.3 Diagnostic Tests of the Data

The data sets were tested for the classical linear regression model assumptions before running the model. Brooks (2008) suggests five critical assumptions that must be met before utilizing OLS estimation in order to validly test the hypothesis and estimate the coefficient. The OLS assumptions and their diagnostic tests are discussed below.

4.3.1 The Average Value of the Errors is Zero

If a constant term is included in the regression equation, this assumption will never be violated. So that in the model of this study a constant term is included. As a result, this assumption is not violated.

4.3.2 The Assumption Heteroscedasticity

Heteroscedasticity assumption requires that the variance of the errors to be constant. To check this assumption White test is conducted for the model (See table 4.8). The model has no problem of heteroscedasticity or the error variance is constant since the p-value is not significant (p-value = 0.157) which is greater than 0.05. Consequently, the null hypothesis was not rejected since the error variance is constant.

Table 4.8: White's Test for Homoscedasticity

White's test for Ho: homoscedasticity
  against Ha: unrestricted heteroskedasticity
  chi2(1) = 3.43
  Prob > chi2 = 0.0639

Cameron & Trivedi's decomposition of IM-test

Source	chi2	df	P
Heteroskedasticity	19.22	20	0.157
Skewness	18.76	5	0.001
Kurtosis	7.03	1	0.008
Total	**45**	**26**	**0.001**

4.3.3 Normality

The Jarque-Bera Test was used to assess normality, if the p-value is lower than the Chi (2) value then the null hypothesis cannot be rejected (Jarque and Bera, 1987). Using this process, it was established that the residuals were normally distributed. Table 4.9 shows that that Chi (2) is 0.6592. The value surpasses the threshold value of 0.05, meaning there is no violation of normality.

Table 4.9: Jarque-Bera Normality

| Variable | Obs | Pr(Skewness) | Pr(Kurtosis) | adj | ------- joint ------ | |
					chi2(2)	Prob>chi2
Myresiduals	453	0.7611	0.3246		1.07	0.5860
Jarque-Bera normality test: .8425 Chi (2) .6562						
Jarque-Bera test for Ho: normality:						

4.3.4 Unit Root Test

A time- series is said to be stationary if its mean and variance are constant over time (Gujarati, 2004). Thus, the series tend to drift around its mean due to the limited variance. The series can be of a stochastic nature (randomly determined) or a deterministic nature (displaying a trend). In contrast a nonstationary time–series or a random walk model is one where the mean and variance continually change over time and has a simple correlation coefficient between the *X* variable and its lagged variable which is influenced by factors other than solely the length of the lag between the two (Studenmund, 2011). In the field of economics and finance, time related or seasonal shocks in one-time period may strongly influence subsequent periods. This study applies Levin-Lin-Chu unit-root test, Harris-Tzavalis unit-root test and Im-Pesaran-Shin unit-root. The following hypothesis was considered for this test.

Levin-Lin-Chu unit-root test

Ho: Panels contain unit roots

Ha: Panels are stationary

Harris-Tzavalis unit-root test

Ho: Panels contain unit roots

Ha: Panels are stationary

Im-Pesaran-Shin unit-root test --

Ho: All panels contain unit roots

Ha: Some panels are stationary

The *p*-values in table 4.10 shows that the null hypothesis can be rejected at all conventional significance levels for all the variables of the study, meaning that there is no unit root in the data. This implies that the means and variances in the data do not depend on time, hence the application of OLS can produce meaningful results (Gujarati, 2012).

Table 4.10: Unit Root Test

	Levin-Lin-Chu unit-root test		Harris-Tzavalis unit-root test		Im-Pesaran-Shin unit-root	
	Statistic	p-value	Rho	ue	Z-t-tilde-bar	alue
ROA	-5.556	0.000	-0.308	0.000	-4.088	0.000
Underwriting risk	-2.921	0.002	-0.143	0.000	-4.948	0.000
LEV	-7.599	0.000	-0.296	0.000	-6.197	0.000
LIQ	5.134	0.000	-0.146	0.000	-5.428	0.000
Equity Capital	-4.961	0.000	-0.252	0.000	-5.094	0.000
FS	-3.046	0.001	0.454	0.000	-2.690	0.004

4.3.5 Autocorrelation

Autocorrelation represents the degree of similarity between a given time series and a lagged version of itself over successive time intervals. The assumption of independence of observations (autocorrelation) was tested using the Wooldridge test for autocorrelation (Fox, 2016). This is a problem that affect the efficiency of the estimators such that the standard errors are distorted affecting the test statistic hence invalid significance test and conclusions (Gujarati, 2003). A p value of less than the 5% level of significance indicate presence of serial correlation (Wooldridge, 2002). The hypotheses of the autocorrelation test are as follows:

H0: The errors are not autocorrelated.

H1: The errors are autocorrelated.

The p-value of the test is greater than 5 percent as shown in Table 4.11, suggesting the presence of no autocorrelation of errors. Drukker (2003) and Maladjian and Khoury (2014) used simulation results to show that the test has good size and power proprieties in reasonably sized samples

Table 4.11: Wooldridge Test for Autocorrelation

Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
F (1, 45) = 4.242
Prob > F = 0.4531

4.3.6 Multicollinearity

Multicollinearity refers to the situation in which two or more explanatory variables used in a regression model are highly correlated. It is a phenomenon whereby high correlation exists between independent variables. It occurs in a multiple regression model when high correlation exists between these predictor variables prompting questionable assessments of regression coefficients. This leads to strange outcomes when attempts are made to decide the degree to which independent variables explain

the changes in the outcome variable (Creswell, 2014). Brooks (2008) states that in any practical context, correlation between explanatory variables will be non-zero, but would generally be relatively benign in the sense that a small degree of association between explanatory variables will almost always occur but will not cause too much loss of precision.

However, a problem occurs when the explanatory variables are highly correlated with each other. This problem is known as multicollinearity. Therefore, it is essential to assess multicollinearity. Consistent with the literature, this study considers correlation coefficients and Variance Inflation Factor (VIF) tests for multicollinearity (Cerbioni & Parbonetti 2007; Eng & Mak 2003; Haniffa & Cooke 2005; Haniffa & Cooke 2002; Ho & Wong 2001)

The outcomes of Multicollinearity are expanded standard errors of evaluations of the Betas, which means diminished reliability quality and misleading results. Multicollinearity test was used to check whether high correlation existed between one or more variables in the study with one or more of the other independent variables. Variance inflation factor (VIF) measured correlation level between the predictor variables and estimated the inflated variances due to linear dependence with other explanatory variables.

