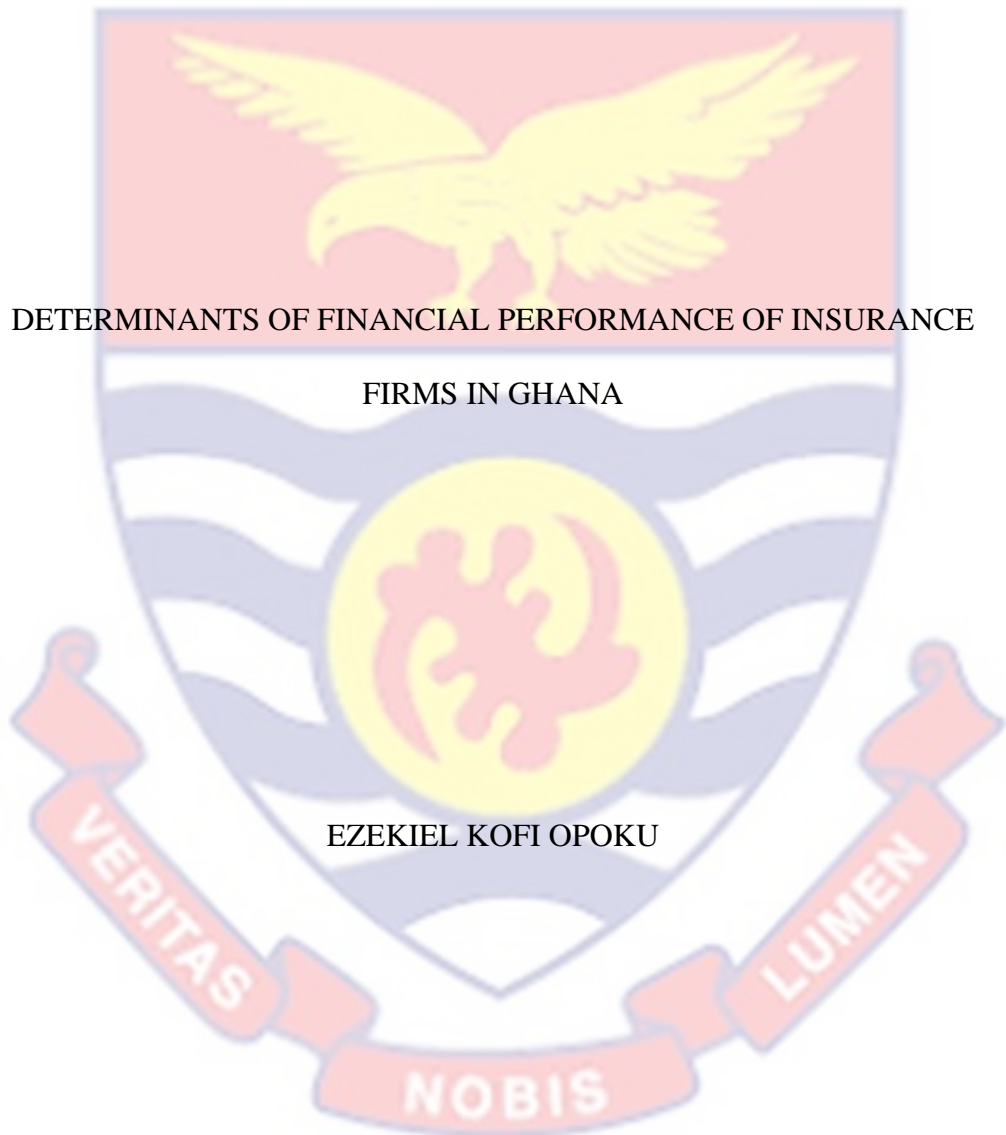


UNIVERSITY OF CAPE COAST



2022



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DETERMINANTS OF FINANCIAL PERFORMANCE OF INSURANCE

FIRMS IN GHANA

BY

EZEKIEL KOFI OPOKU

This thesis submitted to the Department of Accounting of the School of Business,
College of Humanities and Legal Studies, University of Cape Coast, in partial
fulfilment of the requirements for the award of a Master of Commerce degree

in Accounting

AUGUST 2022

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's signature: Date:

Name:

Supervisor's Declaration

I hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Supervisor's Signature: Date:

Name:

ABSTRACT

The existing literature on drivers of performance have been tilted toward non-financial corporations with the few in emerging economies that looked at financial institutions focusing on banking, yet the insurance industry is one of the major contributors to the Gross Domestic Product of Ghana and the role insurance plays in sustaining economic growth and development cannot be overemphasised due to the inevitability of risks and uncertainties associated with modern economies and businesses. In this study, the resource-based, agency and life cycle theories were employed to ascertain the determinants of performance of both life and non-life insurance firms in Ghana. The study in addition evaluated the likelihood of performance persistence in the insurance industry in Ghana. The study employed panel data of forty (40) insurance firms over a six-year period from 2012-2017. The study relied on the two-step System Generalised Method of Moments technique to examine the determinants of financial performance. The findings of study confirmed the dynamic nature of insurance firms' financial performance and revealed that cost efficiency, claims ratio, retention ratio, audit fees, board size and independence and firm size are the most vital determinants of performance of life insurance firms in Ghana whereas claims ratio, cost efficiency, firm age and firm size are the determinants of performance for non-life insurance firms in Ghana. The study recommends that insurance firms should resort to cost control strategies such as activity-based costing to track and control overhead costs. Besides, the study recommends that managers of non-life insurance firms should cut down investments in long term tangible assets such land and building due to the inverse association discovered between firm size and performance.

KEY WORDS

Audit fees

Board size

Claims ratio

Cost efficiency

Financial performance

Firm age

Firm size

Insurance penetration

Life insurance

Non-executive directors

Non-life insurance

Profitability

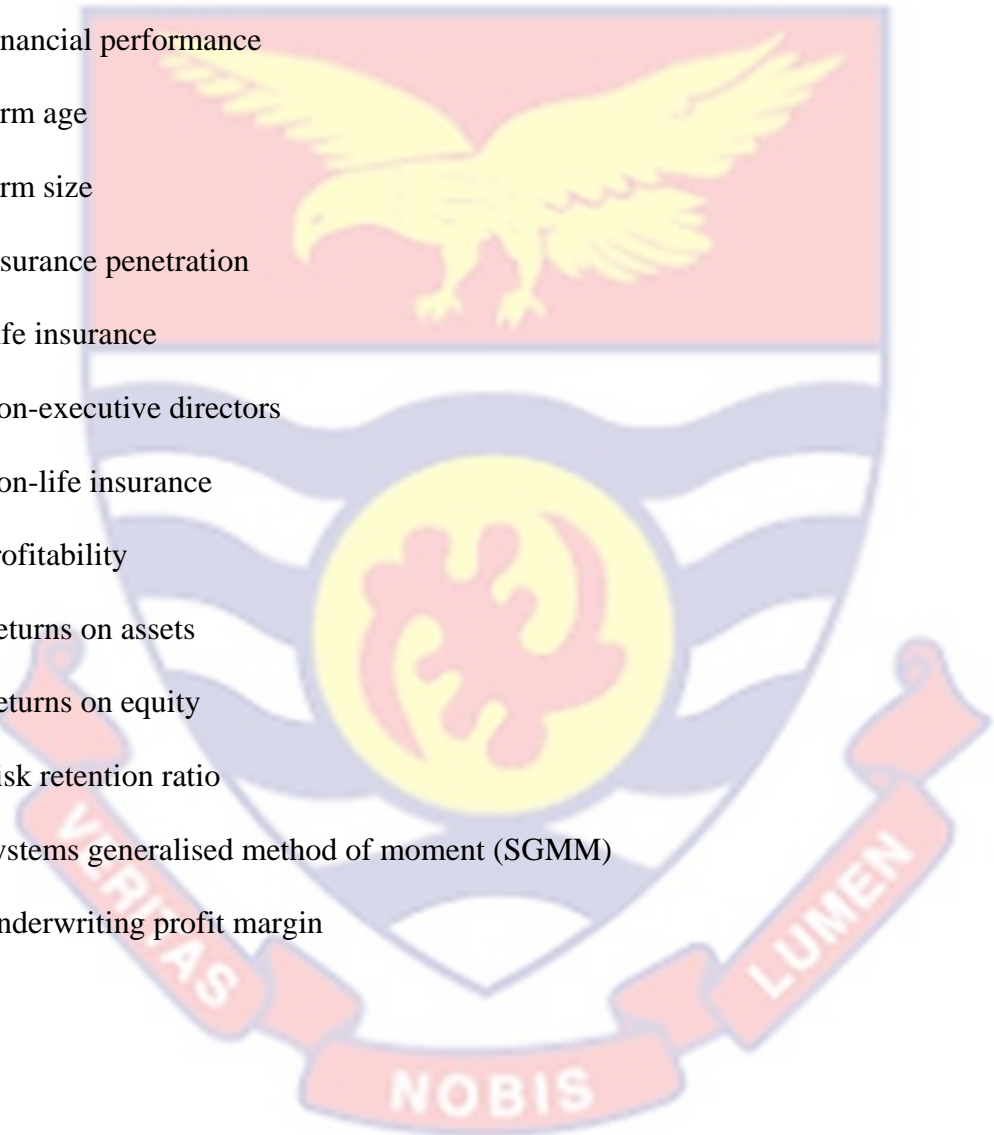
Returns on assets

Returns on equity

Risk retention ratio

Systems generalised method of moment (SGMM)

Underwriting profit margin



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DEDICATION

To my parents Mr. Osei Isaac and Mrs. Susana Boahen, Mr. Frederick
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LIST OF ACRONYMS

AUF	-	Audit Fees
BSZ	-	Board Size
CLR	-	Claims Ratio
COE	-	Cost Efficiency
FAG	-	Firm Age
FPM	-	Financial Performance
FSZ	-	Firm Size
GDP	-	Gross Domestic Product
GSS	-	Ghana Statistical Service
NED	-	Non-executive Directors
NIC	-	National Insurance Commission
ROA	-	Returns on Assets
ROE	-	Returns on Equity
RTR	-	Retention Ratio
SGMM	-	System Generalised Method of Moments
UPM	-	Underwriting Profit Margin



CHAPTER ONE

INTRODUCTION

There are many risks and uncertainties around us in the world today and the realization of the enormous impact of these risks and uncertainties has made the business of insurance inevitable. The outbreak of the Covid-19 pandemic even paints a much clearer picture of the risks and uncertainties faced by the global economy. These risks cast a great challenge on the going concern of public entities and business organizations around the world.

Insurance is one of the major avenues for businesses to mitigate the adverse effects of the risks and uncertainties they face in an ever-changing business environment such as we have in the current global economy. Akotey, Sackey, Amoah and Manso (2013), recounted that insurance companies perform roles which include but not limited to risk underwriting and mobilizing long-term funds for investment. With risk underwriting, businesses can transmit part of the risks they face to insurance companies which indemnify the insured businesses under specific terms and conditions. Through the life insurance savings and the pension schemes such as Social Security and National Insurance Trust (SSNIT), huge pool of long-term capital is made available for the socio-economic expansion of the country.

Background to the Study

The ownership of companies including insurance businesses in Ghana is legally separate from its management through the corporate veil granted by the Companies Code 1963 (Act 179) as amended by the Companies Act 2019 (Act 992). The distinction of ownership from management has created the challenge termed as the agency problem, in the accounting literature, which

has prevailed since the beginning of economic civilisation that birthed large organisations and thereby requiring management to provide accountability (Seal, 2006). One major way that management provide accountability to resource providers (owners) for their stewardship is through performance measurements, one of which is financial performance (Allam, 2018; Elsayed & Paton, 2005). The term financial performance of insurance firms denotes the ability of insurance firms' management to successfully and competently employ firms' resources to generate premium with the aim of maximizing resource providers' value and worth (Tornyeya & Wereko, 2012). Mazviona, Dube and Sakahuhwa (2017) posited that an entity's performance is generally measured by its capacity to earn profit. Also, the opportunity for insurance companies to continually underwrite risks depends on their ability to generate and sustain profit and maximize stockholders' value (Akotey et al., 2013) which has created the need for management of insurance firms and other key stakeholders to know and understand the factors that significantly determine their financial performance and the extent of the association between these determinants and the maximization of owners' worth and hence the need to study the determinants of financial performance of insurance companies in Ghana.

At the global front, Batool and Sahi (2019) postulated that the insurance industry serves as the spindle of economic growth and expansion of many advanced economies including the United Kingdom and the United States of America. A report by Statista Research Department (SRD) in 2020 stated that the insurance penetration of Taiwan, Hong Kong, United States of America, South Korea, and United Kingdom in 2019 were 19.97%, 19.74%,

11.43%, 10.78% and 10.3% respectively. This shows how significant the insurance industry is to the development of these economies.

In Africa, however, the contribution of the insurance industry is comparatively very low. Apart from South Africa with a penetration of 13.4% and 9.3% for Namibia all other African economies have a penetration far below 10% . The entire African continent's stake in global insurance premium was 1.52% in 2013 (PwC, 2020).

The financial sector of Ghana is composed of three key industries. These industries include banking, insurance, and capital markets (Price Waterhouse Coopers [PwC], 2019). The financial sector is one of the major contributors to the Gross Domestic Product (GDP) of Ghana. The financial and insurance activities contribution to GDP was 5.1%, 5.1%, 5.8%, 6.8%, 5.0% and 4.2% for the six years period from 2013-2018 respectively. (Ghana Statistical Service [GSS], 2019). Figure 1 shows the trend of the contribution of the financial and insurance activities to GDP from 2013-2018.

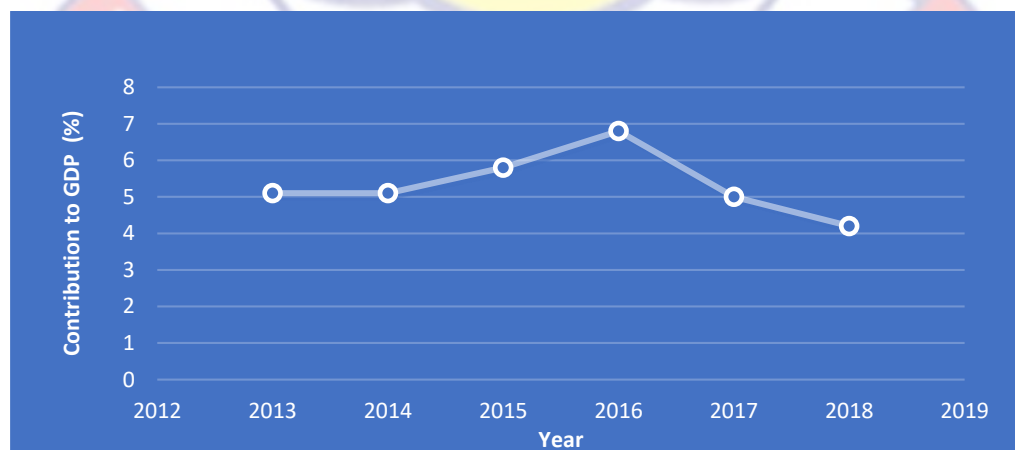


Figure 1: Contribution of financial and insurance activities to GDP in Ghana

Source: GSS (2019)

Whereas the insurance industry contributes enormously to the economic growth and development of advanced economies as depicted above, insurance penetration in Ghana, excluding health insurance and pensions was approximately one percent as at the end of 2019, while the penetration was expected to be 3% if health insurance and pensions were included (National Insurance Commission [NIC], 2019). This is comparatively low when matched against other markets in Africa like Namibia with a penetration of 9.3%, Lesotho with penetration of 4.76%, hence the need for improvement in the performance of insurance firms in Ghana.

The National Insurance Commission in its medium-term strategic plan covering 2017-2021 targeted insurance penetration of 10% of GDP by the end of 2021. This depicts a craving need and urgency for enhancement in the performance of insurance firms in Ghana. However, the NIC cannot achieve this target if the factors that impact the performance of insurance firms in Ghana are not thoroughly known and well managed. As such, there is the need to identify and critically scrutinize the determinants of the financial performance of insurance firms in Ghana. The foregoing are the justifications for delving into the performance of insurance firms in Ghana by identifying the critical success factors that impact the financial performance of insurance firms in Ghana.

Statement of the Problem

In spite of the fact that the financial and insurance activities contribute significantly to the GDP of Ghana as depicted in Figure 1, the performance of the financial sector is continuously falling in recent times, even into negative growth rates. Records from Ghana Statistical Service show that the financial

and insurance activities growth rate from 2013-2018 was 21.4%, 12.9%, 8.0%, 17.7%, -8.2%, -13.4% respectively (GSS, 2019). Figure 2 pictures the trend of the growth rates of the financial and insurance activities from 2013-2018.

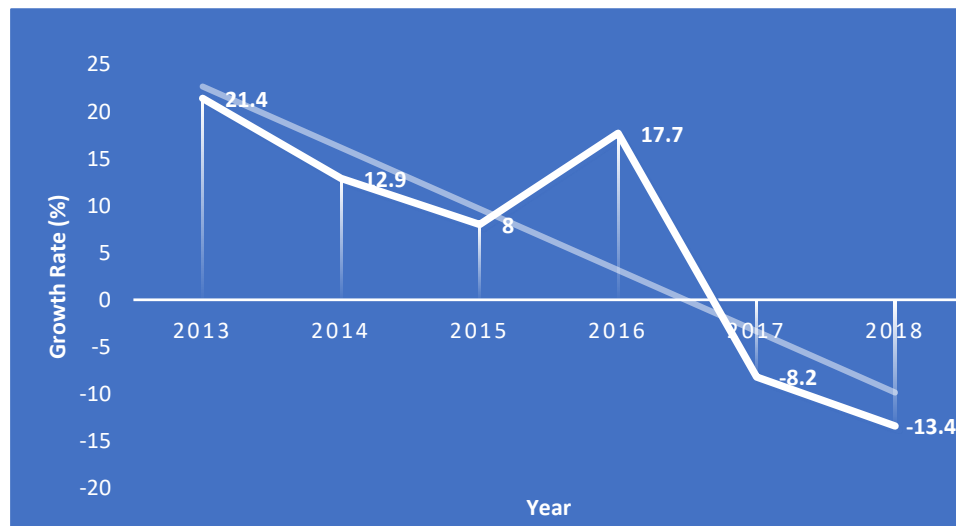


Figure 2: Financial and insurance activities growth rates in Ghana

Source: GSS (2019)

The fall in the growth rates of the financial sector cannot be mentioned without taking cognizance of the challenges faced by the banking industry. In fact, these challenges led to the painful but needful banking sector mob-up undertaken in 2017 and 2018 by the Bank of Ghana (BoG) in collaboration with the Ministry of Finance which sought to bring sanity to the sector. The clean-up exercise consummated in the collapse of several indigenous banks such as UT Bank Ltd, Beige Bank Ltd and Unibank Ghana Ltd and some Savings and Loans institutions including Adom Savings and Loans Ltd and Alpha Capital Savings and Loans and other microfinance businesses and birthed the Consolidated Bank of Ghana (BoG, 2019).

One of the major causes of the corporate failure of these banks identified by the Bank of Ghana was poor corporate governance structures within these banks (BoG, 2019). Good corporate governance structures such

large board size and independent boards ensure better fortification for shareholders and minimize the likelihood of conspiracy, connivance, or collusion against shareholders (Florackis, 2008).

But what are the implications of good or inadequate corporate governance structures for insurance firms in Ghana? Would the resource-based theory support the argument for larger board sizes as it mirrors more competences and vital resources the insurance firms require to create and sustain value? Would non-executive directorship, in line with agency theory reduce the agency problem and improve insurance firms' performance? This study sought to find out whether corporate governance influences the performance of insurance firms in Ghana as the empirical literature has received little attention in Ghana.

Even though the negative growth rates are partly ascribed to the banking sector clean-up exercise conducted by the Bank of Ghana and the Ministry of Finance, the insurance industry is not innocent when it comes to the slow-paced growth experienced by the financial sector as its penetration is just about one percent (NIC, 2019) coupled with persistent fall in the profit after tax of the industry. The reported net profit after tax for the insurance industry for 2017, 2018 and 2019 were GHC245 million, GHC202 million and GHC196 million correspondingly (NIC, 2017, 2018, 2019) as illustrated by Figure 3. This shows a wane in the profitability of the industry from 2017-2018 by 17.6% and 3% from 2018-2019.

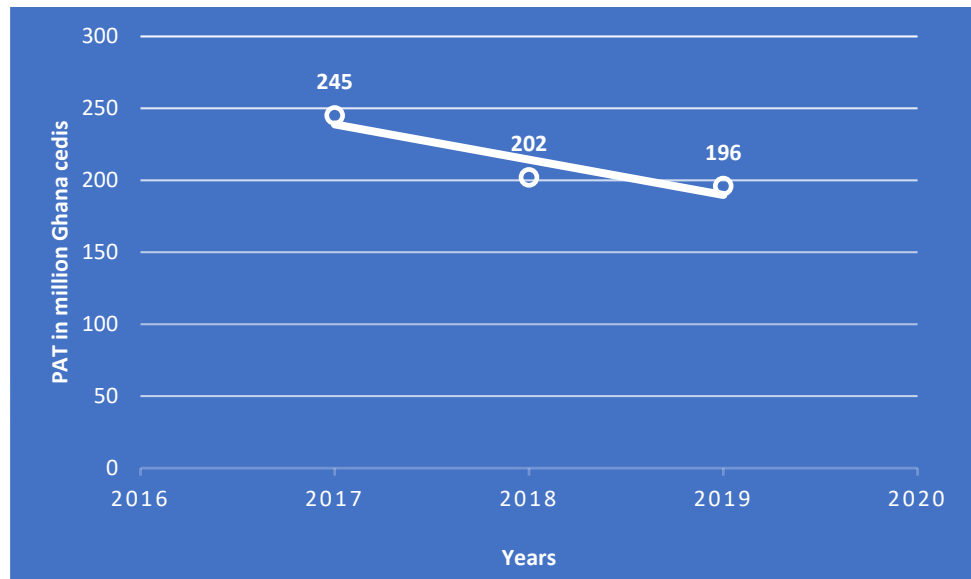


Figure 3: Profit after tax (PAT) of insurance industry in Ghana

Source: NIC (2017,2018,2019)

Due to the significance of the sector to the country's GDP, the slow growth as well as the fall in its performance is a cause for concern and worthy of the attention of both academic researchers, investors, insurance regulators, policy makers and financial market analysts whose ultimate desire is to see the economy of Ghana grow to improve the wellbeing of her citizens.