A common rule is that VIFs of 10 or higher (conservatively over 5) points to severe multi-collinearity (Newbert, 2008). The results of the VIF test ranged between 1.31 and 3.49 (Table 4.12). The concern of multicollinearity arises if the value of VIF is greater than 10 (Dielman 2001; Gujarati 2003). Thus, there is no potential problem for multi-collinearity from the VIF perspective. Therefore, based on the results of the diagnostic tests, it is concluded that there is no multicollinearity problem

All the variables are less than 10. Consequently, using the model the study finding does not suffer from multicollinearity problems. Further examination into the problem using the Condition Index method and STATA post estimation collin command shows that index of the last variable (72) is very high (Table 4.12). Since the condition number is greater than the tolerable index (10), it can be stated that there is no global stability problem due to multicollinearity in the model. Since the

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main contributors of non-stability are ROA, underwriting risk, leverage, liquidity equity capital and firm size, which contribute less VIF, the study conclude that there no problem of multicollinearity.

Table 4.12: VIF test for Multicollinearity

Variable	VIF	SQRT VIF	Tolerance	R-Squared
ROA	2.58	1.61	0.3875	0.6125
Equity Capital	3.16	1.78	0.3163	0.6837
Underwriting risk	1.31	1.14	0.7658	0.2342
LEV	2.41	1.55	0.4149	0.5851
LIQ	1.07	1.03	0.936	0.064
FS	3.49	1.87	0.2869	0.7131
Mean VIF	2.34			
Eigenval	**Cond Index**			
5.452	1			
0.9932	2.3429			
0.4827	3.3609			
0.0684	8.9264			
0.0025	46.8465			
0.0011	69.1584			
0.0001	234.717			
5.452	1			
0.9932	2.3429			
Condition Number	234.7170			

4.4 Correlation

Correlation is a method of assessing the relationship between variables/factors. The correlation results were summarized and presented in Table 4.13. The correlation between different independent variables is checked since they may cause very high standard error, low t-statistic, and unexpected changes in the signs or magnitudes of coefficients even despite a high R-square. Even though STATA automatically drops perfectly collinear independent variables during regression, it may be necessary to examine multicollinearity using pair-wise correlation and Tolerance and Variance Inflation Factor (VIF) methods. The pair-wise correlation matrix of the independent variables shows that there are no pair of variables that show very high collinearity

(more than 0.80) (Table 4.13). The empirical model is designed so that the pairs are not used in the same equation for each version of the model by design; so that multicollinearity is not a problem (table 4.13).

Table 4.13: Correlation Results

		ROA	UR	LEV	LIQ	EC	FS
ROA	Pearson Correlation	1					
	Sig. (2-tailed)	0.000					
UR	Pearson Correlation	-.218**	1				
	Sig. (2-tailed)	0.000					
LEV	Pearson Correlation	.752**	-0.004	1			
	Sig. (2-tailed)	0.000	0.938				
LIQ	Pearson Correlation	-.244**	-.160**	.164**	1		
	Sig. (2-tailed)	0.000	0.001	0.000			
EC	Pearson Correlation	-.206**	.227**	.189**	0.027	1	
	Sig. (2-tailed)	0.000	0.000	0.000	0.569		
FS	Pearson Correlation	-.292**	.157**	.212**	0.055	.806**	1
	Sig. (2-tailed)	0.000	0.001	0.000	0.244	0.000	

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

From the findings in Table 4.13, the relationship between underwriting risk and financial performance was found to be negative and significant, $\rho = -0.218$, p-value < 0.01. Furthermore, the relationship between leverage and financial performance was found to be positive and significant, $\rho = 0.752$, p-value < 0.01. The findings also showed that the relationship between liquidity and financial performance is negative and significant, $\rho = -0.244$, p-value < 0.01. Moreover, the relationship between equity capital and financial performance was found to be negative and significant, $\rho = -0.206$, p-value < 0.01. Finally, the relationship between firm size and financial performance was found to be negative and significant, $\rho = -0.292$, p-value < 0.01.

4.5 Random-Effects GLS Regression

The random effect model estimates the coefficients based on the assumption that the individual or group effects are uncorrelated with other independent variables. The regression results for the random model are as illustrated in Table 4.14. The random model showed that underwriting risk, liquidity, equity capital, and leverage explained

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61.86% variation of financial performance. From the table, underwriting risk showed a negative and significant effect on financial performance (β= -0.142, ρ<.05). Therefore, an increase in underwriting risk by 0.142 units leads to a decline in financial performance by the same unit.

Besides, leverage showed a positive and significant effect on financial performance (β= 0.575, ρ<.05). An increase in leverage by 0.575 units leads to an increase in financial performance by the same unit. Also, liquidity showed a negative and significant effect on financial performance (β= -0.037, ρ<.05). As well, Equity Capital had a negative and significant influence on financial performance (β= -0.202, ρ<.05). As such, an increase in equity capital by 0.202 units leads to a decline in financial performance by the same unit.

Table 4.14: Random-Effects GLS Regression

Random-effects GLS regression			Number of obs	=	407
Group variable: id			Number of groups	=	54
R-sq: within	= 0.5992		Obs per group: min	=	2
between	= 0.6260		avg	=	7.5
overall	= 0.6186		max	=	10
			Wald chi2(4)	=	614.58
corr(u_i, X) = 0 (assumed)			Prob > chi2	=	0.000

ROA	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
Equity capital	-0.202	0.064	-3.160	0.002	-0.327	-0.076
Underwriting risk	-0.142	0.022	-6.610	0.000	-0.100	-0.185
Leverage	0.575	0.026	22.310	0.000	0.626	0.525
Liquidity	-0.086	0.037	-2.330	0.020	-0.158	-0.014
_cons	-2.161	1.321	-1.640	0.102	-4.750	0.427
sigma_u	0.663					
sigma_e	0.814					
rho	0.399	(Fraction of variance due to u_i				

4.6 Fixed-Effects (Within) Regression

Table 4.15 highlights the regression results for the fixed model. The findings indicated that 61.6% variation in financial performance is explained by underwriting risk, leverage, liquidity and Equity Capital. From the table, underwriting risk had a negative and significant effect on financial performance (β= -0.139, ρ<.05). Consequently, an increase in underwriting risk by 0.139 units leads to a decrease in financial performance by the same unit. However, leverage had a positive and significant influence on financial performance (β= 0.582, ρ<.05).

Further, liquidity showed a negative and significant effect on financial performance (β= -0.086, ρ< 05). Specifically, an increase in liquidity by 0.086 units leads to a decline in financial performance by the same unit. Moreover, Equity capital showed a negative and significant effect on financial performance (β= -0.233, ρ<.05). Consequently, an increase in equity capital by 0.233 units leads to a decline in financial performance by the same unit.