However, most of the studies on determinants of performance of the financial sector in Ghana focused on the Banking industry (Gyamerah & Amoah, 2015; Owusu-Antwi, Mensah, Crabbe & Antwi, 2015; Owusu-Mensah, 2014; Yakubu, 2016) but the insurance industry is significantly dissimilar to the banking industry. Aside from banking and insurance being governed by different bodies and laws, their primary objectives are different; Banks accept deposits and grant loans and advances, but insurance firms underwrite risks and pay claims (Banking Act, 2004; Insurance Act 2006; NIC, 2017) and therefore the generalisations made, and conclusions drawn about the banking sector may not be applicable to the insurance industry and

so not much is known about the determinants of the financial performance of the insurance industry (Akotey et al. 2013).

Though there are prior studies on the insurance industry of developed economies (Courbage & Roudaut, 2008; Forni & Reichlin, 1999; Gardner & Grace, 1993; Hardwich, 1997; Kugler & Ofoghi, 2005; Lai & Limpaphayom, 2003), their findings may not hold for emerging economies like Ghana as each country has different economic, financial, and political structures (Batool & Sahi, 2019). Again, over the years the insurance industry's performance has not remain the same but has varied from time to time (Batool & Sahi, 2019).

There are only few studies that focused on the insurance industry's performance in Ghana. Boadi, Antwi and Lartey (2013) looked at determinants of profitability of insurance firms in Ghana, using data on sixteen insurance firms from 2005-2010 and returns on asset (ROA) as the dependent variable but there were fifty-two (52) insurance firms operating in Ghana as at December 2019 (NIC, 2019) which means sixteen (16) firms may not be a good representation of the industry's population. Furthermore, the performance of the financial sector started falling in 2014 after Boadi et al. have conducted their study suggesting that there may be some other determinants aside from those included in their study.

Akotey, Sackey, Amoah and Manso (2013) also studied the financial performance of life insurance companies in Ghana using data on ten (10) life insurance firms from 2000-2010 but there the insurance industry has grown to twenty-four (24) life insurance firms as at December 2019. Besides almost a decade is too long a time to overlook the changes in the life insurance

industry. Again, very little is known about the insurance industry's financial performance of emerging markets like Ghana according to Akotey et al. (2013) who therefore proposes that more research should be conducted in this area.

Bawuah (2019) scrutinised the association between tax planning and performance of Ghanaian insurance businesses using a panel data of 40 insurance firms. With returns on asset and returns on equity as dependent variables, the study controlled for leverage, firm size, firm age, capital intensity, dividend pay-out, and premium growth. The study used the generalised least square (GLS) regression with fixed and random effect models to test for the relationship between the research variables. GLS with fixed or random effects is a static model and not the appropriate model of estimation in the presence of autoregression (Agyei, Marfo-Yiadom, Ansong & Idun, 2015; Roodman, 2009).

Furthermore, prior studies have assumed firm performance to be a static phenomenon and as such have used static models such as Ordinary Least Square (OLS) regression (Boadi et al., 2013; Dabaghi, 2013; Issaya, 2013; Macharia, 2016; Tomyeva & Wereko, 2012), Generalised Least Square (GLS) regression with either fixed or random effects or both in analysing the performance of the insurance industry (Bawuah, 2019; Jirapa, 2015; Akotey et al. 2013). It is however worth noting that the performance of insurance firms is a dynamic variable such that, given the current level of performance, investors and practitioners make relevant decisions and their decision to commit additional funds into the firm is largely influenced by the current performance. With reference to current performance level, investors' decision

to commit or not to additional funds is expected to result in better or worsened performance relative to the previous period. Hence, the researcher proposes that the performance level of insurance firms in the previous year is a significant predictor of the current period's level of performance. The inclusion of past performance creates the problem of autoregression in which case a dynamic model will produce more consistent and reliable results than static models (Roodman, 2009). Both the random and fixed effects estimations assume that the firm-specific characteristic is strictly exogenous but differ on the basis that while the random effects consider the firm-specific variable to be randomly selected and uncorrelated to the general error term, the fixed effects consider it to be a nuisance parameter. Consequently, the use of the general least squares regression for the random-effects model could yield consistent and efficient results. Through the within transformation, the fixed effects could be removed and the estimations done to give consistent and efficient results. However, the introduction of the lag dependent variable in Equation (1) violates the assumption by both the random and fixed effects that the regressors are strictly exogenous and uncorrelated with the error term. It is not possible to achieve consistency with the traditional within transformation because of the correlation between the lagged dependent variable and the random error (Adeleye, Osabuohien & Bowale, 2017). One way of dealing with the endogeneity introduced by the inclusion of the lagged dependent variable is to first difference the model to remove the firm-specific effects and then use the past one or more years' lagged values of the dependent variable and other exogenous variables as instruments in a general method of moments estimation (GMM). The standard Arellano and Bond (1991) dynamic panel

specification allows for the use of lagged depend variable and first difference of the other independent variables as instruments (Roodman, 2009).

As a result, the researcher employed a dynamic panel estimation model, specifically the system generalized methods of moments (SGMM), which none of the studies on the performance of insurance firms in Ghana has by far used.

The study used returns on asset (ROA), returns on equity (ROE) and Underwriting Profit Margin (UPM) as dependent variables to measure financial performance in order to capture respectively, investors' interest, shareholders' interest, and management's efficiency. It considered all the 52 insurance firms operating in Ghana as at the end of 2019 making the results of the study very representative.

Purpose of the Study

The primary purpose of the study is to identify the determinants of financial performance of insurance firms in Ghana.

Research Objectives

The specific objectives of the study were to:

1. examine the financial performance of the insurance industry in Ghana.
2. assess whether performance of insurance firms persist in an emerging economy like Ghana.
3. ascertain the determinants of financial performance of life insurance firms in Ghana.
4. investigate the determinants of financial performance of non-life insurance firms in Ghana.

Research Hypotheses

In order to achieve the objectives 2, 3 and 4, the ensuing hypotheses were framed:

1. Ho: firm performance does not persist in the insurance industry in Ghana
2. Ho: cost efficiency, claims ratio, retention ratio, audit fees, size, age, board size, and non-executive directorship have no significant bearing on the financial performance of life insurance firms in Ghana.
3. Ho: cost efficiency, claims ratio, retention ratio, audit fees, size, age, board size, and non-executive directorship have no significant bearing on the financial performance of non-life insurance firms in Ghana.

Significance of the Study

The study is of utmost relevance and timely as it was conducted in a season in which the NIC was putting in many efforts to enhance the performance of insurance firms in Ghana. The findings of the study about risk retention and claims will assist the NIC in formulation, implementation and evaluation of its risk-based assessment policies and strategies. It will also help the insurance firms in determining the amount of risk retainable to maximise shareholders' value.

The findings about cost efficiency would encourage those in the helm of affairs of insurance firms to apply appropriate management accounting principles and tools to consciously and effectively control cost of operations and administration to improve upon the profitability of firms thereby creating overall economic growth and expansion and improved standard of living.

Again, in an emerging economy like Ghana, where people are beginning to wake up to the importance of insurance through the NIC insurance awareness campaign, more people joining the middle-income class through education and the onset of new businesses like the oil and gas exploration and real estate development, the demand for insurance policies and products is expected to rise. The light that has been shed on the firm specific critical success factors that determine the financial performance of insurance firms will enable these firms to be better prepared to take advantage of the expected rise in demand for insurance products.

As already pointed out, many of the studies on determinants of performance of the financial sector in Ghana focused on the banking sector. However, the insurance industry, owing to its uniqueness, is significantly different from the banking industry and as such not much is known about the determinants of performance of insurance firms in Ghana and this study sought to bridge this knowledge gap.

The study also made suggestions for further research and serve as future reference point for other researchers. The significance of the study, therefore, include but not limited to the aforementioned benefits to policy makers, regulators of the industry, the insurance firms, literature and further research.

Scope of the Study

The study covered the insurance industry in Ghana. It considered both the life and non-life insurance firms operational in Ghana as at the end of 2019. Even though, the performance of insurance firms is impacted by

elements in both the internal and external environment, the study focused on firm specific variables since in the SWOT analysis, the firm has control over the internal elements such as cost, risk retention, claims, audit fees, and corporate governance. Therefore, the study does not concentrate on the impact of external elements such as death rate, accident rate, the population and the dynamics of population shifts, exchange rate, increase in foreign competition all of which may affect the performance of insurance firms but are beyond the control of any individual insurance firm (David & David 2013). The researcher believes that if the internal elements are well understood and managed by the insurance firms, the firms will be able to either take advantage of the opportunities presented or mitigate the threats posed by the elements in the external environment.

Limitations of the Study

The study adopted the econometric approach for data analysis, but this approach is probabilistic in nature, predictable under certain chances and conditions (Saunders, Lewis & Thornhill, 2013). Besides, the study covered only the life and the non-life insurance corporations within the insurance industry. It did not include insurance brokerage firms, reinsurance firms and loss adjusters, which equally fall under the insurance industry. The panel period was short because the NIC, in line with Section 78 subsection 2 of the Insurance Act 2006, (Act 724), does not keep for more than six years the financial data of insurance firms. And even with the six years data taken, few of the companies did not have their financial statements for all the six (6) years period within which the study was undertaken, thus the data was unbalanced, and this may not help effective generalization.

Definition of Terms used in the Study

This section operationalizes the key terminologies used in the study. Therefore, throughout this study, except otherwise stated, the following key words shall assume the meaning herein assigned to them.

Performance: The term performance denotes to the capability of the firm's management to successfully and competently employ the firm's resources to generate premium with the aim of maximizing resource providers' value. Mazviona, Dube and Sakahuhwa (2017) posited that an entity's performance is generally measured by its capacity to earn profit and therefore performance is proxied by profitability of insurance firms such as returns on assets, returns on equity and underwriting profit margin.

Cost Efficiency: The ability of insurance firm to incur the least operational and administrative cost in generating premium. It will be measured by appropriately adjusting the insurance underwriting expense ratio.

Firm Age: Firm age refers to how old an insurance firm is with reference to its date of inception. The age of insurance firms is taken as the difference between year of establishment and current year.

Risk retention: The proportion of the underwritten risks which is shielded by the insurance firm and not shifted to reinsurers.

Claims: The part of the underwritten risks that become vested and for which the insured party seeks to be indemnified and for which the insurance company is obligated, under the terms of the insurance contract, to make payment. That is, the actual payment made by the insurance firm to indemnify the insured.

Firm Size: Total non-current assets of an insurance firm in a specific year.

Audit fees: The amount of expenditure incurred by the insurance firm to engage the services of an independent external auditor(s) to perform statutory audit of the financial statements of the insurance firm.

Board size: The number of members on the Board of Directors of insurance firms who are charged with corporate governance.

Non-Executive Directors: The number of directors who do not have direct contact with the day-to-day management of the activities of insurance firms but who are charged with corporate governance.

Organization of the Study

The research is divided into five chapters. The first chapter deals with the study's background, problem statement, purpose of the study, objectives, research questions, the study's significance, scope of the study, limitations, and study organization. The second chapter explores related literature by explaining concepts and theories (the conceptual and theoretical framework) and empirically reviewing related works. The methodology used in the study is expounded in detail in Chapter three. It describes the research approach and design, the population, data sources, data collection methods, estimation models, and how all variables used in the study are measured. Chapter four reports and discusses the outcome and implications of the study and Chapter five concludes the work by providing summary, conclusions, and recommendations.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter presents key concepts and principles of insurance and the importance of insurance to the Ghanaian economy. It further presents an overview of the National Insurance Commission and the Ghanaian insurance industry. The chapter also presents the theoretical foundations of the study and review of related literature as well as the conceptual framework of the study.

Key Concepts of Insurance

The concept of Risk

Risks are contingencies that impact people, corporations, and institutional activities towards negative and unsought goals or objectives. In other words, risks are unforeseen events that jeopardize the effective achievement of stated goals or objectives (Athearn, 1971). It refers to the possibility of suffering some kind of damage or loss. For the purposes of insurance, there are two main classes of risks: Insurable and uninsurable risks. Risks that can sufficiently be described for accurate calculation to be made, about the likelihood of their occurrence on the basis of historic data are termed as insurable risk. Examples of such risks include accident, theft and fire and insurers reasonably can evaluate the likelihood of occurrence for appropriate premium to be charged but infrequently met risks with no possibility of calculating its existence and premium are uninsurable risks. Risks can take several forms such as pure risk, speculative risk, fundamental risk and particular risks (Outreville, 2011). Though the idea of risk might be tough to conceptualise, risk is of substantial importance for the operations of all

economic agents and economies and the entire insurance industry is hinged on the concept of risk and risk management (NIC, 2019).

The Concept of Insurance

Townsend (1994) defined insurance as a legal agreement in which one party to the agreement called the insurer, usually a company, receives a payment known as premium as consideration for risk(s) assumed to protect the other party to the agreement known as the insured against monetary loss, by payment of an amount of money known as claims should devastation of property whether by fire or disaster at sea or by accident or the demise or incapacitation of an individual occur. Spence and Zeckhauser (1978) also described the term insurance as a binding contract between two parties in which one party pledges to restore or guard the other from a damage contingent upon some future event(s). Agyapong (2014) explained that insurance is any financial contract which reallocates the price of unanticipated damages among a large pool. Put differently, insurance encompasses the transference of harmful exposures or the likelihood of losses to a pool of people and the redeployment of the price of losses among those in the pool.

Therefore, insurance is a legally binding financial agreement between two fundamental economic agents (insured and insurer), in which the covered party pays periodic consideration known as premium against events specified under the contract for which the insurer is under a legal obligation to indemnify or restore the insured upon the provision of evidence, by the insured, of the vesting of the said events for which the insurance coverage was undertaken.

Life and Non-Life Insurance

The National Insurance Commission (2019), reported in its annual report that the insurance industry is dominated by two main classes of insurers: life and non-life insurers. Life Insurance may be explained as an assurance agreement between a policy-holder known as the insured and an insurance cover provider known as the insurer, where the insurer promises to pay a lump-sum of money in exchange for a premium, upon the demise of the covered person or after a determinate period. Examples of life insurance products in Ghana include but not limited to term-life insurance, group-life insurance, whole-life, funeral insurance, endowment policies and retirement plans (NIC, 2017).

Non-Life insurance also referred to as general or universal insurance, on the other hand, may be explained as an insurance coverage for assets and companies. In other words, general insurance is any insurance that is not classified as a life insurance contract (NIC, 2018). Fire insurance, accident insurance, motor insurance, marine insurance, liability insurance and bond insurance are notable examples of non-life insurance products in Ghana (NIC, 2019).

Composite insurance (a blend of life and non-life insurance simultaneously by one insurer) is prohibited in Ghana. Section 26, sub-section one of the Insurance Act 2006, (Act 724) stipulates that after the coming into force of the Act, the Insurance Commission shall not give authority or license any insurer to run composite insurance business such that a firm licensed to run “Life Assurance business as a specialty shall not be licensed subsequently to operate a Non-life Insurance” and vice versa. Section 26(2) however,

asserts that a company authorised to run a Life Assurance business may purchase significant ownership in a non-life insurance firm while a firm registered to run a Non-life Insurance may purchase significant ownership in a Life Assurance firm.

Key Principles of Insurance

Insurance practice is governed by certain fundamental assumptions and principles. This section briefly unfolds six of such fundamental principles including indemnity, contribution, utmost good faith, subrogation, proximate cause and insurable interest.

The principle of Indemnity

The principle of indemnity implies putting the insured in the same position he or she was enjoying before the loss insured against occurred (Hause, 1989). Where an insured suffers a loss, the actual value will be paid, nothing less, nothing more (Fischer, 1980). For instance, where a policyholder insures a property valued at GHC100,000.00 and has the car damaged in an accident, he or she will be paid GHC100,000.00 and not the current market value of the property. Per the principle of indemnity, he was enjoying a financial position of GHC100,000.00 and not the current value of such cars on the market. The purpose of indemnity is to restore the insured to the original position but not to enrich the insured (Leflar, 1932). Put simply, the principle of indemnity means restoring the insured to the state of wellbeing the insured would have had if the peril did not happen.

The principle of Contribution

This is an auxiliary principle to the principle of indemnity (Hargraves & Hadley, 2003). An insured can be indemnified under the sub-principle of contribution. If the insured has more than one policy covering the same loss, the principle of indemnity prohibits his having that loss settled more than once. If there are two or more insurances, the loss will be shared and settled by the insurers. Contribution manifests the unwillingness of the law to assist contracting parties whose actions do not comply with legal standards or who want to take advantage of others (Leflar, 1932). In other words, contribution applies in situations where the same possession is insured at total value with more than one insurance company and in the event of a claim, only the actual amount of loss will be claimed. The companies involved will come together and compensate the insured at the full value of the loss because the insured is not expected to make any profit from the loss.

The principle of Utmost Good Faith

Utmost good faith is an insurance principle which states that a party seeking to take an insurance policy for a property must, at the time of entering into the insurance contract, disclose fully, all material and relevant facts about the property (Hargraves & Hadley, 2003). The implication of this principle is that the contract becomes voidable at the discretion of the insurance company if it is discovered that the insured failed to disclose all relevant and material information about the covered property. This means if material facts about items insured are not disclosed, the insurer has the option to declare the insurance contract void and refuse to pay any claims made by the insured (Thomas, 1991). This principle emphasises trust and loyalty on the part of the

parties to the insurance contract such that misrepresentations made especially by the insured to lure the insurer in charging low premium will have severe consequences, even including setting aside the contract (Craswell, 2006).

The principle of Subrogation

The principle of Subrogation in simple terminology means taking up the place of another (Kimball & Davis, 1961). It is also one of the auxiliaries of the principle of indemnity. Where subrogation is in operation, insurers will typically settle policyholder's claim where the insured has entitlement against another party for all or part of the amount in question so that the insured in turn will surrender the rights and benefits the insured has against the third party to the insurer (Litvinoff, 1990). It is therefore, the right of an insurer who has supplied indemnity to receive after payment of a loss, the advantage of the insured, arising previously or in the future including rights and benefits which may dismiss the insured's loss (Kimball & Davis, 1961). The principle of subrogation transfers the right from the insured to the insurer to make payment on behalf of the third party where the latter is unable to do instantly and later on claim from the third party. For instance, if Mr. Addo insures his truck with Donewell Insurance Company and Mr. Osei takes up a policy with Enterprise Insurance Company to cover his truck, and the truck of Mr. Addo is crumpled by Mr. Osei's truck, Enterprise Insurance Company is expected to indemnify Mr. Addo but Donewell Insurance Company can on the principle of Subrogation indemnify Mr. Addo and later recover the amount involved from State Insurance Company.

The principle of Proximate Cause

The principle of Proximate Cause states that an underwriter is obligated to indemnify the insured if only the loss happened strictly by the risk covered in the contract, or is the primary cause of a series of events which lead directly to the loss without an intrusion of a new cause either not covered by the policy or specifically included in the insurance contract (McLaughlin, 1925). Proximate Cause as explained by Prosser (1950) refers to the vigorous and effectual cause that puts in action a series of events that produce a certain result, without the interference of any power beginning and continuing to work actively from a novel and autonomous source.

In settling claims therefore, the insurer tries to find out whether the insured risk caused the loss and whether there was an intervening cause (Harper, 1932). The insurer tries to discover the real cause of the loss and whether it is relevant to warrant payment. In the case of *Gilmore v Fuller* as cited in *Leflar (1932)*, the plaintiff and the defendant collectively were members of a band involved in a deafening and uncontained celebration, in the course of which the defendant fired a gun inattentively and injured the plaintiff. Indemnity was deprived in this case on the basis that relief would not be granted for a loss arising out of the plaintiff's own unjust action. Proximate Cause in insurance practice therefore means the exact cause specified in the insurance contract or a cause that is closely related to the loss in question.

The principle of Insurable Interest

Before the insurance contract can be enforceable, the insured must have a legally recognised interest in the property covered in the agreement. An insured is not entitled to take an insurance cover for a property like a building

or a car against fire, accident or theft unless he will suffer a monetary loss resulting from the damage of such property (Fischer, 1980). The situation must be that the covered party will be disadvantaged from the damage of the property or will enjoy some benefit from the continued safety of the property or must be accountable to a third party in connection with the loss or damage (Patterson, 1918). Actual ownership is not necessary to establish insurable interest but it must be established that the loss will directly affect the insured (Posner & Weyl, 2012). For instance, if Mr. Adu leaves his child in the care of Mrs. Brown and travel to Europe, Mrs. Brown has an insurable interest in the child since she is directly responsible for the child.

Importance of Insurance to the Ghanaian Economy

The vital role the insurance industry in Ghana plays in the economy of Ghana cannot be over-emphasised. The ensuing paragraphs expound five of such vital roles including serving as a major source of investment capital, providing security, providing collateral, stimulating savings and serving as a key revenue source to the government.

The insurance pool provides huge source of investment capital. The premiums paid by policyholders and the compulsory contributions made under the Tier1 and Tier2 schemes create a substantial medium-long term pool of capital for investment. For example, SSNIT, through this pool of funds, has emerged as the biggest sole institutional investor on the Ghana Stock Exchange, being the majority shareholder in about 60% of all firms listed on the Exchange, in a total of GHC2.7 billion as at June 2018. In addition, SSNIT has huge investments in the hospitality industry, hostel and real estate development, all of which are financed from funds generated through the

insurance pool (SSNIT, 2018). Individual policyholders also withdraw their accumulated fund at the end of the insurance term and invest it in businesses of their choice (Osei-Bonsu, Abotsi & Carsamer, 2021). All of this help to stimulate economic growth and infrastructural development of the economy of Ghana.

In the Maslow's hierarchy of needs, safety and security is the second basic need of all humanity (Mathes, 1981). In line with the hierarchy of needs theory of motivation, it is a necessity for the safety and security needs of entrepreneurs and their businesses to be met so they can have undisturbed minds to successfully man the affairs of their corporations. Insurance provides such security for entrepreneurs through Life policies and their businesses and properties through non-life products (Geanakoplos & Zame). With insurance, Businesses and properties are secured in the sense that should any misfortune occur, insurers will indemnify the owners of the insured businesses or properties (Owusu-Gyimah, 2015). This hope of restoration equips business owners with peace of mind and stability enabling them to venture into diverse forms of viable businesses.

One of the major challenges in personal and corporate financing is the challenge to provide collateral by those seeking to access funds from financial institutions (Abor & Biekpe, 2006). However, it is a basic requirement in the financial service provision in Ghana that credit seekers must provide collateral which credit seekers typically are unable to provide leading to a high rate of facility refusal (Geanakoplos & Zame, 2014; Koomson, Annim, & Peprah, 2016). Life insurance policies especially can be an avenue for accessing credit

in business as it can be used as collateral security and guarantee in securing finance from financial institutions.