Table 4.15: Fixed Effects (Within) Regression

Fixed-effects regression	(within)						
		Number of obs				=	407
Group variable: id		Number of groups				=	54
			Obs per				
R-sq: within	=	0.600	group:		min	=	2
between	=	0.624			avg	=	7.5
overall	=	0.616			max	=	10
					F(4,349)	=	130.58
corr(u_i, Xb)	=	-0.0673			Prob > F	=	0.000
						[95% Conf.	Interval]
ROA	Coef.	Std. Err.	t	P>t			
Equity capital	-0.233	0.077	-3.020	0.003		-0.384	-0.081
Underwriting risk	-0.139	0.022	-6.240	0.000		-0.095	-0.183
Leverage	0.582	0.028	20.830	0.000		0.637	0.527
Liquidity	-0.086	0.039	-2.210	0.027		-0.162	-0.010
_cons	-1.445	1.589	-0.910	0.364		-4.569	1.679
sigma_u	0.718						
sigma_e	0.814						
		(Fraction of variance due to					
rho	0.438	u_i)					
F test that all u_i=0:	F(53, 349) =	4.33		Prob > F = 0.000			

4.7 Hausman Test

Jerry Hausman (1978) proposed that under data generated process, the Hausman test is used to compare two different estimates of the model parameters. Panel regression has two model fixed and random effects estimation. When the individual-specific effects across the panel are allowed to be uncorrelated with the standard errors, then it is said to be random otherwise fixed when allowed to be correlated with standard errors. Hausman test was used to select either the fixed or random effects, regression model, to test for the hypotheses (Green, 2008). Hausman test compares the coefficients under certain properties. First, under the null hypothesis of correct model specification, both estimates are consistent for the true parameters of the model. In this property, the size of the test can be controlled asymptotically. Secondly, the Hausman test for model misspecification, the model estimates should have different probabilities limit. This property gives the test its power.

Table 4.16: Hausman Test

| | ---- Coefficients ---- | | | |
	(b) **Fe**	**(B)** **Re**	**(b-B)** **Difference**	**sqrt(diag(V_b-V_B))** **S.E.**
Equity capital	-0.233	-0.202	-0.031	0.043
Underwriting risk	-0.139	-0.142	-0.003	0.006
Leverage	0.582	0.575	0.006	0.011
Liquidity	-0.086	-0.086	0.000	0.012

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg
Test: Ho: difference in coefficients not systematic
$$chi2(4) = (b-B)'[(V\_b-V\_B)^{(-1)}](b-B)$$
$$= 1.22$$
$$Prob>chi2 = 0.8754$$

From the Hausman test table 4.16, which shows a summary of the results, the conclusion is that the null hypothesis of "difference in coefficients not systematic" to determinants of financial performance is accepted. This is because the chi-square value of 1.22 was insignificant, p-value = 0.8754. Therefore, this implies that the effect of the hypothesis is tested using the random effects model.

4.8 Test of Hypotheses

Hypothesis 1(H_{o1}) stated that equity capital has no significant influence on the financial performance of the insurance companies in Kenya. Findings showed that equity capital had coefficients of estimate which was significant basing on β_1 = -0.202 (p-value = .002 which is less than α = .05). The null hypothesis was thus rejected, and it was concluded that equity capital has a negative and significant effect on financial performance. This suggested that there was up to 0.202-unit decline in financial performance for each unit increase in equity capital. Consistent with the findings, Charumathi (2012) noted that increase in the volume of Equity Capital resulted in a reduction of profitability. Contrary to the findings, Berhe and Kaur (2017) indicated that the key determinants of financial performance of insurance firms was Equity capital among other factors. Similarly, Malik (2011) suggested that an increase in the volume of Equity Capital enhances the financial performance of insurance firms in Pakistan. In a similar vein, Yuqi Li (2007) elucidated that strong Equity Capital base equals to low bankruptcy risk and less dependence to external funding and hence good financial performance. Moreover, Gugong, Arugu and Dandago (2014) established that owners' equity has the potential to further enhance firm performance in the sense that it serves as a check and balance mechanism.

Hypothesis 2(H_{o2}) stated that underwriting risk has no significant effect on financial performance. However, the regression results indicated that underwriting risk had a negative and significant influence on financial performance (β_2= -.142, ρ<.05). The null hypothesis was therefore not accepted, and it was concluded that an increase in underwriting risk by .142 units, leads to a decrease in financial performance by the same unit. The findings concur with Wongsuwatt et al. (2020) that revealed that underwriting risk had negative effect on financial performance of non-life insurance firms In Thailand. Similarly, Malik (2011) in Pakistan showed that underwriting risk had a negative but substantial link with profitability. In agreement, Doumpos et.al., (2012) found that underwriting risk had significant but negative effect on financial performance of non-life insurance companies. Also, Mistire (2015) revealed that underwriting risk was negatively correlated with profitability of insurance companies. Meaza (2014) underwriting risk, on the other hand, is inversely and

significantly connected to profitability. In addition, Kazeem (2015) result showed underwriting risk have a negative relationship. However, on contrary to the findings, Berhe and Kaur (2017) revealed financial performance of non-life insurance firms was positively associated with underwriting. Mehari and Aemiro (2013) underwriting risk was statistically significant and positive in explaining the performance of Ethiopian insurance companies. Further, Daare (2016) findings show that underwriting risk is connected to return on investment (ROI). Nevertheless, Teklit and Jasmindeep (2017) revealed that underwriting had insignificant impact of profitability of insurance firms. Similarly, Simon (2016) revealed that underwriting risk has no effect Insurance firms' profitability in Ethiopia.

Hypothesis 3(H_{o3}) stipulated that firm leverage has no significant effect on financial performance. On the contrary, the regression findings indicated that firm leverage was associated with a rise in financial performance (β= .575, ρ<.05). As such, the null hypothesis was rejected. The implication is that an increase in firm leverage by .575 units, leads to an increase in financial performance by the same unit. Consistent with the findings, Kale (2013) postulated that the heavier the firm is leveraged the better the financial performance. In the same way, Sambasivam and Ayele (2013) argued that highly profitable insurance firms follow the pecking order theory to fund their operations since the more leveraged an entity is the better it's Returns on Asset .Similarly, Ahmed et al. (2010) found out that leverage was positively and significantly correlated to ROA. The same argument was shared by authors who established that firm leverage, had a positive and significant influence on the performance of the insurance firms (Getachew,2014; Almajali & Shamsuddin,2019; Wanyama & Olweny, 2013).

Contrary to the study findings, Akinlo and Asaolu (2012) concluded that leverage was negatively correlated with profitability of firms in Nigeria. In a similar vein, Quang and Xin (2014) elucidated that leverage is inversely related to financial performance. As well, Zeitun and Tian (2014) argued that leverage is strongly and negatively correlated with firm financial performance. Further, Cekrezi, (2015) indicated that leverage negatively impacts on the financial performance of insurance firms in Albania. In addition, the findings conform with those of prior authors who

found a negative link between leverage and the profitability of insurance firms (Meher & Zewudu, 2020; Dey, Adhikari, & Bardhan,2015; Batool & Sahi,2019; Getahu, 2016).

Hypothesis 4(H_{o4}) stated that liquidity has no significant effect on financial performance. However, the regression results indicated that liquidity had a negative and significant influence on financial performance (β_2= -0.086, $\rho<.05$). The null hypothesis was therefore not accepted, and it was concluded that an increase in liquidity by 0.086 units leads to a decline in financial performance by the same unit. In conformity with the findings, Kaya (2015) proved that low liquid firms are more profitable than highly liquid firms. Similarly, Boadi et al., (2013) concluded that high liquidity can be detrimental to the financial performance of an insurance firm since it exposes it to reinvestment risk. In the same way, Mwangi and Murigu (2015) elucidated that there is a negative linkage between the liquidity and insurance firms financial performance. In a similar vein, Muhammad et al. (2016) affirmed that liquidity negatively impacted on the profitability of insurance firms. Moreover, Muriithi (2016) suggested that liquidity negatively impacted on the firm financial performance.

However, the findings are in contrary to authors who argued that liquidity has a positive and significant influence on profitability (Wani and Dar, 2013; Charumathi, 2012; Abebe & Abera, 2019; Kipngetich, 2019; Maina, 2016; Mazviona, Dube & Sakahuhwa, 2017; Bawa & Chattha (2013). In addition, Gebremariyam (2014), inferred there was no concrete relationship between liquidity and profitability of the 10 insurance firms that operated in the Ethiopian market between 2008 and 2013. The same notion is shared by Alomari and Azzam (2017) who found out that liquidity had no significant effect on the profitability of the targeted insurance firms.

4.9 Moderating Effect of Firm Size on the Relationship between Firm Characteristics and Financial Performance

The moderating variable in the study is firm size. Undoubtedly, firm size is a basis of competitive advantage in the sense that larger firms tend to be more efficient that their smaller counterparts that suffer from resource constraints. It is in this regard

that the study sought to establish the moderating role of firm size on the relationship between firm characteristics and financial performance of insurance firms. Table 4.16 illustrates the results.

Hypothesis H_{O5a} stated that Firm size has no significant moderating influence on the relationship between equity capital and financial performance of insurance firms. Findings on EC*FS had non-significant estimates of -.075, P>0.05 and there is no change in R-sqΔ =.00, thus, the hypothesis was accepted. Hence the study infers that firm size has no significant moderating influence on the relationship between firm characteristics and financial performance of insurance firms. The findings are contrary to Kurshev and Strebulaev, (2015) argument that large firms can generate investor's trust more than small firms. Similarly, Oskouei and Zadeh (2015) indicated larger firms have lower stock returns. also, Pouraghajan, Mansourinia, Bagheri and Emamgholipour (2013) mentioned that financial ratios had a positive effect and significant on the size of the firm with earnings per share (EPS).

Hypothesis H_{O5b} stated that firm size has no significant moderating influence on the relationship between underwriting risk and financial performance of insurance firms. Findings on UR*FS had negative significant estimates of -.70, P<0.05 and there was change of R-sqΔ =.01, thus, the hypothesis was rejected. This shows that there was a negative and significant moderating effect of firm size on the relationship between underwriting risk and financial performance (β= -0.70; ρ<0.05). Evidently, the inclusion of firm size as a moderator changes the direction of the relationship between underwriting risk and financial performance. Therefore, firm size weakens the relationship between underwriting risk and financial performance.

Hypothesis H_{O5c} stated that Firm size has no significant moderating influence on the relationship between leverage and financial performance of insurance firms. Findings on LEV*FS had non-significant estimates of -.11, P>0.05 and there was no change of R-sqΔ =.00, thus, the hypothesis was accepted. Firm size has no moderating effect on the relationship between leverage and financial performance (β= -.11; ρ>0.05). The results suggest that firm size does not weaken neither strengthen the relationship between leverage and financial performance. It could be that large firms

overleverage themselves in pursuit of optimal level thereby leading to declined financial performance. The implication is that the insurance firms are not in a position to have an optimal debt ratio that enhances financial performance.

Finally, Hypothesis H_{O5d} stated that firm size has no significant moderating influence on the relationship between liquidity and financial performance of insurance firms. Findings on LIQ*FS had negative significant estimates of -.1.20, $p<0.05$ and there was change of R-sqΔ =.01, thus, the hypothesis was rejected. firm size has a negative and significant moderating effect on the relationship between liquidity and financial performance (β= -1.23; $\rho<0.05$). The implication is that firm size weakens the relationship between liquidity and financial performance. It could mean the insurance firms are still not in a position to enjoy sustained liquidity levels to enhance the financial performance.

Table 4.17: Moderating Effect of Firm Size on the Relationship between Firm Characteristics and Financial Performance

ROA	Model 1 Coef (S. Err.)	Model 2 Coef (S. Err.)	Model 3 Coef (S. Err.)	Model 4 Coef. (S.Err.	Model 5 Coef. (S. Err.)	Model 6 Coef (Std. Err.)
EC	-0.20(.06) **	0.09(.09)	1.79(1.94)	1.45(1.94)	1.35(1.94)	0.85(1.96)
		-0.14(.02)		-1.74(.02)	-1.76(.80)	
UR	-0.14(.02) **	**	-.16(.02) **	**	*	-1.90(.08) *
			0.57(.03)	0.57(.02)		
LEV	0.58(.03) **	-.57(.03) **	**	**	0.33(.25)	0.35(.26)
LIQ	-0.09(.04) **	-0.06(,04)	-0.07(,04)	-0.07(.04)	-.07(.04) *	2.65(1.37) *
		-6.74(2.09)		18.25(18.76)	17.34(18.79)	
FS		**	6.23(7.55)			15.71(18.74)
EC*FS			-0.75(.85)	-0.60(.34)	-0.56(.86)	-0.77(.35) **
				-0.70(.35)		
UR*FS				*	-.71(.35) *	-.277(.60) **
LEV*FS					0.11(.12)	-0.10(.12)
LIQ*FS						-1.20(.60) *
_cons	-2.16(1.32)	11.68(3.55) **	-23.51(40.37)	-49.71(42.35)	-47.46(42.14)	-43.75(.42.31)
R-sq:						
within	0.60	0.62	0.62	0.62	0.62	0.63
between	0.63	0.64	0.64	0.64	0.64	0.65
overall	0.62	0.63	0.63	0.64	0.64	0.65
R-sqΔ		0.01	0.00	0.01	0.00	0.01
Wald chi2(10)	614.58	666.32	657.03	665.79	666.17	675.16
Prob> chi2	0.000	0.000	0.000	0.000	0.000	0.000
sigma_u	0.66	0.65	0.66	0.67	0.66	0.67
sigma_e	0.81	0.79	0.79	0.77	0.79	0.79
Rho	0.40	0.40	0.41	0.43	0.42	0.42

**significant at 0.01 level; *significant at 0.05 level

Key: EC=equity capital, UR=underwiring risk, LEV = Leverage, LIQ = liquidity, FS=firm size,

4.9.1 Mod graphs for Moderating Effect of Firm Size on the Relationship between Firm Characteristics and Financial Performance