Prior studies have established that there is a statistically significant association between savings and economic growth and expansion in Ghana (Gatsi & Appiah, 2020; Koomson, Annim & Peparah, 2016; Larbi, 2013). Ghana has been classified by the World Bank as a low-middle income country with a greater percentage of the population sharing a smaller portion of the national income and about 64.6% of Ghanaian households having no savings account (Gatsi & Appiah, 2020). The low income may imply a high marginal propensity to consume and a low marginal propensity to save due to the inverse relationship between consumption and savings. However, through the compulsory SSNIT contributions by Ghanaian employees and Life insurance policies such as children education (Meba daakye) and endowment policies, part of the income of those who would ordinarily not save, is deferred to the future and hence insurance is a means to stimulate savings.

Taxation is counted as one of the major sources of revenue to the government of Ghana (Owusu-Gyimah, 2015). There are about 52 licensed insurance companies in Ghana employing about 12,000 Ghanaians as at the end of 2019 (NIC, 2019). Companies in Ghana generally pay cooperate tax on profits at 25% (Income Tax Act, 2015[Act 896]). The insurance industry paid taxes to the tune of GHC72 million in 2019, GHC36 million in 2018 and GHC50 million in 2017 which hugely boosted government revenue (NIC, 2019). Also, the about 12000 workers in the insurance industry pay taxes through the pay-as-you-earn (PAYE) tax system constituting government revenue.

Overview of the National Insurance Commission

The regulator of the insurance industry, National Insurance Commission (NIC), was first established under the Insurance Law 1989 (PNDC Law 227). Currently, the NIC functions by the dictates of the Insurance Act 2006 (Act 724) which was established to provide comprehensive provisions for the regulation of the insurance industry and related matters in Ghana. Section 2 subsection 1 of Act 724 mandates the Commission to ensure effective administration, supervision, regulation, monitoring, and control of insurance businesses in order to protect insurance policyholders and the entire insurance industry. The NIC has a strong seven-member management team who are charged with corporate governance and it is chaired by the Commissioner of Insurance, Mr. Justice Y. Ofori. (NIC, 2019).

The Commission envisions to become a leader in the regulation of insurance activities in Africa. It seeks to achieve this vision by safeguarding the interest of the general public, quickly resolving customer and concerned third party complaints, ensuring that sound financial regulations and international best practices are implemented by insurance companies and acting as a catalyst for robust expansion and growth of the industry (NIC, 2018). The Commission endeavours to deliver its mandate being strictly guided by such core values as accessibility and innovation, responsiveness, accountability and integrity and transparency (NIC, 2017).

Overview of the Insurance Industry in Ghana

A survey conducted by the Bank of Ghana (2010) reported that Ghana's insurance history dates back to the colonial era in 1924, when

Royal Guardian Enterprise, now known as Enterprise Insurance Company Limited, was established as the Gold Coast's first foreign insurance company. Gold Coast Insurance Company was the first indigenous private insurance company to be established in 1955, followed by State Insurance Company in 1962. The number of licensed insurance companies in the country had grown to 39 by 2008, with 17 in the life insurance sector and 22 in the non-life insurance sector (NIC, 2010).

Life insurance and non-life insurance companies are the two types of insurance companies in Ghana. Insurance companies (insurers) and policy holders (insured/assured), according to Boadu, Fokuo, Boakye, and Frimpong (2014), are the players in the insurance market. The policy holders (insured/assured) are the insurance market suppliers, which include both life and non-life insurance companies. As a result, both supply and demand are present in the insurance market. Policyholders seeking compensation in the event of death, terminal illness, or critical illness make up the demand side of the life market, whereas the automobile and home owners make up the demand side of the non-life market. Insurers that seek to indemnify policyholders make up the supply side of both markets.

Currently, the insurance industry in Ghana comprises twenty-nine (29) non-life insurance firms, twenty-four (24) Life insurance firms, three (3) Reinsurance firms, ninety (90) Brokerage firms, four (4) Reinsurance Brokers, and seven thousand (7000) insurance agents (NIC, 2020).

The industry held a total assets volume of GHC7.65 billion. Out of this, the life insurance sector held GHC3.85 billion while the non-life held GHC2.86 billion in assets. Reinsurance constituted GHC0.78 billion and

Insurance Intermediaries held GHC0.16 billion in assets. It was reported that a total of about 12,000 Ghanaians were in employment by the insurance industry for the 2019 financial year and the total premium for the industry was GHC3.782 billion (life-GHC1.65billion, non-life-1.83billion and Reinsurance-GHC302million). Claims incurred by the non-life sector amounted to GHC511million while the total benefit paid by the Life sector amounted to GHC803million. The total profit for the year was GHC196million with a total corporate tax of GHC72million (NIC, 2019).

Theoretical Review

In prior studies in the accounting and finance literature, researchers have depended on the legitimacy theory (Burlea, & Popa, 2013), life cycle theory (Agyei, Marfo-Yiadom, Ansong & Idun, 2020), stakeholder theory (Donaldson & Preston, 1995), political cost and power (Aganyo, 2014), agency theory (Bawuah, 2019) among others to analyse the performance of firms. This study relies on the resource-based theory, the agency theory and the life cycle theory to ascertain the determinants of financial performance of insurance firms in Ghana.

Resource-Based theory

The resource-based theory (RBT) was propounded by Barney (1991) and has since gained popularity in strategic management, economics, entrepreneurship and corporate finance literature. It is a managerial framework which contends that the control and utilisation of strategic resources which are difficult to imitate, valuable, irreplaceable and rare tremendously enhance a company's ability to create and sustain competitive advantage over its industrial counterparts (Barney, 1991). A firm enjoys supernormal accounting

profitability over time when it creates such competitive advantage which may suggest that the resources controlled and deployed by firms are the fundamental determinants of a firm's performance.

The resource-based theory has been used by researchers in prior literature. Robins and Wiersema (1995) put forth that the resource-based theory plays a significant role in elucidating the financial performance of large manufacturing firms. Also, James and Joseph (2015) found support for the resource-based theory and concluded that Malaysian Banks which identified and prioritised strategic resources achieved higher performance than their industry counterparts. Furthermore, Masakure, Hansen and Cranfield (2009) who studied the determinants of profitability of microenterprises in Ghana found support for the resource-based theory and concluded that microenterprises with unique and immutable entrepreneurial skills outperformed those without such strategic resources.

Therefore, the study argues that insurance firms which have unique and strategic resources such as high retention ratio (which depends on adequate capitalisation), more income generating assets (firm size), more non-executive directors and large board size are likely to perform financially better than their competitors who may not have these resources.

However, Barney, Wright and Ketchen (2001) noted that the availability of these strategic resources is not synonymous to high performance due to the presence of the opportunistic behaviors of managers and opined that the agency theory should complement the resource-based

theory especially in areas of corporate governance to overcome the flaws associated with the resource-based theory.

Agency Theory

The agency theory was propounded in a bid to resolve the conflict inherent in the relationship between shareholders as principals of corporations and managers as agents of owners (Jensen & Mecklin, 1976). The challenge termed as the agency problem in the accounting literature has existed since the beginning of economic civilisation that birthed large organisations whose ownership by law ought to be distinguished from its management (Seal, 2006). The basic tenet of the agency theory is that the differences in interests and desires, levels of risk preference and access to corporate information make the agent (managers) deploy the resources provided by their principals (owners) in pursuit of the agents' end instead of deploying these resources in furtherance of the principals' dreams and aspiration (Hill & Jones, 1992; Jensen & Mecklin, 1976; Seal, 2006).

Panda and Leepsa (2017) categorized the agency problem into three types with the type 1 existing between owners and managers, the type 2 between majority shareholders and minority owners and the type 3 existing between creditors and owners. The type 1 problem, the authors argued, comes about because of differences in risk taking attitudes and information asymmetry. For the agency problem between majority and minority owners, the authors pointed out that it is caused by the majority endorsing actions that maximises their benefit to the detriment of the minority owners and that the problem between owners and creditors surfaces when owners undertake riskier projects contrary to creditors' acceptable level of risk.

Several factors have been enumerated in prior literature as accounting for the agency problem. The rampant and notable ones include the distinction between control and ownership of companies, different kinds of investors resulting from diverse level of risk tolerance, persistence of information asymmetry and compensation packages that do not commensurate the efforts of agents (Fama, 1980; Fama & Jensen, 1983; Jensen & Mecklin, 1976). These have created the agency cost such as cost of monitoring agents (audit of financial statements) and bonding cost (cost incurred to align the managers' interests to the expectations of owners). Though Jensen and Mecklin (1976) noted that it is too expensive to eradicate all the opportunistic behaviour of agents, they posited that attempts should be made to reduce the agency problem to its minimum for firms to maximise profitability and wealth.

In corporate risk management, agency problem may influence managerial attitudes towards risk taking (high or low retention ratio leading to high or low claims ratio) which may differ from that of owners of insurance firms in Ghana. Self-interest motive may lead managers of insurance firms to engage in cost inefficient activities for their own benefit.

This study is underpinned by the agency theory because the conditions necessary for the agency problem are present in the Ghanaian insurance industry and prior studies on firm performance in the accounting literature have dwelled on the agency theory (Demski & Fellham, 1978; Bawuah, 2019; Yimbila, 2017) and the strategies implemented to minimize the agency problem, for instance tying management bonuses and allowances to profitability may encourage managers of insurance firms to strive to be cost efficient and the presence of external auditors, non-executive directors and

large board size are expected to reduce the agency problem and improve the profitability of insurance firms in Ghana.

Life Cycle theory

The life cycle theory posits that the profitability of a firm changes with the stage of its operational life cycle in response to the life cycle of its products and services and operational cost efficiencies which create either economies or diseconomies of scale and scope (Mueller, 1972). Vorst and Yohn (2018) note that the life cycle explains the profitability forecasts of firm better than economic and industrial conditions even though Dickinson (2011) stated that apprehending firm level life cycle stage is tedious because it is a composition of several complex and diverse product life cycles. Warusanitharana (2018) documented that the mean profitability of firms alters systematically with the stage in the life cycle explaining that young and growing firms realise significant growth in profitability but mature and older firms are challenged with slowly diminishing profitability.

The validity of profit maximisation and growth hypothesis changes and are dependent upon the age of firms and the investment avenues available to firms and that the marginal investment returns of firms falls because firms' ability to process information and sustain the initial motivation for taking risks diminishes as the firm matures (Mueller, 1972), implying that the stage of an insurance firms in the life cycle is an important factor of consideration when dealing with the profitability of these firms.

Financial Performance Measurement of Insurance Firms

Dess and Robinson (1984) put forth that performance of a firm can be measured from an objective point or an intuitive stand. Objective measures of performance such as sales, returns on assets and market share rely on data contained in financial statements of firms while subjective measures such as innovation, learning, and customers' satisfaction depend on managerial assessments. In this study, the financial performance of insurance firms is represented by the objective measures of performance including returns on equity, returns on asset and underwriting profit margin due to the availability of the financial data and the fact that the validity of these objective measures can be assessed from an independent point of view.

Returns on Equity (ROE)

Returns on equity captures the accounting profit generated by a firm for those who hold residual interest in the firm through the judicious utilisation of the financial resources provided to the firm by these residual owners (De Wet & Du Toit 2007; Ahsan, 2012). In a different terminology, this accounting ratio reveals how successful or otherwise management has been during the accounting period at maximising residual owners' wealth as a compensation for taking the risk to invest in the firm.

ROE is a sturdy measure of how effective and efficient management of a firm creates value for its shareholders (Gyamerah, & Amoah, 2015; Moussu, & Petit-Romec, 2017; Laing, & Dunbar, 2015). Owusu-Mensah (2014) analysed the determinants of performance of Commercial banks in Ghana. The researcher used returns on equity as a proxy for performance arguing that it best connotes the interest of equity owners. In this study,

residual owners' interest is measured by returns on equity, which is given by net profit after tax divided by total equity of each insurance firm.

Returns on Assets (ROA)

Drawing from the basic accounting equation which states that Assets are represented by the summation of equity and liability, returns on assets (ROA) measures the profit attributable to both equity owners and credit providers. It reflects how well management deployed the total assets of the firm to earn profit (Stickney, 1996). Analysts use returns on assets to evaluate the operating performance of firms in relation to the investments made by firms without taking cognisance of whether the firm utilised equity capital or debt to finance the investments (Aliabadi, Dorestani, & Balsara, 2013). The ratio measures the association between profit before interest and tax (PBIT) and the total assets expressed as a percentage.

Though Laing and Dunbar, (2015) accentuated that ROA does not take into account for the means and the proportion of equity financing versus debt, and the cost of those forms of capital, ROA demonstrates how fruitful a firm's overall assets are in generating income and can reveal the yield attributable to investors other than residual owners (Ab Razak, Ahmad & Aliahmed, 2008; Largani, & Fathi, 2012). Aliabadi, Dorestani, and Balsara (2013) in their study found evidence that returns on asset is the most appropriate accounting measure of performance. Therefore, the researcher intends to capture and quantify investors' interest through returns on assets.

Underwriting Profit Margin (UPM)

Underwriting profit margin is a profitability ratio peculiar to the insurance industry. It refers to the gain an insurer makes after settling incurred claims, loss adjustment expenses and deducting administrative expenditures directly connected with managing its technical operational activities (Batchimeg, 2017).

Underwriting profit has long been recognised as a key performance indicator unique to insurance firms as ruled by the Supreme Court of Arkansas in the case of Bullion v Aetna Insurance Company where the Court construed a statute that the business of insurance is strictly distinguished into underwriting and investment facets (Birkinsha, 1966). The underwriting profit margin measures how successful the firm is in practicing prudent procedures in its underwriting activities and the efficiency of its assets (premium)-liability (claims) management strategies (Lai, 2006). Hence, gigantic claims and disproportionate expenditure may yield underwriting loss, instead of profit, for the service providers (Adams, Upreti, & Chen, 2019). The level of underwriting income is an accurate measure of the efficiency of an insurer's underwriting activities. However, underwriting profit as a key performance indicator does not consider investment income, interests and taxes as it seeks to capture the core business of insurance (Birkinsha, 1966).

Determinants of Financial Performance

Cost Efficiency and financial performance of insurance firms

OpsDogs Key Performance Indicator Report (2019), specified that Cost efficiency is a key performance indicator for every firm including insurance companies. A company's capability to effectually track and control

its cost is crucial for the company's sustainable profitability and continuity (Kader, Adams, & Hardwick, 2010; Blocher, Stout, Juras & Smith, 2019). The greater portion of insurance companies' expenditure are knotted up in sales of policies such as underwriting, agency activities, direct channel sales, and customer service operations (Rai, 1996; Greene & Segal, 2004).

Prior literatures show that low cost-efficiency scores suggest unproductive sales strategies or targeting methods, weak customer maintenance, dominantly manual and ineffective underwriting processes, and low-producing agents and sales personnel which culminate in a higher-than average industrial operational costs (Alhassan, & Biekpe, 2016; Ansah-Adu, Andoh, & Abor, 2012). Achieving minimal operational costs is crucial for all insurance firms, as they depend greatly on investment of excess capital to remain profitable, discharge claims settlements and expand distribution canals (Danquah, Otoo, & Baah-Nuakoh, 2018). The National Insurance Commission (2019) stated that the internationally ideal and acceptable industry benchmark for cost efficiency is 40% or better. In other words, for an insurance firm to be classified as a cost-efficient firm, its expense ratio should not exceed 60% of total premium in a particular accounting year.

Prior studies have used the data envelopment analysis (DEA) and stochastic frontier analysis (SFA) to evaluate cost efficiency of insurance firms (Alhassan & Biekpe, 2016; Ansah-Adu, Andoh & Abor, 2012; Danquah, Otoo & Baah-Nuakoh, 2018; Kader, Adams & Hardwick, 2010) but none of these studies investigated the impact of cost efficiency on firm performance. Yet, the efforts and strategies implemented by insurance firms to achieve cost efficiency may have different impacts on their performance. For instance, cost

conscious insurance firms, which want to control employee compensation, may employ the services of less educated and inexperienced staff but at expense of best performance. On the other hand, in their quest for better performance, insurance firms may hire highly educated and experienced workforce who possess PhDs or Masters' degrees but at a substantial cost or will management in a quest to satisfy the self-interest will demand unreasonable compensation and yield support for the agency theory? Besides, some sunk costs may have neutral impact on firm performance even though they may have cost implications for firms. Therefore, the study sought to ascertain the magnitude and direction of the connection between cost efficiency and performance of insurance firms in Ghana. The inclusion of cost efficiency is motivated by the presence of the agency problem and hence the agency theory.

Claims Ratio and financial performance of insurance firms

Claims ratio is a key performance indicator for every insurance entity. The ratio indicates how much policyholders receive in return for each cedi of premium they pay. The ability of an insurer to settle claims demonstrates that the insurer delivers its obligation to indemnify policyholders when due (Chidambaran, Pugel & Saunders, 1997; Mehari & Aemiro, 2013). Claims ratio explains to some degree how fairly insurance company treats customers (NIC, 2017). The confidence of the ordinary Ghanaian in any insurance company is directly proportional to the company's ability to pay all incurred claims emanating from the fact that the core obligation of an insurance firm is settlement of claims.

Claims ratio reflect the quality of actuarial assessment of the underlying risks and uncertainties inherent in underwritten business and against which the policyholder sought protection (Viscusi & Born, 2005). There is an inverse link between claims and actuarial assessment quality such that high claims ratio reveals weak actuarial assessment quality and low claims ratio depicts a strong or quality actuarial assessment (Mwangi & Iraya, 2014). Claims or loss ratio is a measure of the net claims against the net premium of an insurance firm, expressed as a percentage.

In prior literature, Akotey, Sackey, Amoah and Manso (2013), Mehari and Aemiro (2013) and Mwangi and Iraya (2014) find an inverse connection between loss ratio and performance of Ghanaian life insurance firms, Ethiopian insurance firms and Kenyan general insurers respectively.

In line with International Best Practices, claims ratios below 40% are considered low, between 40%-60% are considered moderate and claims ratio above 60% is considered high (NIC, 2017). The study therefore seeks to find the association and the strength thereof between claims ratio and the performance of insurance firms in Ghana.

Retention Ratio and financial performance of insurance firms

Retention ratio refers to the fraction of the underwritten business which is not shifted to reinsurers, by entering into a reinsurance contract with another insurance company (the reinsurer) which has a greater capital sufficiency for the stability and ability to meet their contractual obligations under the reinsured firm's original policies (Adams & Buckle, 2003; Ansari & Fola,

2014; Thomas, 1991), but retained by the primary insurer who underwrites the risk (Öner Kaya, 2015).

High retention generally signifies more risk and more profits, *ceteris paribus*, because only a little of premiums received is ceded to reinsurers but the retention tolerance level depends on adequate capitalization of the firm (Burca & Batrinca, 2014). Therefore, insurers with sufficient capital capacity can retain more risks than insurers without adequate financial capacity.

The average retention ratio of the global insurance industry is 84% (NIC, 2019) and the researcher infers from the threshold of claims ratio to postulates that retention ratio below 60% could be considered low. The researcher is of the view that a low claims ratio coupled with a high retention ratio will impact on the performance of insurers' significantly and positively (Mazviona, Dube & Sakahuhwa, 2017). The study therefore seeks to find the relationship and the strength thereof between retention ratio and the performance of insurance firms in Ghana. The researcher considered the ability of insurance firms to retain risks as a strategic resource and as such analysed it from the perspective of the resource-based theory.

Audit fees and financial performance of insurance firms

The agency theory focuses on the relationships between principals and agents (shareholders and managers in this case). Managing the relationship between shareholders and managers brings about the agency cost (Jensen & Meckling, 1976). One of such costs is the monitoring cost which involves the cost incurred to engage the services of external auditors to perform statutory

audit of the financial statements of firms as required by Section 137 of the Companies Act, 2019 (Act 992).

It is established in literature that the performance of a firm can be influenced by the auditors' remuneration (Stanley, 2011; Hay, Knechel, & Wong, 2006; Martinez & Moraes, 2014; and Moutinho, Cerqueira & Brandao, 2012). It is argued that auditors are able to predict the client's economic circumstances through their engagement with the client. In a risk-based audit planning and consequent pricing, clients deemed by the auditor as risky require more thorough audit procedures and labour leading to higher audit fees. These audit fees therefore can give a clue about the firm's present and forthcoming performance (Stanley, 2011).

The literature on firm performance and audit fees is plagued with mixed results. While Marinez et al. (2014) revealed a substantial and positive bond between audit fees and firm performance of Brazilian public companies, Moutinho et al. (2012) and Stanley (2011) documented an inverse connection between firm performance and audit fees. Most of the studies on audit fees and firm value focused on the non-financial sector (Stanley, 2011; Martinez & Moraes, 2014; and Moutinho, Cerqueira & Brandao, 2012) to the neglect of the financial sector especially the insurance industry. No studies, to the best of the researcher's knowledge, has considered the association between auditors' remuneration and the performance of insurance firms in Ghana.

It is clear from prior literature that the performance of external audit may have either positive or negative impact on the performance of the client. As a means to mitigate the agency problem, external audit is expected to

improve the performance of clients. However, external audits are quite expensive, and the remuneration paid to external auditors ordinarily increases the cost of business and hence will have a downward influence on profitability. Would the presence of external auditors to improve firm performance and offer support for the agency theory or otherwise? Therefore, the researcher sought to detect the direction and strength of the correlation between audit fees and performance of Ghanaian insurance firms.

Board size and financial performance of insurance firms

Board size denotes to the number of members on the board of directors who are charged with corporate governance. Prior literature set three distinct points of view on board size in connection to performance of firms. Firstly, it is argued that large board is more efficient in ensuring good governance and improved firm performance as the firm can draw expertise from diverse background (Guest, 2009). Florackis (2008) posited that large board size improves organizational effectiveness and prevents CEO domination over the board (Kyereboah & Biekpe, 2006).

Secondly, large board size comes with its own challenges including cost implications (compensation for directors), the requirement of more coordination efforts, and the natural communication challenge that surfaces due to large numbers which may lead to slower decision making and conflicting views. This perspective argues that small boards are cost effective and can deliver their monitoring role as small boards are not saddled with the challenges faced by large boards which stands to reason that large boards might be inversely related to performance (Yermach, 1996 & Jensen, 1996).

The third perspective argues that it is not a question of whether large board is to be preferred or small board, rather, board size is determined by individual firm's features and the operational environment of each firm. For instance, firm size and the industry in which a firm operates could influence its board size (Pfeffer, 1972). Evidence has been documented by Ali (2018) that board size and firm size are positively correlated and in turn affects performance directly.