In order to better understand the nature of the interactions between firm size and predictor variables (equity, underwriting risk, leverage, liquidity), the moderated results are presented on a moderation graph as suggested by Aiken and West (1991) who proposed that it is insufficient to conclude that there is interaction without

probing the nature of that interaction at different levels of the moderator. The statistical significance of the regression coefficient of independent variable (equity, underwriting risk, leverage, liquidity) was assessed at low, medium and high levels of firm size. The moderating effect of firm size on all the predictor variable (equity, underwriting risk, leverage, liquidity) and firm performance (ROA) was determined using a graphical method. The findings are shown in Figure 4.1
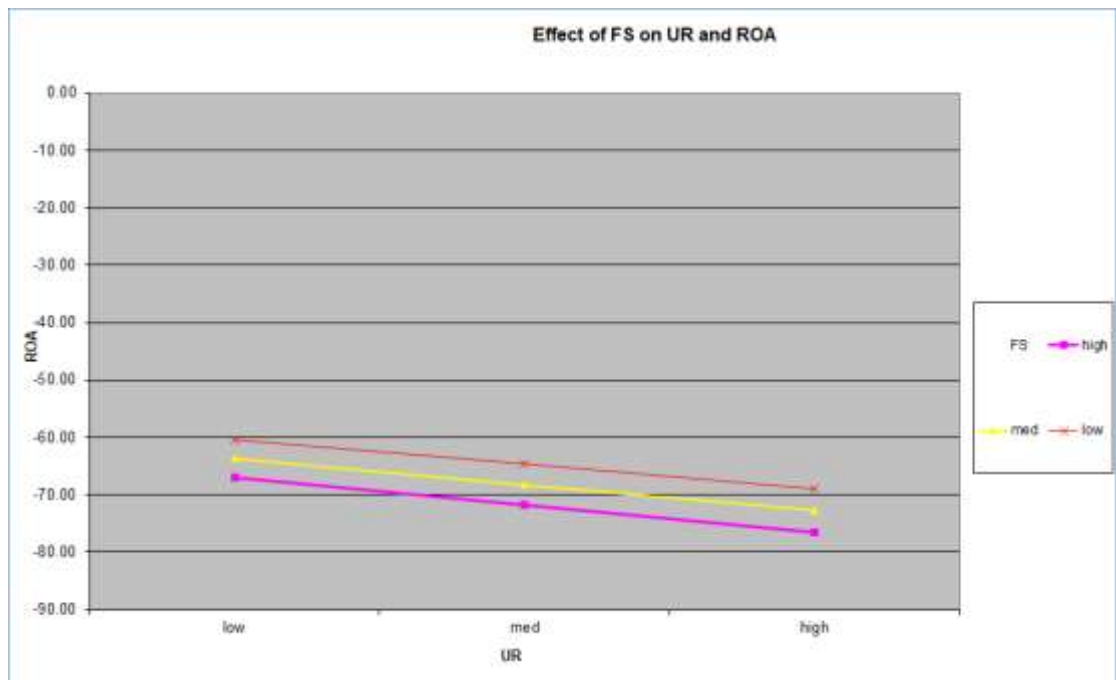

Figure 4.1: Mod graphs for Moderating Effect of Firm Size on the Relationship between underwriting risk and Financial Performance

The graph in Figure 4.1 revealed that with an increase in firm size, there is a negative contribution of Underwriting risk to financial performance. Thus, firm size negatively and significantly moderates the relationship underwriting risk and financial performance. This shows that at high levels of firm size, underwriting risk negatively affect firms performance
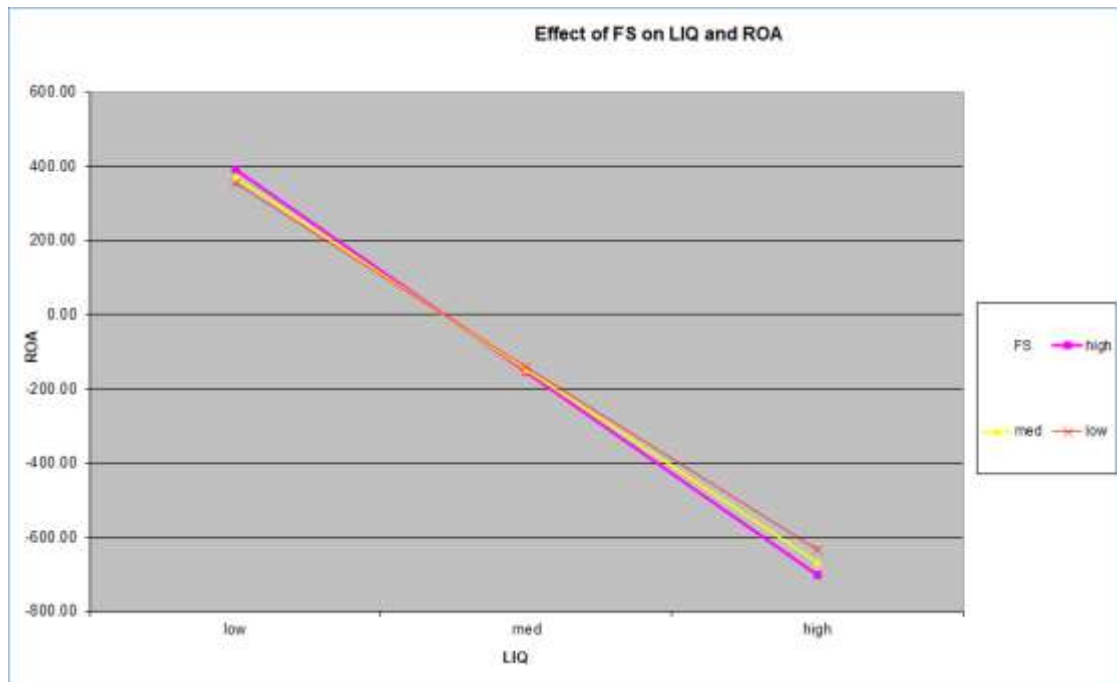
Figure 4.2: Modgraphs for Moderating Effect of Firm Size on the Relationship between liquidity and Financial Performance

Figure 4.2 demonstrated that an increase in firm size brought about a negative slope between liquidity and financial performance. This implied that firm size negatively and significantly moderates the relationship between liquidity and financial performance.

4.10 Summary of the Hypothesis Test

The results presented in Table below 4.18 indicated the summary of both multiple and hierarchical regression models. Thus, the table shows (R^2) and Δ in (R^2) for both main and interaction effects as well as the decision on the formulated hypothesis.

Table 4.18: Summary of Hypotheses Testing Results

Hypothesis Formulated	Beta (β)	ρ – values	Decision
Main Effects			
Ho₁: Equity Capital has no significant influence on the financial performance of the insurance companies in Kenya.	-0.202	.002	Rejected
Ho₂: Underwriting risk has no significant influence on the financial performance of the insurance companies.	-0.142	.000	Rejected
Ho₃: Firm leverage has no significant influence on the financial performance of the insurance companies in Kenya	0.575	.000	Rejected
Ho₄: Liquidity has no significant influence on the financial performance of the insurance companies.	-0.086	.020	Rejected
Model 4 – moderating effect		**R²Δ**	
Ho₅ₐ: Firm size has no significant moderating influence on the relationship between equity capital and financial performance of insurance firms	-0.75	.000	Fail to Reject
Ho₅ᵦ: Firm size has no significant moderating influence on the relationship between underwriting risk and financial performance of insurance firms	-0.70*	.010	Rejected
Ho₅ᵨ: Firm size has no significant moderating influence on the relationship between firm leverage and financial performance of insurance firms	-.11	.000	Fail to Reject
Ho₅ᵤ: Firm size has no significant moderating influence on the relationship between liquidity and financial performance of insurance firms	1.20 **	.010	Rejected

Level of significance, *p< .05, **p< .01,

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the findings, conclusion and recommendation of the study. The recommendations are made concerning the conclusion of the study, while the recommendation for further studies is essential for the extension of the study.

5.2 Summary of Findings

The primary objective of the study was to investigate the influence of characteristics of insurance firms on the financial performance of insurance firms in Kenya. The specific objectives were to find the influence of underwriting risk, liquidity, and leverage and Equity Capital on financial performance of insurance firms in Kenya. As evidenced in chapter four, the liquidity levels were at the mean of 7.25 while firm leverage at 0.66. Further, financial performance averaged at a mean of 0.05, average equity capital at 1860 million, underwriting risk at 0.75 and firm size at a mean ratio of 9.54. The study ensured that there was no multicollinearity and the data was stationary. The Hausman test indicated that the random effects model was best suited to test hypotheses.

Further findings indicated that equity capital, firm leverage and liquidity brought about a decline in financial performance. On the flipside, underwriting risk was associated with decline in financial performance. When moderate with firm size, there was a negative and significant relationship between underwriting risk and financial performance. Also, firm size negatively moderated the relationship between leverage and financial performance. Similarly, firm size negatively moderated the relationship between underwriting risk and financial performance. However, firm size did not moderate the relationship between Equity Capital and financial performance.

5.3 Conclusion

In conclusion, Equity Capital negatively impacts on the financial performance of insurance firms. The implication is that an increase in the equity capital brings about a decline in financial performance. It appears that the insurance firms are yet to devise ways of ensuring the sustainability of equity capital. Further, firm size does not moderate the relationship between equity capital and the financial performance of insurance firms. It appears that firm size does not act as a buffer for better performance. There is also a likelihood that the firms do not suffer from high information asymmetry since they are considered to be large firms. Consequently, firm size effect on Equity Capital does not influence financial performance.

Besides, the study findings elicited a negative link between underwriting risk and financial performance. Notably, underwriting risk reduces the profitability of insurance operations and overall profitability. Also, the results suggest that insurance firms that underwrite less premium over the years reduces financial performance. The explanation for this is that the insurance companies benefit from premium collected.

Also, the study concluded that financial leveraging positively impacts on the financial performance of insurance firms. The implication of the study is that debt and equity ratios positively influence financial performance. It could be that the firm leverage strategies are adequate to enhance the performance of the firms. There is also a possibility that the insurance firms were are better placed to raise good equity capital from fixed income securities. Similarly, when moderated with firm size, leverage leads to decline in financial performance.

Finally, liquidity negatively and significantly influenced the financial performance of insurance firms. As such, an increase in liquidity would bring about a decline in financial performance. It could be that the is limited utilization of asset and liability strategies to improve on the financial performance. Consequently, the insurance firms are not in a position to take advantage of profitable investment opportunities.

Further, when moderated with firm size, liquidity has a negative influence on financial performance. This concludes the large the insurance firms, the more liquidity reduces financial performance. This implies that the large the insurance firm, the high the obligations, hence the in ability of the firm to effective management its day-to-day operations resulting in decline of firm's profitability. In addition, firm size was significantly and negatively moderating the relationship between underwriting risk and financial performance. This infers that the large the firms, the more underwriting risk will decrease the financial performance of insurance firms in Kenya. This shows that large firms are have low underwriting capabilities, which because of their large number of customers cause incurred claims to be higher than total premiums paid hence decreasing firms' financial performance.

5.4 Theoretical Implications

The theoretical implication of this study is that it supports and extends the trade-off theory by confirming that firm leverage might enhance financial performance despite being critical in tax savings associated with the use of debt. Furthermore, the study validated the pecking order theory by confirming that the effect of firm leverage on shareholders returns is largely dependent on the decomposition of firm leverage. Consequently, it is utmost necessary for the management of insurance firms to reassess the costs and risks associated with firm leverage before embarking on a given financing decision. Further, the findings are in congruent with the pecking order theory that postulates that profitable firms are less inclined to use debt compared to retained earnings and equity.

Finally, firm size negatively moderated the relationship between; underwriting risk and financial performance, leverage and financial performance as well as liquidity and financial performance. The findings reinforce the agency theory which argues that increase in the size of an organization brings about the diseconomies of scale and hence the reduction in the profitability.

5.5 Recommendations

The findings of the study established that equity capital brings about a decline in the financial performance of insurance companies. Therefore, it is crucial for the insurance firms to utilize equity capital optimally such that it does not become a liability as a consequence of the interest paid. Further, the insurance firms could use the proceeds from equity capital funding to invest in projects that would enhance their financial performance.

Besides, underwriting risk reduces the financial performance of insurance companies. It is therefore essential for the firms to divert their focus towards increasing premium to enhance the financial performance of the insurance companies. Further, while increasing the gross premium, the insurance firms should ensure that it does not compromise stringent underwriting policies that would eventually lead to high claim costs and a decline in the profits. This means that a profit-oriented insurance firm must therefore embrace a claims function that is closely related with the underwriting and pricing of the firm's portfolio for meaningful results. The findings will help firms in the region to focus more on their risk assessment and claims management programs and adopt models that will enhance their performance.

Additionally, financial leveraging has a positive impact on the financial performance of insurance companies. The study, therefore, recommended for firms to embrace feasible financial leveraging strategies that can boost firm profitability. The focus needs to be on reducing the level of debt in the mix between debt-equity to enable insurance firms achieve better financial performance. Other than that, the insurance companies need to have effective debt management mechanisms so at elicit an improvement in the financial performance.

Also, the study has brought to fore the negative relationship between liquidity and financial performance of insurance companies. Therefore, it is crucial for insurance firms to conduct effective liquidity management to maximize the value of the company and its financial performance. Emphasis needs to be on ensuring there is an appropriate asset-liability mix in that the total liabilities must not exceed the total

assets of a firm. Besides, the firms need policy guidelines for cash flow to maximize the profit potential, while minimizing the liquidity risk in the financial statement.

Finally, large insurance firms, have liquidity and underwriting risk which negatively affect financial performance. Despite increase in firm size being reported as key determinants for financial performance due to increase in economic scale, it can also results diseconomies of scale and reduce the firm's profitability. Further, it also concludes that the financial performance decreases moderately with the increase in liquidity and underwriting risk in Nepalese life insurance companies. Thus, Thus, in order to optimize profit, the companies should focus on the management of their total asset, long-term investment, current assets and current liabilities. The study sheds light upon the fact that insurance companies that operate in Kenya benefit more when they maintain liquid assets. The increase in observations in secondary data or the inferences drawn from the respondents might have brought the conclusive effect of liquidity on financial. Insurers should maintain an ideal level of asset, which will result in increased profitability. Insurers should think about investing in high-return projects.