But what then is the ideal board size which will ensure better fortification for shareholders and minimize the likelihood of conspiracy, connivance, or collusion against shareholders? Prior literature contains some arguments and postulations. Lipton and Lorsch (1992) posited that a board composed of ten members will be ideal for handling corporate governance and ensure that shareholders' interests are maximised but Jensen (1993) argued that eight-member board is ideal in improving firms' performance and checking the dominion of CEO on the board. It is therefore little wonder that the works that have been done on board size and performance of firms have mixed empirical evidences. While Tutu (2017) and Ali (2018) found a positive affiliation between board size and firm performance, others found a neutral association between performance and board size (Borlea, Achim & Mare, 2017; Topak, 2011).

The researcher expected that larger board size would promote the monitoring and the advisory role of the board and in line with the agency theory promote the financial performance of insurance firms in Ghana. The resource-based theory also supports the argument for larger board sizes as it mirrors more competences and vital resources the insurance firms require to

create and sustain value and non-executive directorship, in line with agency theory is expected to reduce the agency problem and improve firm performance. This study sought to find out whether board size influences the performance of insurance firms in Ghana as the empirical literature has received little attention in Ghana.

Board independence and financial performance of insurance firms

The substance of the agency theory implies that the board of directors should be independent of the executive managers in order to effectively monitor and control them. The board's independence can be realized in two ways: first, through its composition; the board should be composed of more independent non-executive directors than executive directors; and second, through the structure of the board's leadership which is achieved by segregating the chairman and the CEO duties (Allam, 2018). Prior literature posit that the presence of non-executive directors is a way to achieve independence from the executive management and that external directors expand the experiences of the board, improve the objectivity of the board and reduce managerial entrenchment (Agyei, Marfo-Yiadom, Ansong & Idun, 2020; Allam, 2018; Florackis 2008).

Even though, good corporate governance is expected to be the mirrored image of more supervisory activities and the presence of the independent board, Bhagat and Black (2001) noted that independence of the board of Enron did not prevent the scandal, stating that 11 out of the 14 board members of Enron were independent members. However, the corporate governance code and the agency theory propose that boards should have a greater number of non-executive directors who will monitor and control self-

interest activities of managers (Allam, 2018). Despite the recognition of board independence vital role in monitoring managers' actions and helping to reduce corporate agency cost in recent literature, the influence of board independence on the performance of insurance firms in Ghana has not been empirically documented.

The researcher is of the view that an independent board by way of the presence of more non-executive directors on the board of insurance firms in Ghana will lead to a lower agency costs and higher financial performance through the pursuit of strategies aimed at generating and sustaining value. Again, the role of independent board members is underpinned by the resource-based theory. Non-executive directors constitute a unique resource to insurance firms which can be harnessed by management to create and sustain competitive advantage which in turn is expected to yield higher profitability. Therefore, the study seeks to ascertain the magnitude and direction of the association between board independence and the performance of insurance firms in Ghana.

Firm Size and financial performance of insurance firms

Niresh and Velnampy (2014) posited that the size of a firm is the amount and variety of production capacity and ability a firm possesses or the amount and variety of services a firm can provide concurrently to its customers. Based on the accounting equation which is given as $\text{Assets} = \text{Capital} + \text{Liabilities}$, firm size (Total assets) is included as a proxy for capital structure and because large firms have easier access to capital, benefit from economies of scale, and typically have a competitive advantage, among other advantages, it can be inferred that size has a positive impact on the firm's

profitability or value. Ozgulbas et al. (2006), Josson (2007), Vijayakumar and Tamizhselvan (2010), and Saliha and Abdessatar (2011) discovered a positive relationship between firm size and firm value in empirical studies.

Some studies, on the other hand, have discovered a negative relationship between firm size and firm value. Becker-Blease, Kaen, Etebari, and Baumann (2010) used data from 1987 to 2002 to investigate the effects of firm size on profitability of firms operating in the manufacturing sector in the United States. The study's findings revealed a negative and statistically significant relationship between the firms' total assets, total sales, and number of employees and their profitability. Doğan (2013) investigated the factors influencing the performance of Turkish firms and discovered a negative relationship between total asset (as a proxy for firm size) and profitability. The negative relationship was found to be as a result of the higher of the cost of running the large organization (cost of monitoring) over the benefits derived thereof.

Velnampy and Niresh (2014) found a neutral relationship between firm size and profitability, using total asset and total sales as a proxy for firm size, and also using returns on assets and net profit as proxies for profitability. The study attributes the neutrality of relationship to the separation of ownership from management in modern corporations, adamant organizational structure, used technology and a change in tactical logic of firms (Velnampy & Niresh, 2014). Thus, from the foregoing discussion it can be inferred that there is a huge knowledge gap on the connectivity between firm size and insurance firms' value and this study will contribute to bridging this gap.

Firm age and financial performance of insurance firms

Firm age refers to how long an insurance firm has been in business since its incorporation. Whether older firms are more profitable than younger firms or whether younger firms are more profitable than older firm has been an issue of academic concern. Even though effort has been made to understand the relationship between firm's age and profitability, Coad, Segarra, and Teruel (2013) note that the research has not reached maturity due to the scarcity of data on firm's age in administrative datasets or surveys.

The empirical literature is also plagued with mixed results. For instance, Abubakar, Sulaiman, and Haruna (2018) found an adverse connection between firm age and performance. On the contrary, Derbali, (2014) discovered a direct relationship between firm age and firm performance. This study applies the life cycle theory to investigate whether the stage in the life cycle of insurance firms in Ghana affects their profitability. Therefore, the study seeks to ascertain the magnitude and direction of the link between firm age and the performance of insurance firms in Ghana.

Conceptual Framework

The preceding paragraphs have discussed the elements which, based on literature and intuition, may have a substantial bearing on the performance of insurance firms. These elements have been represented in the conceptual framework. From the diagram, it can be inferred that cost efficiency, claims ratio, retention ratio, audit fees paid to external auditors, size of the board of directors, independence of the members on the board, age and size of insurance firms could influence the performance of insurance companies operating in the Ghanaian industry.

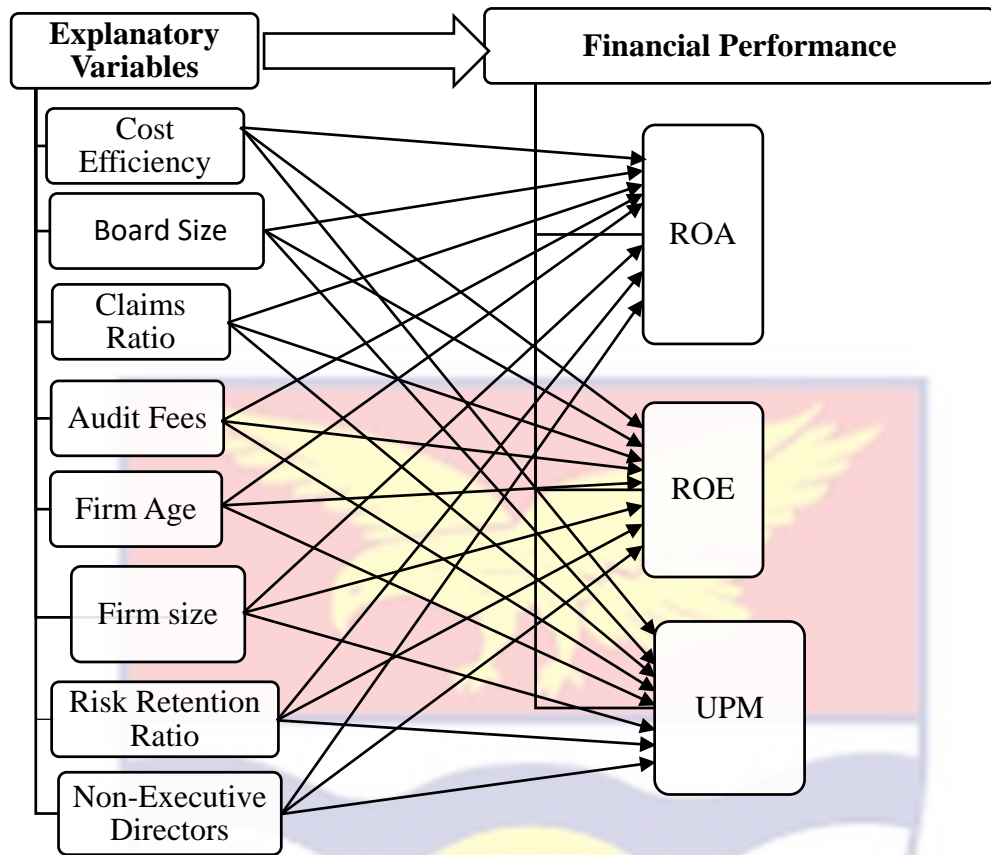


Figure 4: Conceptual Framework
 Source: Author's construct (2022)

Contribution to literature

The study contributes to literature by unveiling the performance of the insurance industry in Ghana. The uniqueness of the study lies in the fact that it uses a dynamic model, specifically the two-step System Generalized Methods of Moments (SGMM) which none of the prior studies on the performance of insurance firms in Ghana employed. The study also advanced existing literature by diagnosing the impact of cost efficiency on the performance of insurance firms in Ghana which will encourage those in the helm of affairs of insurance firms to apply the appropriate management accounting principles and tools to consciously and effectively control cost of operations and

administration to improve upon their profitability. It will also help clarify the mixed results obtained by prior studies on firm age and performance.

Chapter Summary

This chapter reviewed literature related to firms' financial performance. It identified and explained in details five core principles of insurance such as indemnity, insurable interest, contribution, subrogation, proximate cause and utmost good faith. It went further to elaborate on five significances of the insurance industry to the economy of Ghana such as serving as a major source of investment capital, provision of security, provision of collateral, stimulating savings and being a crucial revenue source to the government.

It then highlighted the overview of the insurance industry in Ghana and progressed to the theoretical framework and discussed the applicable theories like resourced-based, agency and the life cycle theories. Empirically, the chapter reviewed performance measures such as returns on equity, underwriting profit margin and returns on assets. It also reviewed determinants of performance such as costs, claims, retention, audit fees, board size, firm age, firm size and board independence.

The key issues that arose from the literature review were the lack of consensus in research findings and the use of static models in analysing firm performance which some literature prove to be dynamic. The chapter diagrammatically showed the conceptual framework and mirrored how the study advanced existing literature.

CHAPTER THREE

RESEARCH METHODS

Introduction

The financial and insurance activities is one of the major contributors to the Gross Domestic Product of Ghana. As such, the financial performance of the Ghanaian insurance market is of a great concern to the National Insurance Commission and other regulators of the industry like the Security and Exchange Commission, investors, policy makers, managers of insurance firms, financial and economic analysts, those in academia and other stakeholders.

This chapter deals with the various methods and tools applied in analysing the data. It explicates the research approach and design, the study area and population of the study, the sampling procedure employed in the research and the measurement of variables used in the study. It goes further to elucidate the procedures of the data collection, data processing and data analysis.

Research Philosophy

The philosophy of a study refers to the epistemological and ontological perspectives from which the researcher perceives and comprehends reality (Finance & Kozhikode, 2018). Research philosophy is essential as it enables the researcher to discern where to situate the study in the research domain and also serves as a major determinant of the research methodology (Kaboub, 2014).

Accounting research is disciplinary and has the characteristics of both natural and social sciences and as such can rely on several philosophies from

economics, social, physical and natural sciences such as pragmatism, realism, interpretivism, functionalism, radical humanism, radical structuralism and positivism (Bisman, 2010; Luft, & Shields, 2014; Saunders et al. 2013).

Positivism, which has been one of the pillars of the quantitative research approach, believes that reality or phenomenon could be objectively investigated and universally proven under similar circumstances (Zaman, 2005; Baker, 2011). The positivist empirical approach relies on the scientific method to predict and explain accounting events and represents a deviation from the normative approach to accounting that argues how accounting ought to be practiced. Positivism assumes the position of a natural scientist and involves dealing with observable economic reality whose outcome could be a law-like generalisation similar to those in the natural sciences. Therefore, the researcher undertakes the study under the inspiration and guidance of the principles of positivism.

Research Approach

The three research approaches are quantitative, qualitative, and mixed-method research approaches. Saunders, Lewis, and Thornhill (2013) explained that quantitative research method, which originated from the scientific methodology, depends on statistical procedures for the analysis of data. Stated differently, the quantitative research approach employs numeric data and expresses results in numerical quantities. In contrast, the authors explicated that the qualitative method relies on case study, interviews, observation, among others, and uses the descriptive narrative for data analysis. The mixed method is a combination of both the qualitative and quantitative research

approaches in varying degrees. Zikmund (1997), defined the mixed research methods as a research approach with philosophical or ontological assumptions as well as arithmetical methodologies of inquiry into reality. The mixed research methodology emphasizes on the collection, analysis, and intermeddling both qualitative and quantitative data in an individual study or series of research works.

The quantitative methodology depends on experimentations and surveys to gather measurable data so that statistical procedures can be applied on them (Creswell, 2003). The researcher adopted the quantitative research approach since the study seeks to ascertain the firm specific determinants of financial performance of insurance firms in Ghana by engaging quantitative data and models. The choice of quantitative research approach over other two research approaches (qualitative and mixed research approaches) was informed by the work of Zikmund (1997), who from the positivist point of view sees quantitative approach as being able to provide a succinct description of phenomenon and test relationships that constitute economic reality. In addition, the quantitative research methodology permits the outcome of a study to be generalised from the sample perspective to the entire population (Bondan & Biklen, 1998). However, a setback of the quantitative research approach is that it does not permit for a comprehensive study of the variables (Mulligan, 2008).

Research Design

Recognising the research design of a study is imperative as it enlightens us concerning the main characteristics of the study and the mode of data collection (Harwell, 2005). The quantitative research approach may adopt

any of these research designs: descriptive design, correlational design, experimental design and causal design (Richardson, 2015; Ihantola & Kihn, 2011). The descriptive research design purposes to describe the present status of a phenomenon or a variable by employing research questions instead of hypothesis (Creswell, 2013).

A correlational research design yields itself to the exploration the association amongst variables using statistical analyses but does not diagnose for cause and effect (Thompson, Diamond, McWilliam, Snyder & Snyder, 2005). However, an experimental research design employs the scientific method to establish cause-effect connection amongst a group of variables in a research study where the researchers make an effort to control for all variables apart from the focused variable (Seeram, 2019). Saunder et al. (2013), put forth that causal research, also referred to as explanatory research, is conducted to ascertain the degree and nature of cause-and-effect associations. Causal research may be conducted to evaluate the bearing of specific changes on existing standards and various processes.

The study tests and ascertains the degree and nature of cause-and-effect associations between the performance of insurance firms and the various independent variables hence it employs the causal research design. One advantage of causal design is that there is greater level of internal validity resulting from the systematic selection of subjects and it also allows studies to be replicated (Avella, 2016). However, the findings of causal design may be inferred but not proven with high level of certainty due to coincidence in events (Zikmund, 1997).

Population and Sample

The National Insurance Commission (2019) stated that there were 52 licensed life and non-life insurance firms comprising 28 non-life and 24 life insurance firms. The researcher intended to include the entire population (a census) for the period from 2012-to-2017. However, the check with the Supervisory Department of NIC revealed that some insurance firms had not filed their financial records for the period specified. Such insurance firms were excluded from the study for non-availability of data. This rounded up the actual sample used to forty insurance firms whose financial statements for the period of 2012-2017 were available. The list of available firms is attached as Appendix A.

Table 1 displays the population and sample distribution of the life and non-life insurance companies.

Table 1: Distribution of Population and Sample by Sector

Sector	Population	Sample
Life	24	16
Non-Life	28	24
Total	52	40

Source: Field survey (2022)

Data Source, Data type and Data collection

The data was sourced from the Database of the of the National Insurance Commission, Accra-Ghana. The researcher obtained an introductory letter from the Department of Accounting, School of Business on 9th October, 2020 which was personally presented to the office of the Commissioner of Insurance. Upon several visits and follow-up phone calls to the NIC office, the data was obtained on 8th March, 2021. The data comprised the annual financial

statements of licensed life and non-life insurance companies for six financial years from 2012-2017.

The data type was panel. Panel data combines the characteristics of both time series and cross-section data by pooling observations on a cross-section of units over multiple time periods (Hsiao, 2007; Park & Song 2007; Bell & Jones, 2015). Panel data has the advantage of allowing the identification of effects that are simply not detectable in pure cross-sectional or pure time-series studies (Ahmed & Khaoula, 2013). According to Ahmed and Khaola (2013), panel data assists in identifying a common group of characteristics while also taking into account the heterogeneity that exists among individual units. Baltagi (2001) also accentuates that panel data assists in controlling individual heterogeneity due to concealed factors, which, if neglected in pure time-series or pure cross-sectional estimations lead to biased results. The challenge of panel data that Torres-Reyna (2007) submits is the issue of data collection.

Again, the data was from a secondary source. The ease, relative low-cost, and timeliness of accessing secondary data lend its usefulness in research (Yimbila, 2017). However, a disadvantage to be pointed out about secondary data is that it may not contain all relevant information required and may render it inappropriate to the present situation (Denscombe, 2007).

Three main reasons account for the choice of secondary data over primary data. Firstly, the variables to be used in the study could not be primarily sourced for. Secondly, the financial performance of insurance firms can only be sourced from their financial statements. More so, all the variables could be computed for from the financial statements that were sought, the

secondary data on the insurance firms were compositely obtained from the supervisory department of the National Insurance Commission in Ghana.

Data Processing and Analysis

The data filtering procedure used by Salaudeen and Eze (2018) and Gyamerah and Amoah (2015) were employed in this study. The data was analysed in two stages. Firstly, data collected was extracted and input into Microsoft Excel for preliminary processing. This processing was to transform the data in a form that ensured all relevant variables were appropriately measured and made meaningful for the second stage. Errors in data entry were checked through conditional formatting, sorting and filtering and data validation tools in excel resulting in accurate data (McCullough & Wilson, 1999; Mélard, 2014).

By regulation, the life sector is separated from the non-life sector and so the analysis is performed on returns on equity, returns on asset and underwriting profitability for the life insurance industry and then for the non-life insurance industry. In the second stage, the relevant data from the process in the first stage was entered into a regression software package, STATA version 14, to generate descriptive and inferential statistics for further analysis.

Whereas objective one which aimed at examining the financial performance of the insurance industry was achieved through the descriptive statistics summarised in figure 5, objective two (2) through to four (4) were achieved through the two-step systems generalised methods of moments regression estimation strategy as demonstrated in the ensuing paragraphs.

Model Specification

Generalised Method of Moments (GMM) is a dynamic panel model suitable for data with small time span (T) and large groups (N) in the presence of endogeneity, heteroscedasticity and autocorrelation. The generalised method of moments falls into two categories: the Differenced and the System Generalised Method of Moments (Adeleye, Osabuohien & Bowale, 2017 and Roodman, 2009).

The Difference generalised method of moments corrects endogeneity problems by transforming regressors through differencing and removes fixed effects. However, the differencing amplifies gaps in unbalanced panels and which may weaken results to some extent (Holtz-Eakin, Newey & Rosen, 1988; Arellano & Bond, 1991). In contrast, the system generalised method of moments overcomes the issue of endogeneity by bringing on board more instruments and then transforms the instruments to make them exogenous (uncorrelated) with the fixed effects. The system generalised method of moments forms a system of two equations: the original equation and the transformed equation and uses orthogonal deviations to reduce data loss thereby enhancing efficiency (Adeleye et. al, 2017; Arellano & Bover, 1995; Blundell & Bond, 1998).

The study employed the Two-step System Generalised Method of Moments (SGMM) panel estimation strategy to ascertain the determinants of the financial performance of the insurance firms. Grounded in prior literature that was reviewed, the basic estimation model was constructed as follows:

$$InFPM_{it} = \beta_0 + \beta_1 InFPM_{it-\tau} + \beta_2 CLR_{it} + \beta_3 COE_{it} + \beta_4 RTR_{it} + \beta_5 AUF_{it} + \beta_6 InFAG_{it} + \beta_7 BSZ_{it} + \beta_8 NED_{it} + \beta_9 InFSZ_{it} + \mu_i + \varepsilon_{it} \quad (1), \text{ where FPM means}$$

financial performance, CLR is claims ratio, COE represent cost efficiency, RTR means retention ratio, AUF connotes audit fees, FAG stands for firm age, BSZ denotes firm's board size, NED represents non-executive directors on firms' board and FSZ epitomises the size of insurance firms.

It could be deduced from the equation (1) that apart from the basic explanatory variables used as drivers of financial performance, previous year's financial performance also has bearing on current year's financial performance. The presence of autoregression (the introduction of the lag dependent variable) in the model specified renders random and fixed effects and ordinary least squares models inappropriate for estimation as these models are static models and do not accurately predict dynamic phenomenon (Elsayed & Paton, 2005; Hekmat, Rahmani, Nazari, Mosavi & Ghalibaf, 2021; Nathaniel, Barua, Hussain, & Adeleye, 2021).

The variables, what they mean, how they were measured, applicable theories and expected signs are displayed in Table 2.

The addition of the lagged dependent variable creates endogeneity problem which could be dealt with by first removing the firm specific effects and then engaging the previous two or more year's lagged values of the dependent variable and other exogenous variables as instruments in a generalised method of moments (Agyei et al., 2020; Elsayed & Paton, 2005). This provides the researcher room to empirically test the postulation that financial performance of insurance firms in Ghana may be persistent.