5.6 Recommendations for Further Studies

This study dwelt on the firm characteristics influencing the financial performance of insurance firms in Kenya. The study relied heavily on the secondary data collected from the Insurance Regulatory Authority and the credibility and integrity of these data cannot be guaranteed to be flawless. A similar study may be done in future and primary data to be used as opposed to secondary data.

The study used four independent variables, underwriting risk, liquidity, and leverage and Equity Capital for a period of nine years. In future a similar study would be appropriate using other firm characteristics like solvency, firm size and firm age as well as the tangibility of assets. A similar study can be done on industry specific factors of insurance sector, and incorporate macroeconomic factors such inflation, fiscal and monetary policies effected by the government as well as the level of unemployment and the exchange rate.

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APPENDICES

Appendix I: Data Collection Sheet

| Name of Insurance Firm												
Variable	Description	Years										
		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Returns on Assets	Net Profit Before Tax											
	Total Assets											
Underwriting risk	incurred claims / Earned premiums											
Firm leverage	Total Debts											
	Total Assets											
Firm liquidity	Current Assets											
	Current Liabilities											
Equity Capital	Natural log of Equity Capital											

Appendix II: List of Insurance Companies in Kenya as at December 2018

1   AAR Insurance Kenya
2   ABSA Life Assurance Kenya Limited
3   Africa Merchant Assurance Company (AMACO)
4   AIG Kenya Insurance Company Limited
5   Allianz Kenya
6   APA Insurance – part of Apollo Investments Company
7   Apollo Life Assurance
8   Britam General Insurance Company (K) Limited
9   Britam Life Assurance Company (K) Limited
10 British-American Insurance Company Kenya Limited
11 Cannon Assurance Company Limited
12 Capex Life Assurance Company
13 CIC General Insurance
14 CIC Life Assurance
15 Continental Reinsurance
16 Corporate Insurance Company
17 Directline Assurance Company
18 East Africa Reinsurance Company
19 Fidelity Shield Insurance Company
20 First Assurance Kenya Limited
21 GA Insurance Company
22 GA Life Assurance Limited
23 Geminia Insurance Company
24 Heritage Insurance Company
25 Heritage Insurance Company
26 ICEA LION General Insurance Company
27 ICEA LION Life Assurance Company
28 Intra Africa Assurance Company
29 Invesco Assurance Company
30 Jubilee Insurance Company Limited
31 Kenindia Assurance Company
32 Kenya Orient Insurance
33 Kenya Reinsurance Corporation
34 Liberty Life Assurance Kenya Limited
35 Madison Insurance Company Kenya
36 Mayfair Insurance Company
37 Mercantile Insurance Company
38 Metropolitan Life Insurance Kenya
39 Monarch Insurance Company
40 Next Insurance Kenya
41 Occidental Insurance Company
42 Old Mutual Life Assurance Company
43 Pacis Insurance Company

| 44 | Phoenix of East Africa Assurance Company |
45	Pioneer Assurance Company
46	Real Insurance Company
47	Resolution Insurance Company
48	Sanlam Kenya plc – was Pan Africa Life Assurance
49	Takaful Insurance of Africa
50	Tausi Assurance Company
51	Trident Insurance Company
52	UAP Insurance Company
53	UAP Life Assurance Company
54	Xplico Insurance Company

Source, (Insurance Regulatory Authority, 2018)

Appendix III: Trend Analysis
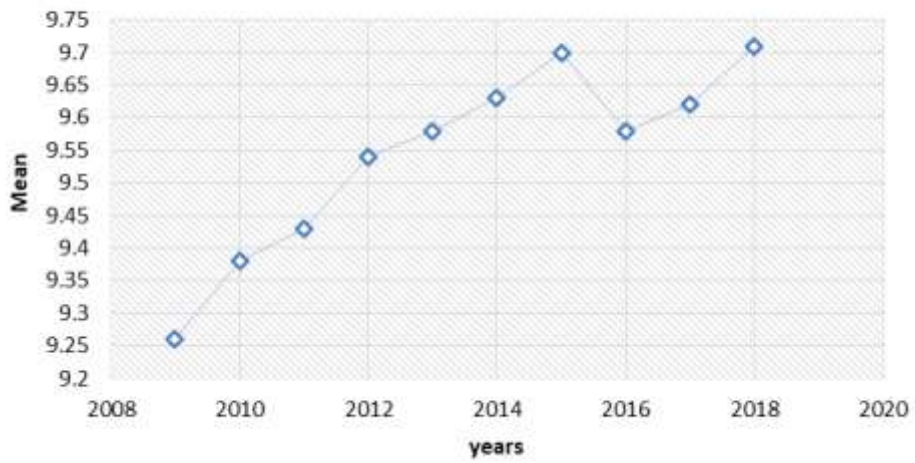
Firm Leverage