Table 2: Variables, what they mean, how they were measured, applicable theories and expected signs

Variable	Meaning	Measurement	Applicable theory	Expected Sign
InROA _{it}	Returns on asset	(Net profit/Total assets of insurance firm _i at time t) * 100		N/A
InROE _{it}	Returns on Equity	(Net profit/Total equity of insurance firm _i at time t) * 100		N/A
InUPM _{it}	Underwriting profit margin	(Net profit from technical operations/Gross premium of insurance firm _i at time t) * 100		N/A
CLR _{it}	Claims ratio	(Net claims/Net premium of insurance firm _i at time t) * 100	Agency	Negative
COE _{it}	Cost efficiency	1-(Operating and administrative expenses / Gross premium of insurance firm _i at time t)*100	Agency	Positive
RTR _{it}	Retention ratio	(Net premium/gross premium of insurance firm _i at time t) * 100	Resource Based	Positive
AUF _{it}	Audit fees	Auditor remuneration/Net premium of insurance firm _i at time t	Agency	Positive/Negative
InFAG _{it}	Insurance firm's Age	Natural logarithm of age of insurance firm _i at time t	Life cycle	Positive/Negative
InFSZ _{it}	Insurance firm's size	Natural logarithm of total non-current assets of insurance firm _i at time t	Resource-based, Agency	Positive
BSZ _{it}	Board size	Number of directors serving on the board of insurance firm _i at time t	Resource-based	Positive
NED _{it}	Non-executive directors	Executive directors/Total number of directors serving on the board of insurance firm _i at time t	Agency, Resource-based	Positive

Source: Field survey (2022)

The standard dynamic panel estimation strategy propounded by Arellano and Bond (1991) permits lagged dependent variables and first difference of other explanatory variables to be implemented as instruments. The Arellano-Bond model is considered to be more consistent and provides efficient results and hence was employed in this study as displayed in equation two and three (Adeleye *et. al*, 2017; Arellano & Bond, 1991; Holtz-Eakin, Newey & Rosen, 1988).

$$\ln FPM_{i,t} = \beta_0 + \beta_1 \ln FPM_{i,t-\tau} + \sum_{h=1}^8 \beta_h (J_{h,i-\tau}) + \Theta_i + \mu_t + \varepsilon_{i,t} \quad (2)$$

$$\ln FPM_{i,t} - \ln FPM_{i,t-\tau} = \beta_1 (\ln FPM_{i,t-\tau} - \ln FPM_{i,t-2\tau}) + \sum_{h=1}^8 \beta_h (J_{h,i-\tau} - J_{h,i-2\tau}) + (\mu_t - \mu_{t-\tau}) + \varepsilon_{i,t-\tau} \quad (3)$$

However, the major criticism of the Arellano-Bond approach is that the process of differencing could bring biases particularly for small samples (Roodman 2009a & 2009b).

As mentioned earlier, the study employed the two-step System Generalised Method of Moments (SGMM) panel estimation strategy to ascertain the determinants of the financial performance of the insurance firms. It was executed using the `xtabond2` command with the `collapse`, `orthogonal`, `small` and `robust` options in the STATA version 14 software. The results were exported and presented in tables by executing appropriate STATA commands and then thoroughly discussed in chapter four.

Pre-estimation Diagnostics

To combat instrument proliferation, the study ensured that the number of insurance companies in each model (sixteen (16) life and twenty-four (24) non-life) was more than the number of instruments which was thirteen (13) in each case. Also, the researcher ensured that the number of life insurance firms (16) and non-life insurance firms (24) was significantly more than the number of years (6) in each cross-section. The panel data GMM allowed researcher to observe cross-sectional variations. It also controlled for unobserved heterogeneity as well as accounted for endogeneity by using instrumental variable approach and the systems estimator which corrects for biases in the difference estimator, solves the problem of omitted variable bias with its

supplementary benefits of reducing overidentification and accounting for cross-sectional dependence (Agyei, Marfo-Yiadom, Ansong, & Idun, 2020; Tchamyoun, Asongu, & Odhiambo, 2019; Roodman, 2009). All of these pre-estimation diagnostics tests proved that the estimated models were correctly specified.

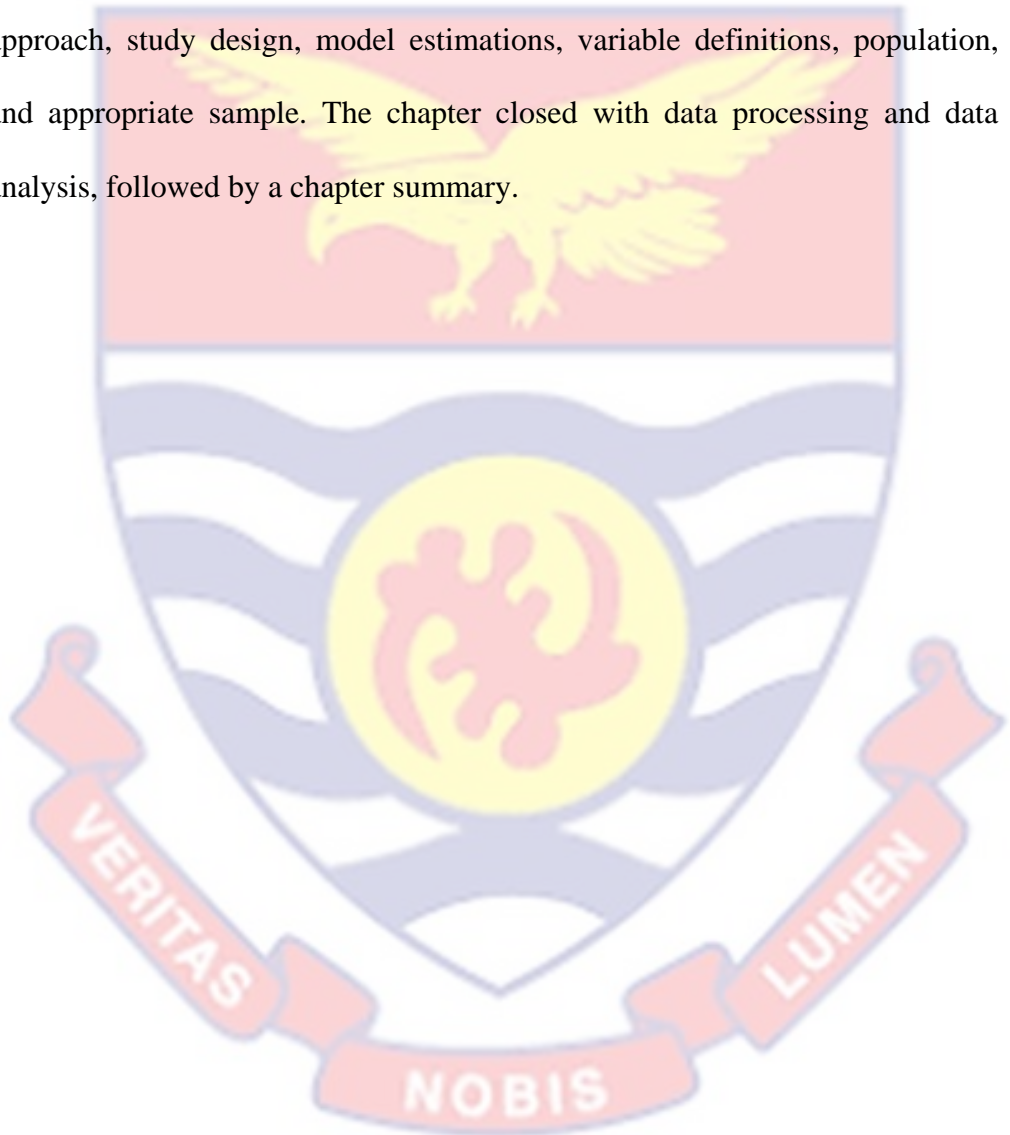
Post-estimation Diagnostics Tests

The Sargan and Hansen Overidentifying Restrictions (OIR) tests were used to test the validity of the suspected endogenous variables. The null hypothesis for the overidentification restrictions is that the instruments are valid and we fail to reject the null hypothesis if $p\text{-values} > 0.05$ (Adeleye, Osabuohien, & Bowale, 2017). In all cases, the $p\text{-values}$ for both the Hansen and Sargan tests were greater than 0.05 and so the researcher failed to reject the null hypothesis and concluded that the instruments used in the model were valid and correctly specified. Again, the presence of autocorrelation was further checked using the Arrellano and Bond first and second order autocorrelation tests. Except for the AR (1), which could be serially correlated in the first order, the results of all three tests should not be significant to show their validity (Agyemang et al., 2018). With the AR (2), the null hypothesis states that there is no second order serial correlation among instruments and the error term which must be rejected at $P\text{-values} < 0.05$. Again, all the $p\text{-values}$ for AR (2) were greater than 0.05 and so the researcher failed to reject the null hypothesis and concluded that there is no second order serial correlation among instruments and the white noise. These post-estimation diagnostic tests confirmed the accuracy of the results presented.

The Fischer test also revealed significant p-values in all cases, emphasizing the estimated models' joint validity in this investigation.

Chapter Summary

The methodologies used in the study were described in this chapter. The chapter covered subtopics such as the study area, research philosophy and approach, study design, model estimations, variable definitions, population, and appropriate sample. The chapter closed with data processing and data analysis, followed by a chapter summary.



CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter presents and discusses the results of the analysis. Beginning with the descriptive statistical results, the chapter presents and discusses further, the results of the correlation analysis placing emphasis on explaining the degree to which variables are associated with one another. The two-step system generalized method of moments (two-step SGMM) regression estimation was carried out to ascertain significant determinants of performance of both Life and Non-life Insurance firms in Ghana. The chapter rounds up with a thorough discussion of the results.

Descriptive Statistics

The descriptive statistics presents the number of observations, the mean, standard deviation, minimum and maximum values of the observations of the dependent and independent variables employed in the study. The descriptive statistics are presented in separate tables for Life and Non-Life insurance sectors as they are distinguished by the Insurance Act, 2006 (Act 724).

Table 3 presents the descriptive statistics for the Life insurance sector.

It can be observed from Table 3 that the mean underwriting profit is 7.34% signifying that the average profit generated through the technical operations of the life sector was about seven Ghana pesewas out of every one Ghana cedis premium received. The lowest and peak values for underwriting profitability (UPM) are negative 47.17% and 91.85%, supposing that the maximum loss incurred from the technical operations of the life insurance

sector over the study period from 2012-2017 was about forty-seven Ghana pesewas out of every one Ghana cedis worth of premium generated, while the maximum gain realised from the technical operations of the Life insurance was about ninety-two Ghana pesewas. The standard deviation for underwriting profitability of 0.1630 shows that many of the observed values clustered around the average value though the gap between the minimum and maximum values is wide.

Table 3: Descriptive Statistics of Dependent and Explanatory Variables for Life Sector

Panel A: Life insurance firms					
Variable	Obs.	Mean	SD	Min	Max
UPM	115	0.0734	0.1630	-0.4717	0.9185
ROA	115	0.0431	0.0782	-0.2615	0.3419
ROE	115	0.0912	0.1974	-0.5371	1.0493
CLR	115	0.3705	0.1680	0.0276	0.8724
COE	115	0.5895	0.2106	-0.2485	0.9927
RTR	115	0.6649	0.1890	0.2281	0.9783
AUF	115	0.0067	0.0075	0.0001	0.0586
FAG	114	7.8438	4.1430	1.6000	15.0000
BSZ	138	7.8623	2.1788	4.0000	18.0000
NED	138	5.4783	1.7643	0.0000	10.0000
FSZ (GH¢)	114	64,821,624	1,210,362	55,722	226,556,267

Source: Field survey (2022) based on financial statements of insurance firms (2012-2017) where ROA is returns on asset, ROE means returns on equity, UPM is underwriting profit margin, CLR is claims ratio, COE represent cost efficiency, RTR means retention ratio, AUF connotes audit fees, FAG stands for firm age, BSZ denotes firm's board size, NED represents non-executive directors on firms' board and FSZ epitomizes the size of insurance firms.

Table 3 further reveals that the mean returns on asset is 4.31% suggesting that the average yield on asset for the life sector from 2012-2017 was about four Ghana pesewas out of every one Ghana cedis worth of assets invested. The minimum and maximum values for returns on assets (ROA) are respectively negative 26.15% and 34.19%, implying that the least returns on asset over the study period from 2012-2017 was a loss of about twenty-six Ghana pesewas out of one Ghana cedis worth of assets deployed in the life

sector, whilst the highest yield on the assets invested by the Life insurance sector was about thirty-four Ghana pesewas out of every one Ghana cedis worth of asset employed. The relatively low standard deviation of returns on asset of 0.0782 indicates that the average returns represent fairly the performance of the sector.

The statistics presented in Table 3 also shows that the mean returns on equity is 9.12% suggesting that the average yield on equity for the life sector from 2012-2017 was about nine Ghana pesewas out of every one Ghana cedis worth of investment in equity. The least and highest values for returns on equity (ROE) was consecutively negative 53.71% and 104.93%, inferring that the minimum returns on equity over the study period from 2012-2017 was a loss of about fifty-four Ghana pesewas out of one Ghana cedis worth of equity employed in the Life sector, whereas every one Ghana cedis worth of equity utilised by the life insurance sector yielded a maximum gain of about one Ghana cedis and five pesewas. The standard deviation of 0.1974 demonstrates that the mean has a good representative power and the huge difference between the minimum and maximum values could be as a result of few firms whose performance were at the extremes.

In other developments, Table 3 points out that the mean claims ratio is 37.05% signifying that the average amount paid to compensate policyholder who suffered losses in the life sector was about thirty-seven Ghana pesewas out of every one Ghana cedis premium received by insurance firms. The bottom and top values for claims ratio (CLR) are 2.76% and 87.24%, revealing that the minimum amount of money paid by life insurance firms over the study period from 2012-2017 to indemnify policyholders was about

three pesewas out of one Ghana cedis premium paid by policyholders, while the maximum amount of money paid by the life sector to restore policyholders was about eighty-seven pesewas out of one Ghana cedis premium paid by policyholders. Even though, the maximum claims ratio of 87.24% exceeds the international threshold of 60%, the standard deviation for claims ratio of 0.1680 implies that most of the observed values grouped around the average value and hence the mean is a true reflection of the sector.

Table 3 also shows that the mean cost efficiency (COE) for life firms is 0.5895 showing that on average, about fifty-nine pesewas was saved by life insurance firms after deducting the administrative and operational expenses incurred to generate every one Ghana cedi of premium. The relatively low standard of deviation of 0.2106 signifies that most of observed cost efficiency gathered around the computed average cost efficiency suggesting that the average is a good representation of the sector. While some life firms saved about ninety-nine pesewas of every one cedis premium earned, others spent about twenty-five pesewas more than a cedi premium received making them cost inefficient.

The descriptive statistics presented in Table 3 again demonstrates that the mean retention ratio is 0.6649, suggesting that on average 66.49% of the risks underwritten by the life sector from 2012-2017 was not transferred to reinsurers but was retained by the primary insurers. The minimum and maximum values for retention ratio (RTR) are 0.2281 and 0.9783, inferring that on the lowest side, life insurance companies retained 22.81% of the risks underwritten over the study period from 2012-2017 while on the high level, 97.83% of the risks underwritten by the life sector were not ceded to

reinsurance firms but were retained by the primary insurers. The low standard deviation of 0.1890 for retention ratio indicates that most of the retention ratio clustered around the mean retention ratio and that the mean is a true reflection of the sector.

Furthermore, Table 3 depicts that the mean audit fees is 0.0067 signifying that on average, 0.67% of the gross premiums generated by the life insurance sector went into audit fees. However, the least and highest values for audit fees (AUF) are respectively 0.0001 and 0.0586, implying that life insurance companies used at least 0.01% of the premiums generated over the study period from 2012-2017 was expended to carry out statutory audit of the financial statements and at most 5.86% of gross premiums raised was expended to carry out statutory audit over the said period. The low standard deviation of 0.0075 for audit fees shows that most of the audit fees huddled around the mean audit fees and that the mean is a true reflection for the sector.

The average age of life insurance firms as revealed by Table 3 was about 8 years. However, the age of the insurance firms over the study period ranged from 1.6 years to 15 years, implying that while some life insurance firms have been in operation for about fifteen years, others have been in existence for approximately two years. It can be deduced that some firms are more experienced and more knowledgeable in the industry than others which could be a distinguishing ground in terms of performance and profitability.

Furthermore, Table 3 reveals that the minimum and maximum board sizes (BSZ) of 4.0000 and 18.0000, implying that the smallest board for life insurance firms was composed of four members while the largest board comprised eighteen members with the average board made up of about eight

members. The low standard deviation of 2.1788 shows that most of the board sizes bunched around the mean board size. Also, the minimum and maximum non-executive directors (NED) of 0.0000 and 10.0000, implying that while some boards were constituted by only executive directors, others had as many as ten non-executive directors with the average non-executive directors of about six. The low measure of dispersion of 1.7643 shows that most of the non-executive director values gathered around the mean value.

Last but not least, Table 3 revealed that, on average, life insurance firms maintained an assets base of GHC64,821,624.00 over the study period. However, the smallest life insurance firm held a total asset of GHC55,722.00 whilst the largest life insurance firm employed assets to the tune of GHC226,556,269.00.

Table 4 also presents the descriptive statistics for the non-life sector.

It can be seen from Table 4 that the mean underwriting profit was negative 10.17% signifying that the average yield produced from the core operations of the non-life sector was a loss of about ten Ghana pesewas out of every one Ghana cedis premium received. The standard deviation for underwriting profitability was 0.1089 indicating that most of the profit figures clustered around the mean score. However, the lowest and peak values for underwriting profitability (UPM) were consecutively negative 47.51% and 100%, supposing that the maximum loss incurred from the technical operations of the non-life insurance sector over the study period was about forty-eight Ghana pesewas out of every one Ghana cedis worth of premium generated and the maximum yield from the technical operations of the non-life

insurance was about one Ghana on every cedi utilised. The wide gap between the lowest and highest underwriting profit likely is due to a few outliers.

Table 4: Descriptive Statistics of Dependent and Explanatory Variables for Non-Life Sector

Panel B: Non-life insurance firms					
Variable	Obs.	Mean	SD	Min	Max
UPM	71	-0.1017	0.1089	-0.4751	1.0042
ROA	72	-0.0106	0.1237	-0.3869	0.1905
ROE	72	-0.0216	0.3393	-0.9457	0.5917
CLR	71	0.4393	0.3042	0.0167	1.6557
COE	72	0.1817	0.0573	-5.0427	0.9857
RTR	71	0.6043	2.6559	0.0000	0.9076
AUF	72	0.0086	0.0092	0.0000	0.0626
FAG	69	26.9251	6.2634	2.6000	97.0000
BSZ	96	6.8542	1.4937	4.0000	10.0000
NED	96	5.5833	1.2787	3.0000	8.0000
FSZ (GH¢)	72	51,626,700	4,360,362	48,592	617,226,563

Source: Field survey (2022) based on financial statements of insurance firms (2012-2017) where ROA is returns on asset, ROE means returns on equity, UPM is underwriting profit margin, CLR is claims ratio, COE represent cost efficiency, RTR means retention ratio, AUF connotes audit fees, FAG stands for firm age, BSZ denotes firm's board size, NED represents non-executive directors on firms' board and FSZ epitomises the size of insurance firms.

Table 4 further discloses that the mean returns on asset was about negative 1.1% suggesting that the average yield on asset for the non-life sector was about one Ghana pesewas loss out of every one Ghana cedis worth of assets invested. The minimum and maximum values for returns on assets (ROA) are respectively negative 38.69% and 19.05%, implying that whilst the least returns on asset over the study period was a loss of about thirty-nine Ghana pesewas out of one Ghana cedis worth of assets deployed in the non-life sector and the peak yield on the assets invested by the non-life insurance sector was about nineteen Ghana pesewas out of every one Ghana cedis worth of asset employed. The standard deviation of returns on asset of 0.1237 indicate that most of the observed returns on asset clustered around the

computed average returns on asset and that the mean represents fairly, the performance of the sector.

The statistics presented in Table 4 further show that the mean returns on equity was negative 0.0216 suggesting that the average yield on equity for the non-life sector from 2012-2017 was about a loss of two Ghana pesewas out of every one Ghana cedis worth of investment in equity. The somewhat high standard deviation of returns on equity of 0.3393 indicate that the returns on equity was quite spread out. Also, the least and highest values for returns on equity (ROE) are negative 94.57% and 59.17% respectively, inferring that the minimum returns on equity over the study period was a loss of about ninety-five Ghana pesewas out of one Ghana cedis worth of equity employed in the non-life sector, whereas every one Ghana cedis worth of equity utilised by the non-life insurance sector yielded a maximum gain of about fifty-nine Ghana pesewas. The wide gap between the minimum and maximum values also attests to the high variability in returns on equity for the non-life sector.

In other advancements, Table 4 points out that the mean claims ratio was 43.93% signifying that the average amount paid to compensate policyholder who suffered losses in the non-life sector was about forty-four Ghana pesewas out of every one Ghana cedis premium received by non-life insurance firms. The standard deviation for claims ratio of 0.3042 as revealed by Table 4 specify that the variations in claims ratio was fairly spread out as even seconded by the bottom and top values for claims ratio (CLR) of 1.67% and 165.57% respectively. In other words, the minimum amount of money paid by non-life insurance firms from 2012-2017 to indemnify policyholders was about two pesewas out of one Ghana cedis premium paid by

policyholders, while the maximum amount of money paid by the non-life sector to restore policyholders was about one Ghana cedis, sixty-six pesewas out of one Ghana cedis premium paid by policyholders. This exceeds the international threshold of 60%, implying that the non-life sector paid more in claims.

Table 4 also shows that the mean cost efficiency (COE) for non-life firms is 0.1817 showing that on average, about eighteen pesewas was saved by non-life insurance firms after administrative and operational expenses were deducted from every one Ghana cedi of premium generated. The low standard of deviation of 0.0573 indicates that most of observed cost efficiency values assembled around the computed average cost efficiency signifying that the average value is a good depiction of the sector. Whereas some non-life firms saved almost ninety-nine pesewas out of every one cedis premium earned, others spent about five times more than the premium they generated rendering them not cost efficient.

The descriptive statistics presented in Table 4 again demonstrates that the mean retention ratio of 0.6043 suggests that on average 60.43% of the risks underwritten by the non-life sector from 2012-2017 were not transferred to reinsurers but was retained by the primary insurers. The standard deviation of 2.6559 for retention ratio indicates that retention ratio was fairly spread around the mean retention ratio. The minimum and maximum values for retention ratio (RTR) were 0.0000 and 0.9076, inferring that on the lowest side, some non-life insurance companies retained none of the risks underwritten over the study period while on the high level, 90.76% of the risks underwritten by the non-life sector were not ceded to reinsurance firms but

were retained by the primary insurers. The wide gap between the minimum and maximum retention ratio further confirms that there is a wide variability between observed and computed average retention.

Furthermore, Table 4 depicts that the mean audit fees of 0.0086 suggests that on average 0.86% of the gross premiums generated by non-life insurance sector was expended on audit fees. The low standard deviation of 0.0092 for audit fees shows that most of the audit fees for non-life firms bunched around the mean audit fees. The least and highest values for audit fees (AUF) are 0.0000 and 0.0226, implying that at least one non-life insurance company did not carry out statutory audit of the financial statements over the study period and at most 6.26% of gross premiums raised was expended to carry out statutory audit over the said period. The close range in audit fees also proves that the mean is a good representation of the life sector.

Moreover, Table 4 shows that non-life insurance companies had an average age of about 26 years. However, the age of the insurance firms ranged from 2.6 years to 97 years, implying that while some non-life insurance firms have been in operation for over a century, others have only been in operation for about three years. It can be deduced that some firms have more experience and knowledge in the industry than others, which may serve as a differentiating factor in terms of performance and profitability.

Furthermore, Table 4 reveals that the minimum and maximum board sizes (BSZ) of 4.0000 and 10.0000, implying that the smallest board for non-life insurance firms was composed of four members while the largest board comprised ten members with the average board made up of about seven members. The low standard deviation of 1.4937 illustrates that most of the

board sizes crowded around the mean board size. Also, the minimum and maximum values for non-executive directors (NED) was 3.0000 and 8.0000 consecutively, signifying that there were at least three members on each board of non-life insurers who were not directly involved in the day-to-day management of the firm's activities. However, some firms had as many as eight non-executive directors with the average outside directors of about six. The low measure of dispersion of 1.2787 points out that majority of the non-executive director values grouped around the mean value.

Finally, statistics displayed in Table 4 portrayed that, on average, non-life insurance firms maintained an assets base of GHC51,626,700.00 over the study period. However, the smallest non-life insurance firm, based on size, held a total asset of GHC48,592.00 whereas the largest non-life insurance firm utilised assets to the tune of GHC617,226,563.00

Overview of the financial performance of insurance firms

Figure 5 presents the highlights of the financial performance of the life and non-life insurance firms.

It can be deduced from Figure 5 that the overall performance of the insurance industry from 2012-2017 as measured by technical operations (UPM) would be -0.0283 (-0.1017 + 0.0734) which confirms the assertion that the fall in the financial sector growth rates over the period of 2013-2018 was partly due to the fall in the performance of insurance firms (GSS, 2019).

Again, the analysis revealed that the life insurance firms are better managers of operational cost than their non-life counterparts. This is substantiated by the fact that while the life insurance firms recorded an average cost efficiency of about 59%, the non-life insurance firms recorded an

average cost efficiency of 18% and literature has proven that firms that manage their cost well outperform firms that do not (Blocher, Stout, Juras & Smith, 2019).

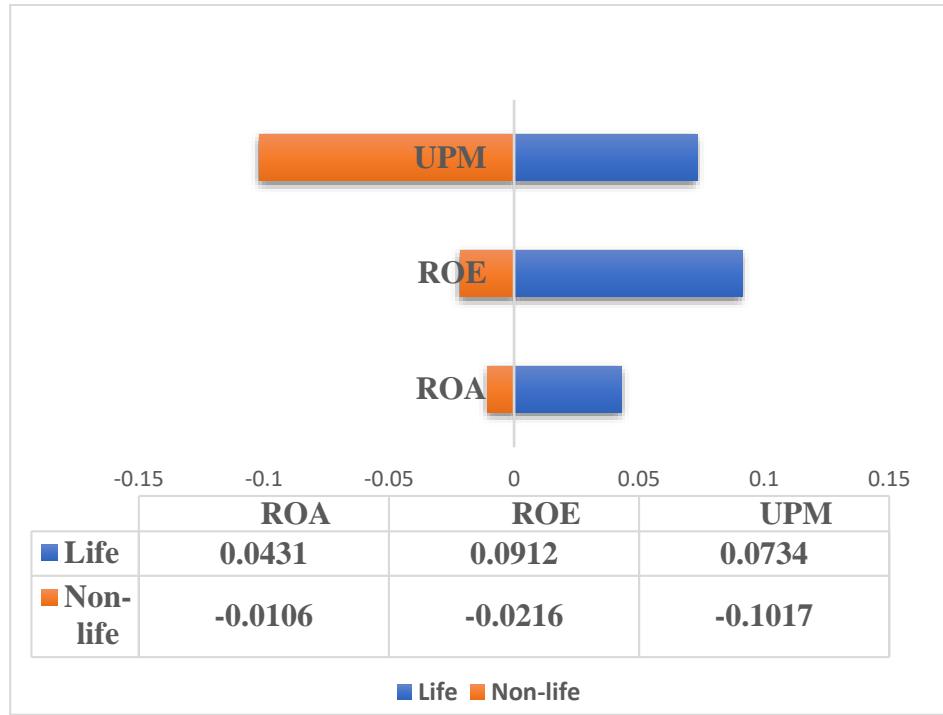


Figure 5: Highlights of life and non-life insurance firms' performance
Source: Field survey (2022)

Furthermore, it can be inferred from the analysis that the life insurance sector performed financially better than their counterparts in the non-life sector. One of the plausible reasons accounting for this is the fact that the life sector performs more rigorous actuarial assessment leading to a comparatively lower claims ratio of 37% as against the non-life claims ratio of 44% as claims ratio reflect the quality of actuarial assessment of the underlying risks and uncertainties inherent in underwritten business (Viscusi & Born, 2005). Also, the comparatively higher claims ratio by the non-life could be due to the surge in fire outbreaks in major markets in Ghana like the Kumasi central market, Makola market, Techiman market and Cantonment fire outbreaks which destroyed properties worth GHC7 million in 2013 alone, some of which

properties are covered by general insurance policies (Addai, Tulashie, Annan & Yeboah, 2016).

Correlation Analysis

The pairwise correlation matrix for the variables employed in the study are presented and discussed in this segment. Correlation analysis enables the researcher to evaluate the course and magnitude of the association between the variables under study. The coefficients of correlation provide an indication of the relationship and not causality and can also be used to assess the existence of multicollinearity which could potentially reduce the dependability of the regression results (Gogtay, Thatte, 2017).

Table 5 presents the correlation matrix with the coefficients of the variables.

The results in Table 5 illustrate that there is a high direct association between the dependent variables at 1% significance level (0.8697 between ROA and ROE, 0.6261 between ROA and UPM and 0.5204 between ROE and UPM), implying that, *ceteris paribus*, insurance firms that have higher ROA will also have higher ROE and UPM and the vice-versa. However, it is worth mentioning that the high association among the dependent variables does create multicollinearity problems because, as pointed out earlier, the correlation coefficients provide an indication of the relationship but not causality and multicollinearity is tested for among independent variables (Babones, 2008) and the dependent variables entered the model separately and individually.

Table 5 also shows that ROA is positively and significantly associated with FAG (0.2929) at the 1% significance level and BSZ (0.1751) at the 5%

significance level and positively but not significantly related to RTR (0.0895) and NED (0.1205). Contrary, ROA is negatively and significantly link to COE (-0.3705) at the 1% significance level and negatively but not significantly related with CLR (-0.1226), AUF (-0.0983) and FSZ (-0.0053).

Again, Table 5 depicts a direct and significant association between ROE and FAG (0.2728) at 1% significant level and BSZ (0.1375) and NED (0.1503) at the 10% significance level. ROE is also directly linked with RTR (0.1276), AUF (0.0058) and FSZ (0.0614) but the association is not significant. On the other hand, Table 5 displays a significantly negative association between ROE and CLR (-0.1404) and COE (-0.3589) at the 10% and 1% significance levels respectively.

Furthermore, Table 5 reveals that UPM is inversely and significantly connected with COE (-0.3385) at the 1% significance level and negatively but not significantly related with CLR (-0.0284) and AUF (-0.0339). In contrast, UPM has a significant and positive association with FAG (0.1419) at the 10% significance level. Similarly, UPM is directly but insignificantly related to RTR (0.0738), BSZ (0.0786), NED (0.0032) and FSZ (0.0836).

It can therefore be concluded based on the correlation results that multicollinearity among the independent variables was negligible because all the independent variables had a coefficient of correlation less than the 0.7 threshold regarded to be a high correlation coefficient and suggestive of the presence of multicollinearity (Agyei et al., 2020).

Table 5: Pairwise correlation matrix

Variables	ROA	ROE	UPM	CLR	COE	RTR	AUF	FAG	BSZ	NED	FSZ
ROA	1.0000										
ROE	0.8697***	1.0000									
UPM	0.6261***	0.5204***	1.0000								
CLR	-0.2413***	-0.2328***	-0.1038	1.0000							
COE	-0.4239***	-0.3359***	-0.5875***	0.0837	1.0000						
RTR	0.0900	0.0946	0.0682	0.0331	-0.0028	1.0000					
AUF	-0.1240*	-0.0183	-0.0360	0.2868***	-0.0583	-0.0435	1.0000				
FAG	0.2483***	0.2420***	0.1304*	0.3165***	-0.3284***	-0.0475	0.2601***	1.0000			
BSZ	0.1355*	0.0994	0.0623	0.0482	-0.1484*	-0.0973	-0.1175	0.2018	1.0000		
NED	0.0797	0.0851	-0.0223	0.0458	-0.0363	-0.0406	0.1115	0.0811	0.5691***	1.0000	
FSZ	0.0437	0.0809	0.0902	-0.1343*	-0.1666**	-0.3458***	-0.0986	0.1158	0.2516***	0.0623	1.0000

Source: Field survey (2022)

Where ROA is returns on asset, ROE means returns on equity, UPM is underwriting profit margin, CLR is claims ratio, COE represent cost efficiency, RTR means retention ratio, AUF connotes audit fees, FAG stands for firm age, BSZ denotes firm’s board size, NED represents non-executive directors on firms’ board and FSZ epitomises the size of insurance firms.

The probability value, p-values are two-tailed tests.

* Significance at the .10 level.

** Significance at the .05 level.

*** Significance at the .01 level

Regression Results

As mentioned earlier, by legislation, the life and non-life insurance sectors are distinct from each other and as such the empirical analysis was conducted first for the life and then for the non-life sectors. The results of the two-step system GMM estimation strategy by Roodman (2009a) for the life insurance sector have been displayed in Table 6. Roodman (2009) developed a dynamic model with strong standard errors, which come with a variety of diagnostics.

Assessing whether performance of life insurance firms persist in an emerging economy like Ghana

The regression results presented in Table 6 (Model 1) for life insurance firms revealed that RoA and its one-year lag is positively and significantly related at 1% significance level such that the previous year's performance would explain about 18% of the current year's performance. Also, the results (Table 6 Model 2) showed that RoE and its lag is significantly and directly linked at 5% significance level such that the previous year's performance would influence about 13% of the current year's performance. Again, Table 6 (Model 3) demonstrated that there is a positive relationship between UPM and its lag variable. This association is significant to the extent that, at the 1% level, past period's performance would impact about 20% of the current year's performance. The study therefore rejected the hypothesis one (1) which stated that performance does not persist in the insurance industry and concluded based on these evidences that financial performance persists in the life insurance industry in Ghana (Adeleye, Osabuohien, & Bowale, 2017; Tchamyau, Asongu, & Odhiambo, 2019).

Discussion of SGMM Regression Results for Life firms (Model 1)

The two-step SGMM regression output on determinants of performance for Life firms is presented in Table 6.

The results presented in Table 6 (Model 1) reveal that the most important determinants of performance, measured by returns on assets, are previous year's performance, claims ratio, cost efficiency, retention ratio, audit fees charged to perform statutory audit, age of the insurance firm, the size of the firm's board, the number of board members who are non-executive and the size of the insurance firm.

First and foremost, Table 6 (model 1) demonstrates that, at the 1% significance level, returns on assets of life insurance firms is directly connected with its one-year lag such that previous year's returns on assets would explain about 18% of the current year's returns on assets, all other things remaining constant.

The results in Table 6 model 1 show that performance (ROA) is inversely related to CLR at the 1% significance level. The implication of this inverse relationship is that claims have a downward impact on the financial performance of life insurance firms such that a percentage increase in claims ratio leads to a 0.1613 percentage decline in the performance (ROA) of life insurance firms. This result is consistent with the findings of Akotey, Sackey, Amoah and Manso (2013) and Mehari and Aemiro (2013) who found a negative connection between

loss ratio and performance of Ghanaian life insurance firms and Ethiopian insurance firms respectively.

Table 6: Two-step SGMM Regression Results on Determinants of Financial Performance for Life sector

Variables	Model 1 ROA	Model 2 ROE	Model 3 UPM
L.lnROA	0.1763*** (0.0983)		
L.lnROE		0.1286** (0.0783)	
L.lnUPM			0.1950*** (0.0306)
CLR	-0.1613*** (0.0434)	-0.2732 (0.2204)	-0.4300*** (0.1357)
COE	0.0438*** (0.0126)	0.2131*** (0.0759)	0.1111*** (0.049)
RTR	0.0071*** (0.0014)	0.0303*** (0.0059)	0.0165** (0.0056)
AUF	0.2489** (0.1080)	0.2794 (0.5226)	1.1741*** (0.3258)
lnFAG	-0.2299** (0.0932)	-0.3262 (0.4477)	-1.1024*** (0.2993)
lnBSZ	0.0383*** (0.0159)	0.0576 (0.0713)	0.1222*** (0.0203)
lnNED	0.0430* (0.0232)	0.1234 (0.1260)	0.1525*** (0.0336)
FSZ	0.0090* (0.0048)	0.0044 (0.0262)	0.0437*** (0.0087)
Cons	0.0397 (0.1440)	0.0588 (0.7048)	0.4054 (0.3389)
AR(1)	0.118	0.143	0.204
AR(2)	0.248	0.395	0.352
Hansen OIR	0.224	0.347	0.219
Sargan OIR	0.157	0.155	0.182
F-Statistic	106.33***	184.29***	39.15***
Number of Instruments	13	13	13
No. of Life Insurance Firms	15	15	15
Observations	38	38	38

Source: Field survey (2022)

Where ROA is returns on asset, ROE means returns on equity, UPM is underwriting profit margin, CLR is claims ratio, COE represent cost efficiency, RTR means retention ratio, AUF connotes audit fees, FAG stands for firm age, BSZ denotes firm's board size, NED represents non-executive directors on firms' board and FSZ epitomises the size of insurance firms.

NB: The p-values are two-tailed tests and corrected standard errors are in parenthesis and *, **, and *** signifies 10%, 5%, and 1% significance levels respectively.

Similarly, Mwangi and Iraya (2014) also found negative association between claims ratio and performance of general insurers in Kenya. The high claims ratio discovered among life insurance firms in Ghana suggests that there is weak actuarial assessment quality (Mwangi & Iraya 2014) and hence life insurance firms pay more than the benefits they receive from underwriting risks and therefore offering support for the agency theory.

The results in Table 6 model 1 demonstrate that performance (ROA) is positively associated with COE at the 1% significance level. The implication of this direct relationship is that a cost-efficient insurance firms will perform financially better than their counterparts who are not as much cost effective. It also implies that a percentage increase in the cost efficiency of life insurance firms will cause a 4.38 percentage upsurge in the performance (ROA) of life insurance firms in Ghana. The outcome of the study is in line with the findings of Greene and Segal (2004) who revealed an inverse relationship between ROE and cost inefficiency of US life insurance firms and Ullah, Faisal and Zuhra (2016) who discovered a direct and significant connection, at the 10% significance level, between ROA and profitability of Bangladesh insurance companies.

Retention ratio (RTR) is statistically significant and positively related with life insurance performance (ROA) at the 1% significance level as reported in Table 6 model 1. The direct association implies that a unit increase in retention will lead to a 0.0071 increase in the performance (ROA) of life insurance firms in Ghana. The positive affiliation between retention ratio and performance, in terms

of direction is in line but differ in terms of magnitude with the findings of Burca and Batrinca (2014), Adams and Buckle (2003) and Öner Kaya, (2015) who discovered a direct but statistically insignificant relatedness between retention ratio and performance in the Romanian, Indian and Turkish insurance market respectively and therefore concluded that retention ratio was not an important explanatory variable of performance. This study reveals that retention ratio is an important determinant of performance of life insurance firms in Ghana and the positive relationship offers support for the resource-based theory in that the higher the retention ratio, the greater the capital adequacy required which in turn leads to better performance.

Financial performance (ROA) of life insurance firms is statistically significant and positively connected to audit fees at the 5% significance level as shown in Table 6. The positive association means that the more statutory audit performed on the financial statements of life insurance firms the better their performance such that a unit increase in audit fees yields a 0.2489 increase in performance. The result is consistent with Marinez et al. (2014) who revealed a substantial and positive bond between audit fees and firm performance of Brazilian public companies but contradicts the findings of Moutinho et al. (2012) and Stanley (2011) who documented an inverse connection between firm performance and audit fees. The study also provides empirical support for the agency theory whose basic tenet is that managers of life insurance firms should be

monitored so they do not perform their duties to the detriment of their principals-firm owners (Jensen & Mecklin, 1976).

The empirical results displayed in Table 6 (model 1) show that performance (ROA) of life firms in Ghana is significantly, at the 5% level, and negatively related to age. On the contra, Table 7 reveals a statistically positive bond, at the 1% significance level, between performance (ROA) and age of non-life insurance firms in Ghana.

The mixed results are consistent with prior literatures such as Abubakar, Isah and Usman (2018) who discovered a significant negative association between financial performance and age of Nigerian insurance firms; Elif (2016) who also unveiled a negative and convex relationship between age and firms in Turkey, and Abubakar, Sulaiman and Haruna (2018) who likewise found an inverse connection between firm age and performance. On the other hand, Abdelkader (2014) and Mayowa and Eghosa (2018) found a statistically significant and positive link between age and performance of Tunisian and Nigerian life insurance firms respectively. Derbali (2014) also discovered a direct relationship between firm age and firm performance and Isabella and Eddie (2018) likewise revealed a direct and statistically significant impact of firm age on the performance of general insurance companies in Kenya.

It can be inferred from the mandatory distinction between the life and non-life insurance in 2006 that the non-life firms are much older than the life firms evidenced by the fact that the first general insurance firm was birthed in 1924,

some 97 years ago. The negative and positive relatedness respectively for life and non-life firms therefore provide evidence that firm age is a significant determinant of insurance firm's performance in Ghana and that older insurance firms are able to outperform younger insurance firms due to the gap in knowledge and experience which provides support for the life cycle theory of firms (Insurance Act 2006, Act 724; NIC, 2017; Mueller, 1972; Vorst & Yohn, 2018; Warusanitharana, 2018).

Furthermore, Table 6 shows that financial performance (ROA) of life insurance firms in Ghana is statistically significant and positively associated with the size of the firm's board and non-executive directors at the 1% and 10% significance levels respectively. The extent of the association is such that a unit increase in board size and non-executive directorship spurs up 0.0383 and 0.0430 increase in firm performance, implying that board size and non-executive directors are important determinants of insurance firms' performance. This empirical finding is consistent with the studies of Allam (2018), Tutu (2017), Guest (2009) and Ali (2018) who found a positive affiliation between board size and board independence and firm performance and therefore supports the proposition that large and independent board improves organizational effectiveness and prevents CEO domination over the board (Florackis 2008; Kyereboah & Biekpe, 2006). Also, the study finds support for the resource-based theory and concludes that board members are strategic resource that creates competitive advantage for firms that own or control it (Barney, 1991).

Moreover, firm size is statistically significant and positively connected to financial performance (ROA) of life insurance firms in Ghana at the 10% significance level as revealed in Table 6. The positive association is such that a unit increase in firm size produces a 0.0090 increase in performance. The results are in line with and supports the findings of such empirical studies as Ozgulbas et al. (2006), Josson (2007), Vijayakumar and Tamizhselvan (2010), Saliha and Abdessatar (2011) who found a positive relationship between firm size and firm value. The study thus finds evidence to back the basic tent of the resource-based theory which states that the quantum of resources controlled and deployed by firms are the fundamental determinants of their performance (Barney, 1991).

Discussion of SGMM Regression Results for Life firms (Model 2)

The results of model 2 which measured performance by returns on equity is presented in Table 6 (Model 2). The Table discloses that previous year's performance, cost efficiency and retention ratio are the most important determinants of life insurance firms' performance (ROE) in Ghana.

Table 6 (Model 2) establishes that, ceteris paribus, at the 5% significance level, returns on equity of life insurance firms is positively associated with its one-year lag in a way that previous year's returns on equity elucidates about 13% of the current year's returns on equity.

There is a positive association between performance (ROE) and COE at the 1% significance level, as shown in Table 6 Model 2 such that same percentage increase in cost-effectiveness would translate into a 21.31 percent boost to the performance (ROE) of Ghana's insurance firms, according to the study. It follows

from this direct correlation that cost-effective insurance firms will perform better financially than their less cost-effective counterparts. For US life insurance companies, Greene and Segal (2004) found an inverse relationship between returns on equity and cost inefficiency. Researchers Ullah, Faisal, and Zuhra (2016) found a direct and significant link between ROE and profitability of Bangladeshi insurance companies at a 10% significance level of significance.

At a 1% significance level, retention ratio (RTR) is statistically significant and positively correlated with life insurance performance (ROE), as reported in Table 6 Model 2. Life insurance firms' performance (ROE) is expected to increase by 0.033% if their retention rate increases by one unit implying that retention ratio is a key determinant of insurance firms' performance in Ghana. This is contrary to the findings of Burca and Batrinca's (2014), Adams and Buckle's (2003) as well as Öner Kaya's (2015), in whose studies retention ratio and performance were discovered to have a direct but statistically insignificant relationship leading to the conclusion that insurance firms' performance was not explained by the retention ratio. The strong and direct impact of retention ratio means that it is a significant factor in how well Ghanaian insurance companies perform and lends support to the resource-based theory that the higher retention ratio requires higher capital adequacy and leads to better results.

The study further reveals, as reported in Table 6 Model 2, that audit fees, board size, non-executive directors and firm size are all directly but statistically insignificantly associated with performance (ROE) of life insurance firms in

Ghana. Firm age, however is inversely and insignificantly related with life insurance firms' financial performance (ROE).

Discussion of SGMM Regression Results for Life firms (Model 3)

As reported in Table 6 (Model 3), past performance, claims ratio, cost efficiency, retention ratio, audit fees charged for statutory audits, age of the insurance firm, board size and the number of non-executive board members and firm size are all significant performance (UPM) determinants for life insurance firms in Ghana.

To begin with, Table 6 (Model 3) reveals that, at the 1% significance level, there is a positive relatedness between underwriting profit margin of life insurance firms and its one-year lag. The association is such that previous year's underwriting profit could influence about 20% of the current year's performance, all other things being equal.

Table 6 (Model 3) shows that performance (UPM) is negatively related to CLR at the 1% significance level just as found by the study of Akotey et al. (2013). This indicates that claims have an adverse impact on the financial performance of life insurance firms, as a percentage increase in claims ratio leads to a 4.3% decline in life insurance firms' financial performance (UPM). Likewise, Mehari and Aemiro (2013) reported a negative correlation between loss ratio and performance of Ethiopian insurance firms. The results indicate that Ghana's life insurance firms have a high claims ratio, revealing a weak actuarial assessment quality (Mwangi and Iraya, 2014). As a result, life insurance firms pay more than

the benefits they receive from underwriting risks, proving the agency theory's validity.