Firm LIquidity
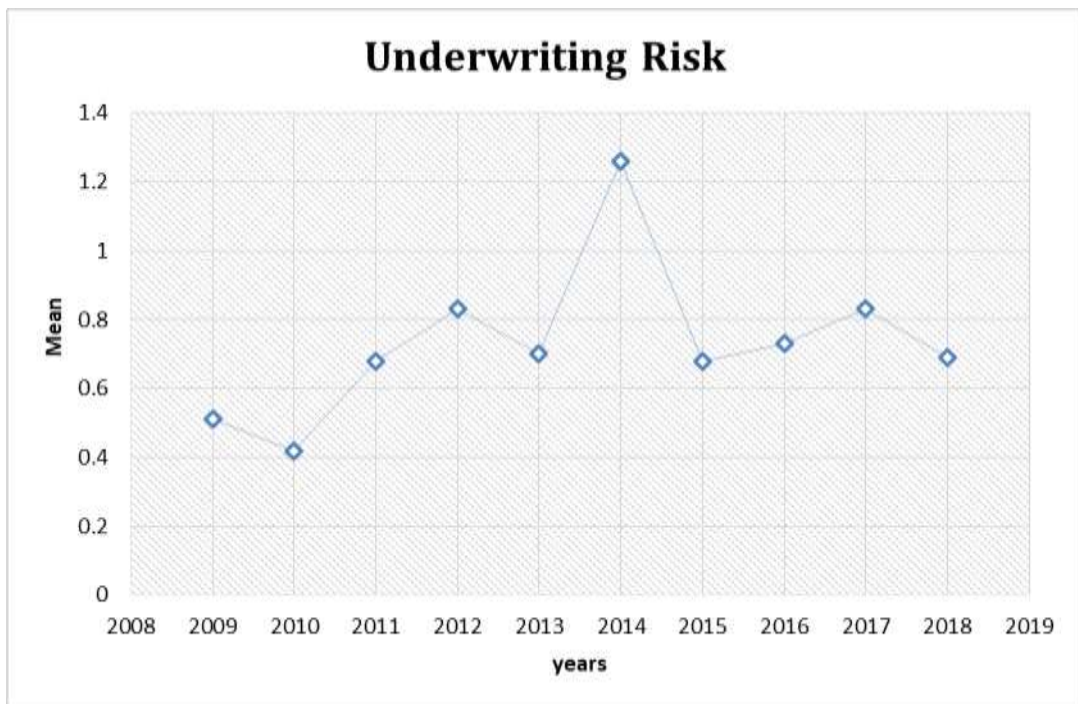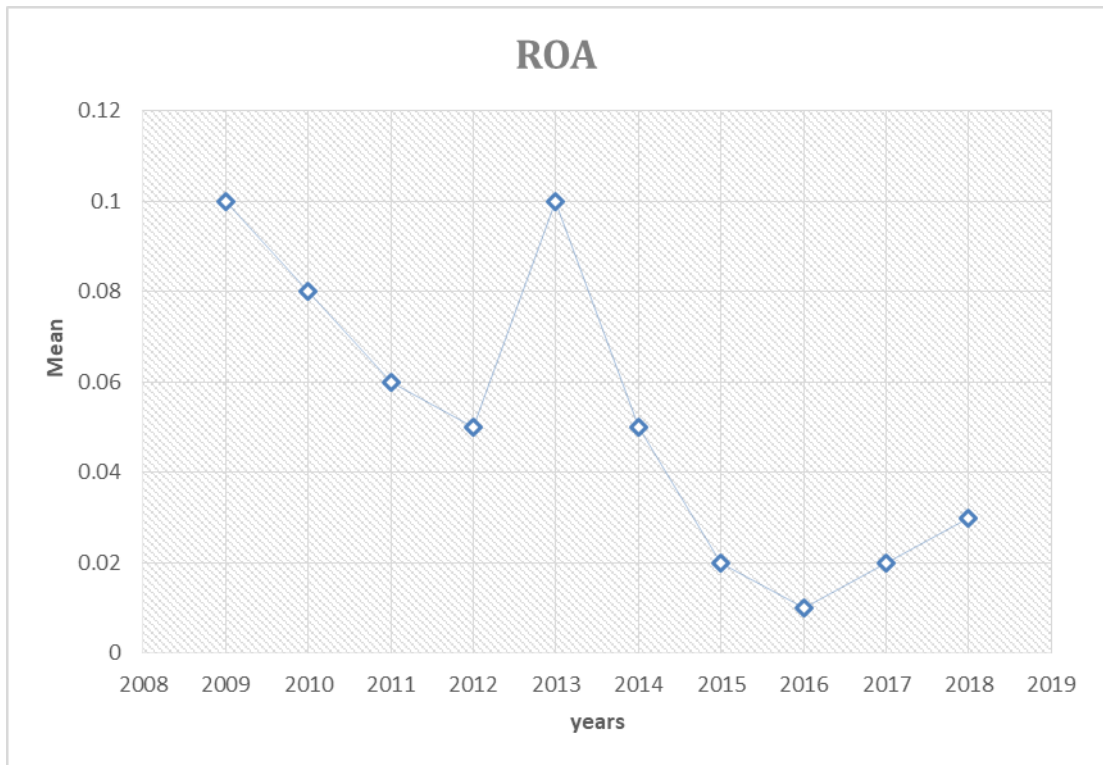
Equity Capital
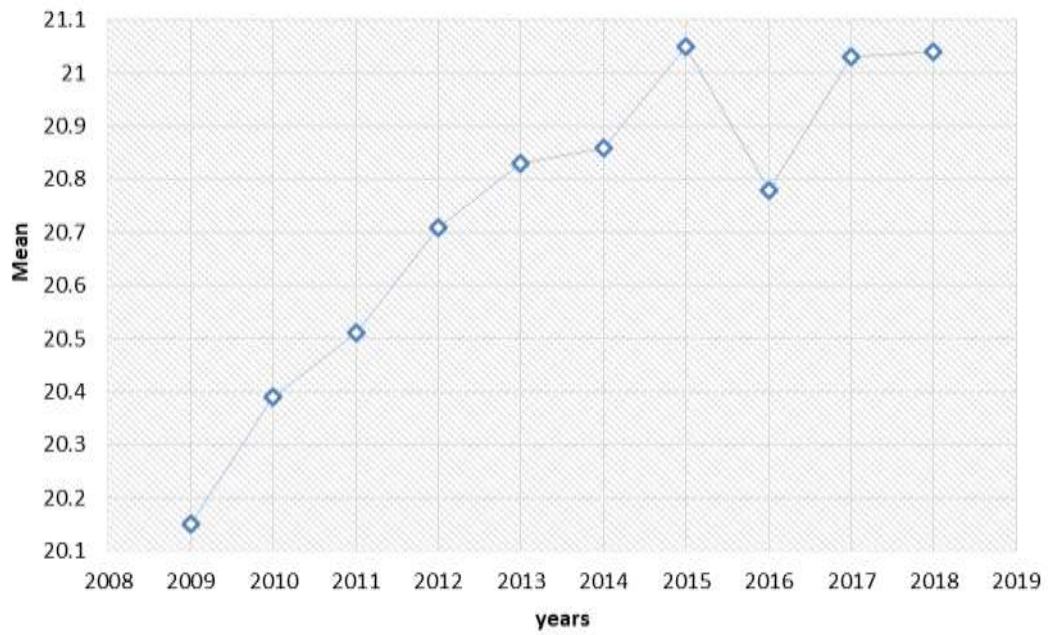
Firm Size

Appendix IV: Letter of Data Request from IRA

Alex Maina Kamau
Department of Commerce and Economics Studies
College of Human Resource Development
Jomo Kenyatta University of Agriculture and Technology
Juja,
10th, April 2019

To: HOD
Department of Research and statistics
Insurance Regulatory Authority (IRA)
P.O BOX 43505 - 00100 NAIROBI
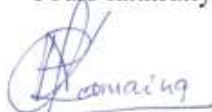Zep- Re Place Longonot Road - Upper Hill, Nairobi

Dear Sir/Madam

RE: REQUEST FOR DATA

I am PhD conducting research to establish the influence **of *FIRM CHARACTERISTICS ON FINANCIAL PERFORMANCE OF INSURANCE FIRMS IN KENYA*.** This research is a requirement in partial fulfillment for the award of **Degree of Doctor of Philosophy in Business Administration of the Jomo Kenyatta University of Agriculture and Technology.** I am formally requesting permission to access the aforementioned data for 2009 and 2018 (attached data collecting sheet).

I plan for academic purpose only and your participation and co-operation in this research study is very much appreciated. It is my hope that the timely reply on my humble request is representative of your continued support for this type of research. All information you provide will be strictly confidential. For questions or concerns please do not hesitate to contact me directly on +254 728 521159

Thank you for your co-operation.

Yours faithfully,

ALEX MAINA KAMAU
HD433-C004-4384/2014