Also, financial performance as measured by underwriting profit margin (UPM) and cost efficiency (COE) are positively and significantly correlated, at the 1% significance level as revealed in Table 6 Model 3. The study shows that there is the possibility for a 11.11-percentage-point boost to the performance (UPM) of life insurance firms when cost efficiency is improved by one unit. The result is buttressed by Greene and Segal (2004) who discovered a positive correlation between performance and cost inefficiency in US life insurance firms which confirmed the findings of Ullah, Faisal, and Zuhra (2016) who uncovered a direct link between technical cost efficiency and profitability in Bangladeshi insurance industry.

Moreover, Table 6 (Model 3) reveals that Retention ratio (RTR) is statistically significant and positively related with underwriting profitability at the 5% significance level. The upward sloping association is such that a unit increase in retention will bring about a 0.0165 rise in the underwriting profitability of life insurance firms in Ghana. The positive affiliation between retention ratio and performance, in terms of direction is in line but vary in terms of magnitude with prior studies such as Burca and Batrinca (2014), Adams and Buckle (2003) and Öner Kaya, (2015) which put forth that retention ratio was not a vital explanatory variable of performance. This study discloses that retention ratio is a significant

determinant of performance of life insurance firms in Ghana and the direct bond lends support for the resource-based theory.

Table 6 (Model 3) shows that underwriting profitability of life insurance firms is statistically substantial and positively associated with audit fees at the 1% significance level. The results demonstrate that a unit increase in audit fees will yield a 1.1741 increase in underwriting profitability. The result is congruent with Marinez et al. (2014) who uncovered a significant and direct tie between audit fees and firm performance of Brazilian public companies but contradicts the findings of Moutinho et al. (2012) and Stanley (2011) who penned an inverse connection between firm performance and audit fees. The study also provides empirical support for the agency theory as statutory audit improves underwriting profitability of life insurance firms in Ghana (Jensen & Mecklin, 1976).

The pragmatic results exhibited in Table 6 (Model 3) show that underwriting profitability of life firms in Ghana is significantly, at the 1% level, inversely related to firm's age. The results show that firm age is a significant determinant of performance to the extent that a unit increase in age causes underwriting profitability to decline by 1.1024 units. The result is consistent with prior literature including Abubakar, Isah and Usman (2018), Elif (2016) and Abubakar, Sulaiman and Haruna (2018) who discovered a significant negative association between financial performance and age of Nigerian and Turkish insurance firms.

Furthermore, Table 6 (Model 3) shows that underwriting profitability (UPM) of life insurance firms in Ghana is statistically significant and positively associated with both board size and non-executive directors at the 1% significance level. The extent of the association is such that a unit increase in board size and non-executive directorship would stir up 0.1222 and 0.1525 increase in firm performance (UPM), implying that board size and non-executive directors are significant determinants of insurance firms' performance. This empirical finding supports the proposition that a large and independent board improves organizational effectiveness and prevents CEO domination over the board (Florackis 2008; Kyereboah & Biekpe, 2006). Again, the finding is reinforced by Allam (2018), Tutu (2017), Guest (2009), and Ali (2018), who found a positive relationship between board size and board independence and firm performance. The research also backs up the resource-based hypothesis, concluding that board members are a strategic resource that gives enterprises that possess or control them a competitive edge (Barney, 1991).

Moreover, firm size is statistically significant and positively connected to underwriting profitability (UPM) of life insurance firms in Ghana at the 1% significance level as revealed in Table 6 (Model 3). The direct correlation is such that a unit increase in firm size produces a 0.0437 increase in underwriting profit. The study finds evidence to support the primary tenet of the resource-based theory, which claims that the amount of resources that organizations control and deploy are the most important determinants of their performance (Barney, 1991).

The findings are consistent with and support those of published works such as Ozgulbas et al. (2006), Josson (2007), Vijayakumar and Tamizhselvan (2010), Saliha and Abdessatar (2011), all of which revealed a positive association between firm size and firm value.

Assessing whether performance of non-life insurance firms persist in an emerging economy like Ghana

The regression results displayed in Table 7 (Model 4) for non-life insurance firms disclosed that RoA and its one-year lag is positively and significantly connected at 5% significance level to the degree that the previous year's performance would expound about 11% of the current year's performance. Besides, Table 7 (Model 5) demonstrated that there is a positive relationship between ROE and its lag variable. This association is significant to the extent that, at the 1% level, past period's performance would exert about 14% influence on the current year's performance. Finally, the results (Table 7 Model 6) showed that UPM and its one-year lag is significantly and directly associated at 1% significance level such that the previous year's performance would inspire about 19% of the current year's performance. Based on these evidences, the study rejected the hypothesis one (1) which stated that performance does not persist in the insurance industry and drew the conclusion that financial performance persist in the non-life insurance industry in Ghana (Adeleye, Osabuohien, & Bowale, 2017; Tchamyu, Asongu, & Odhiambo, 2019).

Discussion of SGMM regression results for non-life firms (Model 4)

The two-step SGMM regression output on determinants of performance for non-life firms is presented in Table 7.

The findings in Table 7 (Model 4) show that, aside from historical performance of non-life insurance firms in Ghana, claims ratio, cost efficiency, age, and size of the non-life insurance firm are the most important drivers of success, as assessed by returns on assets.

First of all, Table 7 (Model 4) shows that, at the 5% significance level, returns on assets of non-life insurance firms is directly related to its one-year lag so that previous year's returns on assets would inform about 11% of the current year's returns on assets, holding all other factors constant.

Also, at the 5% significance level, the results in Table 7 (Model 4) reveal that performance (ROA) is inversely associated to CLR. The implication of this inverse relationship is that claims have a negative influence on life insurance firms' financial performance, with a percentage increase in claims ratio resulting in a 0.1852 percentage drop in non-life insurance firms' performance (ROA). This result is in line with those of Akotey, Sackey, Amoah, and Manso (2013) and Mehari and Aemiro (2013), who found a negative relationship between loss ratio and performance of Ghanaian and Ethiopian life insurance companies, respectively. Similarly, Mwangi and Iraya (2014) also found negative association between claims ratio and performance of general insurers in Kenya.

Table 7: Two-step SGMM Regression Results on Determinants of Financial Performance for Non-life sector

Variables	Model 4 ROA	Model 5 ROE	Model 6 UPM
L.lnROA	0.1145** (0.0692)		
L.lnROE		0.1375*** (0.0627)	
L.lnUPM			0.1872*** (0.0903)
CLR	-0.1852** (0.0733)	-0.3481* (0.1745)	-0.3924*** (0.1078)
COE	0.0034** (0.0014)	0.0634* (0.0033)	0.0052*** (0.0013)
RTR	0.0264 (0.0581)	0.0242 (0.1453)	0.0541 (0.0672)
AUF	-0.4536 (0.7349)	-0.5753 (1.5858)	-0.8109 (0.7630)
lnFAG	0.0367*** (0.0108)	0.0722*** (0.0223)	0.0650*** (0.0129)
lnBSZ	0.0032 (0.0059)	0.0025 (0.0145)	0.0012 (0.0114)
lnNED	0.0001 (0.0056)	0.0004 (0.0125)	0.0119 (0.0112)
FSZ	-0.0099** (0.0036)	-0.0202*** (0.0060)	-0.0071 (0.0114)
Cons	0.2066* (0.1115)	0.3931* (0.2087)	0.2102 (0.2222)
AR(1)	0.130	0.274	0.203
AR(2)	0.324	0.228	0.424
Hansen OIR	0.370	0.607	0.397
Sargan OIR	0.547	0.240	0.468
F-Statistic	50.12***	54.86***	13.23***
Number of Instruments	13	13	13
No. of Non-life Insurance Firms	23	23	23
Observations	69	69	69

Source: Field survey (2022)

Where ROA is returns on asset, ROE means returns on equity, UPM is underwriting profit margin, CLR is claims ratio, COE represent cost efficiency, RTR means retention ratio, AUF connotes audit fees, FAG stands for firm age, BSZ denotes firm's board size, NED represents non-executive directors on firms' board and FSZ epitomises the size of insurance firms.

NB: The p-values are two-tailed tests and corrected standard errors are in parenthesis and *, **, and *** signifies 10%, 5%, and 1% significance levels respectively.

The results in Table 7 (Model 4) demonstrate that performance (ROA) is positively associated with COE at the 5% significance level. The implication of this direct relationship is that a cost-efficient insurance firms will perform financially better than their counterparts who are not as much cost effective. It also implies that a percentage increase in the cost efficiency of life insurance firms will cause a 0.0034 upsurge in the performance (ROA) of life insurance firms in Ghana. The outcome of the study is in line with the findings of Greene and Segal (2004) who revealed an inverse relationship between performance and cost inefficiency of US life insurance firms and Ullah, Faisal and Zuhra (2016) who discovered a direct and significant connection, at the 10% significance level, between ROA and profitability of Bangladesh insurance companies.

The empirical results displayed in Table 7 (Model 4) reveal a statistically positive bond, at the 1% significance level, between performance (ROA) and age of non-life insurance firms in Ghana which is contrary to the results in Table 6 which show that performance (ROA) of life firms in Ghana is significantly, at the 5% level, negatively related to age. The positive association is in line with prior literature. Abdelkader (2014) and Mayowa and Eghosa (2018), for example, established a statistically significant and positive relationship between age and performance of Tunisian and Nigerian insurance firms, respectively. Derbali (2014) discovered a direct link between firm age and firm performance, while Isabella and Eddie (2018) discovered a direct and statistically significant linkage between firm age and general insurance companies' performance in Kenya.

The negative and positive relatedness respectively for life and non-life firms seem to contradict. However, this contradiction has both practical and theoretical implications especially when the age differential for the life and non-life firms are taken into consideration. It shows that firm age is a significant determinant of insurance firms' performance in Ghana, suggesting that as insurance firms advance in age, they learn through experience to combine asset more judiciously in their operation and service delivery, resulting in high operating income, an indication of good performance and evidencing the life cycle theory of firms in the Ghanaian insurance industry (Insurance Act 2006, Act 724; NIC, 2017; Mueller, 1972; Vorst & Yohn, 2018; Warusanitharana, 2018).

Furthermore, at the 5% significance level, company size is statistically significant and negatively related to financial performance (ROA) of non-life insurance firms in Ghana, as shown in Table 7. (Model 4). A unit increase in company size results in a 0.0099 decline in performance, indicating an inverse relationship. This finding was not consistent with and did not support empirical studies such as Ozgulbas et al. (2006), Josson (2007), Vijayakumar and Tamizhselvan (2010), Saliha and Abdessatar (2011), which demonstrated a positive association between business size and firm value. The study does not find evidence to support the primary tenet of the resource-based theory, which claims that assets that organizations control and deploy are the most important determinants of their performance (Barney, 1991).

The result in Table 7 (Model 4) also indicates that RTR (0.0264), BSZ (0.0032) and NED (0.0001) are all positively but statistically insignificantly related to firm performance measured by ROA while AUF (-0.4536) is statistically insignificant and inversely correlated with non-life insurance firms' performance (ROA) in Ghana. This indicates that retention ratio, board size, non-executive directors, and audit fees have no significant bearing on the performance of non-life insurance firms in Ghana.

Discussion of SGMM regression results for non-life firms (Model 5)

The results in Table 7 (Model 5) also shows that the most important drivers of non-life insurance firms' performance (ROE) in Ghana are previous year's performance, claims ratio, cost efficiency, company age, and size.

Table 7 (Model 5) depicts that, *ceteris paribus*, at the 1% significance level, returns on equity of non-life insurance firms is positively associated with its one-year lag such that previous year's returns on equity could propel about 14% of the current year's returns on equity.

At the ten percent (10%) significance level, the statistics in Table 7 (Model 4) reveal a negative relationship between performance (ROE) and claims ratio (CLR). This inverse link implies that claims have a negative impact on life insurance firms' financial performance, with a percentage increase in claims ratio resulting in a 0.3481 percentage drop in non-life insurance company performance (ROE). Akotey, Sackey, Amoah, and Manso (2013) and Mehari and Aemiro (2013) discovered a negative relationship between loss ratio and performance of

Ghanaian and Ethiopian life insurance companies, respectively which corroborate the discovery of this study. Besides, Mwangi and Iraya (2014) also discovered a negative correlation between claims ratio and performance of general insurers in Kenya as well.

At the ten percent (10%) significance level, there is a positive relationship between performance (ROE) and cost efficiency (COE), as seen in Table 7 (Model 5), with the same percentage rise in cost efficiency translating into a 0.0634 percent improvement in non-life insurance firms' performance. As a result of this clear association, cost-effective insurance firms will outperform their less cost-effective counterparts financially. Greene and Segal (2004) discovered an inverse link between returns on equity and cost inefficiency for US life insurance carriers. Ullah, Faisal, and Zuhra (2016) discovered a direct and significant correlation between returns on investment (ROI) and profitability of Bangladeshi insurance companies, also at a 10% significance level of significance.

The practical results shown in Table 7 (Model 5) reveal that non-life firm performance (ROE) in Ghana is strongly, at the 1% level, positively related to firm age. The findings demonstrate that firm age is a crucial success element in determining company performance, with a unit increase in age causing a 0.0722 percentage point increase in returns on equity. The findings are in line with previous research by Abdelkader (2014) and Mayowa and Eghosa (2018), who found a statistically significant and positive association between age and insurance firm performance in Tunisia and Nigeria, respectively.

Derbali (2014) also found a direct link between firm age and firm performance, whereas Isabella and Eddie (2018) found a direct and statistically significant link between firm age and the performance of general insurance businesses in Kenya.

Firm size is also statistically significant and inversely associated to financial performance (ROE) of non-life insurance enterprises in Ghana at the 1% significance level, as shown in Table 7 (Model 5). The findings show that a unit increase in business size resulted in a 0.0202 percent reduction in performance, showing that firm size is a major predictor of non-life insurance enterprises' returns on equity in Ghana. This study contradicts the findings of previous studies such as Bawuah (2019), Yimbila (2017), Velnampy and Nireesh (2014), and Utkir (2012), which found that size had no significant impact on performance, and also deviates from the findings of Ozgulbas et al. (2006), Josson (2007), Vijayakumar and Tamizhselvan (2010), Saliha and Abdessatar (2011) who found a favorable relationship between business size and firm value.

Inferring from Table 7 (Model 5), retention ratio (0.0242), board size (0.0025), and non-executive directors (0.0004) are all directly but statistically insignificantly related to non-life insurance firms' performance (ROE) in Ghana. Audit fees (-0.5753), on the other hand, is inversely and insignificantly connected to the financial performance (ROE) of non-life insurance companies.

Discussion of SGMM Regression Results for non-life firms (Model 6)

As reported in Table 7 (Model 6), past year's underwriting profit, claims ratio, cost efficiency, age of the insurance firm and firm size are the significant performance (UPM) determinants for non-life insurance firms in Ghana.

Table 7 (Model 6) reveals that, at the 1% significance level, there is a positive connectivity between underwriting profit margin of non-life insurance firms and its one-year lag. The connection is such that previous year's underwriting profit could stimulate about 19% of the current year's performance, all other things remaining unchanged.

Also, Table 7 (Model 6) reveals that at the 1% significance level, performance (UPM) is inversely connected to claims ratio (CLR). This shows that while claims ratio is an important determinant of underwriting profitability, it has a negative impact on non-life insurance firms' financial performance, as one Ghana cedis increase in claims results in a thirty-nine Ghana pesewas drop in non-life insurance firms' financial performance (UPM) just as Akotey, Sackey, Amoah, and Manso (2013) and Mehari and Aemiro (2013) also discovered a negative relationship between loss ratio and performance of Ghanaian and Ethiopian life insurance businesses, respectively. Mwangi and Iraya (2014) too unveiled a negative correlation between claims ratio and performance of general insurers in Kenya as well.

In addition, as shown in Table 7 (Model 6), financial success as assessed by underwriting profit margin (UPM) and cost efficiency (COE) are positively and strongly connected at the 1% significance level. According to the study,

increasing cost efficiency by one unit improves non-life insurance firms' performance (UPM) by 0.0052 percentage points. Prior works like Greene and Segal (2004) found a positive correlation between performance and cost inefficiency in US life insurance companies, confirming the findings of Ullah, Faisal, and Zuhra (2016), who discovered a direct link between technical cost efficiency and profitability amongst Bangladeshi insurance companies.

Retention ratio (RTR) is statistically negligible but positively connected to underwriting profitability, according to Table 7 (Model 6). Because of the upward sloping relationship, a unit increase in retention results in a 0.0541 increase in non-life insurance carriers' underwriting profitability in Ghana. Prior studies such as Burca and Batrinca (2014), Adams and Buckle (2003), and Öner Kaya, (2015) also found that retention ratio was not an important explanatory variable of performance and settled that retention ratio was not a vital explanatory variable of performance. This study concludes that retention ratio is not a significant determinant of performance of life insurance firms in Ghana, nevertheless, the direct bond lends support for the resource-based theory.

Table 7 (Model 6) reveals that non-life insurance firms' underwriting profitability is statistically insignificant and inversely linked with audit fees. As the findings connote, a unit increase in audit fees results in a 0.8109 fall in underwriting profitability. The findings are consistent with those of Moutinho et al. (2012) and Stanley (2011), who likewise found an inverse relationship between audit fees and firm performance.

The empirical findings in Table 7 (Model 6) show that non-life underwriting profitability in Ghana is considerably, at the 1% level, positively connected to the firm's age. The findings demonstrate that firm age is a significant factor of performance, with a unit increase in age causing a 0.0650 percentage rise in underwriting profitability. The findings contradict previous research by Abubakar, Sulaiman, and Haruna (2018), Abubakar, Isah, and Usman (2018), and Elif (2016), who found a strong negative relationship between financial performance and age of Turkish and Nigerian insurance enterprises, respectively but confirms the findings of Derbali, (2014) and Isabella and Eddie (2018).

Furthermore, Table 7 (Model 6) demonstrates that the underwriting profitability (UPM) of non-life insurance firms in Ghana is favorably but statistically insignificantly associated with board size and non-executive directors. The magnitude of the relationship is such that a unit increase in board size and non-executive directors would cause a 0.0012 and 0.0119 increase in firm performance (UPM), respectively, implying that, while board size and non-executive directors have a positive influence on performance, they are not significant determinants of non-life insurance underwriting profitability. This empirical conclusion supports the hypothesis that large and independent boards increase organizational effectiveness and precludes CEO dominance over the board (Florackis 2008; Kyereboah & Biekpe, 2006). Allam (2018), Tutu (2017), Guest (2009), and Ali (2018) all identified a favorable association between board size and board independence and business performance. The

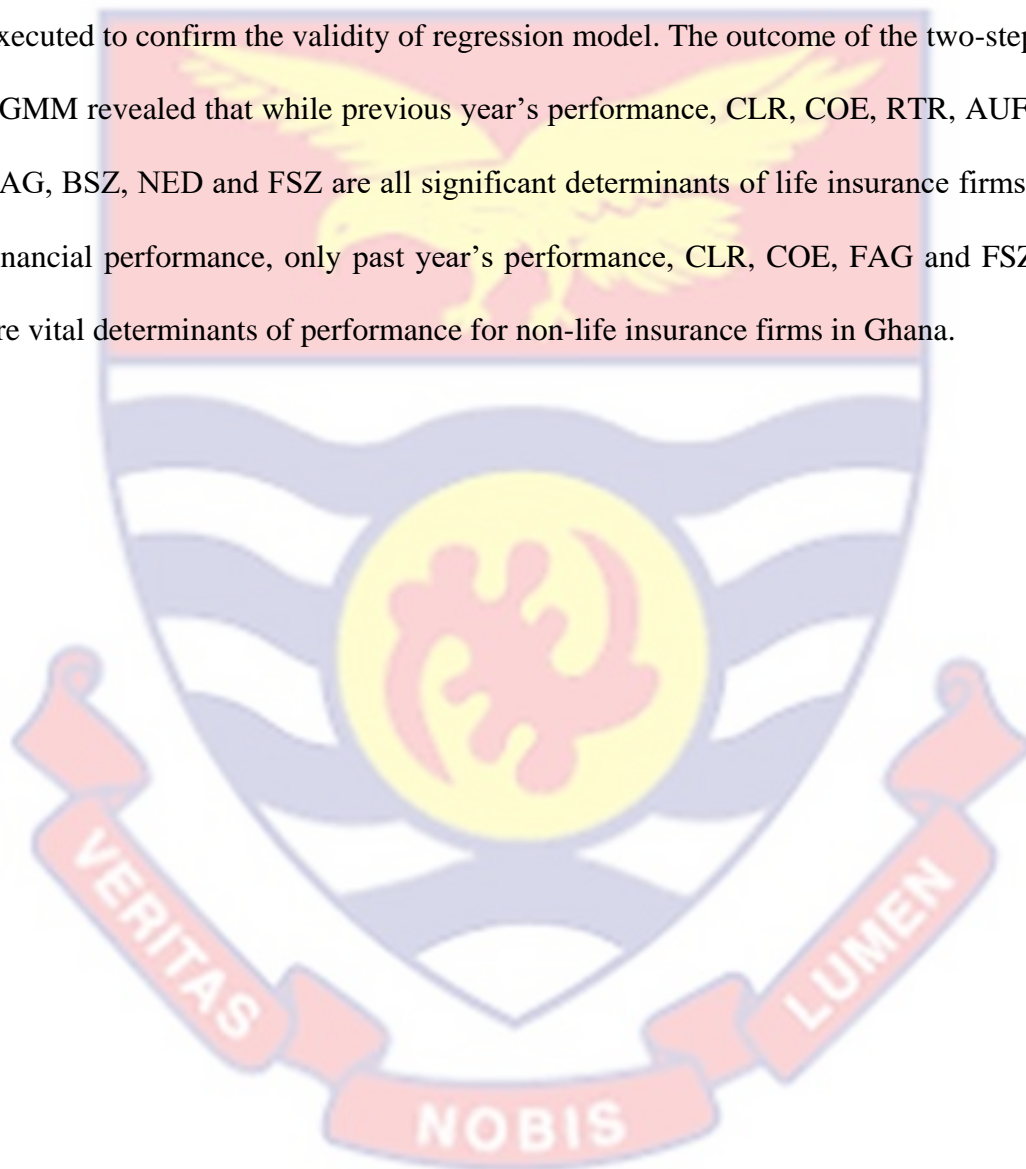
research further supports the resource-based hypothesis, suggesting that board members are a critical asset that provides a competitive advantage to firms that own or control them (Barney, 1991).

Furthermore, as shown in Table 7 (Model 6), firm size is statistically insignificant and negatively related to underwriting profitability (UPM) of non-life insurance firms in Ghana. The indirect link is such that an increase in company size results in a decrease in underwriting profit of 0.0071. The study discovers no evidence to support the core tenet of resource-based theory, which asserts that the resources that businesses control and deploy are the most important determinants of their performance (Barney, 1991). The outcome diverts from previous publications such as Ozgulbas et al. (2006), Josson (2007), Vijayakumar and Tamizhselvan (2010), Saliha and Abdessatar (2011), and Saliha and Abdessatar (2012) all of which studies identified a positive connection between business size and firm value. The deviation may be due to the fact that non-life insurers are service institutions which require more liquid assets than non-current assets to successfully operate.

Chapter Summary

This chapter presented the discussion of the results. It began with the descriptive statistics which revealed an average return on asset of 4%, returns on equity of 9% and underwriting profitability of 7% for life insurance firms but the non-life firms recorded a negative average return of 1%, 2% and 10% for returns on asset, returns on equity and underwriting profit margin consecutively.

The chapter followed through by discussing the correlation analysis which demonstrated that the presence of multicollinearity was minimal. The Sargan and Hansen's overidentifying restriction (OIR) and Arrellano-Bond first and second order autocorrelation-(AR (1) and AR (2) tests and other diagnostic tests were executed to confirm the validity of regression model. The outcome of the two-step SGMM revealed that while previous year's performance, CLR, COE, RTR, AUF, FAG, BSZ, NED and FSZ are all significant determinants of life insurance firms' financial performance, only past year's performance, CLR, COE, FAG and FSZ are vital determinants of performance for non-life insurance firms in Ghana.



CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Introduction

In this closing chapter, the summary and conclusions of the study have been provided. Besides, the chapter proffers to policy makers and managements of insurance firms, some recommendations based on the findings. The chapter finally makes suggestion for further studies.

Overview of the Study

The financial sector of Ghana is composed of three key industries. These industries include banking, insurance, and capital markets (PwC, 2019). The financial sector is one of the major contributors to the Gross Domestic Product (GDP) of Ghana. The financial and insurance activities contribution to GDP was 5.1%, 5.1%, 5.8%, 6.8%, 5.0% and 4.2% for the six years period from 2013-2018 respectively. However, the performance of the financial sector was found to be continuously falling since 2017, even into negative growth rates. Records from Ghana Statistical Service showed that the financial and insurance activities growth rate from 2013-2018 was 21.4%, 12.9%, 8.0%, 17.7%, -8.2%, -13.4% respectively (GSS, 2019). The decline in financial sector was the combined effect of the dwindling performance of the banking and insurance industries. However, researches, investigating the performance of the banking sector have been conducted to revamp the performance of the sector but the insurance industry has been hugely neglected.

In light of the aforementioned dearth, this study examined the drivers of financial performance of insurance firms in Ghana. The study specifically examined whether or not performance persisted across insurance firms in an emerging economy such as Ghana. Second, the study intended to identify the factors that influence the returns on assets (ROA) of life and non-life insurance businesses in Ghana. Third, the study looked into the factors that impact returns on equity (ROE) for life and non-life insurance companies in Ghana. Furthermore, the research looked into the factors that have significant bearing on the underwriting profit margin of Ghanaian life and non-life insurance companies.

In addressing these objectives, the study reviewed relevant and related empirical and theoretical literature. Key concepts and principles of insurance such as risk, indemnity, contribution, subrogation, utmost good faith, insurable interest and proximate cause were exhausted. Also, five of the vital contributions of the insurance industry to the development of Ghana including serving as a major source of investment capital, providing security, providing collateral, stimulating savings and serving as a key revenue source to the government, were expounded. Besides, the overview of the Ghanaian insurance industry and the NIC were provided.

The study also reviewed three relevant theories: the resource-based theory, the agency theory and the life cycle theory. Moreover, the study empirically reviewed performance measures such as returns on equity, underwriting profitability margin and returns on assets and determinants of performance such

as one-year lag of the dependent variables, cost, claims, retention, audit fees, board size, firm age, firm size and board independence. Similarly, the study designed appropriate conceptual framework, which pictured, for further understanding, the association between expected determinants and insurance firms' performance.

The study adopted the quantitative research approach, and using causal or explanatory design, and from the positivist philosophical perspective, the study examined the determinants of performance of insurance firms in Ghana. The study's population encompassed all life and non-life insurance entities registered with the National Insurance Commission. Hinged on data availability, 24 out of the 28 non-life insurance firms and 16 out of the 24 life insurance firms were used for the study. The panel data (extracted from the financial statements) was collected from the NIC's Supervisory Department for the period of 2012-2017.

The study employed the two-step System Generalised Method of Moments (SGMM) dynamic panel estimation strategy to ascertain the determinants of the financial performance of the insurance firms. An appropriate regression equation was modelled and executed using the `xtabond2` command with the collapse, orthogonal, small and robust options in the STATA software (version 14) and the results were exported and presented in tables by executing appropriate STATA commands.

First of all, in examining the financial performance of insurance firms in Ghana, the study revealed that life insurance firms generated an average return of

4.31%, 9.12% and 7.34% on assets, equity and technical operations respectively. Non-life insurance firms on the other hand, recorded an average negative return of 1.06%, 2.16% and 10.17% on assets, equity and technical operations respectively. It was also observed that the overall performance of the industry over the study period, measured by technical operations, was negative 2.83%.

Besides, in examining the determinants of returns on assets of life insurance firms, the study found that apart from the past performance of life insurance firms in Ghana, the most important determinants of performance, measured by returns on assets, are claims ratio, cost efficiency, retention ratio, audit fees charged to perform statutory audit, age of the insurance firm, the size of the firm's board, the number of board members who are non-executive and the size of the insurance firm. Claims ratio, cost efficiency, retention ratio and board size were significant at the 1% significance level but audit fees and firm age were significant at the 5% significance level. Also, non-executive directors and firm size were significant at the 10% significance level.

Also, in investigating the determinants of returns on equity of life insurance firms, the study disclosed that previous year's performance, cost efficiency and retention ratio, both at the 1% significant level, are the most important determinants of performance (ROE) in Ghana.

Furthermore, in ascertaining the determinants of underwriting profitability margin, the study revealed that the past year's performance, claims ratio, cost efficiency, retention ratio, audit fees charged for statutory audits, age of the

insurance firm, board size and the number of non-executive board members and firm size are all significant (at 1% significance level except for retention ratio which is at 5%) performance (UPM) determinants for life insurance firms in Ghana. The findings for the life sector were supported by prior works such as Josson (2007), Vijayakumar and Tamizhselvan (2010), Saliha and Abdessatar (2011), Moutinho et al. (2012), Stanley (2011), Burca and Batrinca's (2014), Adams and Buckle's (2003), Öner Kaya's (2015), Abdelkader (2014) and Mayowa and Eghosa (2018).

Moreover, in ascertaining the determinants of returns on asset of the non-life sector, the study found that aside from historical performance of non-life insurance firms in Ghana, claims ratio (at 5%), cost efficiency (at 5%), age (at 1%), and size (at 5%) of the non-life insurance firm are the most important drivers of success, as assessed by returns on assets.

Again, in exploring the determinants of returns on equity, the study pointed out that past performance, company age and size (all at 1% significance level), claims ratio and cost efficiency (both at 10% significance level), are the most important drivers of non-life insurance firms' performance (ROE) in Ghana.

Finally, in establishing the determinants of underwriting profit margin of non-life insurance firms in Ghana, the study revealed that previous year's performance, claims ratio, cost efficiency and age of the insurance firm (all at 1% significance level) are the most significant drivers of performance (UPM). The findings on the non-life sector were backed by studies such as Florackis (2008),

Kyereboah and Biekpe (2006), Allam (2018), Tutu (2017), Guest (2009), and Ali (2018), Akotey, Sackey, Amoah, and Manso (2013) and Mehari and Aemiro (2013), Bawuah (2019), Yimbila (2017), Velnampy and Niresh (2014) and Utkir (2012).

Theories

The study offered support for the resource-based theory in that retention ratio, board size and board independence (resources which are rare, valuable and difficult to imitate) were all positively and significantly related to financial performance of both life and non-life insurance firms. Also, the study penned support for the agency theory as audit fees and board independence were significant and positively related to financial performance of both life and non-life insurance firms in Ghana. Moreover, the study discovered evidence in favour of the life cycle theory and so posits that how long an insurance firm has existed and successfully continued operation is a key concern for policy holder due to trust and firm credibility.

Summary of Findings

Life Insurance Sector

The study found that past performance, claims ratio, cost efficiency, retention ratio, audit fees, firm age, board size, non-executive directorship and firm size are the determinants of return on assets of life insurance firms in Ghana. Also, the study discovered that past performance, cost efficiency and retention ratio are the determinants of return on equity of life insurance firms in Ghana.

Again, it was revealed that past performance, claims ratio, cost efficiency, retention ratio, audit fees, firm age and size, board size and independence are the determinants of underwriting profit margin of life insurance firms in Ghana.

Non-life Insurance Sector

The study revealed that past performance, claims ratio, cost efficiency, firm age, and firm size are the determinants of return on assets of non-life insurance firms in Ghana. Moreover, with reference to return on equity, the study discovered that past performance, claims ratio, cost efficiency, firm age and firm size are the most important drivers of success of non-life insurance firms' performance in Ghana. Lastly, the study uncovered that past performance, claims ratio, cost efficiency and the age of the insurance firm are the determinants of underwriting profit margin of non-life insurance firms in Ghana.

Conclusions

In conclusion, the study was conducted within an appropriate theoretical and empirical framework and the findings of the study were in line with prior studies and also in line with the expectations of reasonable intuition except for the findings on firm size which revealed a negative and significant relatedness between firm size and financial performance of non-life insurance firms in Ghana. This was not consistent with prior empirical studies and did not offer evidence to support the primary tenet of the resource-based theory. The deviation may be due to the fact that non-life insurers are service institutions which require more liquid

assets such as cash and cash equivalence than non-current assets such as property, plant and equipments to successfully operate.

Also, the study shed more light on the discovery of mixed results on firm age and firm performance in prior studies by unveiling that the age of the younger life insurance firms (which were approximately between 2-15 years old as shown in Table 3) was inversely related to performance whereas the age of the older non-life insurance firms (which were approximately between 3-97 years old as shown in Table 4) was directly associated to performance. This could be a reflection of the gap in knowledge and experience between young and old firms and also the presence or absence of trust for old and young firms thereby providing support for the life cycle theory of firms.

Recommendations

The study proffers the following recommendations on the basis of the findings:

The study recommends that, on the basis of the cost inefficiency discovered in the industry, especially in the non-life sector, insurance firms should resort to cost control strategies. The study recommends the activity-based costing technique for insurance firms to track and control overhead costs, the implementation of which requires the engagement of the expert services of professional cost and management accountants.

The study recommends that managers of non-life insurance should reduce investment in long-term tangible assets such as land, buildings, and furniture

because of the inverse association between size and performance. Digital and online platforms by which customers can access insurance products and services can be adopted to enhance the presence of non-life firms. Also, non-life insurance firms can partner with other financial institutions that already have physical presence so that agents of insurance firms can work from the premises of these financial institutions. In this way, insurance firms will not necessarily acquire or construct office buildings, which in turn will reduce their investment in land and buildings.

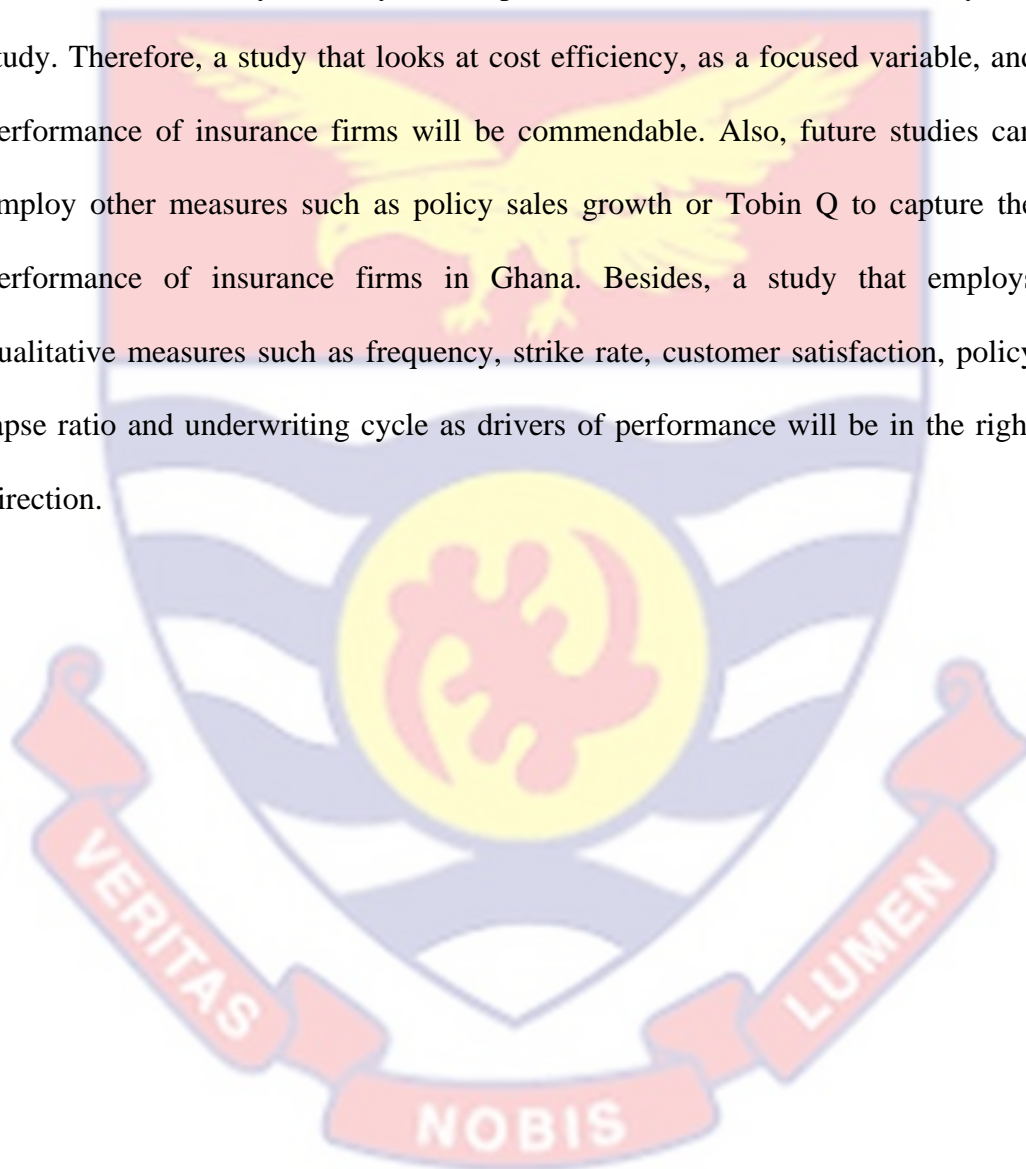
Based on the discovery of a significant inverse association between claims ratio and performance, the study recommends further that, managers of insurance firms should continually review and revise, where appropriate, their actuarial assessment techniques and procedures to ascertain the right level of risks associated with the businesses they underwrite, so that claims ratio will be minimised and the appropriate premium charged.

Drawing from the significant positive association between retention ratio and performance of insurance firms, the study recommends that the NIC should take more active policy actions like merger and consolidation of firms to increase the capital adequacy ratio and strengthen the capacity of the insurance sector just like the banking sector. These recapitalization and mergers will provide insurance firms with enough capacity to retain more risks and even be able to take up the new and huge risks in the oil and gas industry in Ghana. The NIC should ensure

effective policy implementation and strict compliance thereof with appropriate sanctions for non-compliant firms.

Suggestions for Future Research

Cost efficiency is a very crucial performance indicator as revealed by this study. Therefore, a study that looks at cost efficiency, as a focused variable, and performance of insurance firms will be commendable. Also, future studies can employ other measures such as policy sales growth or Tobin Q to capture the performance of insurance firms in Ghana. Besides, a study that employs qualitative measures such as frequency, strike rate, customer satisfaction, policy lapse ratio and underwriting cycle as drivers of performance will be in the right direction.



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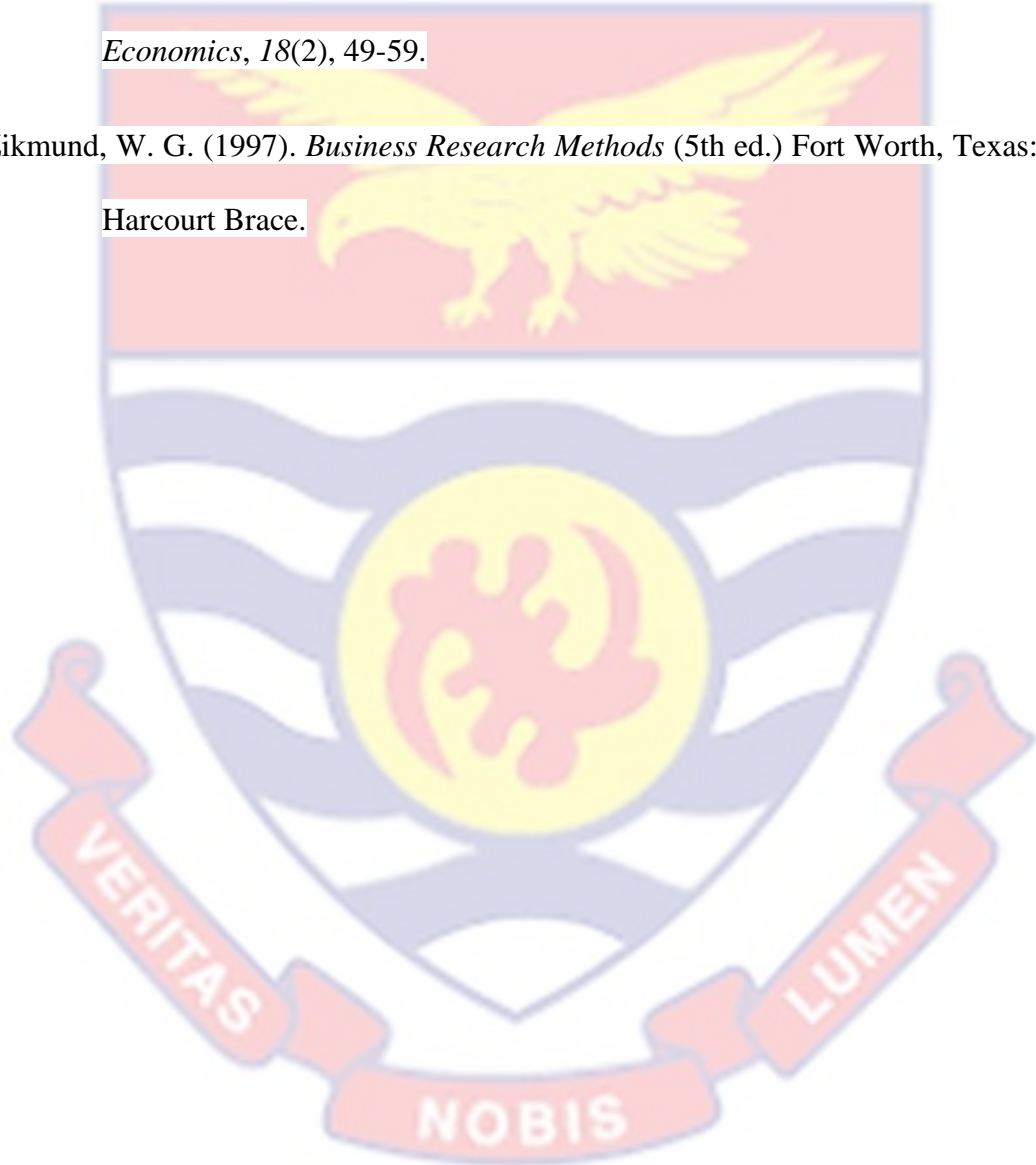
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APPENDIX A

List of firms included in the study

S/N	INSURANCE COMPANY
1	UT Life Insurance Company Limited
2	Capital Express Assurance Ghana Limited
3	Donewell Life Assurance Company Limited
4	Enterprise Life Assurance Company Limited
5	Esich Life Assurance Company Limited
6	Ghana Life Insurance Company Limited
7	Glico Life Assurance Company Limited
8	Metropolitan Life Insurance Ghana Limited
9	Phoenix Life Assurance Company Limited
10	Prudential Life Insurance Ghana Limited
11	Quality Life Assurance Company Limited
12	Saham Life Insurance Ghana Limited
13	SIC Life Company Limited
14	Star Life Assurance Company Limited
15	Unique Life Assurance Company Limited
16	Vanguard Life Assurance Company Limited
17	Old Mutual Life Assurance Company Ghana Limited
18	Active International Insurance Company Limited

19	Allianz Insurance Company Limited
20	Donewell Insurance Company Limited
21	Enterprise Insurance Company Limited
22	Glico General Insurance Company Limited
23	International Energy Insurance Company Limited
24	Metropolitan Insurance Ghana Limited
25	Imperial General Assurance Company Limited
26	Millennium Insurance Company Limited
27	NEM Insurance Ghana Limited
28	Nsia Insurance Company Limited
29	Phoenix Insurance Company Ghana Limited
30	Prime Insurance Company Limited
31	Priority Insurance Company Limited
32	Provident Insurance Company Limited
33	Quality Insurance Company Limited
34	Regency Alliance Insurance Limited
35	Saham Insurance Ghana Limited
36	SIC Insurance Company Limited
37	Star Insurance Company Limited
38	Unique Insurance Company Limited
39	Vanguard Assurance Company Limited
40	Wapic Insurance Ghana Limited

APPENDIX B

UNIVERSITY OF CAPE COAST
COLLEGE OF HUMANITIES AND LEGAL STUDIES
SCHOOL OF BUSINESS
DEPARTMENT OF ACCOUNTING

Telephone: 03122-92655
E-mail: dact@ucc.edu.gh
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UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref: SB/ACM/19/0011

Your Ref:

9th October, 2020

The Commissioner
National Insurance Commission (NIC)
Accra – Ghana

Dear Sir/Madam,

LETTER OF INTRODUCTION: EZEKIEL KOFI OPOKU

The bearer of this letter, Mr. Ezekiel Kofi Opoku is a Master of Commerce (Accounting) student at the Department of Accounting, School of Business, University of Cape Coast. He is conducting research on the topic: “**Determinants of Financial Performance of Insurance Firms in Ghana**”. We would be grateful if you can offer him the needed assistance he requires.

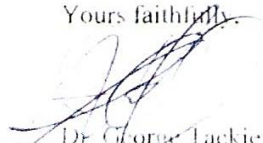
Please, for further information on the project you can contact the

Supervisor: Prof. Edward Marfo-Yiadom

Email: emarfo-yiadom@ucc.edu.gh

Thank you.

Yours faithfully,


Dr. George Tackie
HEAD